CITY OF BELLEVUE CRITICAL AREAS DELINEATION REPORT

Puget Sound Energy - Energize Eastside Project

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CITY OF BELLEVUE DELINEATION REPORT

PUGET SOUND ENERGY - ENERGIZE EASTSIDE

1 Introduction

1.1 Background and Purpose

The purpose of this report is to identify and document potential critical areas associated with Puget Sound Energy's (PSE's) Energize Eastside project. The Energize Eastside project proposes to build a new electric substation and higher capacity transmission lines to serve homes and businesses on the Eastside. Current route options include 'Oak' and 'Willow' routes that will extend from Redmond to Renton (Figure 1). Each route option includes a set of PSE-labeled segments. The Oak route comprises Segments A, C, E, G2, I, K2, M, and N. The Willow route comprises Segments A, C, E, J, M, and N. This report addresses critical areas located along the proposed routes in the City of Bellevue, and includes PSE-labeled Segments C, E, G2, I, K2, M, and J¹ (Figures 2, 3, 4, and 5).

The length of the study area corridor in the City of Bellevue totals approximately 11.3 miles from NE 60th Street to SE 69th Way. For segments C, E, J and M within the study area corridor, two existing 115 kV transmission lines are spaced approximately 50 feet apart on center. Each line is composed of three conductors (wires) connected to H-frame pole structures. Segments G2, I, and K2 have existing single circuit 115 kV transmission lines. The study area corridor is approximately 50 to 100 feet wide.

¹ PSE segments C and E comprise a portion of Phase 2 Draft Environmental Impact Statement (DEIS)

Segment 1. PSE segments G2, I, and K2 comprise Phase 2 DEIS Segment 2. PSE segment M comprises a portion of Phase 2 DEIS Segment 3.

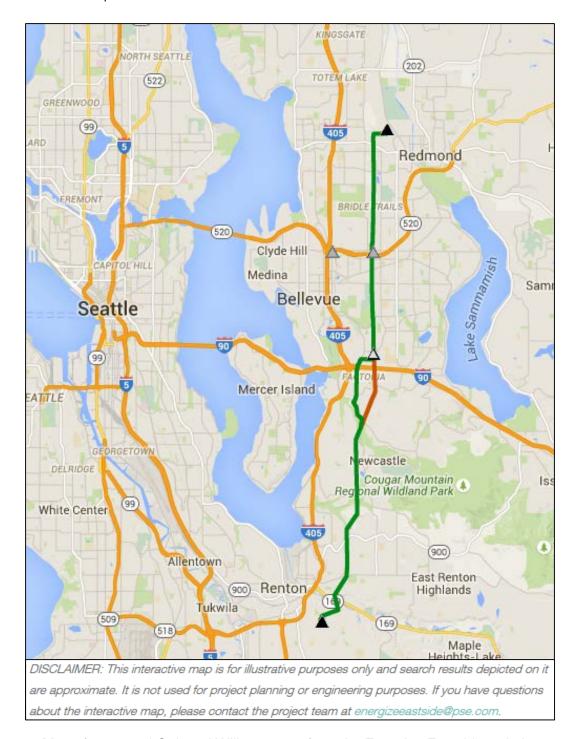


Figure 1. Map of proposed Oak and Willow routes from the Energize Eastside website.

The Oak route is depicted in green while the Willow route variation is shown in orange.

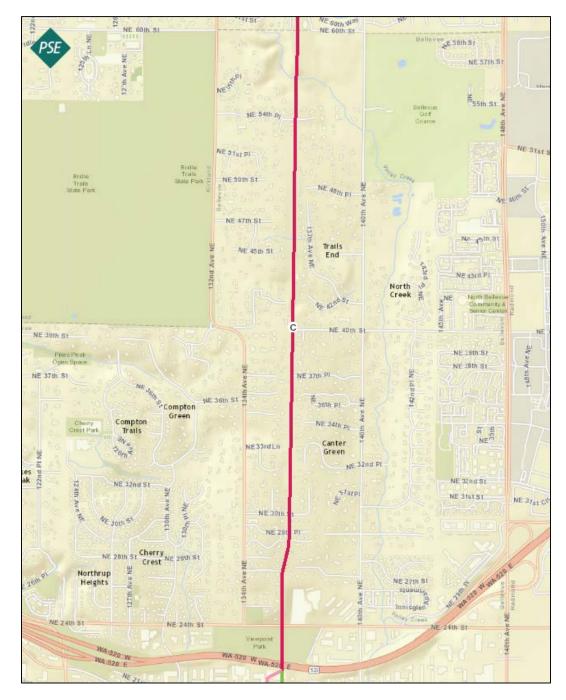


Figure 2. Energize Eastside study area corridor (Segment C) in the City of Bellevue north of WA-520.

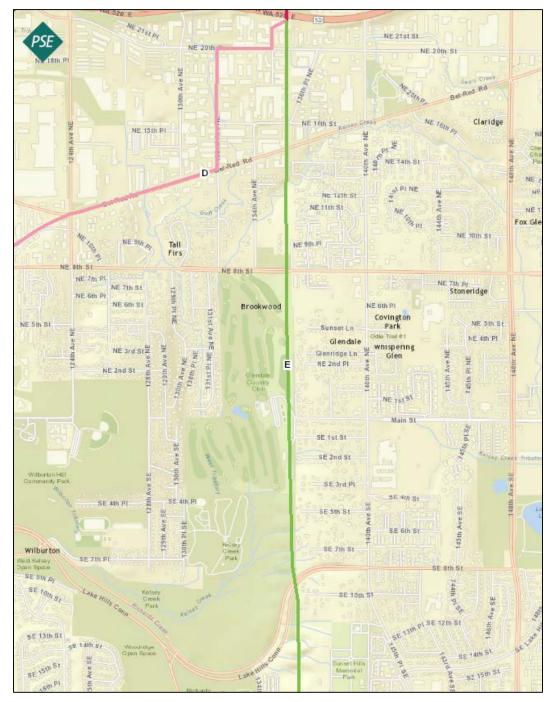


Figure 3. Energize Eastside study area corridor (Segment E) in the City of Bellevue between WA-520 and Lake Hills Connector.

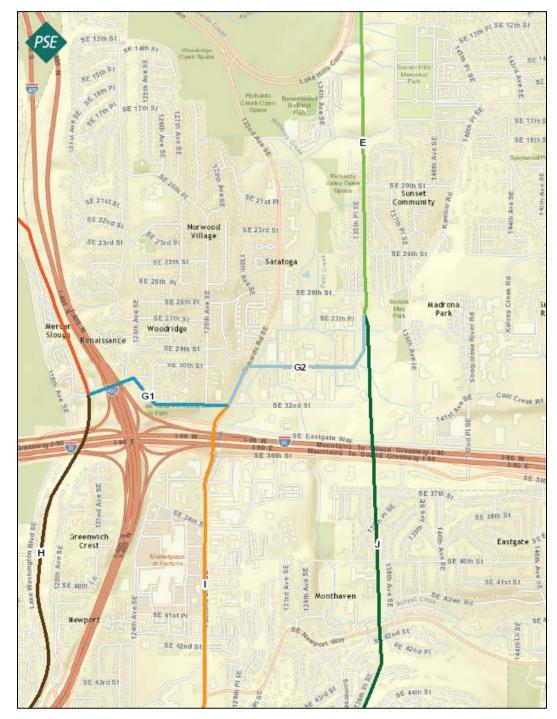


Figure 4. Energize Eastside study area corridor (Segments E, J, G2, and I) in City of Bellevue in the vicinity of I-90.

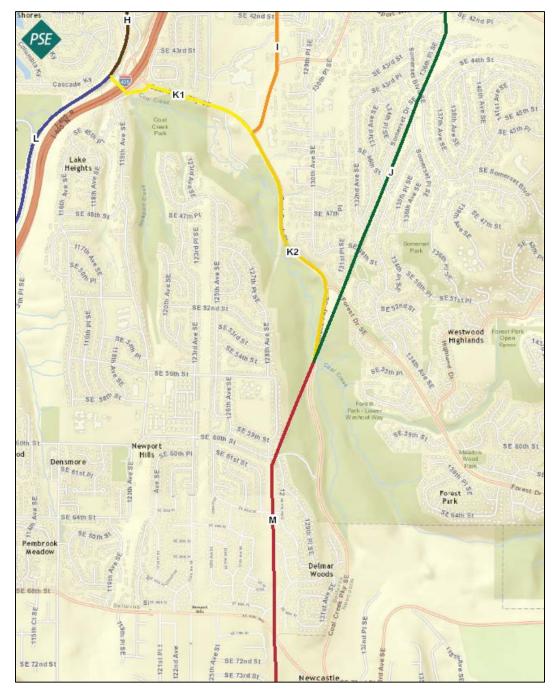


Figure 5. Energize Eastside study area corridor (Segment J, I, K2, and M) in the City of Bellevue north of SE 69th Way.

1.2 Methods

Limits of the study area were determined in the field using aerial maps, GPS, and by measuring 25 feet out from the center of each pole set. The study area for segments G2, I and K2 was measured differently and only included parcels where PSE secured right-of-entry. For segments G2 and I, the study area limits were approximated by measuring 50 feet from the edge of the sidewalk. For

segment K2, the study area limits were approximated by measuring 50 feet from the fog lines on Coal Creek Parkway.

Public-domain information on the study area corridor was reviewed for this critical areas study. These sources include USDA Natural Resources
Conservation Service (NRCS) soil maps, U.S. Fish and Wildlife Service National
Wetland Inventory (NWI) maps, Washington Department of Fish and Wildlife
interactive mapping programs (PHS on the Web and SalmonScape), the mapping
tool associated with Washington Department of Natural Resources Forest
Practices Application Review System (FPARS), City of Bellevue's interactive
mapping website (nwmaps.net), and King County's GIS mapping website
(iMAP).

The study area corridor was evaluated for wetlands using methodology from the Regional Supplement (Corps 2010). The wetland boundary was determined on the basis of an examination of vegetation, soils, and hydrology. Areas meeting the criteria set forth in the Regional Supplement were determined to be wetland. Soil, vegetation, and hydrologic parameters were sampled at several locations along the wetland boundary to make the determination. Data were recorded at fifty-four of these locations. Data sheets are included in Appendix B. Delineated wetlands were classified using the Rating System (Hruby 2004). Wetlands that extended off-site were rated based on what could be seen from on-site and through aerial images. Wetland rating forms are included in Appendix C.

Watercourses were determined to be streams if they met the definition provided by the City of Bellevue. The centerlines of streams in the study area were recorded in the field, with stream widths either visually approximated in the field or later approximated based on aerial photometry and elevation contours. Streams were classified according to the City of Bellevue Land Use Code.

A private 2013 wetland and stream delineation study was performed by The Watershed Company on Overlake Farms (parcel numbers 1525059269 and 1525059247). Permission was granted to share the information directly relevant to the 100 foot-wide PSE easement (Cristina Gugoni, pers comm.).

Information from the 2012 and 2014 wetland and stream delineations performed by The Watershed Company (TWC) for PSE on the Lakeside substation parcels have also been incorporated (parcel numbers 1024059083 and 1024059130).

Wetland boundaries, stream centerlines, data points, and other features (such as culverts) were GPS-located using a hand-held Trimble Geo-XH unit. Following field location, the GPS data was differentially corrected using GPS Pathfinder Office and exported into ESRI ArcGIS software for mapping. Stream and wetland delineation maps are included in Appendix A.

Incidental wildlife observations and detections were recorded during field studies and summarized in Section 3.3 of this report.

Possible mitigation opportunities were noted during field studies. The approximate extent of these areas is shown on aerial photos included in Section 5 of this report.

2 SITE DESCRIPTION

The study area corridor bisects the Bridle Trails, Bel-Red, Eastgate, Factoria, Somerset, and Newport neighborhoods in the City of Bellevue; it also runs north-south between the neighborhoods of Wilburton/Crossroads and Woodridge/Lake Hills. The majority of the study area is zoned single-family residential at various densities; exceptions include the Bel-Red area and I-90 vicinity, generally zoned commercial and light industrial/office and limited business, respectively. The corridor is located in the following public land survey sections: Sections 15, 22, 27, and 34 of Township 25N, Range 05E, and; Sections 3, 9, 10, 15, 16, 21, 22, and 28 of Township 24N, Range 05E.

The study area is also located in the Cedar-Sammamish Watershed (WRIA 8), and spans three drainage basins which include the Kelsey Creek, Mercer Slough, and Coal Creek drainage basins, from north to south.

On developed parcels, vegetation in the corridor is generally limited to landscaped beds and maintained yards. On parcels that are undeveloped, or where the area under the powerline corridor remains undeveloped, vegetation is often weedy and dominated by Himalayan blackberry and various grasses; young trees and shrubs are present in some locations where they have presumably grown from seed. These areas are often regularly mowed/cleared for utility access and maintenance purposes. The exceptions are the undeveloped City of Bellevue Parks parcels along Coal Creek Parkway; these parcels are densely wooded with steep slopes.

3 Critical Areas

A total of forty-two wetlands and thirty-six stream segments are located along the proposed Energize Eastside corridor in the City of Bellevue. They are described below. Sign or presence of any regulated wildlife species or habitat were also noted and are described in this section. For the purposes of this study, the nomenclature used to identify critical areas has been based on the PSE segment in which a feature is located, and the local jurisdiction. Critical areas were then numbered sequentially, in the order in which they were inventoried, generally north to south. For example, the first wetland inventoried as a part of this study on Segment C in Bellevue is called "CB01." For wetlands that were previously identified in other reports, the names assigned in the earlier report (e.g. "Wetland A (Overlake Farms)") are maintained unless the feature was re-delineated; re-delineated features adopt the aforementioned naming convention.

3.1 Wetlands

Overlake Farms, Wetland A (previously delineated by TWC)

A private 2013 delineation study was performed by The Watershed Company that included the PSE easement corridor on Overlake Farms (parcel numbers 1525059269 and 1525059247) (Appendix A, Page No. 3). The west corner of the wetland identified as Wetland A extends into the 100-foot PSE corridor in parcel 1525059247. This wetland is a slope and depressional wetland with forested and scrub-shrub Cowardin vegetation classes. Dominant vegetation includes western red cedar, red alder, vine maple, salmonberry, skunk cabbage, and lady fern. Sampled soils (Overlake Farms DP-1; Appendix B) in 2013 met the criteria for Hydrogen Sulfide (A4). Wetland hydrology was also noted based on saturation to the surface (A3) and hydrogen sulfide odor (C1).

Wetland CB01

Wetland CB01 is a relatively large slope wetland located at the southern end of PSE Segment C, north of SR-520 (Appendix A, Page No. 19). Wetland CB01 hydrology is mainly provided by groundwater seeps. Wetland CB01 contains palustrine forested, palustrine scrub-shrub, and palustrine emergent Cowardin vegetation classes. Common vegetation observed includes red alder, various willow species, salmonberry, reed canarygrass, creeping buttercup, giant horsetail, small-fruited bulrush and lady fern. Sampled soils (DP-8; Appendix B) meet the criteria for both Depleted Matrix (F3) and Redox Dark Surface (F6). The wetland also meets one primary wetland hydrology indicator and two secondary wetland hydrology indicators (Appendix B).

Wetland EB01

Wetland EB01 is a small slope wetland located south of Bel-Red Road near Kelsey Creek (Appendix A, Page No. 24). This wetland contains palustrine forested, palustrine scrub-shrub, and palustrine emergent Cowardin vegetation classes. Common vegetation observed includes red alder, Sitka willow, salmonberry, giant horsetail, small-fruited bulrush and soft rush. Hydrogen sulfide odor was detected at the test pit (DP-6; Appendix B), meeting the criteria for both hydric soil and wetland hydrology. In addition, soils were saturated to

the surface and a water table was observed at seven inches below the soil surface. Wetland EB01 hydrology is mainly provided by groundwater seeps.

Wetland EB02

Wetland EB02 is a relatively large slope wetland located in the northeast corner of the Glendale Golf and Country Club (Appendix A, Page No. 27 and 28). This wetland contains palustrine forested, palustrine scrub-shrub, and palustrine emergent Cowardin vegetation classes. Common vegetation observed includes English hawthorn, red alder, Himalayan blackberry, reed canary grass, soft rush and small-fruited bulrush. The sampled soils (DP 11, Appendix B) meet hydric soil indicator F3 – Depleted Matrix. Oxidized rhizospheres were present along living roots, indicative of primary wetland hydrology indicator C3. Two secondary wetland hydrology indicators were also noted.

Wetlands EB03 through EB10

Wetlands EB03 through EB10 are located on two large parcels north of Lake Hills Connector (Appendix A, Page No. 31, 32, 33 and 35). The northern parcel is owned by the Glendale County Club; the southern property is owned by the City of Bellevue Parks Department. The study area in these parcels is dominated by grasses, Himalayan blackberry, and a few trees and shrubs. It also includes a compact gravel walking trail that runs north-south through the corridor.

The eight wetlands identified in this general area are fairly similar in character. They are small, disturbed wetlands that are located in depressions, swales, or breaks in slopes. All are rated as slope or depressional features, and are classified as either Category III or IV wetlands (Appendix C). Many are associated with small stream channels also present in this area. These wetlands are primarily supported by groundwater seeps. Common vegetation observed includes Himalayan blackberry, reed canarygrass, soft rush, sawbeak sedge, small-fruited bulrush, and giant horsetail. Each wetland met the criteria for at least one hydric soil indicator as well as one primary or two secondary hydrology indicators (Appendix B).

Wetland EB11 through EB19

Wetlands EB11 through EB19 are located south of Lake Hills Connector (Appendix A, Page No. 35, 36, 37, 38 and 40); most of these features are located on a large parcel owned by SCI Management Corp. Similar to the previously described area north of Lake Hills Connector the study area south of Lake Hills Connector to 130th Place SE is generally dominated by grasses, Himalayan blackberry, and a few trees and shrubs. It also includes a compact gravel walking trail that runs north-south through the corridor.

These nine wetlands are fairly similar in character. They are mostly small, disturbed wetlands that are located in depressions, swales, or breaks in slopes.

All are rated as slope or depressional features, and are classified as either Category III or IV wetlands (Appendix C). Many are associated with small stream channels also present in the area. These wetlands are primarily supported by groundwater seeps. The forested areas are composed of red alder and black cottonwood trees, with lady fern and reed canarygrass in the understory. Other common emergent and shrub vegetation observed included Himalayan blackberry, reed canarygrass, soft rush, small-fruited bulrush, and giant horsetail. Each wetland met the criteria for at least one hydric soil indicator as well as at least one primary or two secondary hydrology indicators (Appendix B).

Wetland EB20

Wetland EB20 is a slope wetland located north of SE 26th Street on parcels 1024059089 and 1024059065 (Appendix A, Page No. 44). The wetland contains scrub-shrub and emergent Cowardin vegetation classes, comprised primarily of Pacific willow, Himalayan blackberry, and reed canarygrass. The soils sampled meet the criteria for hydric soil indicator F6 – Redox Dark Surface. The wetland also displays one primary wetland hydrology indicator and two secondary hydrology indicators (Appendix B).

Wetland G2B01

Wetland G2B01 is a riverine wetland located at the southeast corner of Richards Road and SE 30th Street (Appendix A, Page No. 49 and 50). Richards Creek meanders through this wetland from south to north. Wetland G2B01 is entirely comprised of a palustrine emergent Cowardin class. The dominant vegetation includes reed canarygrass and broadleaf cattail, with patches of red-osier dogwood, Pacific willow, and twinberry. The stream areas abound with watercress and water parsley. The soils sampled (DP 47, Appendix B) meet the hydric soil indicator F6 - Redox Dark Surface and have a slight hydrogen sulfide odor below four inches deep. The water table was present at ten inches deep and saturation was present to the surface. In addition, oxidized rhizospheres were observed along living roots, meeting an additional hydrology indicator. The site has three hydroperiods: seasonally flooded, saturated only, and it has a permanently flowing stream in the wetland. Like IB01, this wetland has a higher habitat score than the other smaller wetlands along Factoria Boulevard SE.

Wetland IB01

Wetland IB01 is located at the furthest downstream location of Richards Creek and is along Factoria Boulevard SE, just west of the QFC shopping center parking lot (Appendix A, Page No. 53). No data point was taken here due to difficulty of access. This wetland is entirely comprised of the palustrine emergent Cowardin vegetation class. The vegetation observed includes reed canarygrass, Himalayan blackberry and black locust. NRCS maps the soils as Indianola loamy sand. Although Wetland IB01 has low interspersion of habitats,

it does have three hydroperiods since a permanently flowing stream flows into the site. Because Richards Creek is flowing to the site, this wetland has greater habitat functions than many of the other smaller wetlands in the area.

Wetland IB02

Wetland IB02 is a small depressional wetland located along the east side of Factoria Boulevard SE, between SE 41st Lane and SE Newport Way (Appendix A, Page No. 57). It is located in the grassy area next to an apartment complex. This wetland is entirely comprised of the palustrine emergent Cowardin vegetation class. Common vegetation observed includes creeping buttercup, reed canarygrass, and mowed grass. The sampled soils (DP-50; Appendix B) meet hydric soil indicator F6 - Redox Dark Surface. At the time of the site visit, the wetland was saturated to the surface with a water table observed at five inches below ground surface, meeting the criteria wetland hydrology. Wetland IB02 hydrology is mainly provided by surface water sheet flow, directed both by culverts and the general landscape; water exits the wetland through a single drain. Although the wetland had a low habitat quality overall, there is a standing snag on the edge of the wetland. Garbage was also observed in the wetland area and in the soils.

Wetland IB03

Wetland IB03 is a small slope wetland located at Newport High School, at the far south end of the property and adjacent to the southern baseball diamond (Appendix A, Page No. 61). This wetland contains a palustrine emergent Cowardin vegetation class only. Common vegetation observed includes creeping buttercup, soft rush, field bindweed, birdsfoot trefoil, and giant horsetail. Pacific willow and bigleaf maple are also in the vicinity, but rooted outside of the wetland. The sampled soils (DP 52, Appendix B) meet hydric soil indicator F3 - Depleted Matrix from six to fourteen inches below ground surface. Oxidized rhizopheres were observed along living roots, meeting the wetland hydrology indicator C3. A pileated woodpecker flew overhead while the wetland was being rated and likely uses habitat on the Newport High School campus.

Wetland IB04

Wetland IB04 is a small depressional wetland, also located at Newport High School along the edge of a parking lot that is near the intersection of Factoria Boulevard SE and SE Newport Way (Appendix A, Page No. 59). This wetland contains palustrine scrub-shrub and palustrine emergent Cowardin vegetation classes. The wetland is densely vegetated with cattails, soft rush and reed canarygrass, with Himalayan blackberry extending down the surrounding slopes into the wetland. Hydric soils are present, but redox features were obscured by the high water table. Cobble was present below the soil matrix at eight inches

deep. The water table was present at one inch and saturation was present at the surface at DP 52. The wetland has a permanently flowing surface outlet through a culvert.

Wetland JB01 and other previously delineated PSE Lakeside substation wetlands

The PSE Lakeside substation and the parcel south of it (parcels 1024059083 and 1024059097) were previously assessed for critical areas by The Watershed Company in 2012 and 2014. One of the previously delineated wetlands, Wetland H, was re-delineated as Wetland JB01 during this study to capture the full extent of the wetland within the PSE corridor. The other wetlands delineated as part of the PSE Lakeside substation studies include Wetland BC (2012 and 2014), Wetland EE (2014), and Wetland FG (2012) (Appendix A, Page No. 44, 45, 46 and 68) . Wetlands BC and EE are a slope wetlands while Wetland FG is a riverine wetland. These wetlands are described in more detail in the 2012 delineation report and the 2015 Critical Areas Report.

Wetland JB01 is a relatively large slope wetland located south of the PSE Lakeside Substation property (Appendix A, Page No. 46 and 68). Wetland JB01 has a moderate level of function (Category III). Dense vegetation covers over 95 percent of the wetland. The wetland has high species diversity (>19 species) and contains palustrine emergent, palustrine scrub-shrub, and palustrine forested Cowardin vegetation classes. The dominant plants include birdsfoot trefoil and beaked sedge. Hydrogen sulfide emanated from DP 35, meeting indicators for both hydric soils (A4) and wetland hydrology (C1). Like the nearby streams previously delineated, the stream adjacent to Wetland JB01 is also a tributary to Richards Creek. A high water table at four inches below the ground surface and saturation throughout the soil were also observed. Wetland JB01 has habitat features including downed wood, standing snags and undercut banks. The wetland also has increased habitat value because it is near a stream and has a high interspersion of habitats.

Wetlands JB02 and JB03

Wetlands JB02 and JB03 are small slope wetlands located on the west side of the Somerset Recreation Club near the corner of Somerset Drive SE and Somerset Place SE (Appendix A, Page No. 78 and 79). These wetlands are separated by less than 100 feet and are very similar in character. Both Wetlands JB02 and JB03 have palustrine emergent and palustrine scrub-shrub Cowardin vegetation classes. The dominant plants include slough sedge and giant horsetail. The soils sampled meet the hydric soil indicator F2 -Loamy Gleyed Matrix (DP 37, Appendix B). The hydroperiod at these wetlands is saturated only and groundwater was present at seven inches below the ground surface. Although these wetlands have a low function overall, they have low cover of invasive species and provide some habitat functions.

Wetland JB04

Wetland JB04 is a slope wetland located along Forest Drive SE, north of the intersection of Forest Drive SE and SE 54th Place (Appendix A, Page No. 84). The Cowardin vegetation classes present are palustrine emergent and palustrine scrub-shrub. The dominant vegetation includes red-osier dogwood, Himalayan blackberry, broadleaf cattail and soft rush. The sampled soils meet hydric soil indicator F2 -Loamy Gleyed Matrix (DP 38, Appendix B). During the site visit, Wetland JB04 had saturation throughout the soil and has hydroperiod areas that are occasionally flooded and areas that are saturated only. Other hydrology indicators observed were drainage patterns, geomorphic position and the FAC-neutral test. This area contributes towards the habitat functions of these wetlands.

Wetland JB05 - JB08

Wetlands JB05-JB08 are slope wetlands located on the east side of Coal Creek Parkway SE, below the intersection of Coal Creek Parkway SE and Forest Drive SE (Appendix A, Page No. 67, 84, 85, 86; Wetland JB08 also contains depressional areas. Wetland JB08 is a combination slope-depressional wetland. Common vegetation observed includes black cottonwood saplings, red alder, Sitka willow, reed canarygrass, soft rush, Canada thistle and giant horsetail. Wetland JB05 contains palustrine emergent and scrub-shrub Cowardin vegetation classes. Wetlands JB06 and JB07 are entirely composed of an emergent Cowardin vegetation class. Wetland JB08 contains scrub-shrub and forested Cowardin vegetation classes. Each wetland met the criteria for at least one hydric soil indicator as well as at least one primary or two secondary hydrology indicators (Appendix B). These wetlands are located adjacent to a relatively undisturbed forested area. All of the wetlands consequently have at least one WDFW priority habitat within 330 feet. JB05 in particular has four WDFW priority habitats within 330 feet: biodiversity areas and corridors, riparian, instream, and snags and logs.

Wetland MB01

Wetland MB01 is a depressional wetland located north of 128th Avenue SE. The Cowardin vegetation classes consist of palustrine scrub-shrub and palustrine forested (Appendix A, Page No. 93). Dominant vegetation includes Pacific willow, red-osier dogwood, bitter nightshade, and Himalayan blackberry. The soils sampled (DP 1, Appendix B) were extremely saturated at the time of the site visit; redoximorphic features were not identified, likely due to the high moisture content and organics masking redoximorphic features. The wetland met criteria for four primary wetland hydrology indicators and two secondary indicators.

Wetland MB02 and MB03

Wetland MB02 and MB03 are two small slope wetlands on the City of Bellevue Parks parcel near Coal Creek Parkway SE (Appendix A, Page No. 88). Both contain only a palustrine emergent Cowardin vegetation class that consists of regularly mowed herbaceous species such as reed canarygrass, soft rush, broadleaf plantain, and other grasses. Some Himalayan blackberry and field bindweed are also present. Wetland MB02 meets hydric soil indicator S5 – Sandy Redox, while Wetland MB03 meets hydric soil indicator F2 – Loamy Gleyed Matrix (DPs 4 and 5, Appendix B). Both also meet criteria for at one primary wetland hydrology indicator and two secondary wetland hydrology indicators.

Wetland MB04

Wetland MB04 is a slope-depressional wetland located at the base of the same hillslope as Wetland MB02 and MB03, west of Coal Creek Parkway SE (Appendix A, Page No. 86 and 87). It extends beyond the project area to the northwest. Palustrine emergent and palustrine scrub-shrub Cowardin vegetation classes are present. Dominant vegetation includes mowed grasses, small-fruited bulrush, willowherb, bittercress, and giant horsetail in the corridor with some mitigation plantings consisting of young shrubs such as red-osier dogwood. There is some skunk cabbage in the less disturbed areas along the edge of the corridor. Along with seeps along the hillslope, Streams MB02 and MB03 both flow through the wetland and serve as a source of hydrology. Sampled soils meet criteria for hydric soil indicators A4 – Hydrogen Sulfide and A11 – Depleted Below Dark Surface. The wetland also meets criteria for multiple primary and secondary wetland hydrology indicators.

Wetland MB04 was previously identified as Wetland W2 in 2011 by CH2M Hill as part of an investigation into mitigation for culvert replacement. During the TWC investigative fieldwork, it was clear that the wetland boundary and conditions have changed, likely due to the implementation of the mitigation plantings. CH2M Hill classified the wetland as a Category III wetland. However, TWC ecologists re-rated this wetland as a Category IV wetland. The largest point differences occur in the scoring for water quality function and hydrologic function. CH2M Hill previously identified the wetland as containing persistent, ungrazed vegetation greater than 95% of the area (water quality - 5 points). Per Ecology guidance, mowed vegetation counts as grazed vegetation. However, because a large portion of the wetland occurs in the mowed PSE corridor in the 2015 TWC delineation, today less than one half of the area consists of persistent, ungrazed vegetation (water quality – 1 point). In addition, the culvert replacement that occurred after the CH2M Hill delineation likely altered hydrologic conditions so that there is no longer a constricted outlet nor substantial ponding, resulting in a decrease of 10 points for hydrologic function.

If impacts are proposed here, the offsite portions of the wetland may need to be assessed to confirm the change in the rating.

3.2 Streams

Stream EB01 (Kelsey Creek)

Stream EB01, commonly known as Kelsey Creek, is a perennial fish-bearing stream that flows northeast to southwest across the PSE corridor south of Bellevue Redmond Road (parcel numbers 760580TRCT and 0672100140) (Appendix A, Page No. 24). It is in the Kelsey Creek drainage basin. Wetland EB01 is adjacent to the creek. Fall Chinook, coho, winter steelhead, and sockeye salmonids have been documented in Kelsey Creek (WDFW Salmonscape 2015). Stream EB01 is an F-type stream per the City of Bellevue Land Use Code (LUC 20.25H.075.B).

Stream EB02 - EB05

Streams EB02 – EB05 are small non-fishbearing intermittent streams that daylight and reenter culverts along the PSE corridor on the Glendale Country Club property (parcel 3425059010) (Appendix A, Page No. 28, 29, 31, 32 and 33). These streams are in the Kelsey Creek drainage basin. They are N-type streams that have not been mapped previously (LUC 20.25H.075.B).

Streams EB06 through EB14

Streams EB06 – EB14 also occur in the Kelsey Creek drainage basin in the Lake Hills Connector area (Appendix A, Page No. 34, 35, 36, 37 and 38. They are non-fishbearing, intermittent streams that are often piped under the trail or were noted to enter culverts. Streams EB06 and EB07 are also mapped in the City of Bellevue drainage map; the other streams are not documented. These streams are N-type streams.

Streams JB01, JB02, and PSE Lakeside Substation Streams (previously delineated by TWC)

Streams JB01, JB02, and the streams noted in the PSE Lakeside Substation studies (TWC 2015) are in the East Creek drainage basin (Appendix A, Page No. 46 and 68). They are part of the same stream network that flows roughly southeast to northwest before becoming East Creek (PSE parcels 1024059083 and 1024059097 and parcel 8135300110). Streams A, B, and F in the PSE corridor were noted in the 2014 delineation as part of the 2015 Critical Areas Report for the PSE Lakeside Substation (Appendix A, Page No. 45). These three streams are tributaries that join Stream C in the PSE parcels (TWC 2015); Stream C flows outside of the study area but likely has an encumbering buffer (Appendix A, Page No. 46 and 68). Stream JB01 is the upstream segment of Stream C described in the 2015 report, south of the culvert under the roadway by SE 30th Street, while Stream JB02 is a tributary that joins Stream JB01.

Stream A originates to the east of Wetland BC; once it enters Wetland BC, it transforms to sheet flow, losing channel structure. It does not support fish, and is thus classified an N-type stream. Streams B, C, and F, on the other hand are considered to be fish-bearing because they all three contain suitable habitat and are not along steep gradients. Stream C also has salmonid use documented by WDFW PHS. Streams B, C, and F are F-type streams.

Stream JB01 is the upstream reach of the same perennial stream identified as Stream C. It is also identified as Stream 0263 (HDR 2010). There is no identifiable natural feature nor a steep gradient that would preclude fish-use. As such, Stream JB01 is also an F-type stream. Stream JB02, a seasonal tributary to Stream JB01, is also an F-type stream within the project area.

Stream JB03

Stream JB03 is a backyard drainage feature located north of the Somerset Drive SE and 135th Avenue SE intersection. Seeps channelize to Stream JB03 before entering a drain system (Appendix A, Page No. 80 and 81). The stream is not previously mapped, nor does it connect through an aboveground system to fish-bearing waters. It is classified as an O-type stream.

Stream JB04

JB04 is a seasonal tributary to Coal Creek that flows through the mitigation planting area of Wetland JB08 before entering a culvert to Coal Creek (Appendix A, Page No. 86). There is no identifiable natural feature nor a steep gradient that would preclude fish-use. Since Coal Creek has well-documented salmonid use, it is assumed that Stream JB04 is likely fish-bearing. Stream JB04 is an F-type stream.

Stream JB05 (Coal Creek)

Stream JB05 refers to the reach of Coal Creek that occurs within the PSE corridor (Appendix A, Page No. 86 and 87). It is a perennial stream that has well-documented salmonid use by fall Chinook, coho, sockeye, winter steelhead, and coastal cutthroat (WDFW PHS). Stream JB05 enters the PSE corridor as it crosses south to north underneath Coal Creek Parkway SE. The riparian vegetation along the open stream segments are lush dense stands of red alder and bigleaf maple trees. Stream JB05 is an F-type stream.

Stream MB01

Stream MB01 is a seasonal ditched stream that flows north to south from north of 128th Avenue SE to Newcastle Way, just north of the jurisdictional boundary of Bellevue and Newcastle (Appendix A, Page No. 94). It contains both culverted and daylight segments. It is unclear where the stream originates or where it flows, as it has not previously been mapped, and it has a limited extent in the study area. Stream MB01 is an N-type stream.

Stream MB02

Stream MB02 is a tributary to Coal Creek that originates from seeps upslope of Wetland MB04, southwest of Coal Creek Parkway SE (Appendix A, Page No. 86). As the seeps channelize as Stream MB02, the stream flows north and eventually joins Coal Creek. Because of its proximity to Coal Creek with no observed natural barriers, this stream is likely fish-bearing. As such, it is an F-type stream.

Stream MB03

Stream MB03 channelizes from seeps along the steep slope south of Coal Creek Parkway SE before entering a culvert under Coal Creek Parkway SE (Appendix A, Page No. 86). It is unclear where this culvert outlets, but flow likely enters Coal Creek. The stream is not suitable fish habitat, as it occurs along a steep slope with a gradient of greater than 20%. Stream MB03 is an N-type stream.

Stream G2B01 (Sunset Creek)

Stream G2B01, also known as Sunset Creek, is a perennial creek that flows south to north (Appendix A, Page No. 48). As the result of a rerouting project to reduce flooding, the creek is artificially channelized with mitigation plantings on both sides of SE 30th Street. Stream G2B01 has documented coho salmon use (WDFW PHS). Stream G2B01 is an F-type stream.

Stream G2B02 and IB01 (Richards Creek)

Stream G2B02 is the downstream Richards Creek segment north of the I-90 interchange (Appendix A, Page No. 49), while Stream IB01 is upstream Richards Creek segment south of the I-90 interchange, along Factoria Boulevard SE (Appendix A, Page No. 52 and 53). The two segments are characteristically different with differing classifications.

Stream G2B02, the downstream segment, meanders through Wetland G2B01 and has coho salmon use documented (WDFW PHS). This downstream segment of Richards Creek is classified as an F-type stream.

Stream IB01, the upstream segment of Richards Creek, has been placed in an artificial channel with very steep slopes to either side and is only daylighted for a short segment. The segment likely experiences flashy hydrologic peaks and does not contain suitable riparian and bed characteristics to support fish use. As such, south of the I-90 interchange, Richards Creek (Stream IB01) is an N-type stream.

Stream G2B03

Stream G2B03 is an intermittent stream that occurs in a steep ravine in the PSE property west of Richards Road (parcel 545300240) (Appendix A, Page No. 49 and 50). Due to the steep gradient of the slope, the stream is unlikely to be fish-bearing. Stream G2B03 in an N-type stream.

Streams K2B01 - K2B06

Streams K2B01 through K2B06 are all small tributaries to Coal Creek that cross under Coal Creek Parkway SE from north to south before merging with Coal Creek at the base of the slope (Appendix A, Page No. 62, 63, 64 and 66). Streams K2B02 and K2B04 appear to be perennial, while the other streams are likely intermittent. Additionally, these streams are mostly just piped for the duration of the study area, with outlets observed outside of the study area. Where daylighted, these streams may have encumbering critical areas buffers to the project. These streams are all N-type streams due to the prevention of fish passage as a result of the steep gradient of the hillslope leading to Coal Creek.

3.3 Wildlife and Habitat

The City of Bellevue regulates habitat associated with Species of Local Importance as critical areas.

Washington State Priority Habitat and Species (PHS) maps were reviewed for the project vicinity. Other than the salmonid fish use discussed in the stream section above, there are two biodiversity areas and corridors highlighted: the Kelsey Creek Open Space Areas and Coal Creek Park.

Significant wildlife observations were recorded during field investigations. A pileated woodpecker flew overhead while the wetland was being rated and likely uses habitat on the Newport High School campus.

Areas with habitat potential include the forested and residential areas near Bridle Trails; Viewpoint Park, north of SR520; the Glendale Country Club; Kelsey Creek Park and associated open spaces; and Coal Creek Park.

3.4 Classifications and Standard Buffers

Critical areas in the City of Bellevue are regulated in the Bellevue Land Use Code (LUC), Part 20.25H Critical Areas Overlay District.

3.4.1 Wetlands

According to LUC 20.25H.095, wetlands are classified based on the 2004 Rating System (Hruby). Wetland buffers are based upon the wetland rating and associated habitat score, the size of the wetland, and whether or not the wetlands are developed. Under the LUC wetland regulations, developed is defined as when a parcel has been previously recorded with a NGPE prior to August 1, 2006. None of the wetlands encountered in the study area occur on parcels with NGPEs, so they are all considered undeveloped under the LUC. Wetland buffers are measured perpendicular from the wetland edge. Structure setbacks are also often required when a primary structure is being developed.

The following table shows wetland classifications, associated standard buffer widths, and structure setbacks.

Table 1. Wetland rating summary.

Wetland	200	4 Ecology W	etland Rat	ing		Standard		
Name	Water Quality	Hydrologic Function	Habitat	Total	Category	Buffer Width (ft)		
A ⁺	10	16	17	43	III	60	15	
CB01	6	10	15	31	III	60	15	
EB01	6	10	15	31	III	60	15	
EB02	6	10	16	32	III	60	15	
EB03	12	16	9	37	III	60	15	
EB04	14	10	9	33	III	60	15	
EB05	6	10	12	28	IV	40	-	
EB06	12	16	11	39	III	60	15	
EB07	0	4	8	11	IV	*	-	
EB08	12	10	10	33	III	60	15	
EB09	20	6	15	41	III	60	15	
EB10	12	16	14	42	III	60	15	
EB11	12	0	16	28	IV	40	-	
EB12	4	10	15	29	IV	40	-	
EB13	12	10	18	40	III	60	15	
EB14	2	10	15	27	IV	*	-	
EB15	4	16	17	37	III	60	15	
EB16	6	6	18	30	III	60	15	
EB17	6	6	23	35	III	110	15	
EB18	4	10	13	27	IV	*	-	
EB19	12	16	11	39	III	60	15	
EB20	12	16	8	36	III	60	15	
BC++	6	10	23	39	III	110	15	
EE++	6	10	14	30	III	60	15	
FG ⁺⁺	12	12	20	44	III	110	15	
JB01	6	16	19	41	III	60	15	
JB02	0	0	7	7	IV	*	-	
JB03	0	0	7	7	IV	*	-	
JB04	2	6	9	17	IV	*	-	

Wetland	200	4 Ecology W	etland Rat	ing		Standard	Structure Setback (ft)
Name	Water Quality	Hydrologic Function	Habitat	Total	Category	Buffer Width (ft)	
JB05	2	6	13	21	IV	40	-
JB06	0	4	9	13	IV	*	-
JB07	0	4	10	14	IV	*	-
JB08	8	12	21	41	III	110	15
MB01	16	20	12	48	III	60	15
MB02	2	4	9	15	IV	*	-
MB03	0	4	9	13	IV	*	-
MB04	4	0	17	21	IV	40	-
G2B01	16	26	15	57	II	75	20
IB01	6	8	12	26	IV	*	-
IB02	8	10	7	25	IV	*	-
IB03	6	0	6	12	IV	*	-
IB04	16	0	9	25	IV	*	-

⁺ Overlake Farms, 2013 delineation

3.4.2 Streams

Stream critical areas are regulated in the City of Bellevue under LUC 20.25H – Critical Areas Ordinance. Streams are classified based on status as Shoreline of the State, whether or not the channel contains fish use or fish habitat, and whether or not the stream is physically connected by an aboveground channel system, stream or wetland. Stream buffers are measured from the top-of-bank and are based on stream classification and whether or not a parcel is considered developed. The definition of developed is different for streams than as it is described above for wetlands. For streams, the LUC defines developed as whether a parcel contains an NGPE approved prior to August 1, 2006 or a primary structure; primary structures are defined below. It is possible for the same stream to have different buffers on different parcels if some of the parcels are developed and some are not.

⁺⁺ PSE Lakeside Substation, 2012 and 2014 delineation

^{*} Category IV wetlands that are less than 2,500sf are not regulated by City of Bellevue.

⁻ Category IV wetlands do not have structure setbacks.

Primary Structure. The structure on a site that houses the principal use. For residential uses, the primary structure houses the dwelling unit(s). For nonresidential uses, the primary structure houses the use undertaken on the site, as classified by LUC 20.10.440 and district-specific land use charts contained in Chapter 20.25 LUC. Primary structures do not include structures that contain only certain functions or equipment that support the principal use, such as sheds, garages, or mechanical equipment structures.

A summary of stream types and buffer widths is provided in Table 2, below.

Table 2. Summary of stream classification and associated standard buffer widths.

Stream Name	Туре	Primary Structure?	Buffer (feet)	Setback (feet)	Total	Closed Segment Buffer
EB01	F-type	No	100	20	120	50*
EB02	N-type	Yes	25	25	50	50*
EB03	N-type	Yes	25	25	50	50*
EB04	N-type	Yes	25	25	50	50*
EB05	N-type	Yes	25	25	50	50*
EB06	N-type	Yes	25	25	50	50*
EB07	N-type	Yes	25	25	50	50*
EB08	N-type	Yes	25	25	50	50*
EB09	N-type	No	50	15	65	50*
EB10	N-type	Yes	25	25	50	50*
EB11	N-type	Yes	25	25	50	50*
EB12	N-type	No	50	15	65	50*
EB13	N-type	No	50	15	65	50*
EB14	N-type	No	50	15	65	50*
А	N-type	Yes- Parcel 1020459083	25	25	50	10
(PSE Lakeside)		No- Parcel 1024059130	50	15	65	10
В	E turo	Yes- Parcel 1020459083	50	50	100	10
(PSE Lakeside)	F-type	No- Parcel 1024059130	No 50 15 Yes 25 25 Yes 25 25 No 50 15 No 50 15 No 50 15 No 50 15 Parcel 459083 Parcel 50 50 Parcel 6459083 Parcel 6059130 Parcel 6059130 Parcel 6059130 Parcel 6059130 Parcel 7059130 Parc	120	10	
С	E toma	Yes- Parcel 1020459083	50	50	100	10
(PSE Lakeside)	F-type	No- Parcel 1024059130	100	20	120	10
F	Etwo	Yes- Parcel 1020459083	50	50	100	10
(PSE Lakeside)	F-type	No- Parcel 1024059130	cel 100 20	20	120	10
JB01	F-type	Yes	50	50	100	10
JB02	F-type	Yes	50	50	100	10
JB03	O-type	Yes	25	0	25	10

Stream Name	Туре	Primary Structure?	Buffer (feet)	Setback (feet)	Total	Closed Segment Buffer
JB04	F-type	No	100	20	120	10
JB05	F-type	No	100	20	120	10
MB01	N-type	No	50	15	65	10
MB02	F-type	No	100	20	120	10
MB03	N-type	No	50	15	65	10
G2B01	F-type	Yes	50	50	100	10
G2B02	F-type	Yes	50	50	100	10
G2B03	N-type	Yes	25	25	50	10
IB01	N-type	Yes	25	25	50	10
K2B01	N-type	Yes	25	25	50	10
K2B02	N-type	Yes	25	25	50	10
K2B03 (offsite)	N-type	No	50	15	65	10
K2B04 (offsite)	N-type	No	50	15	65	10
K2B05 (offsite)	N-type	No	50	15	65	10
K2B06	N-type	No	50	15	65	10

^{*}Closed segments in the Kelsey Creek Drainage Basin receive a 50ft setback.

4 MITIGATION OPPORTUNITIES

Mitigation opportunities located in the study area were noted during field investigations. Sites discussed in this section are limited to parcels owned by public entities or PSE. These areas include degraded/disturbed wetland and stream critical areas and their buffers under existing powerline corridors; they do not include degraded upland areas outside of critical area buffers. Existing vegetation at these locations is generally dominated by invasive species (Himalayan blackberry and reed canarygrass). Any proposed revegetation would need to adhere to vegetation height limits prescribed by PSE standards. Locations where mitigation opportunities exist have been briefly summarized below.

4.1 Viewpoint Park

Viewpoint Park and the adjacent PSE parcel provide opportunity for mitigation (City of Bellevue-owned parcel number 2725059045 and PSE-owned parcel number 2725059116; Figure 6). It includes Wetland CB01 and its critical area buffer. Underneath the corridor is mostly just mowed herbaceous species; habitat function could be improved via mitigation.



Figure 6. Viewpoint Park

4.2 Kelsey Creek Park

Kelsey Creek Park also contains opportunities for mitigation (City of Bellevueowned parcels 3425059016, 0324059009, and 0324059122; Figure 7). Multiple critical areas and their buffers are present, including Streams EB06. EB07, EB08, EB09, EB10, EB11; and Wetlands EB09, EB10, and EB11. Opportunities to improve function include removal of invasive species such as Himalayan blackberry and reed canarygrass.



Figure 7. Kelsey Creek Park (left to right, north to south)

4.3 PSE Lakeside Substation

The PSE Lakeside Substation and the proposed Richards Creek Substation site provides opportunity for mitigation (PSE-owned parcels 1024059083 and 1024059130; Figure 8). These parcels include Wetlands BC, EE, FG, and JB01 as well as Streams A, B, C, F, and JB01. This area contains dense areas of invasive Himalayan blackberry and reed canarygrass that could be replaced to improve riparian and wetland function.





Figure 8. PSE Lakeside substation and adjacent PSE parcel (left to right, north to south)

4.4 Coal Creek Park

The segments of the existing PSE corridor adjacent to Coal Creek Park also provide additional opportunities for mitigation (City of Bellevue-owned parcel 2124059001 and PSE-owned parcel 2124059071; Figures 9 and 10). These parcels include Wetlands MB02, MB03, MB04, JB05, JB06, JB07, and JB08; and Streams MB02, MB03, JB04, and JB05. Underneath the corridor is mostly just mowed herbaceous species; habitat function could be improved via mitigation.



Figure 9. Coal Creek Park and PSE parcel, east of Coal Creek Parkway SE



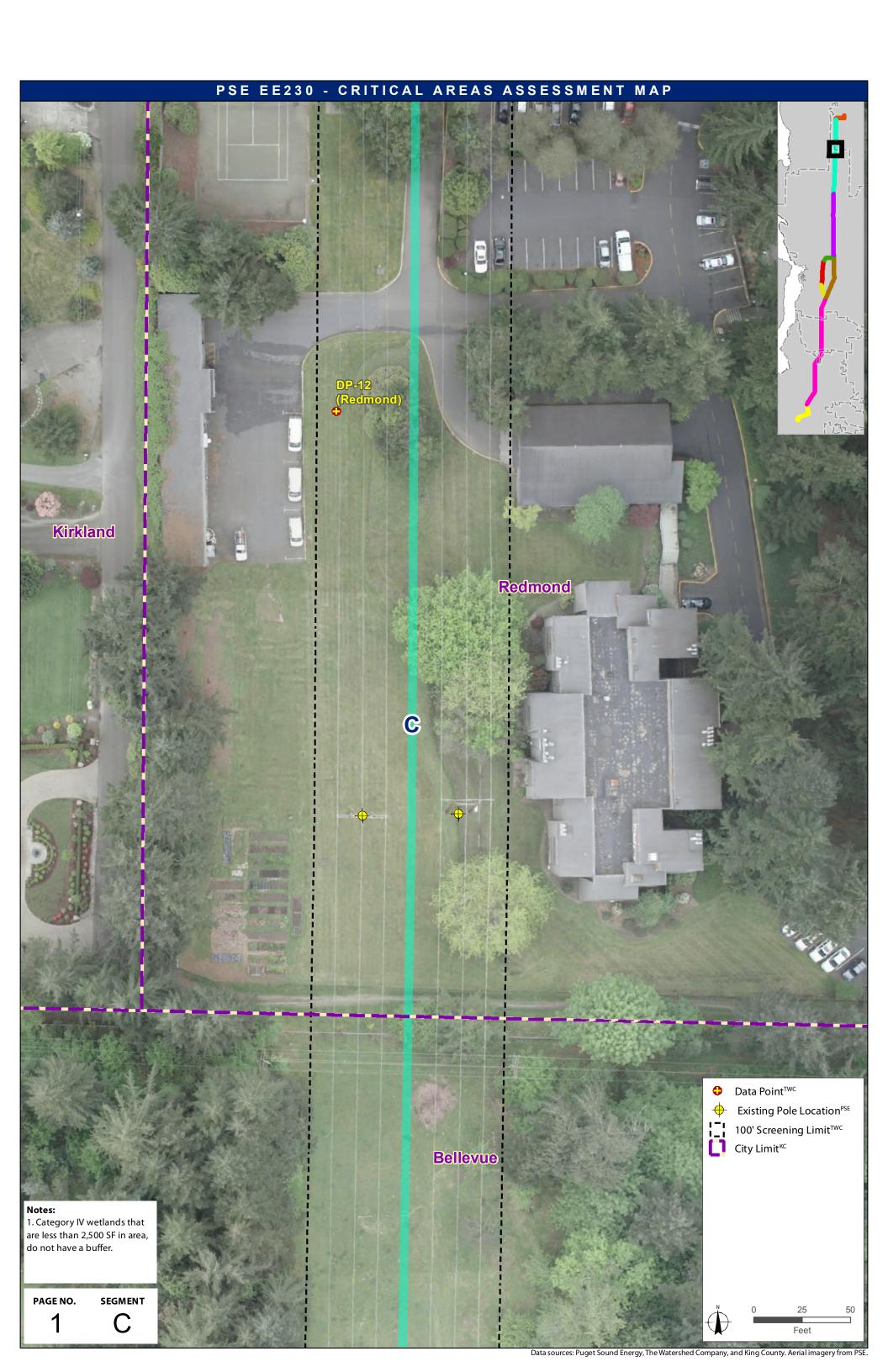
Figure 10. Coal Creek Park, west of Coal Creek Parkway.

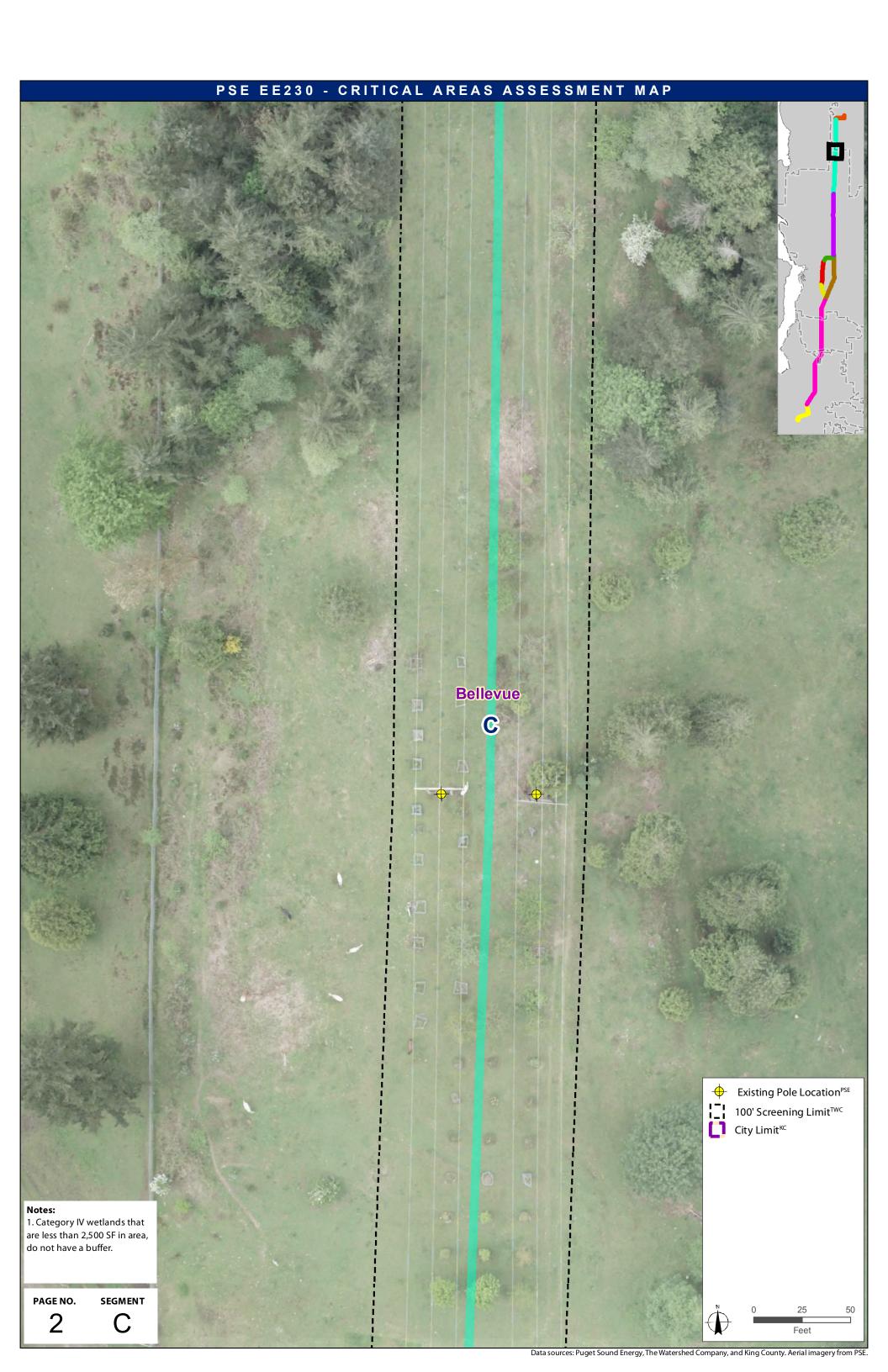
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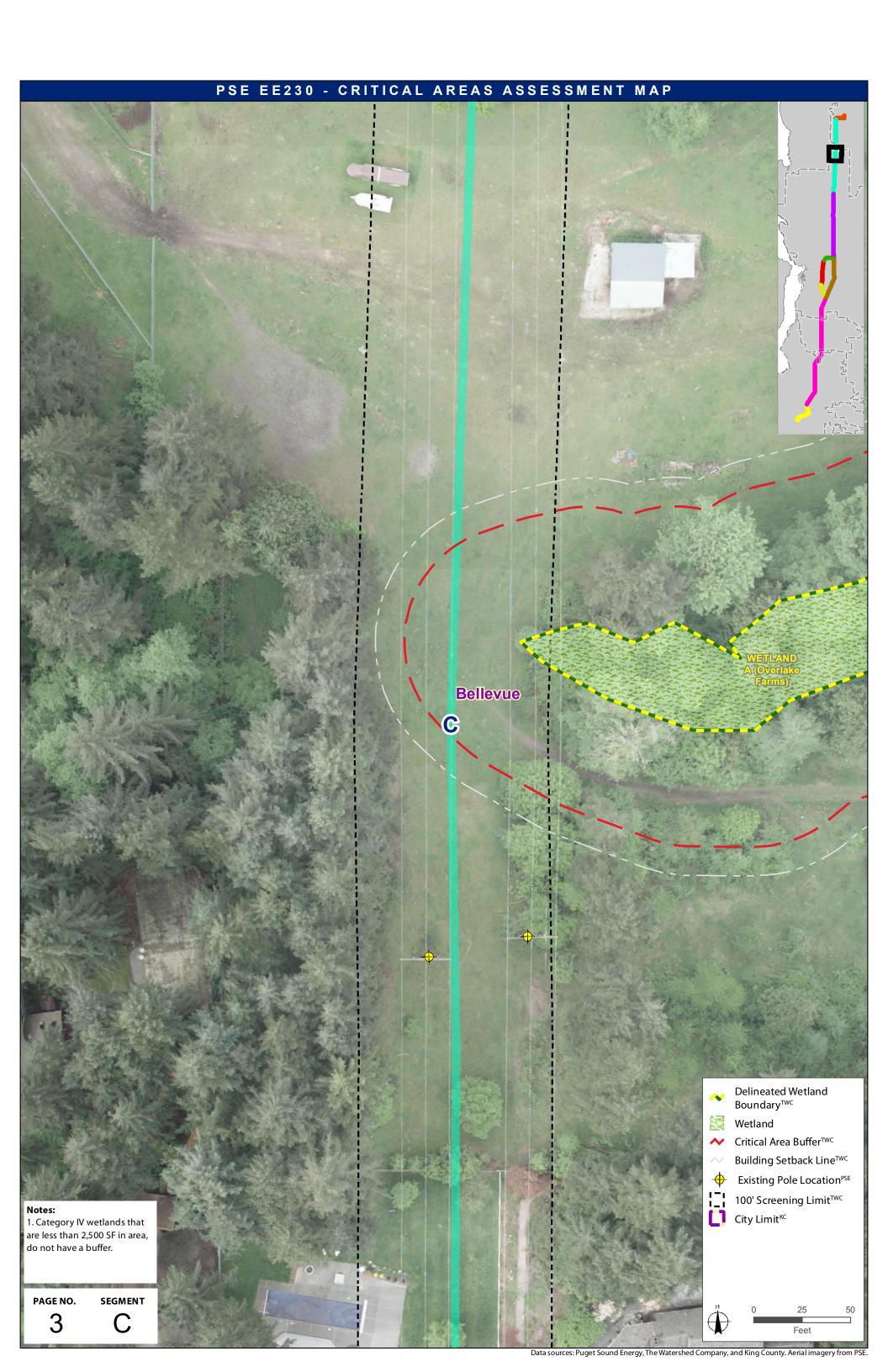
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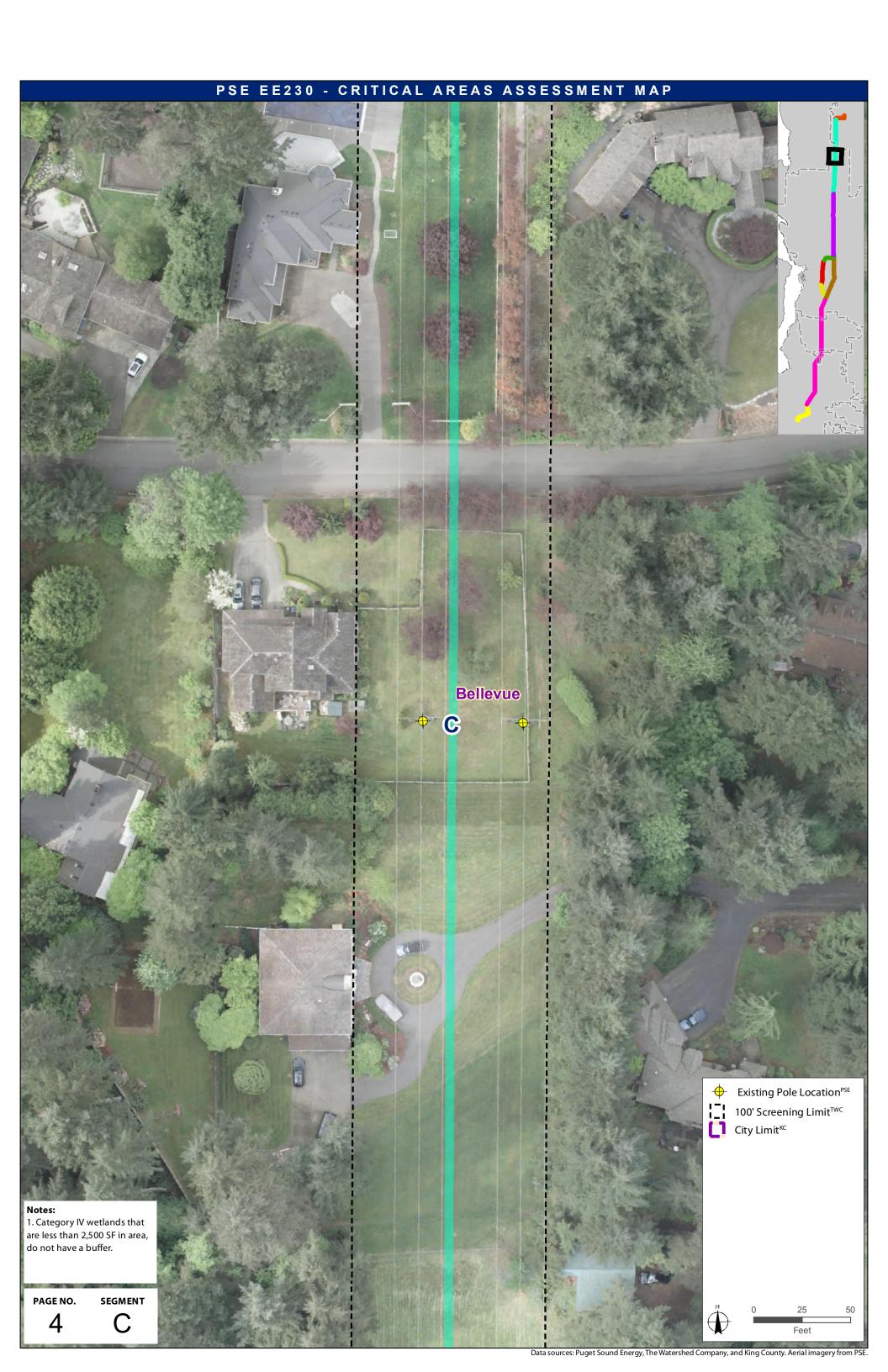
APPENDIX A

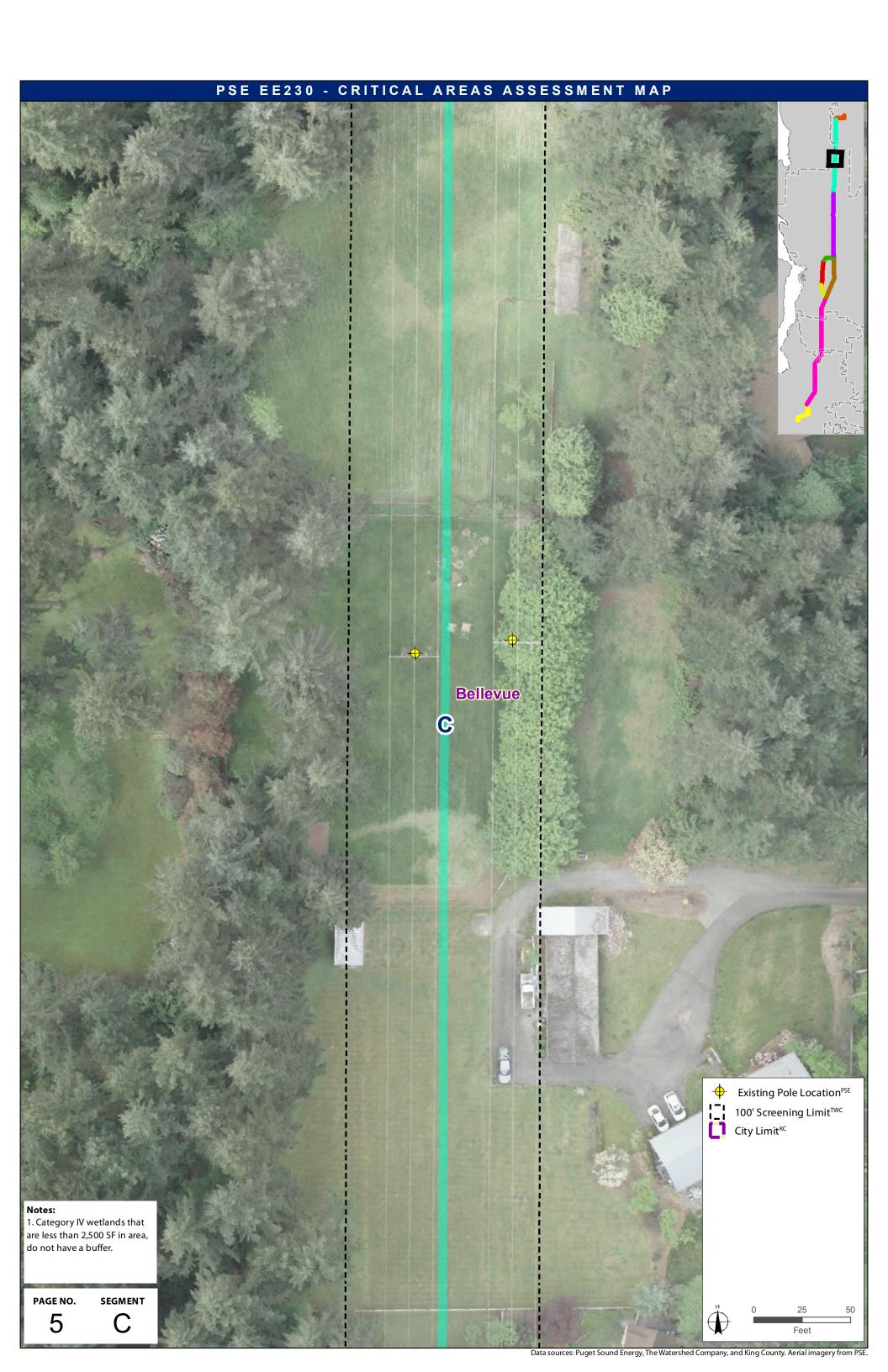
Critical Area Delineation Maps

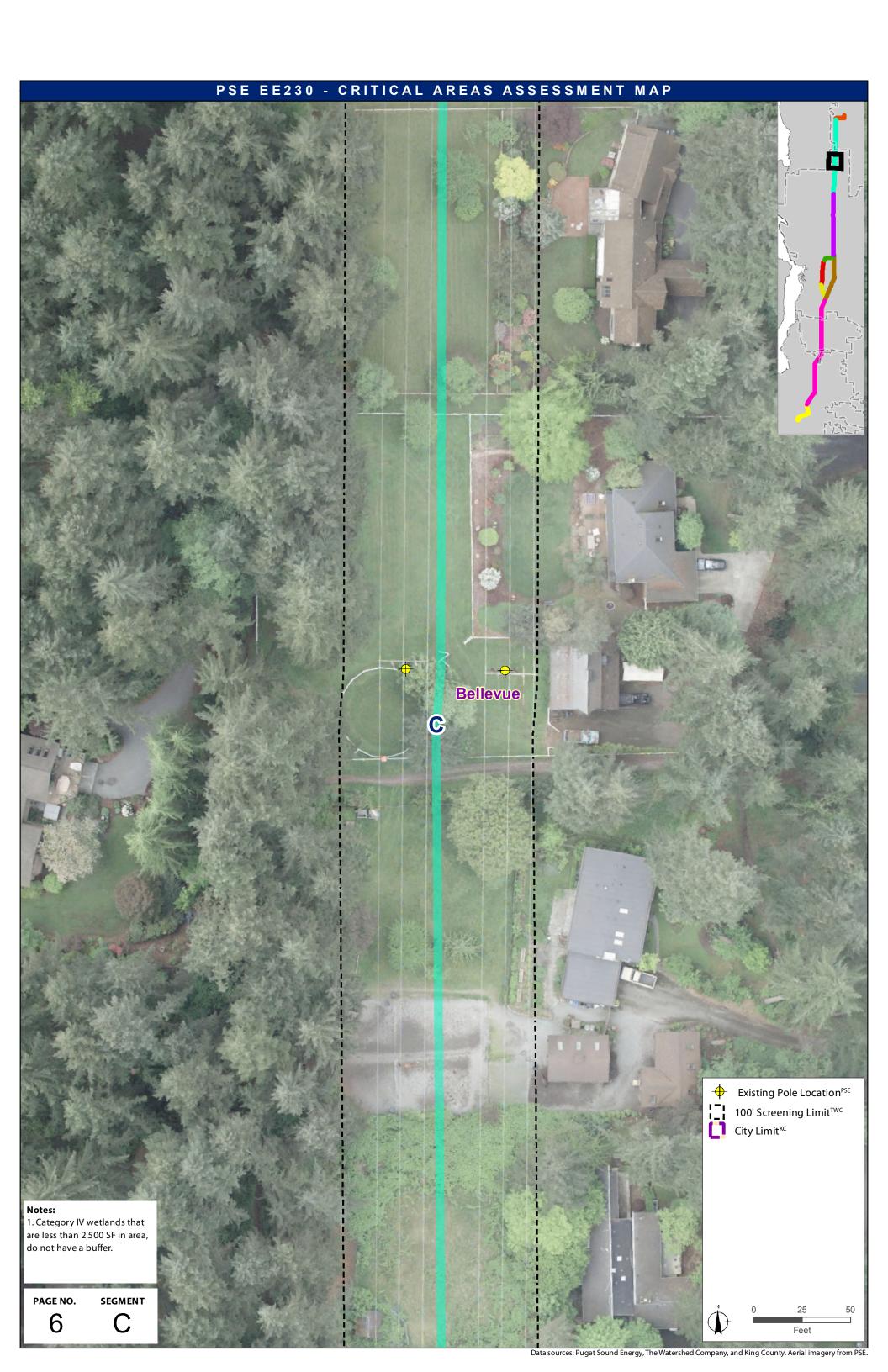


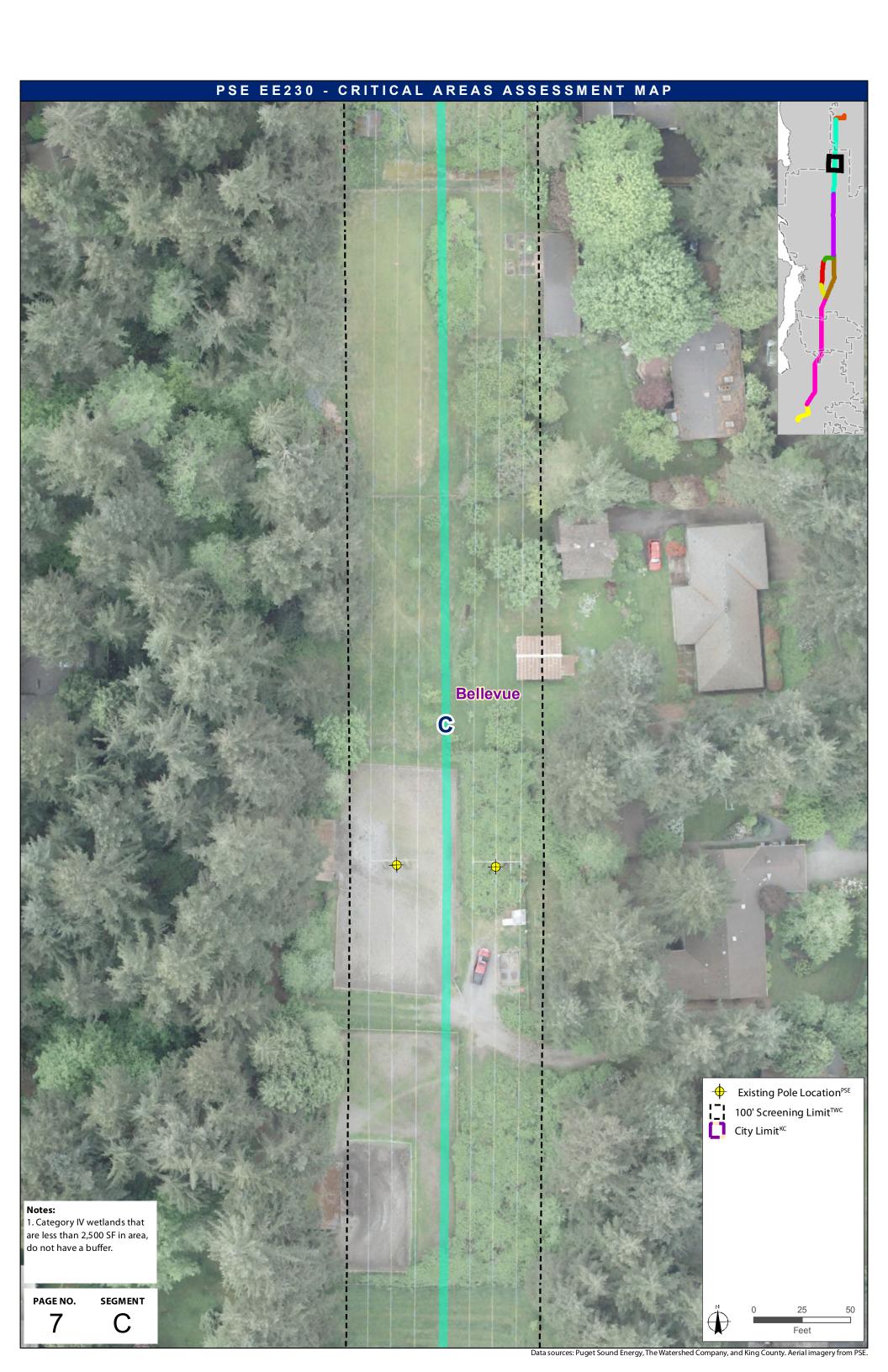


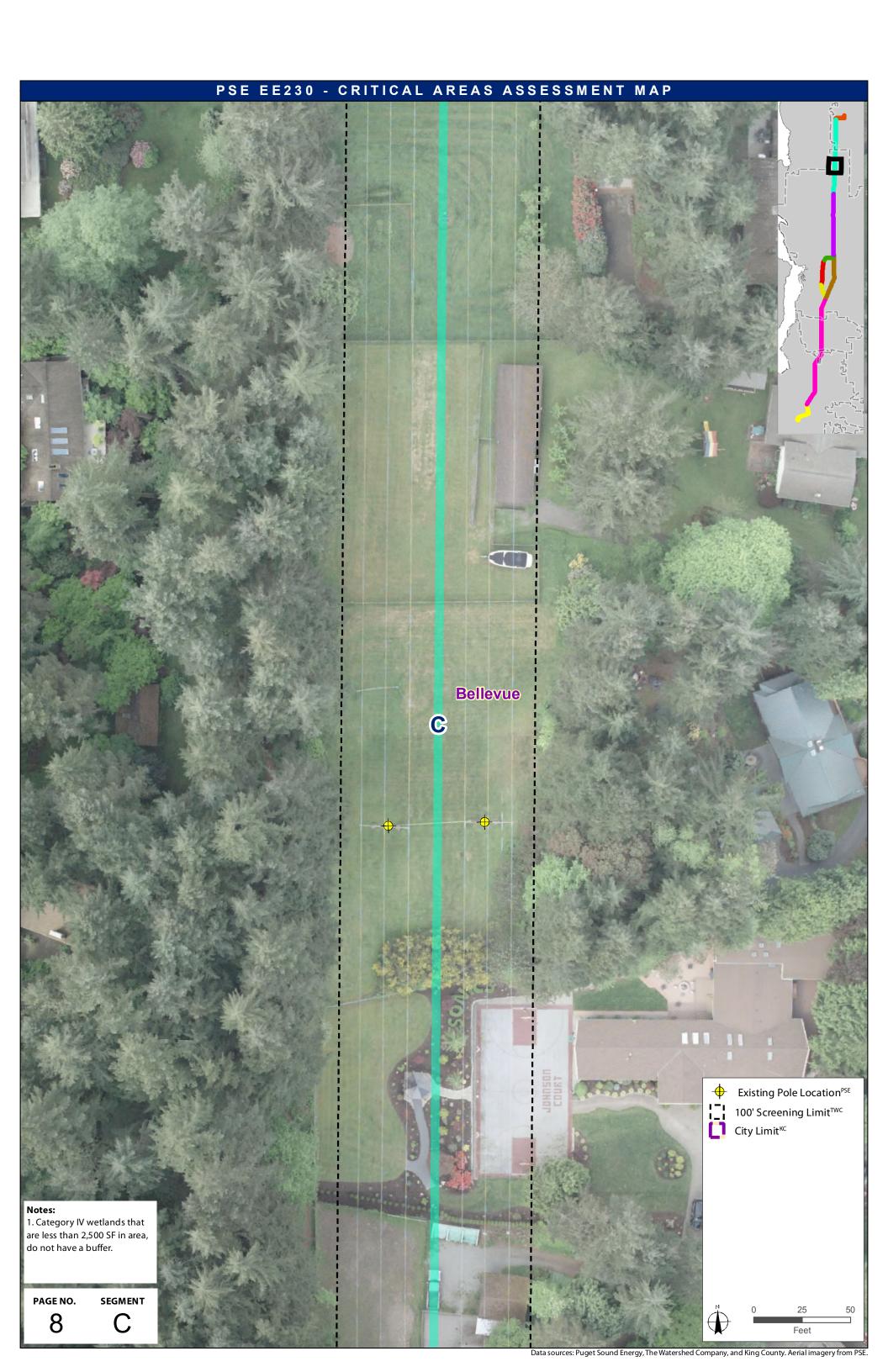


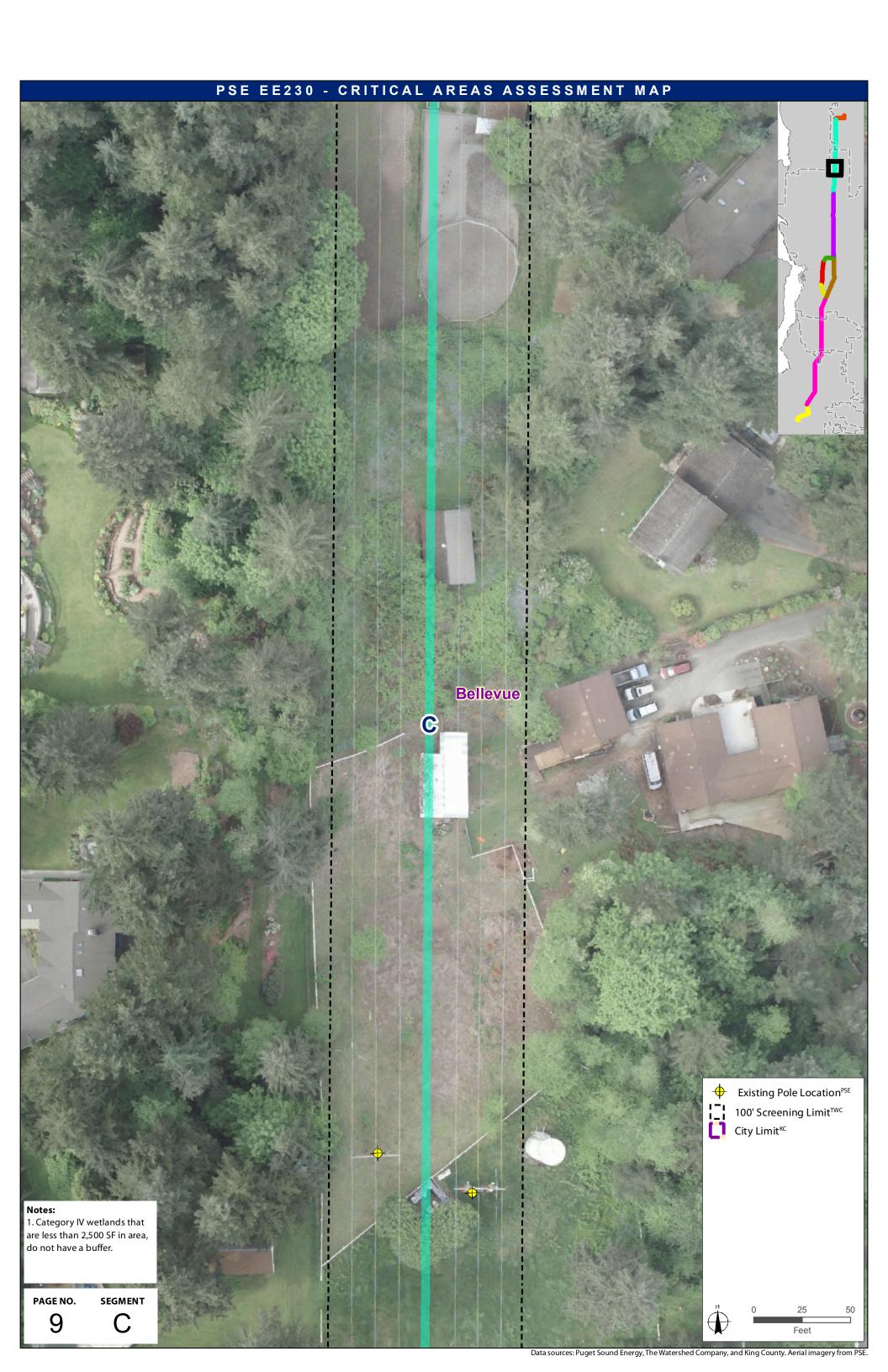


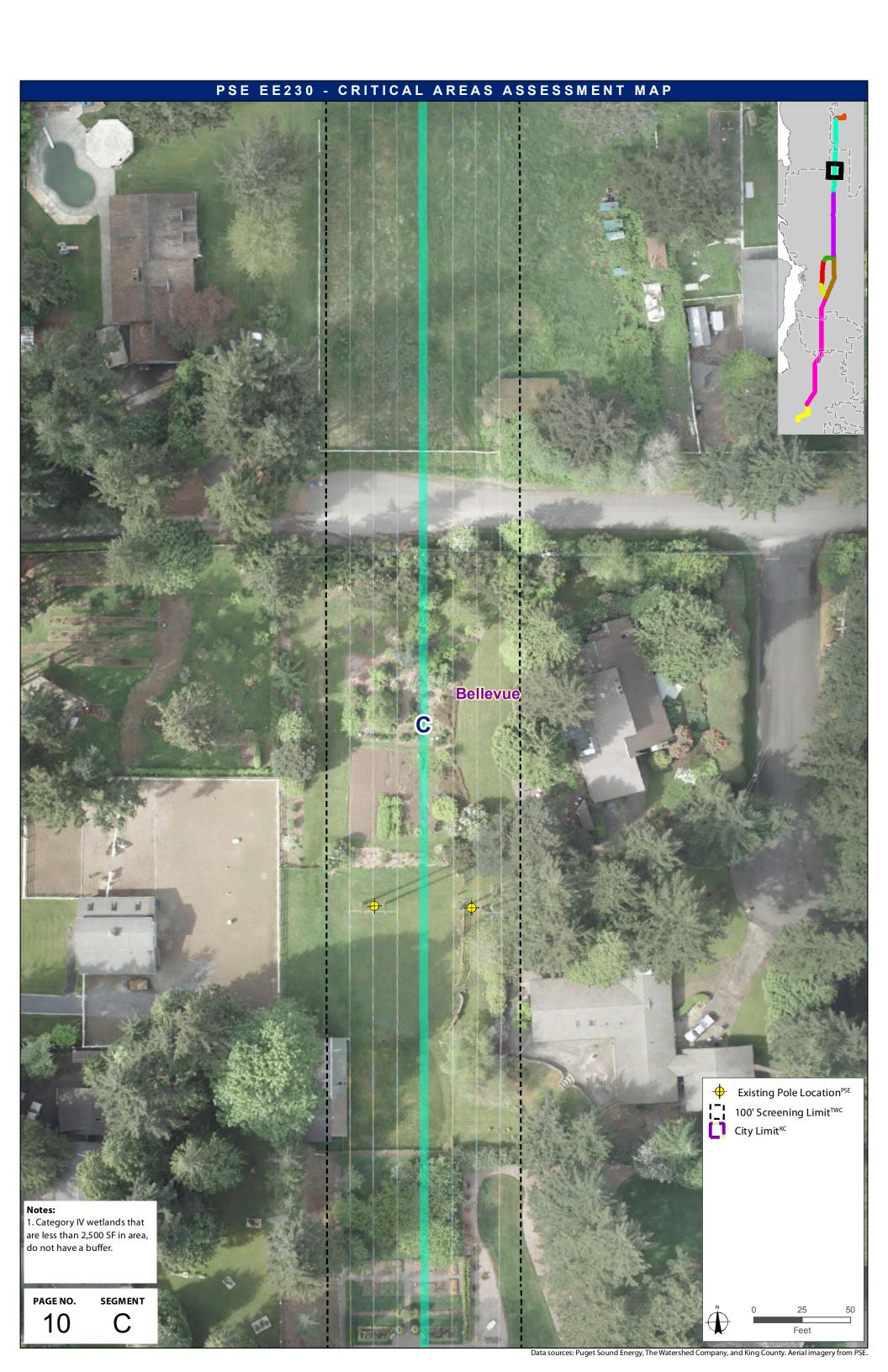


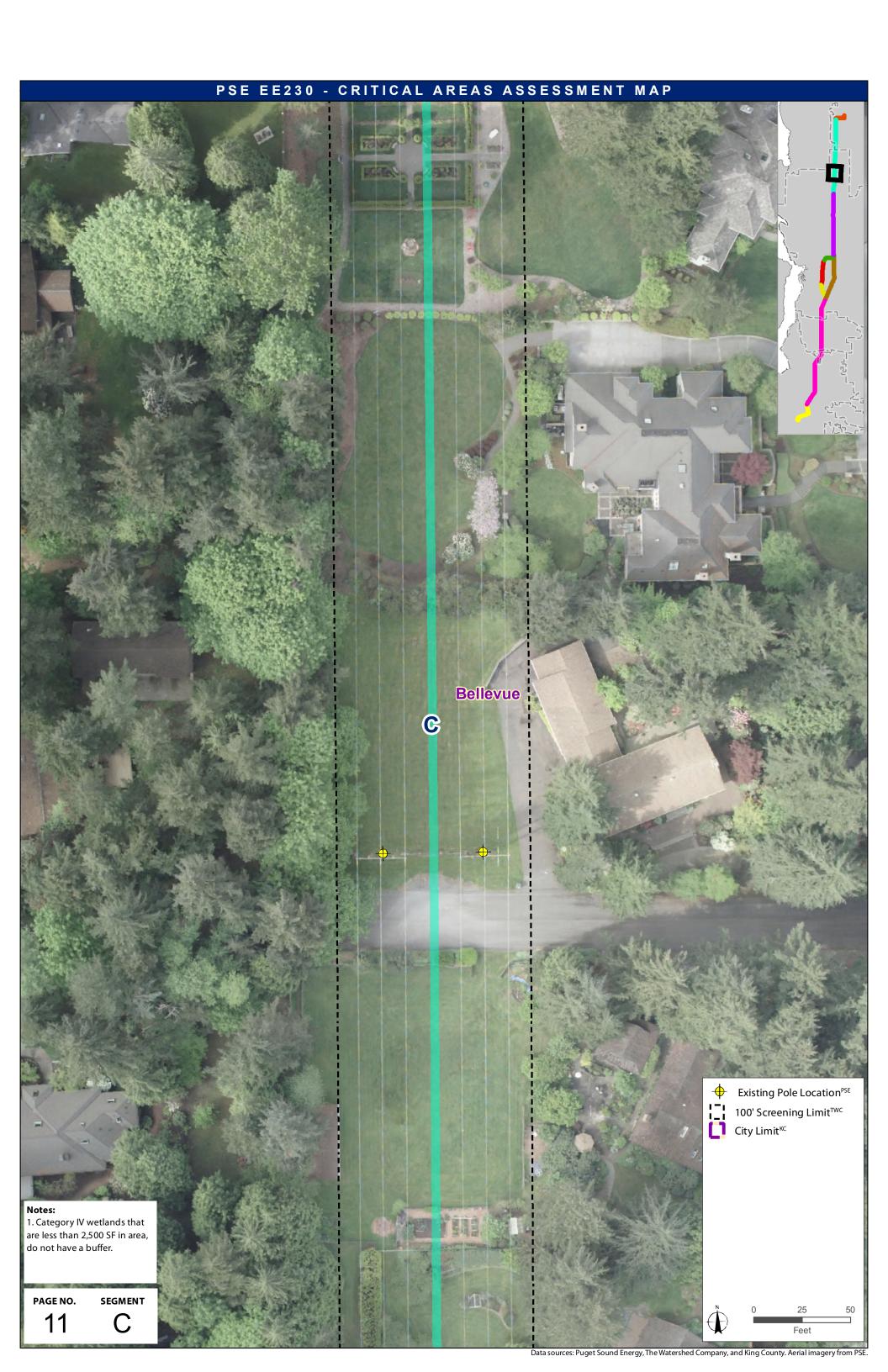




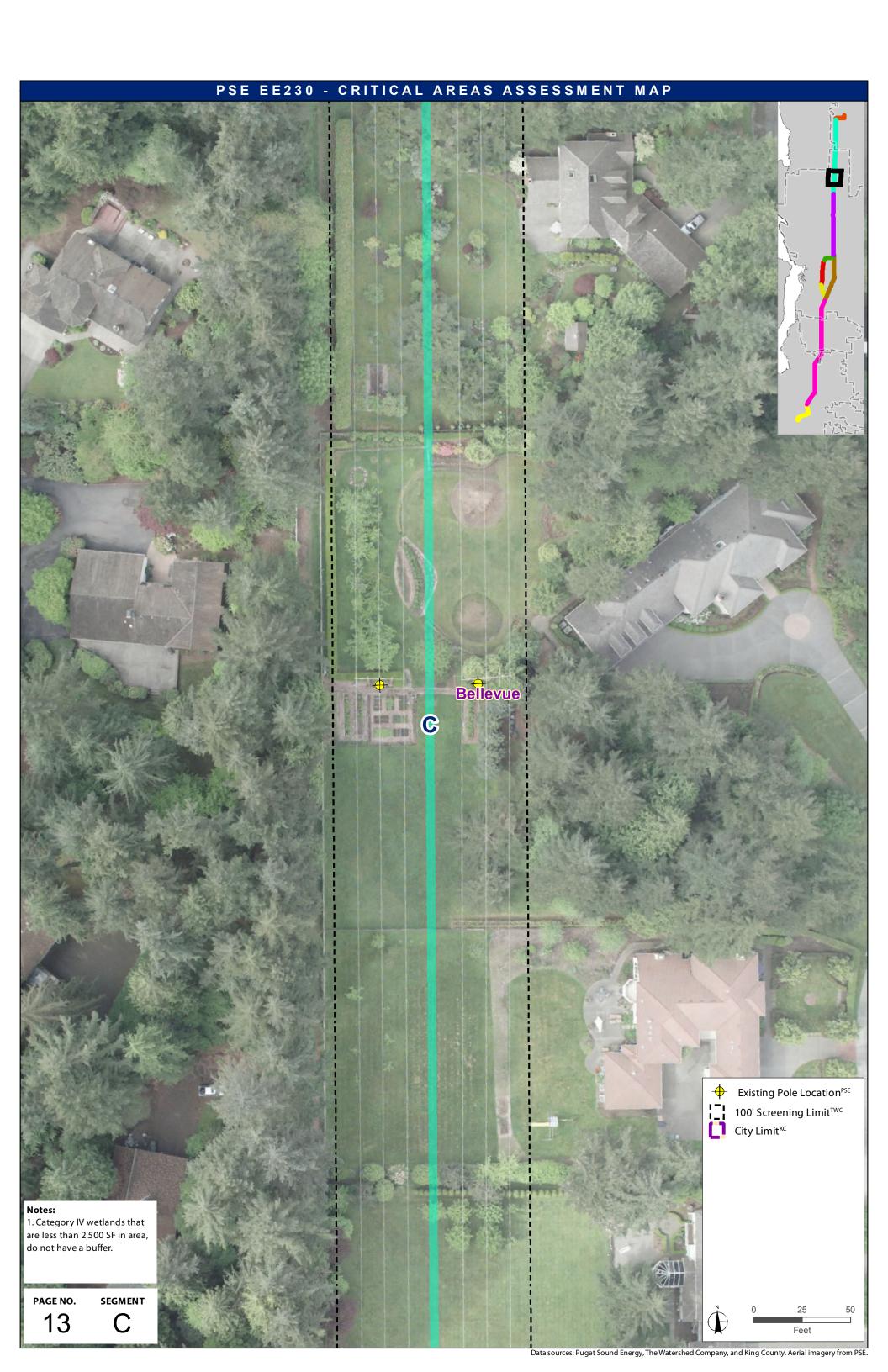


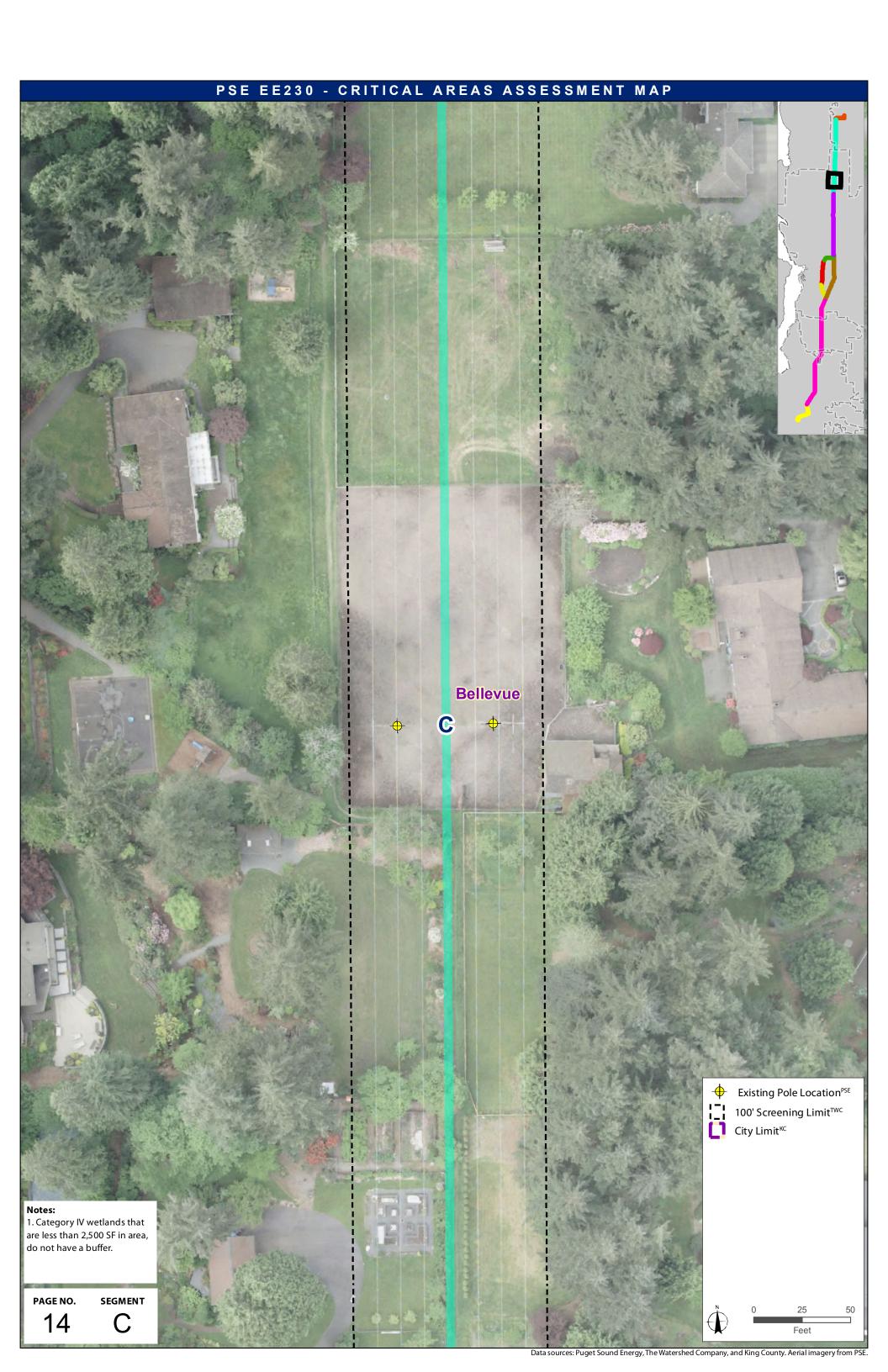


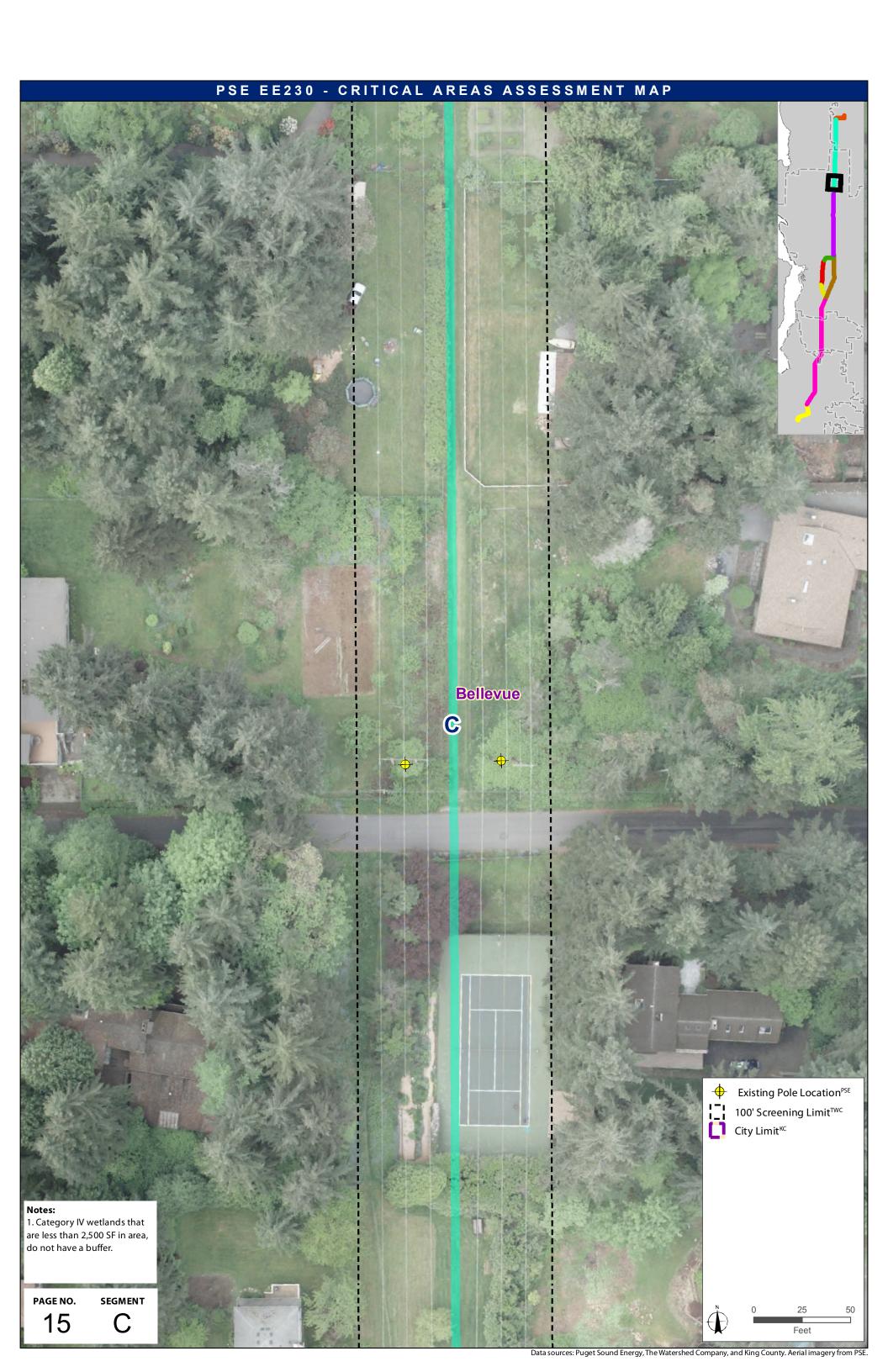


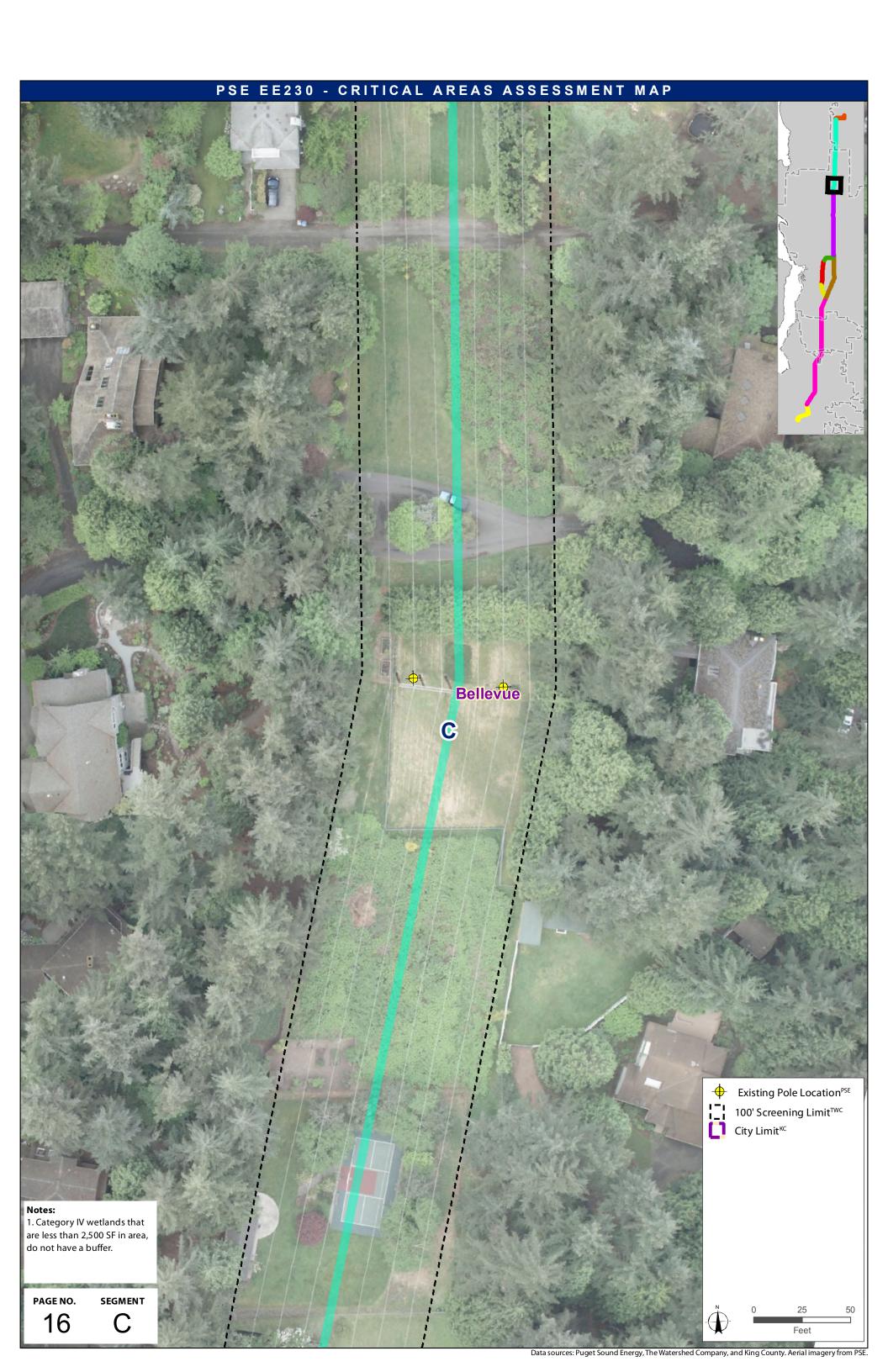


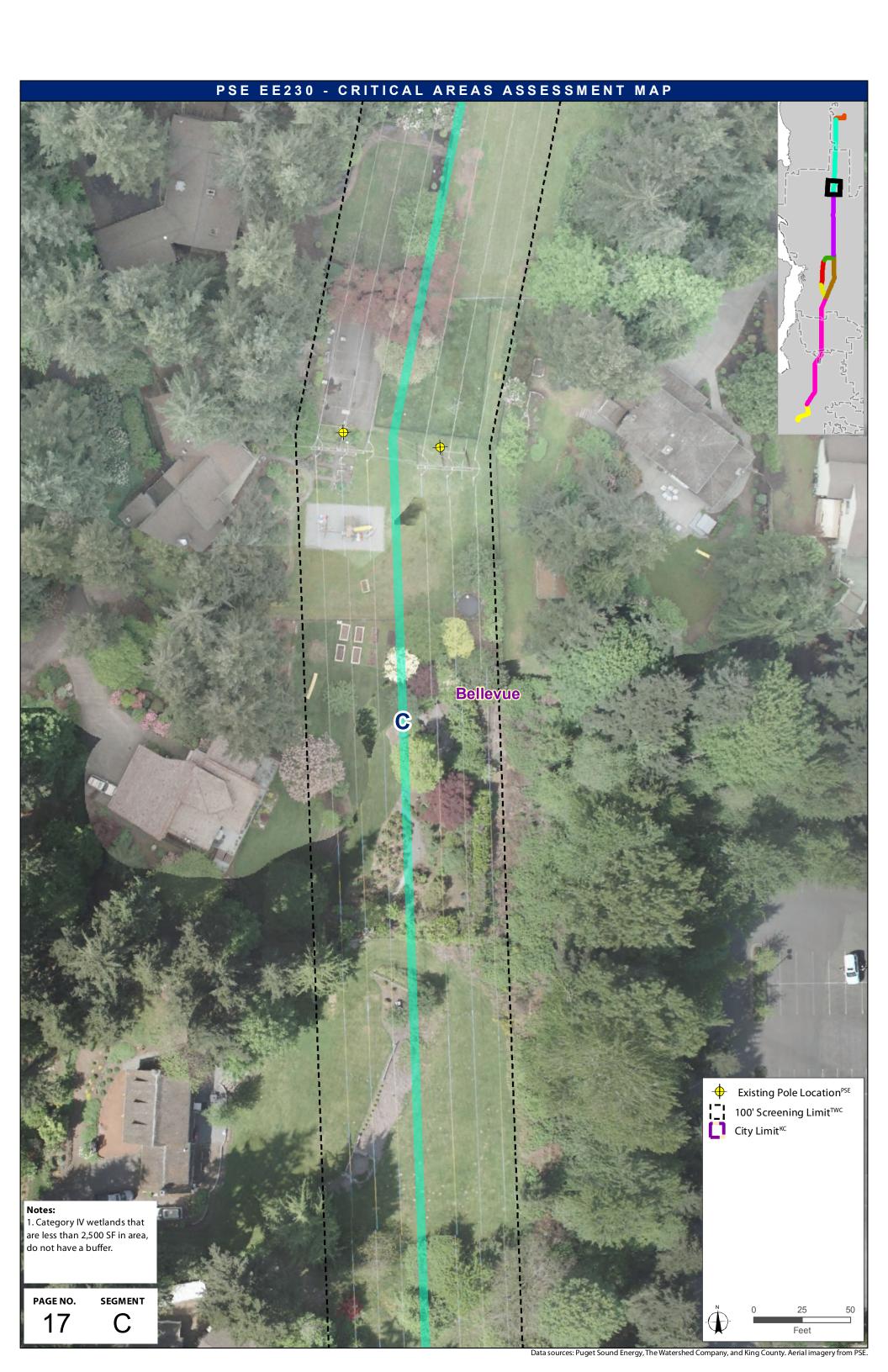


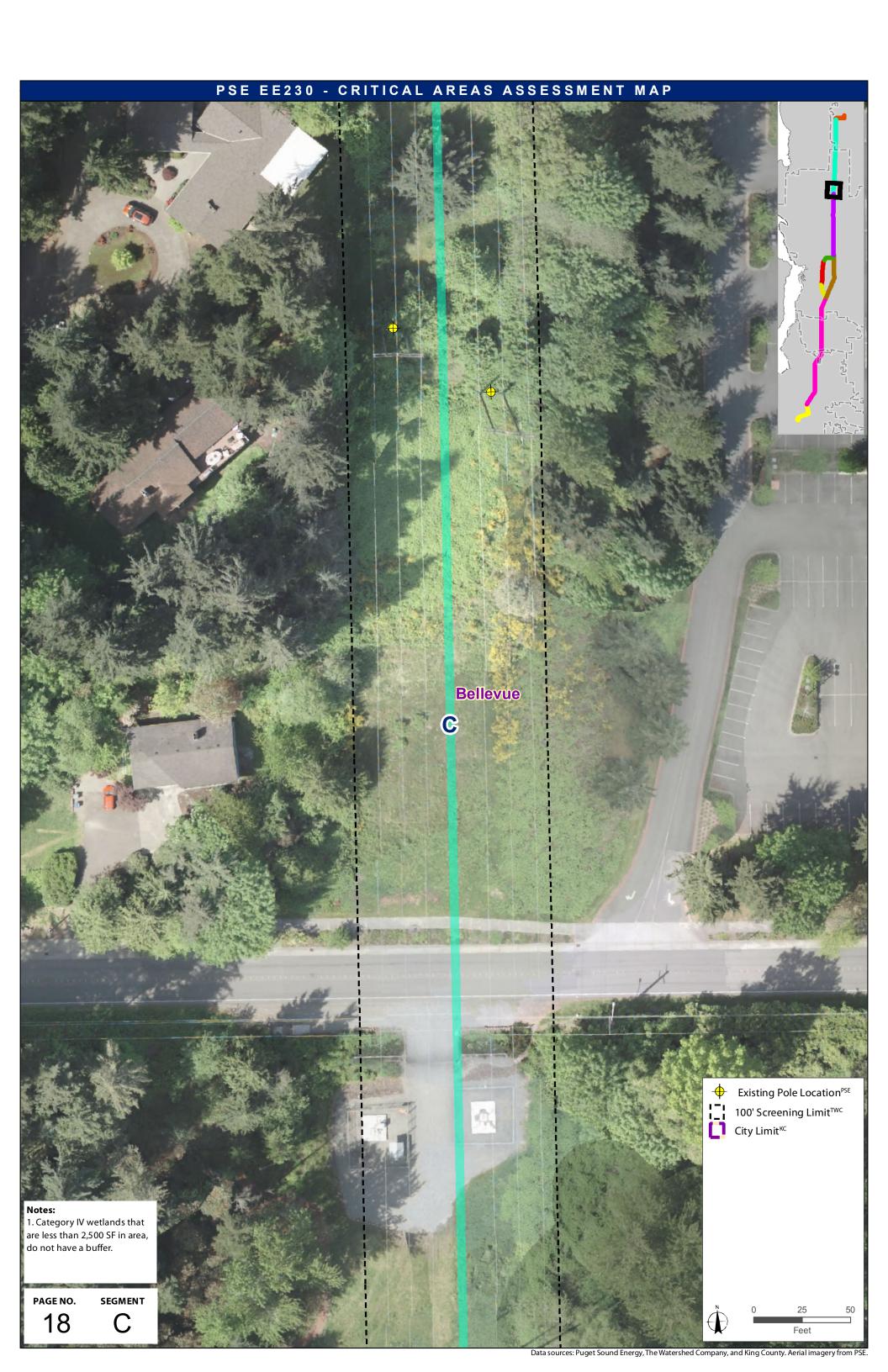


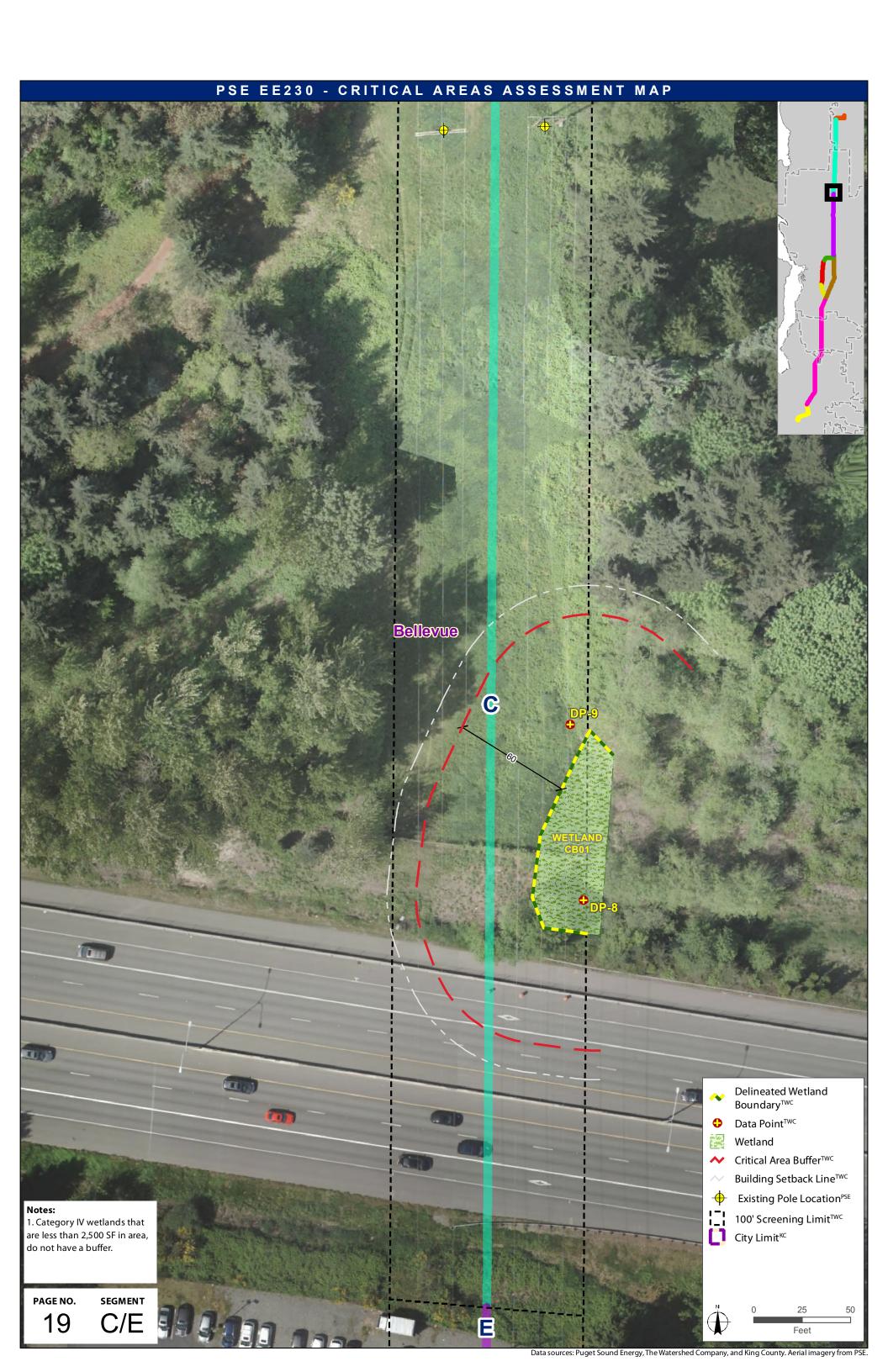


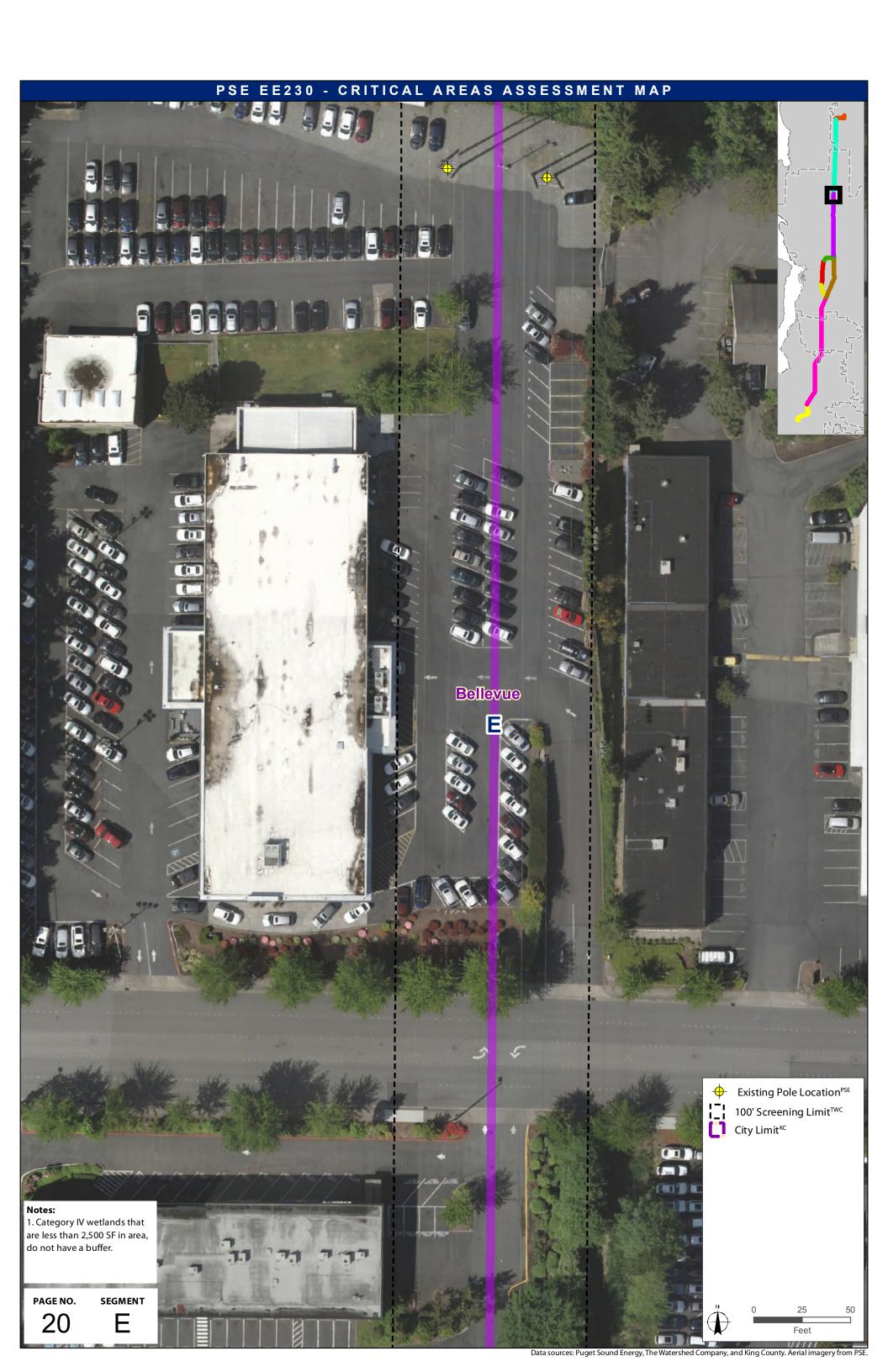


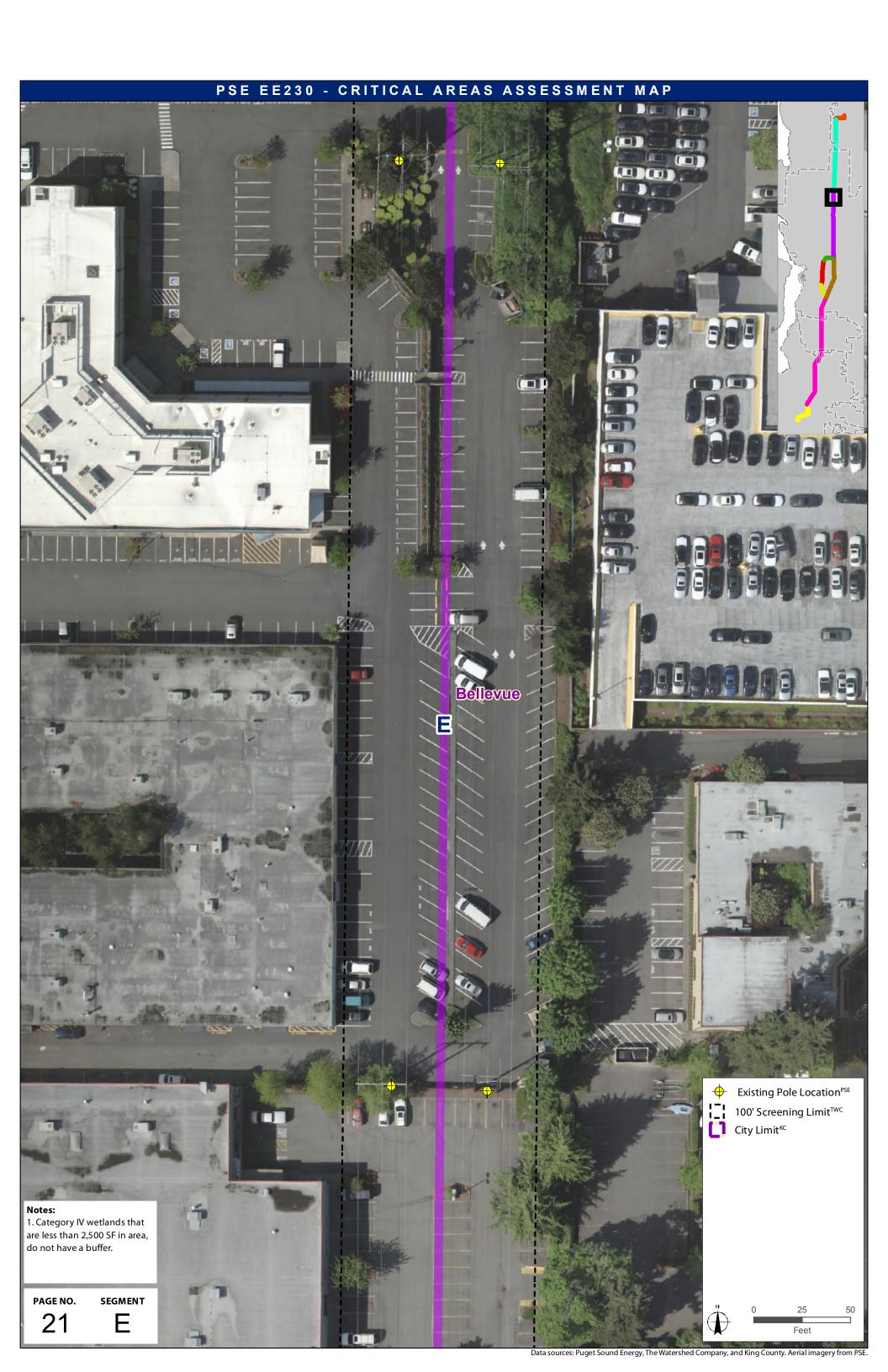


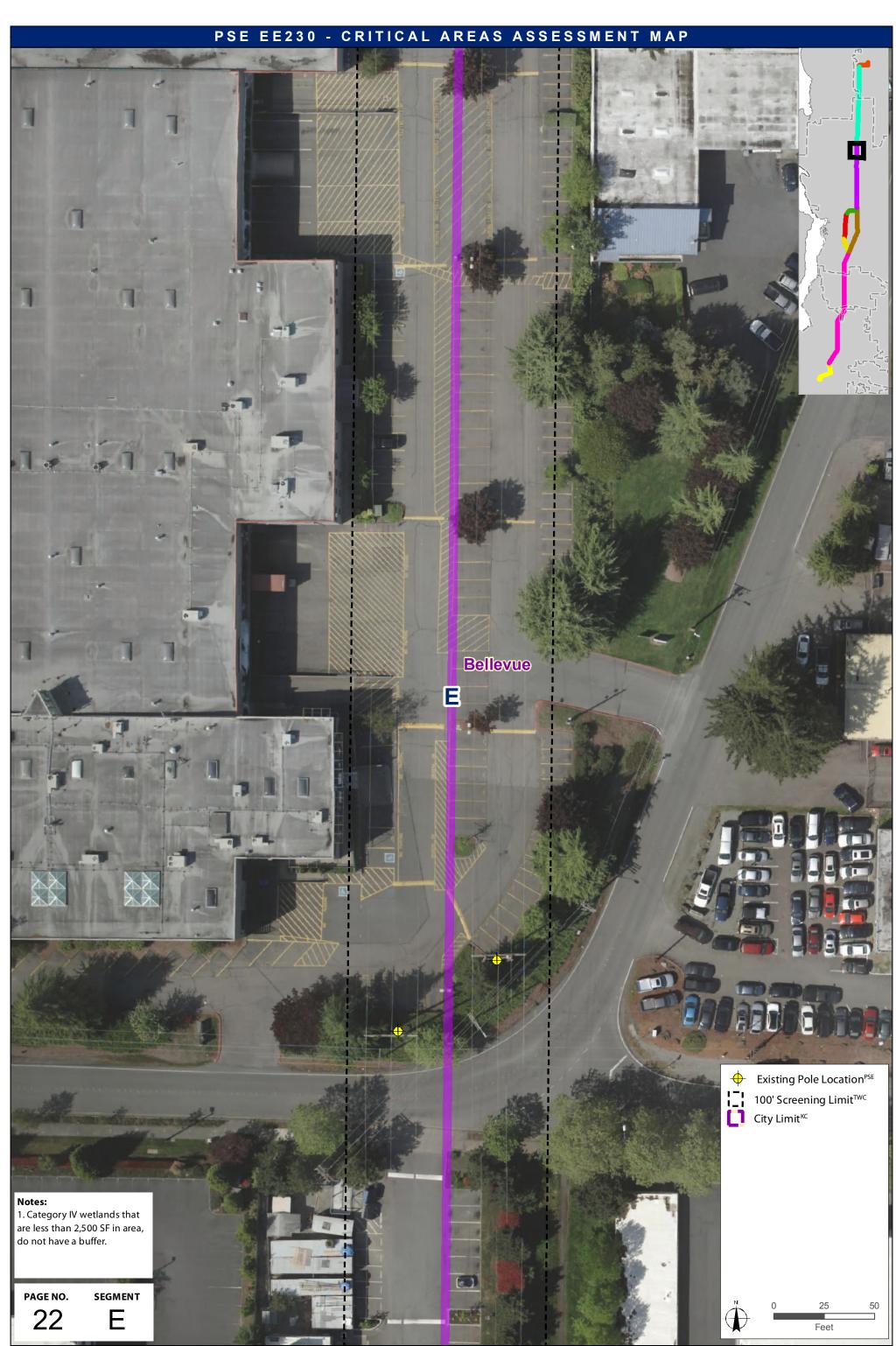


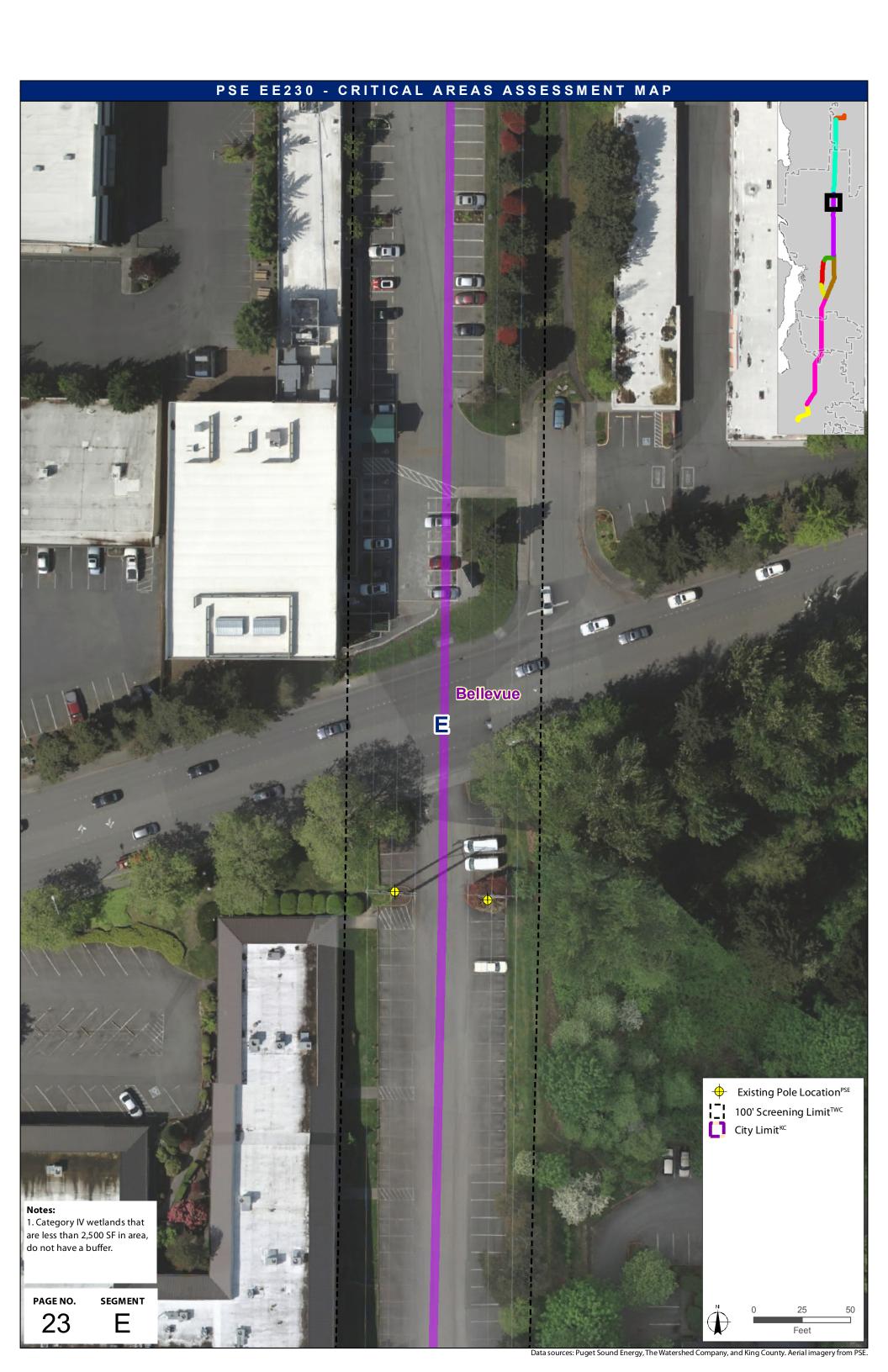


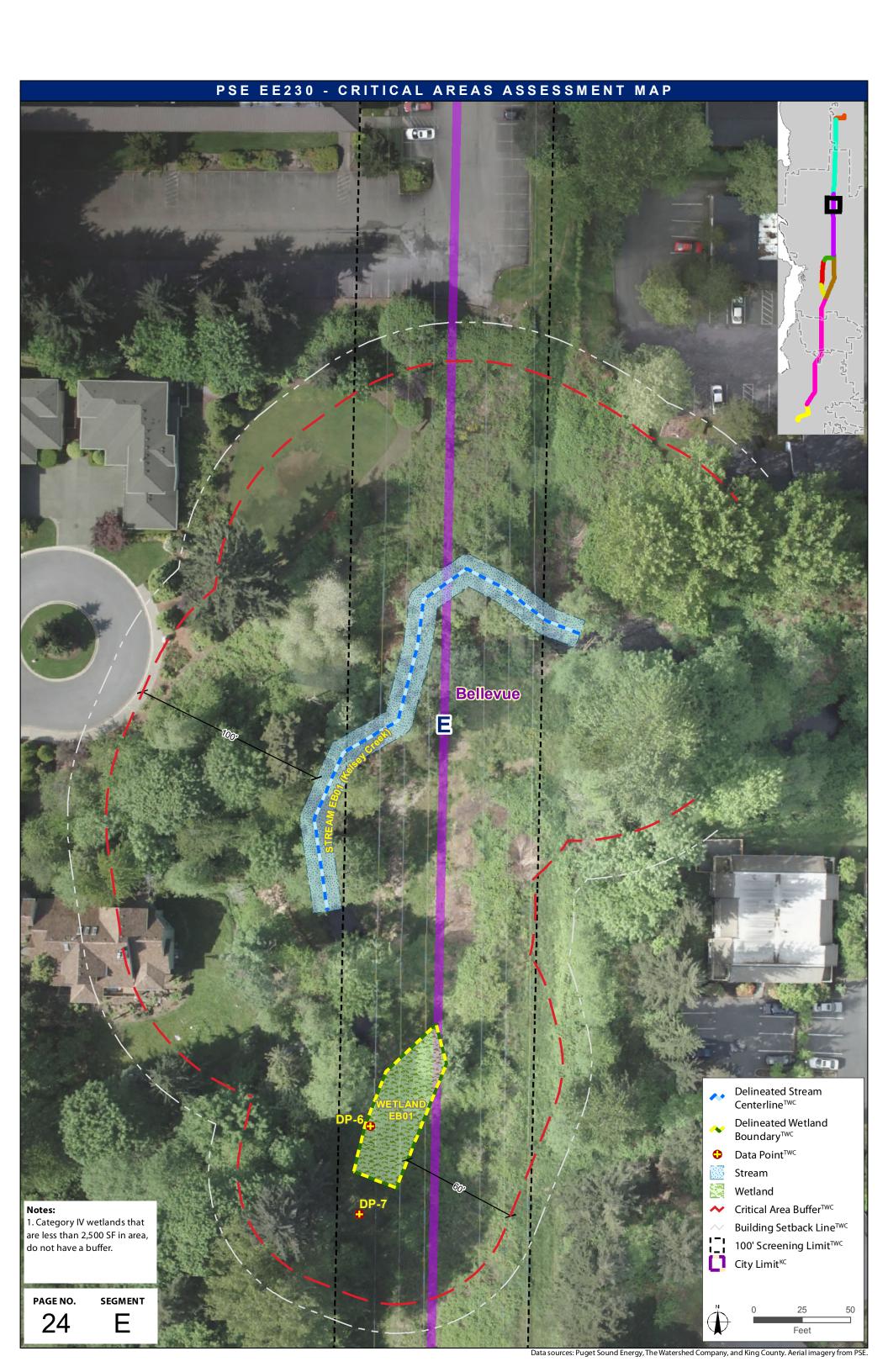




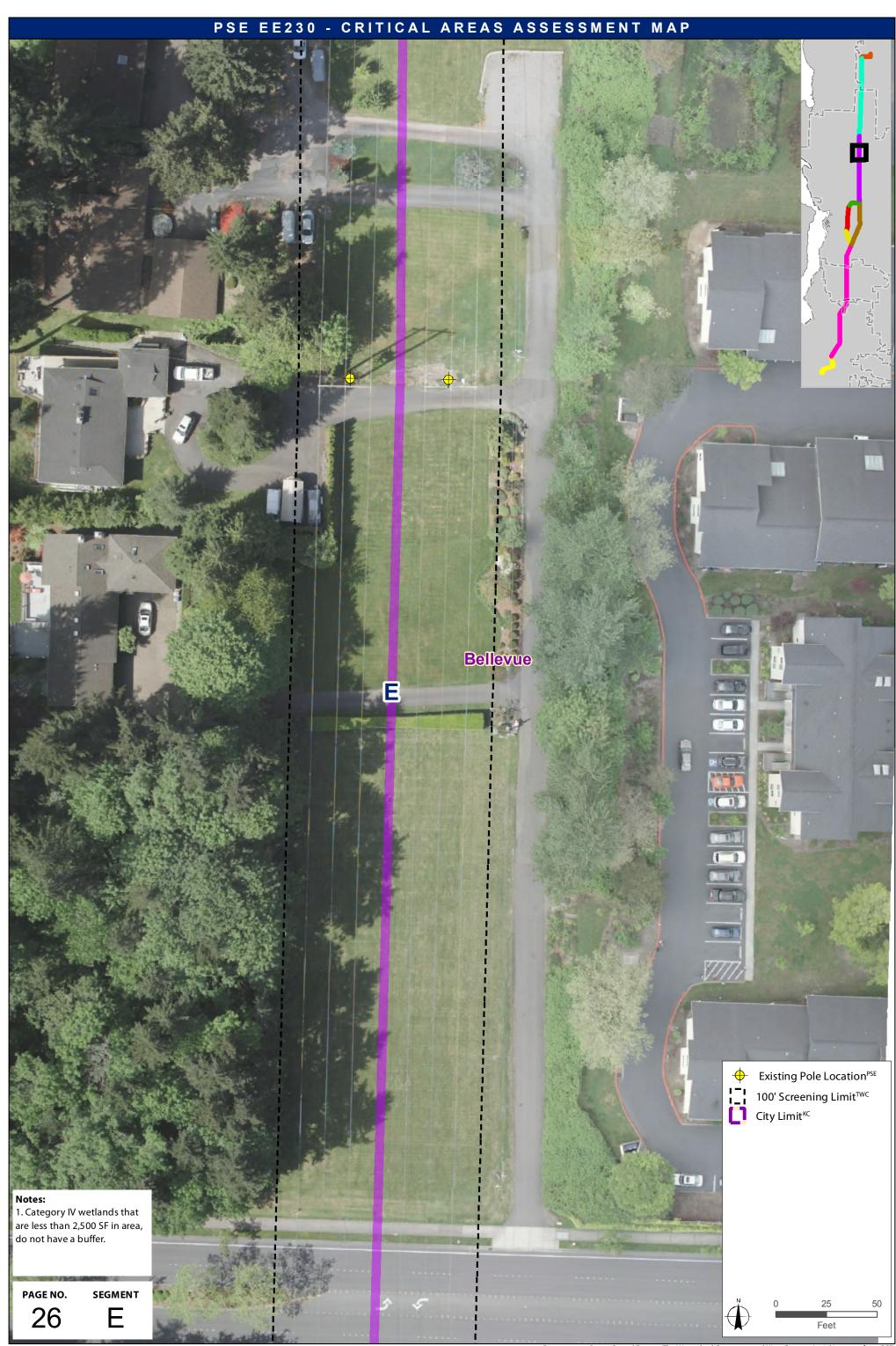


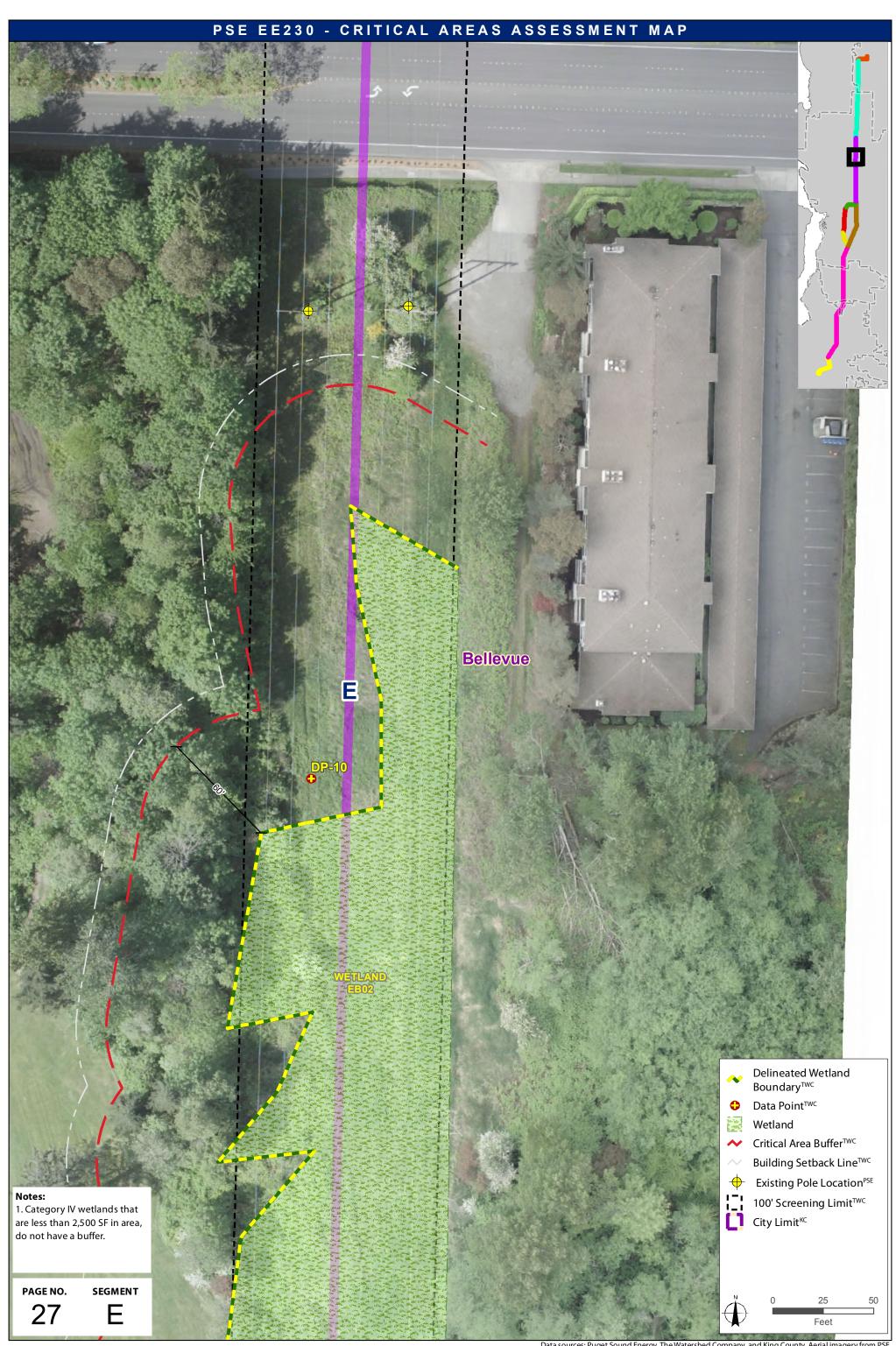


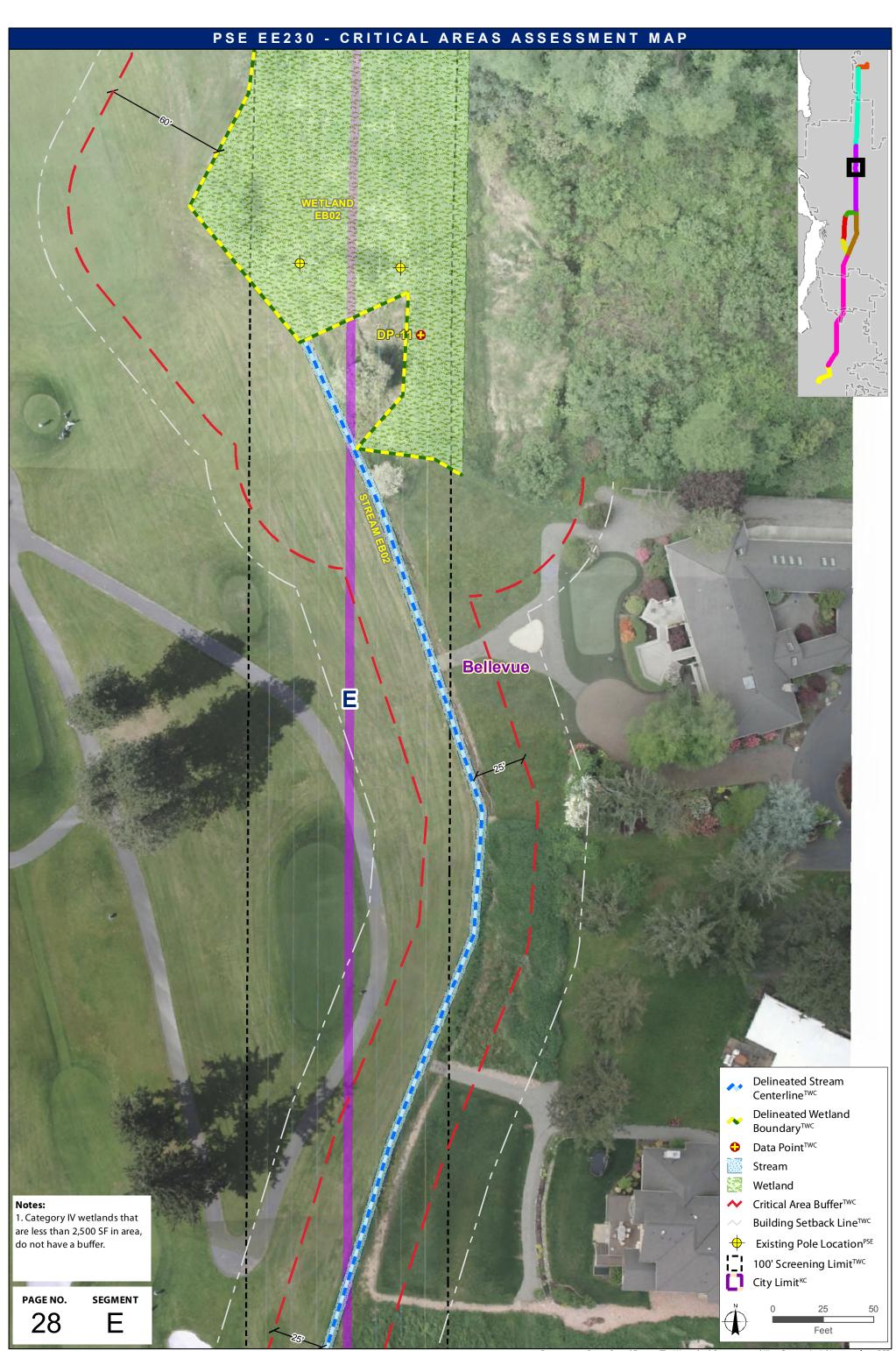


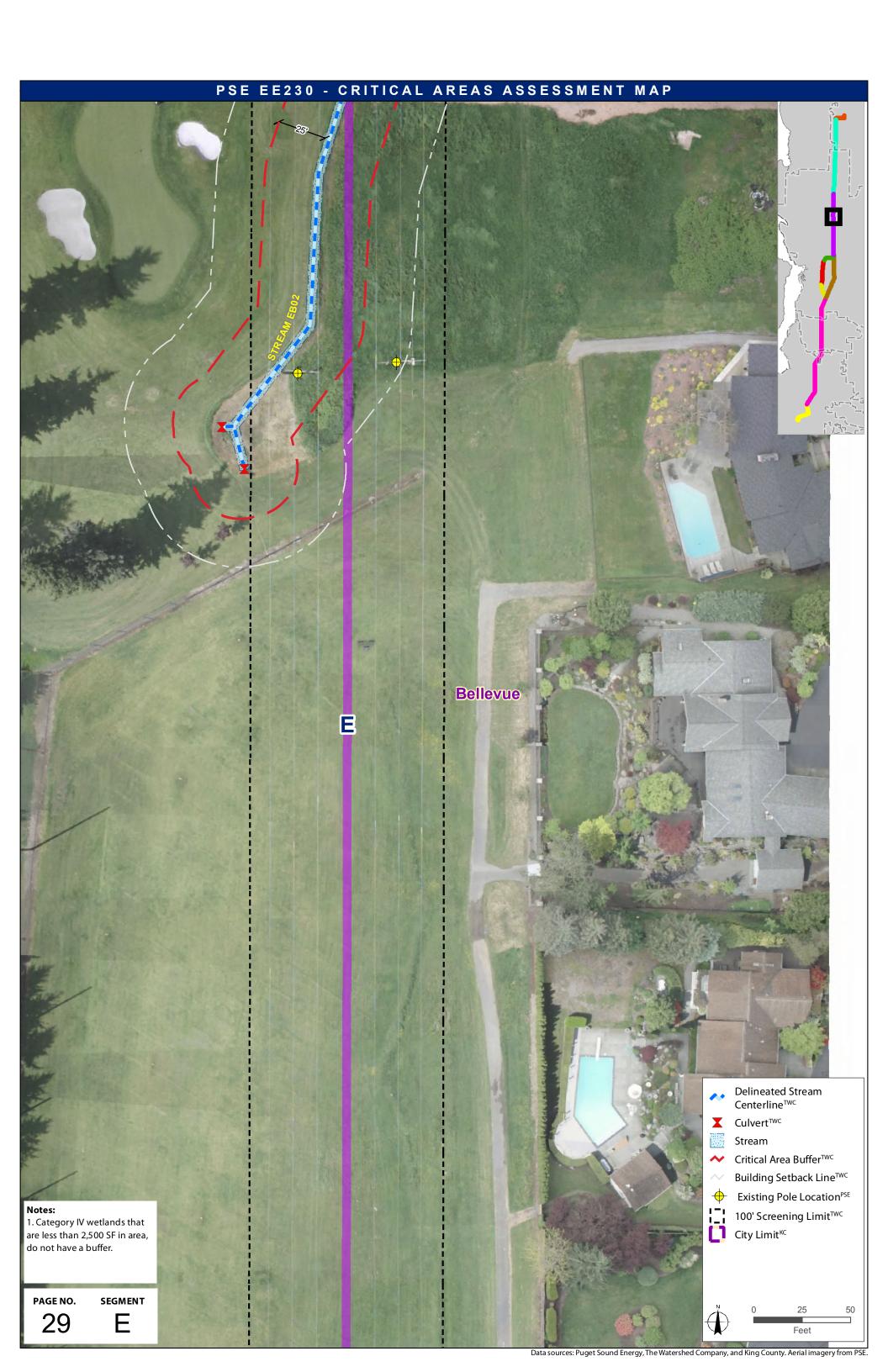


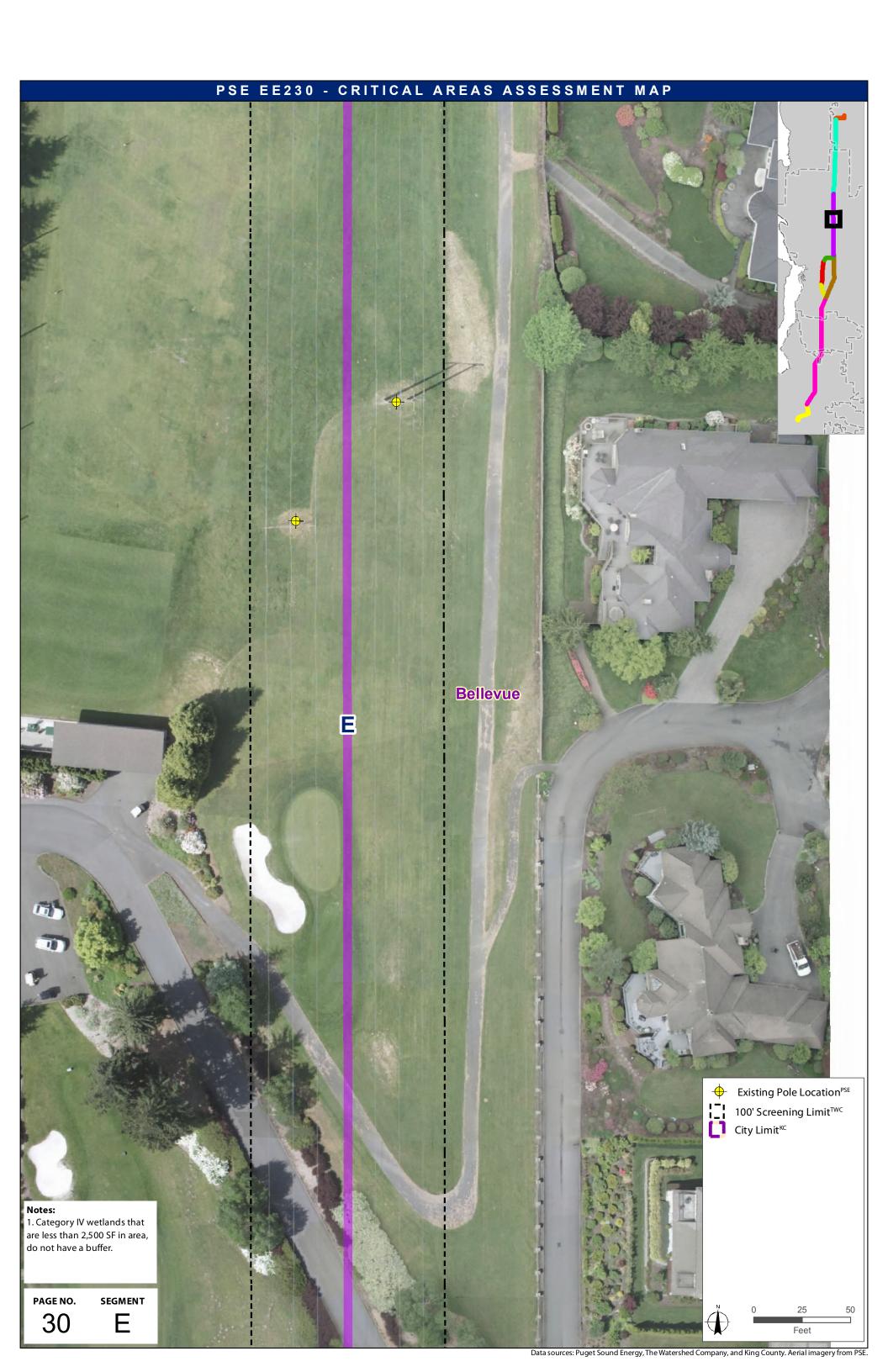


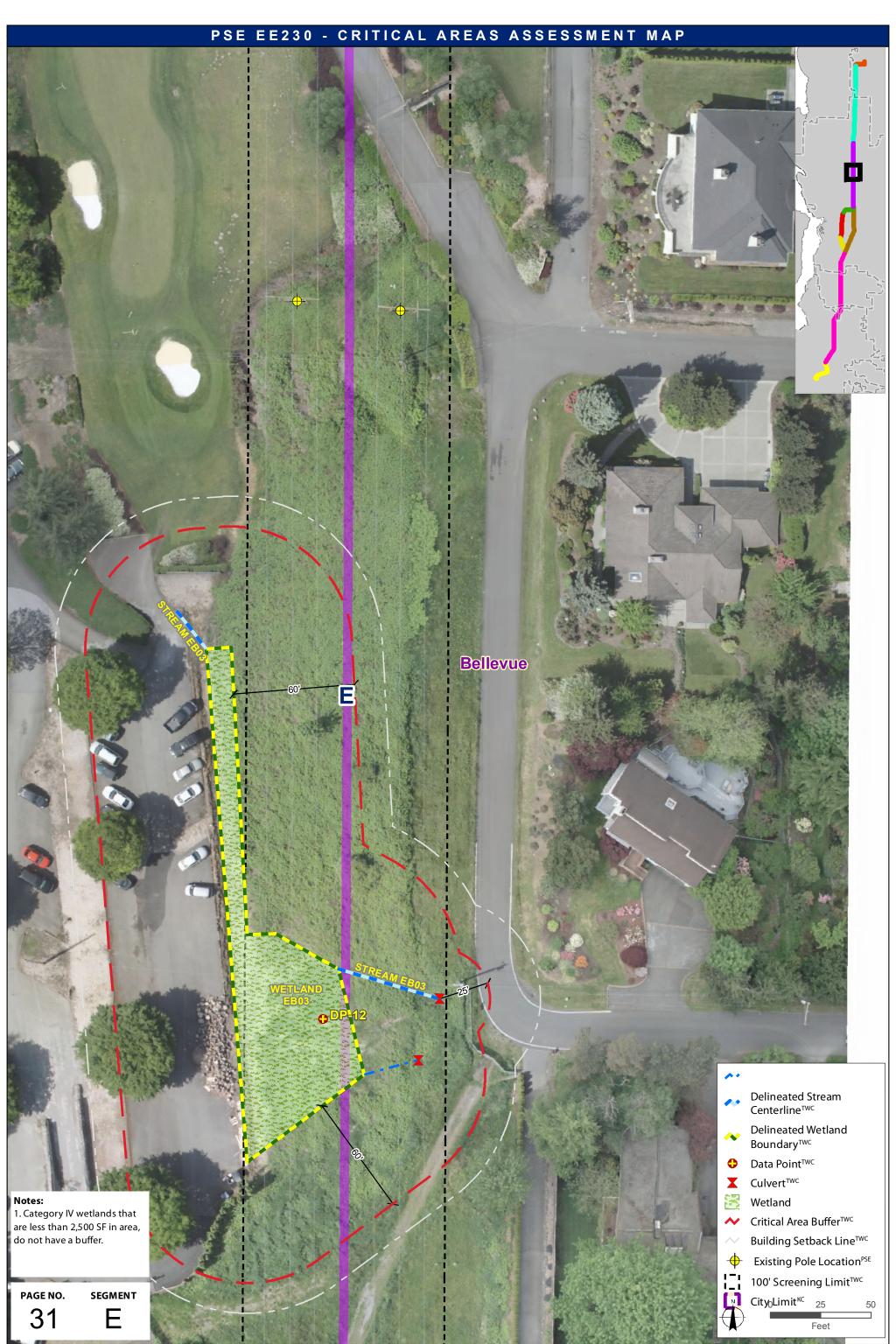


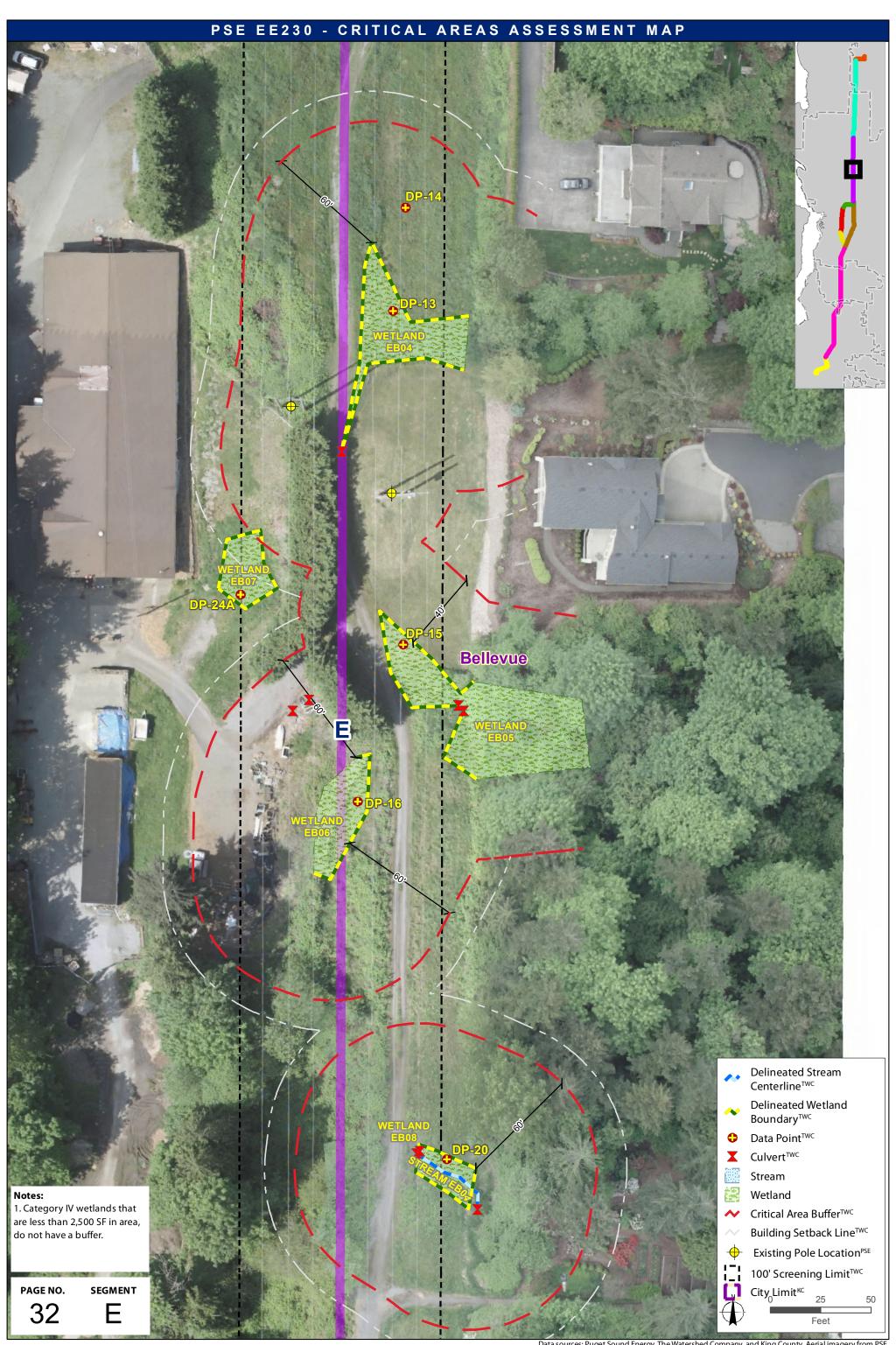


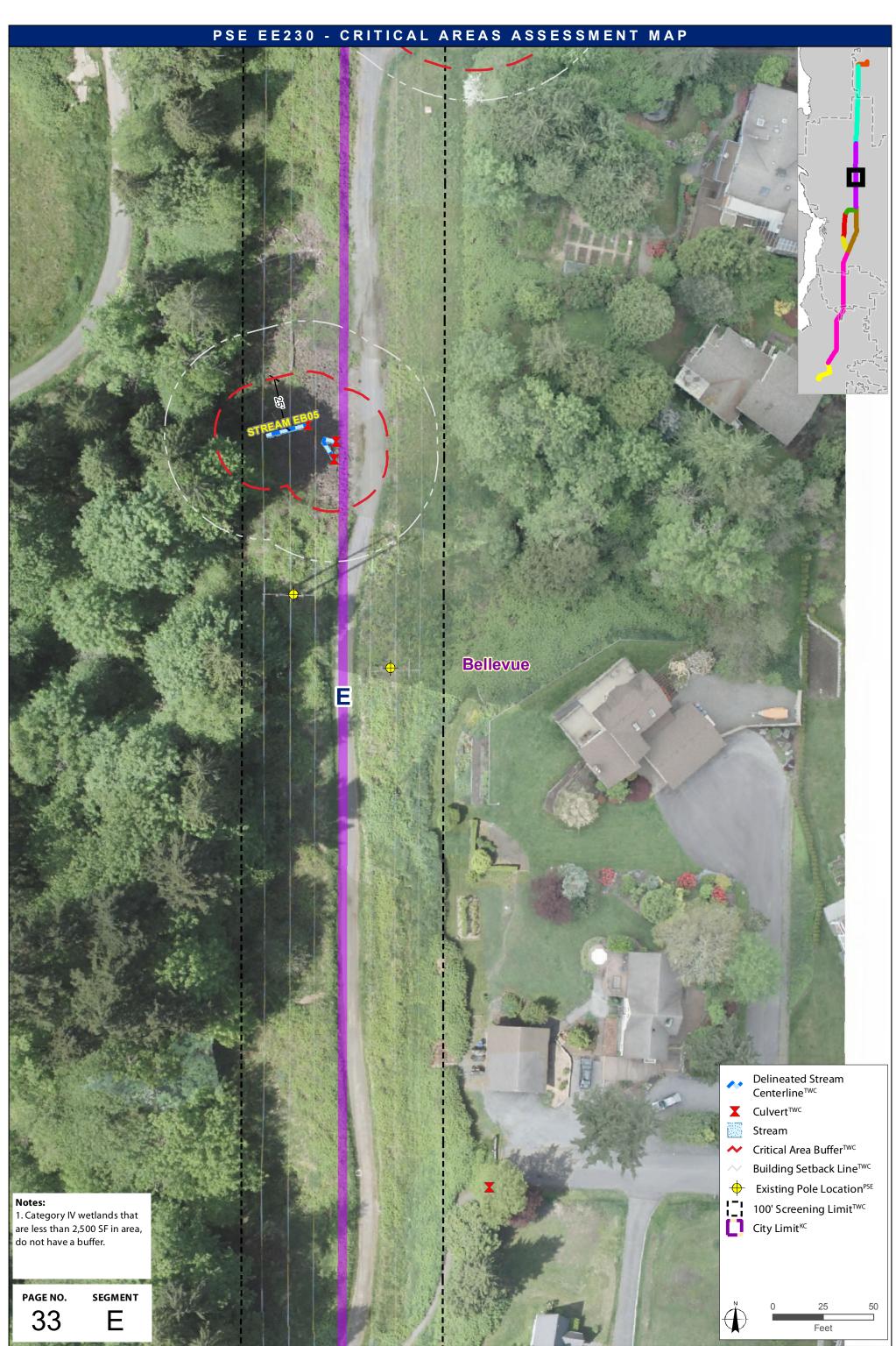


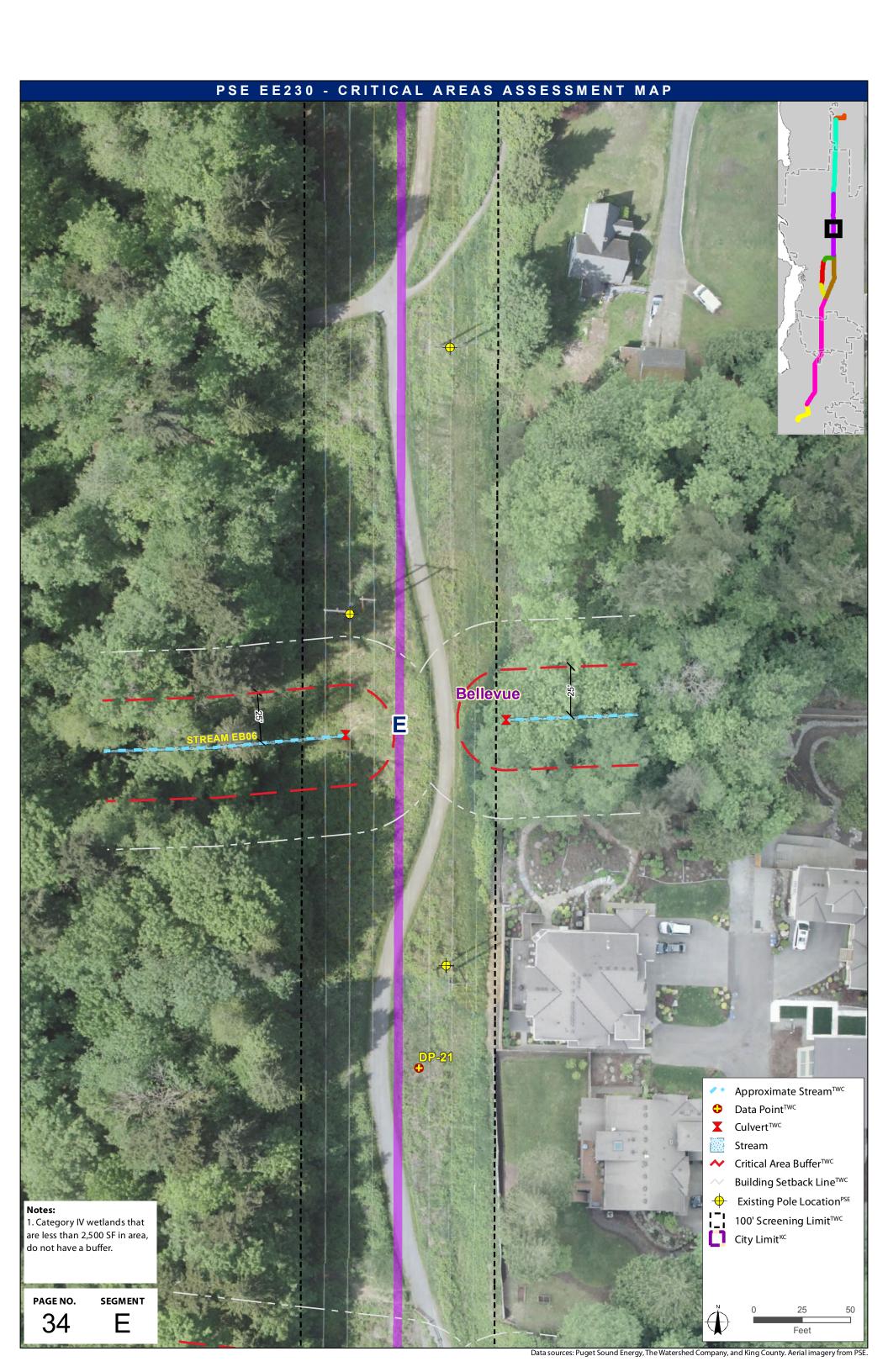


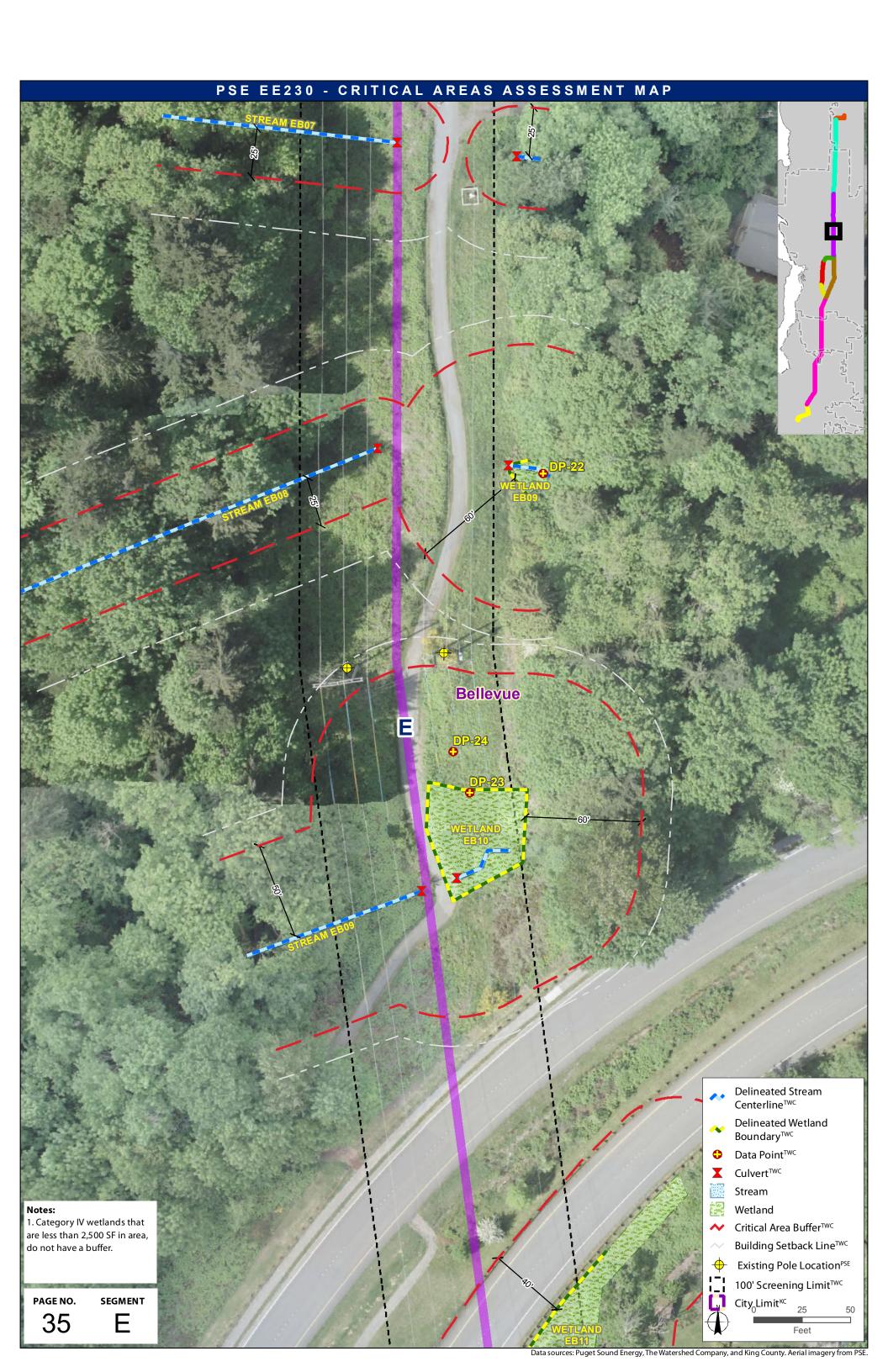


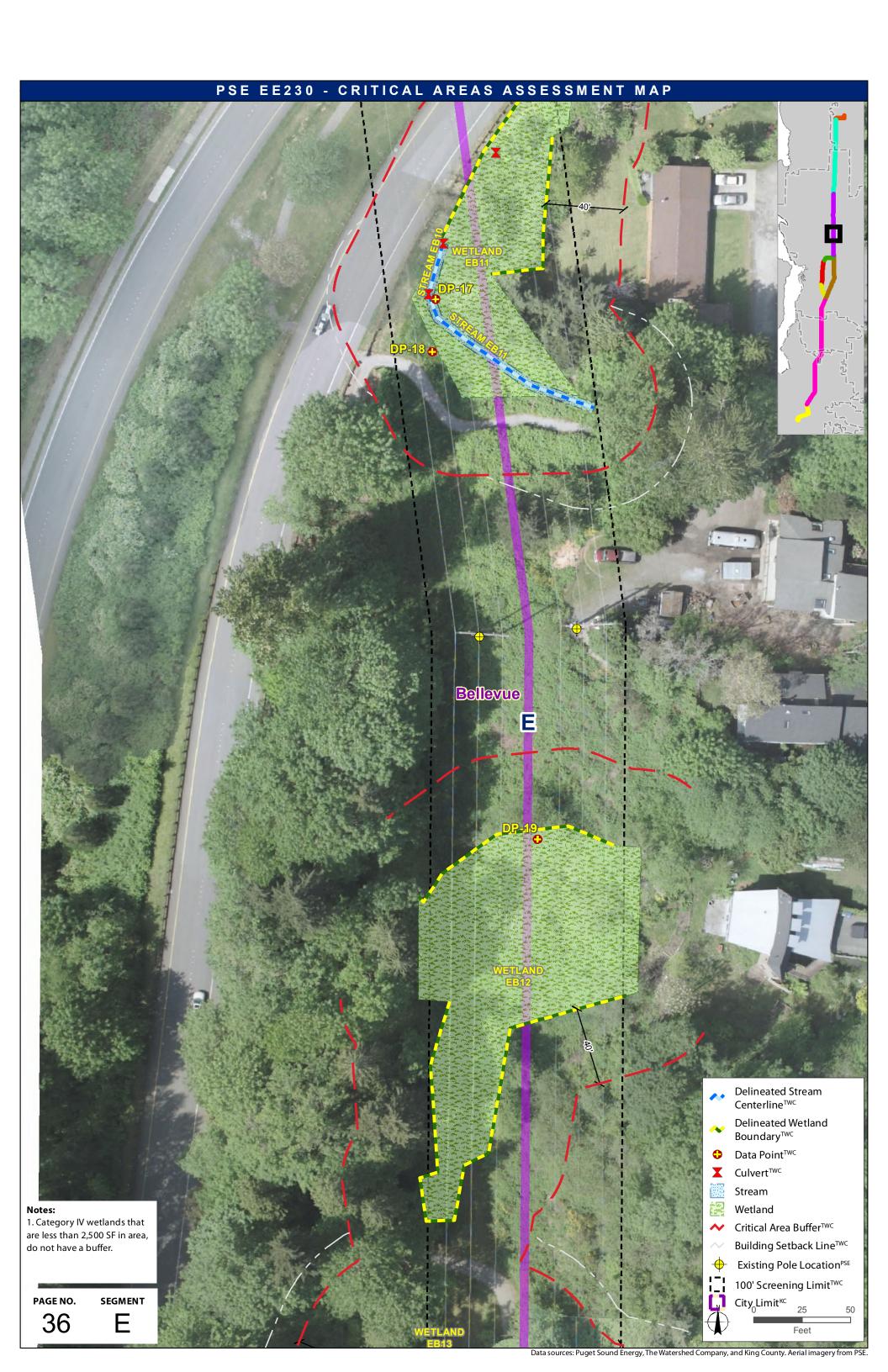


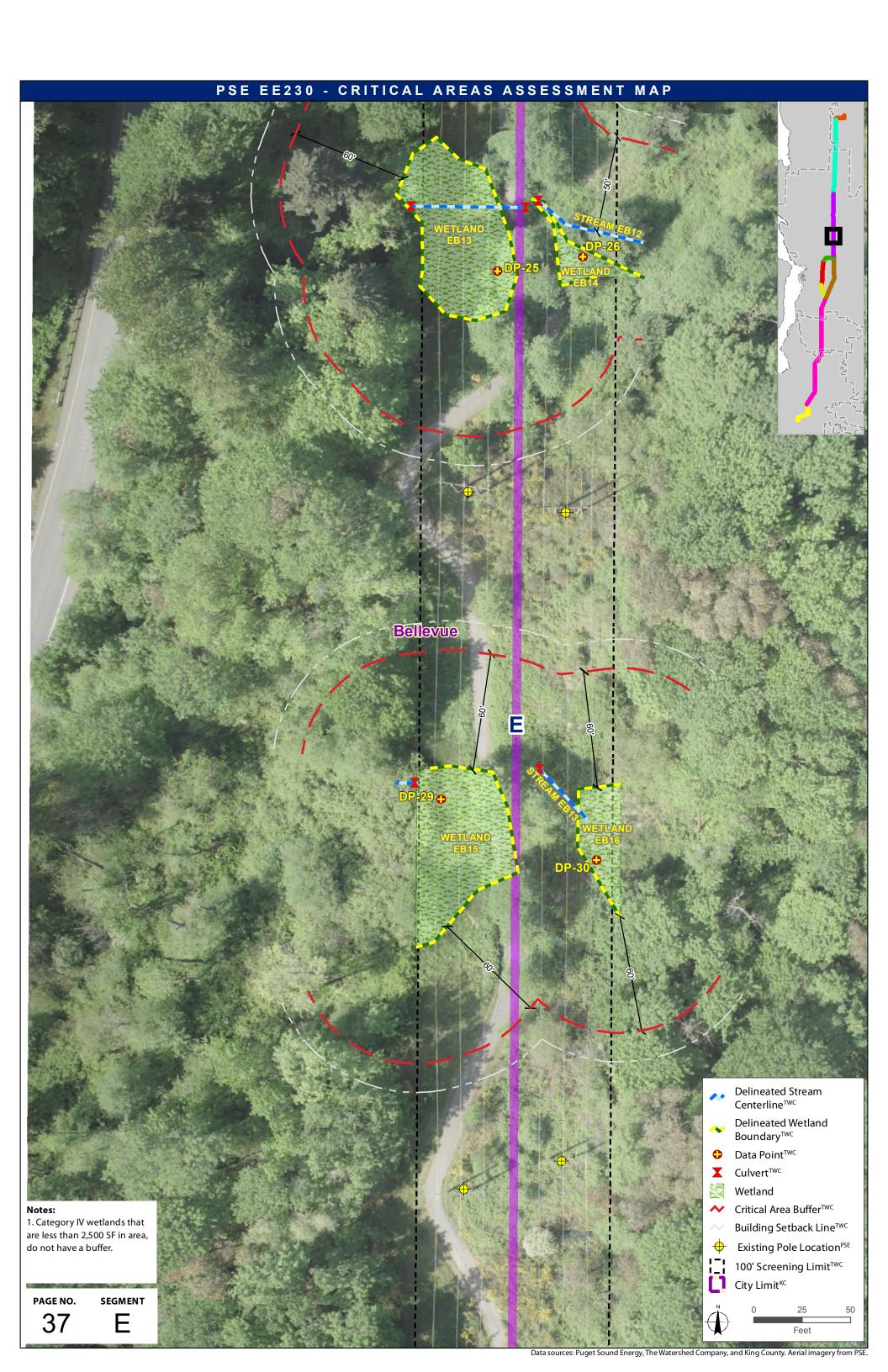


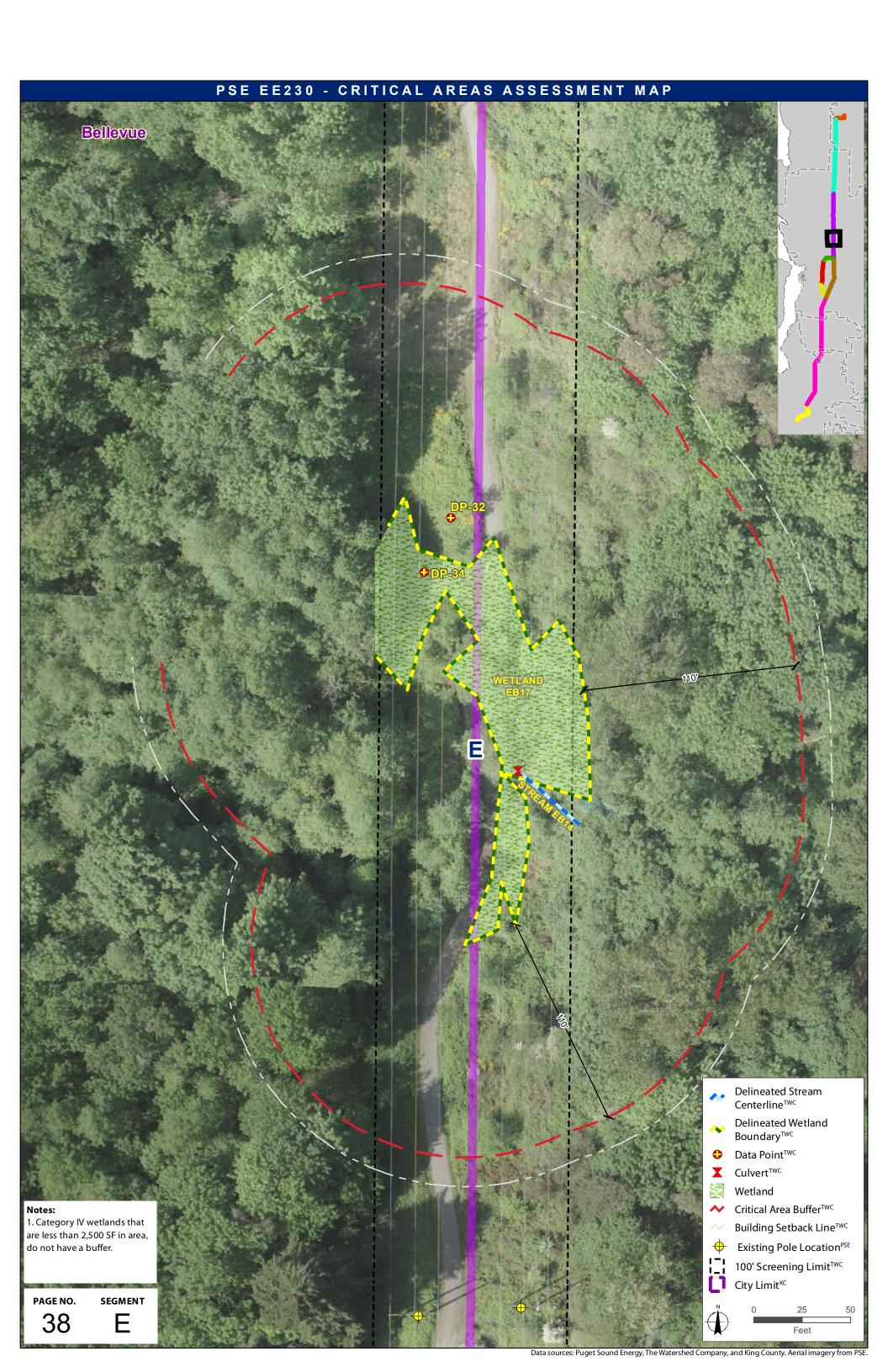


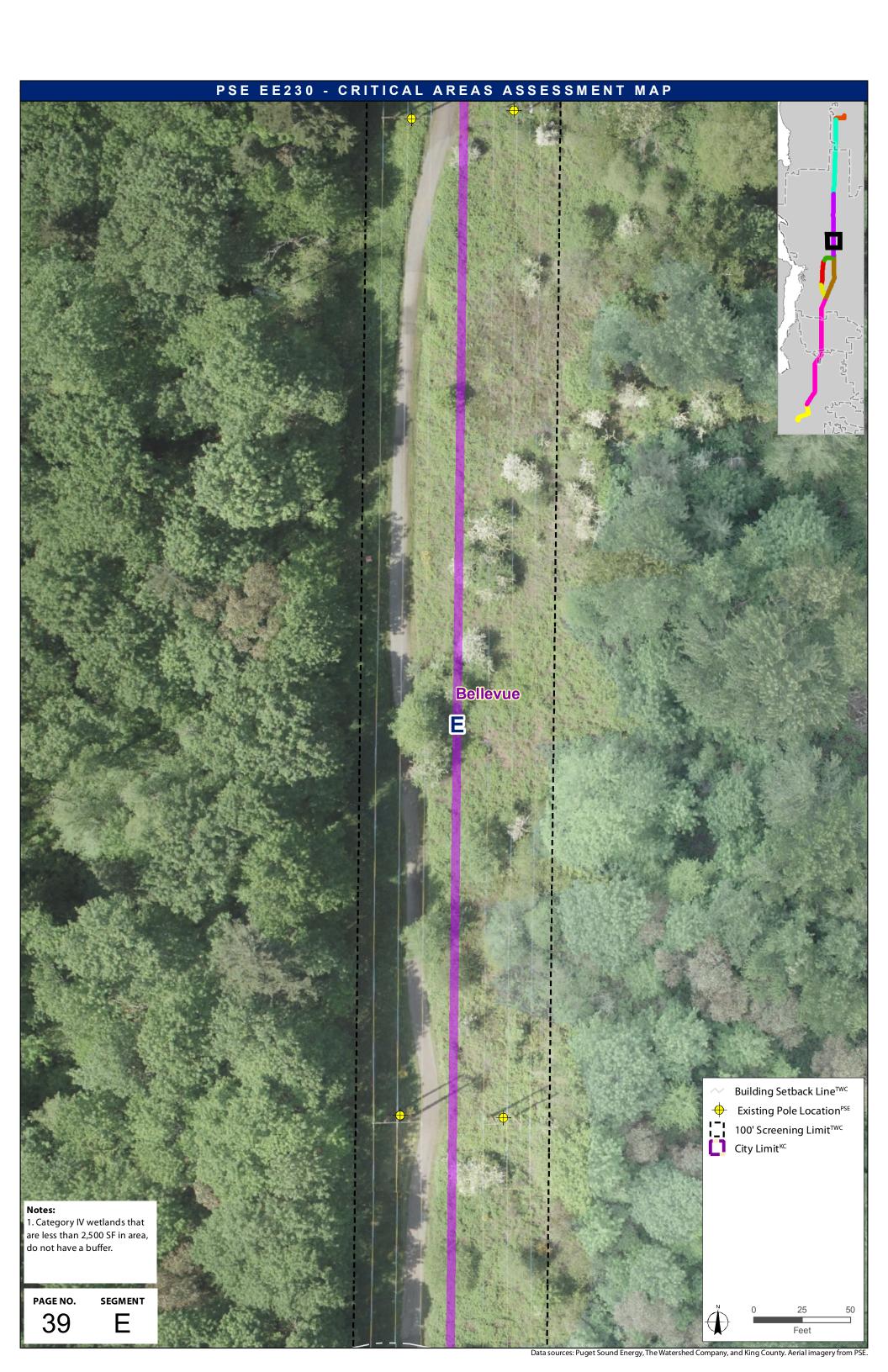


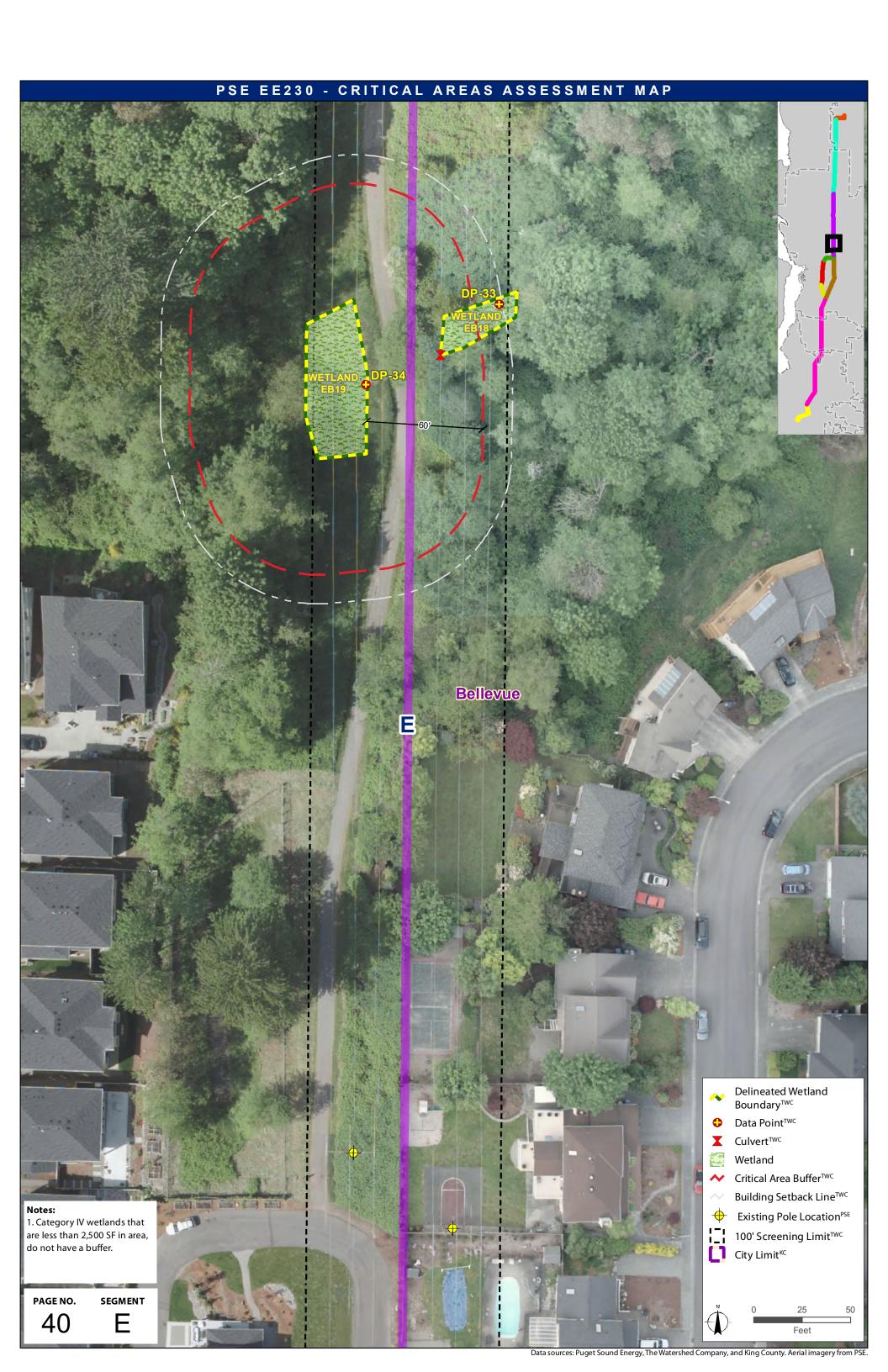


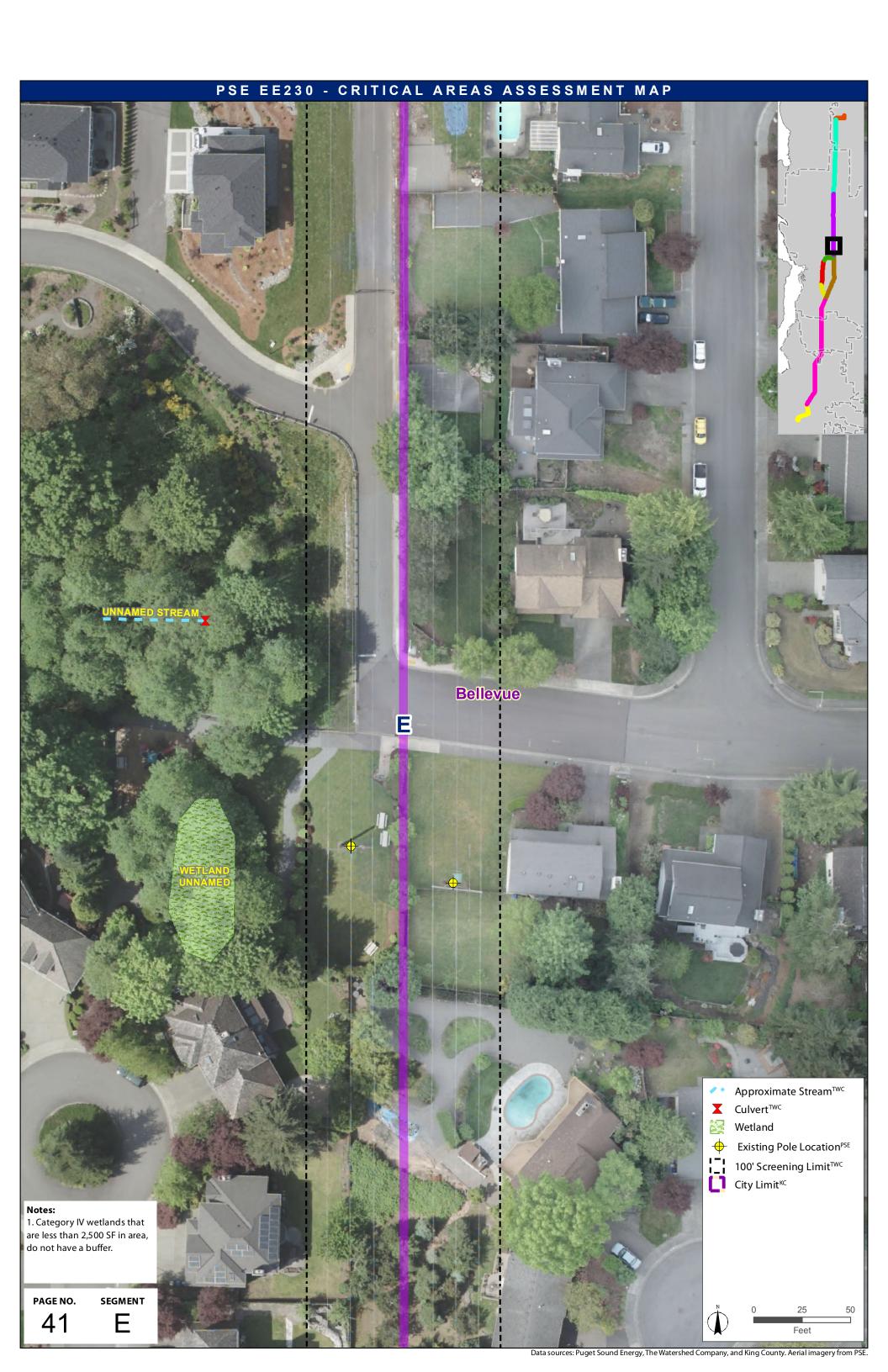






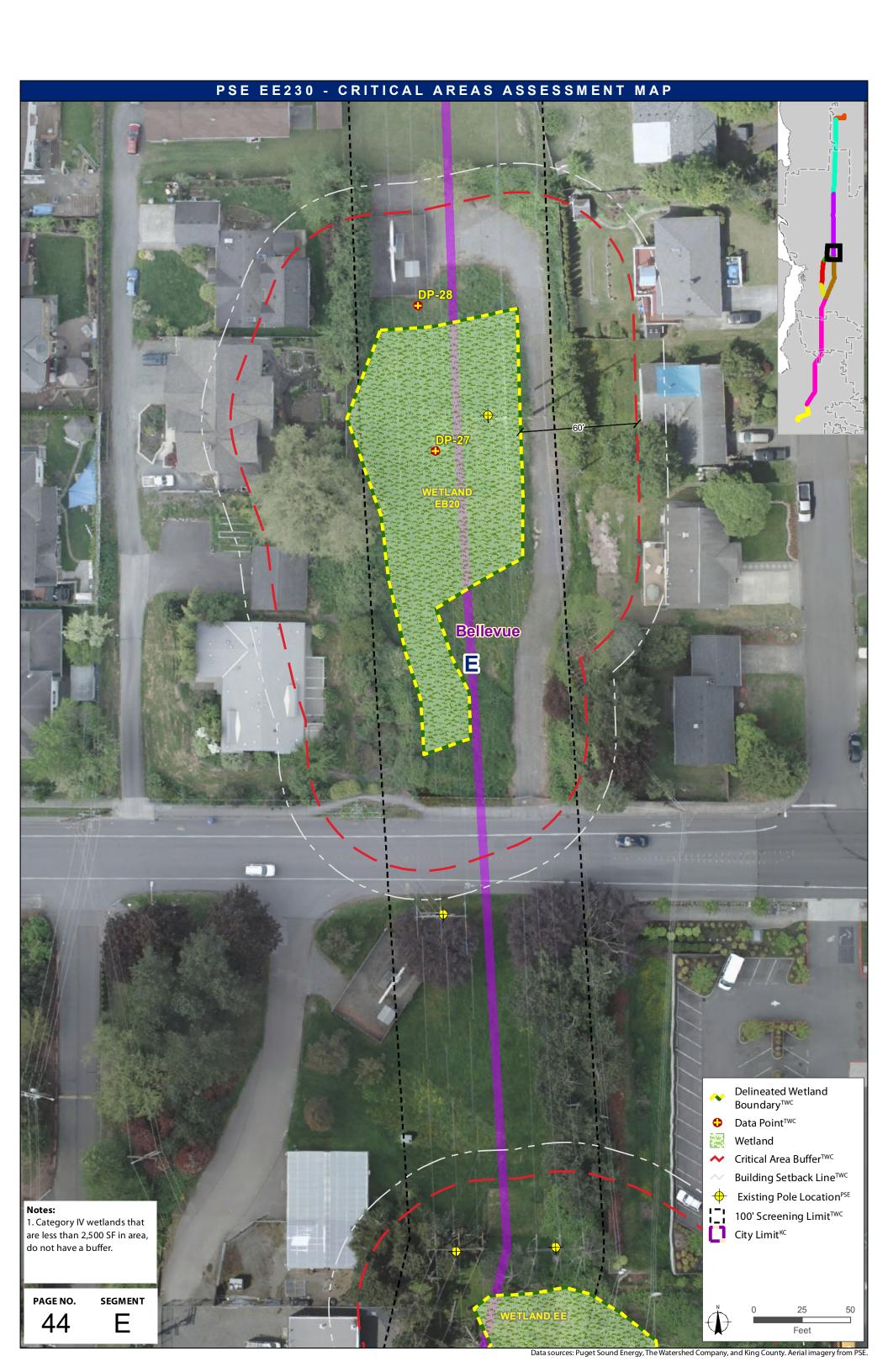


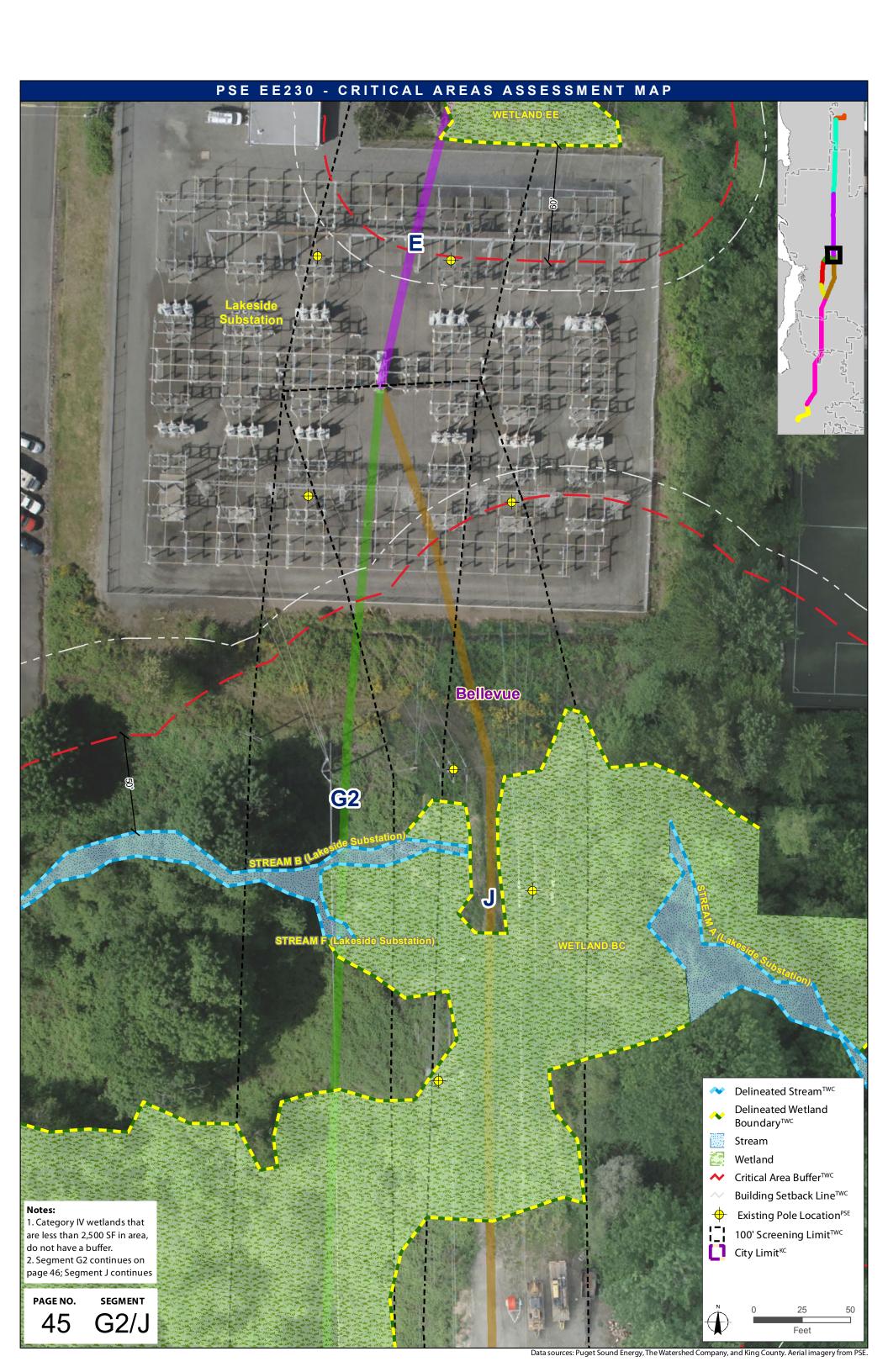


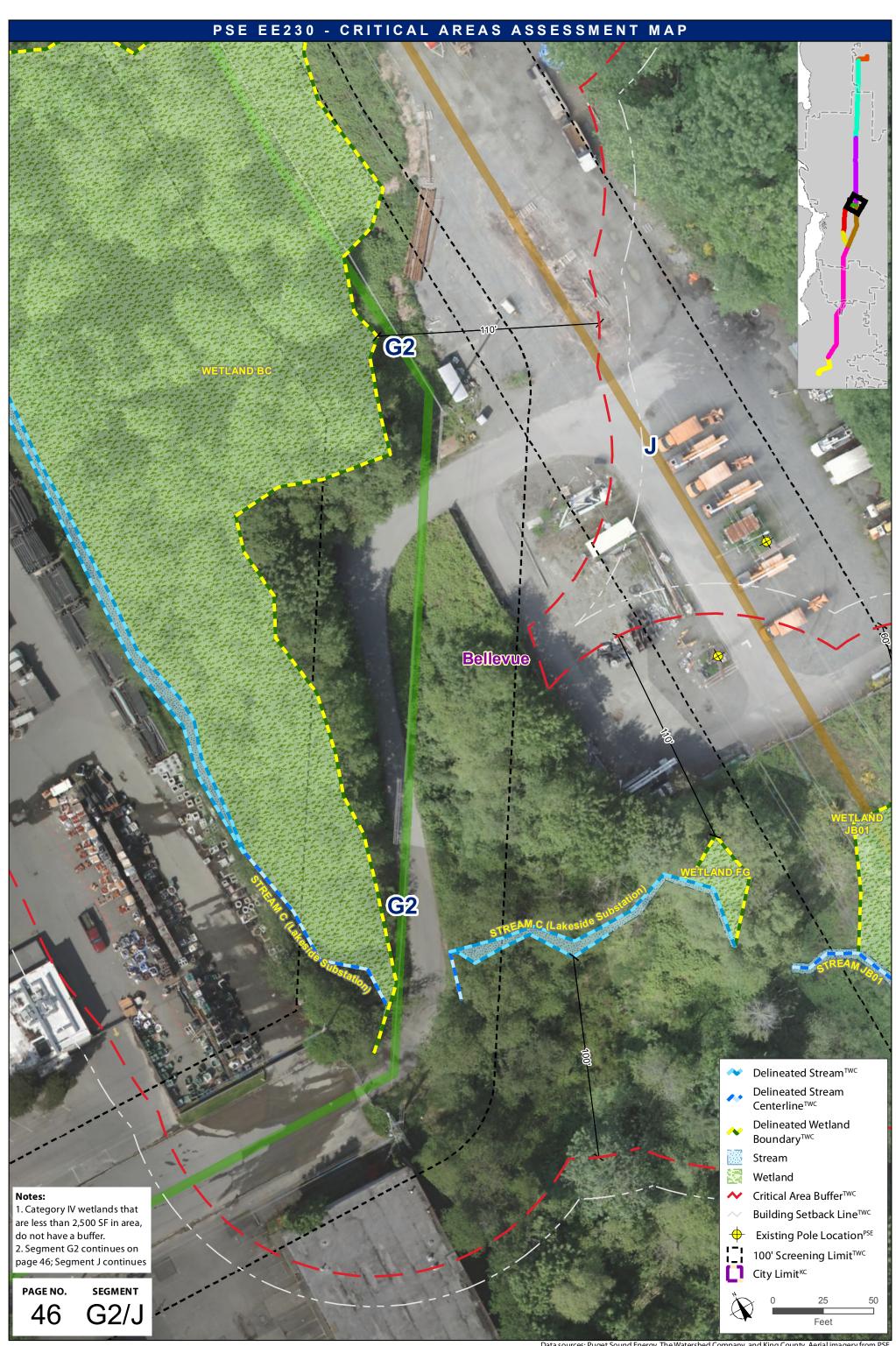


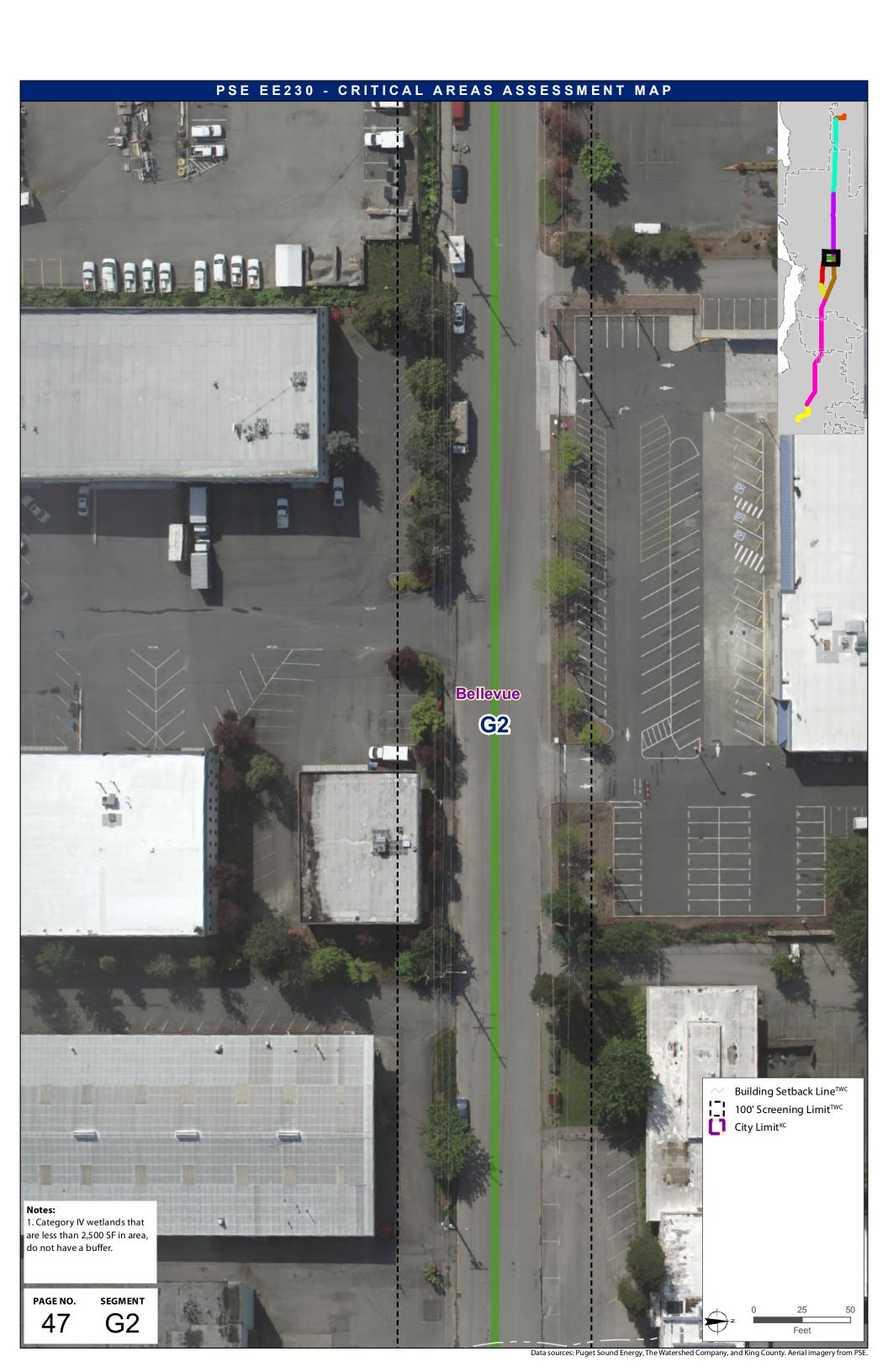


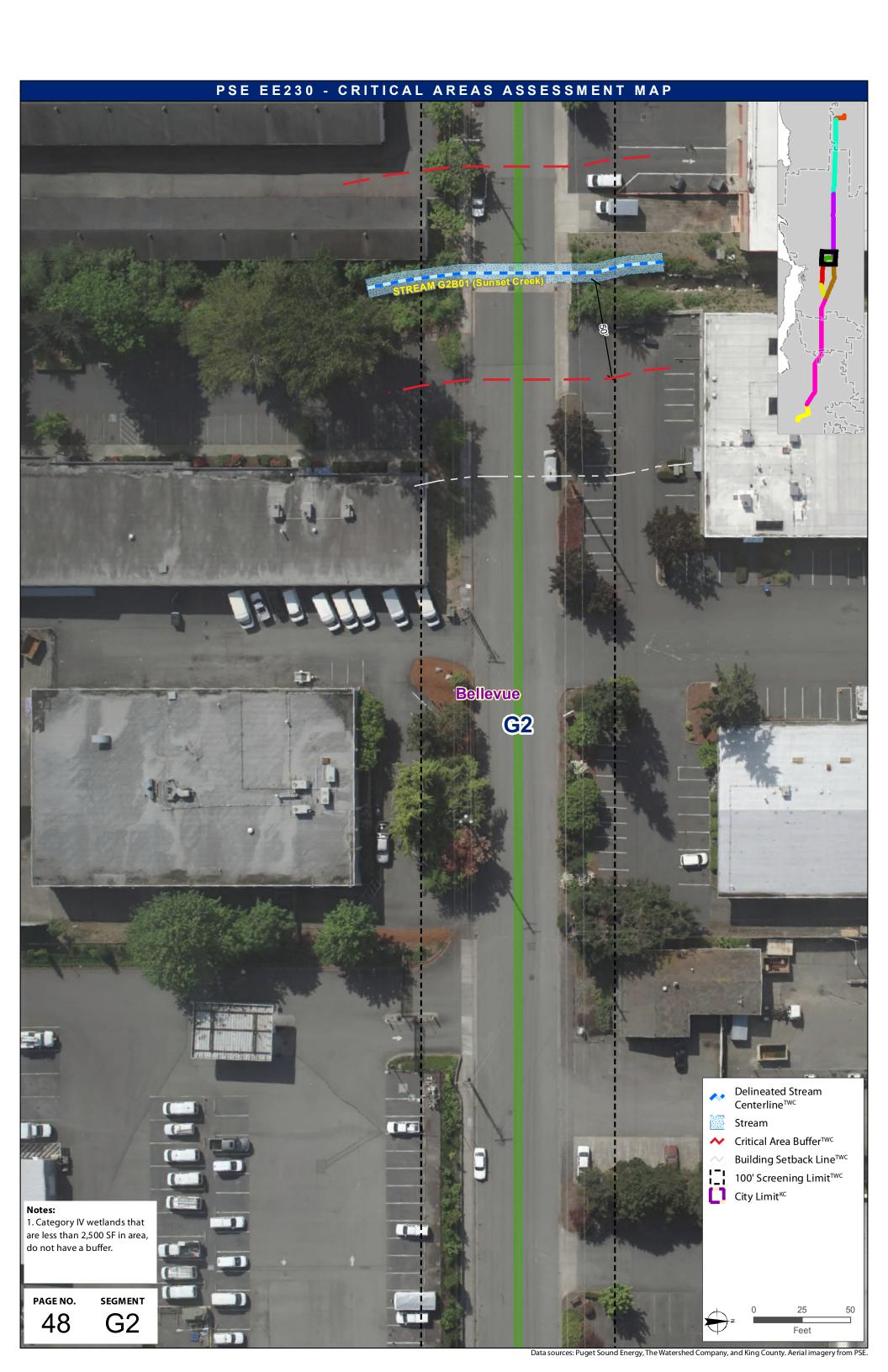


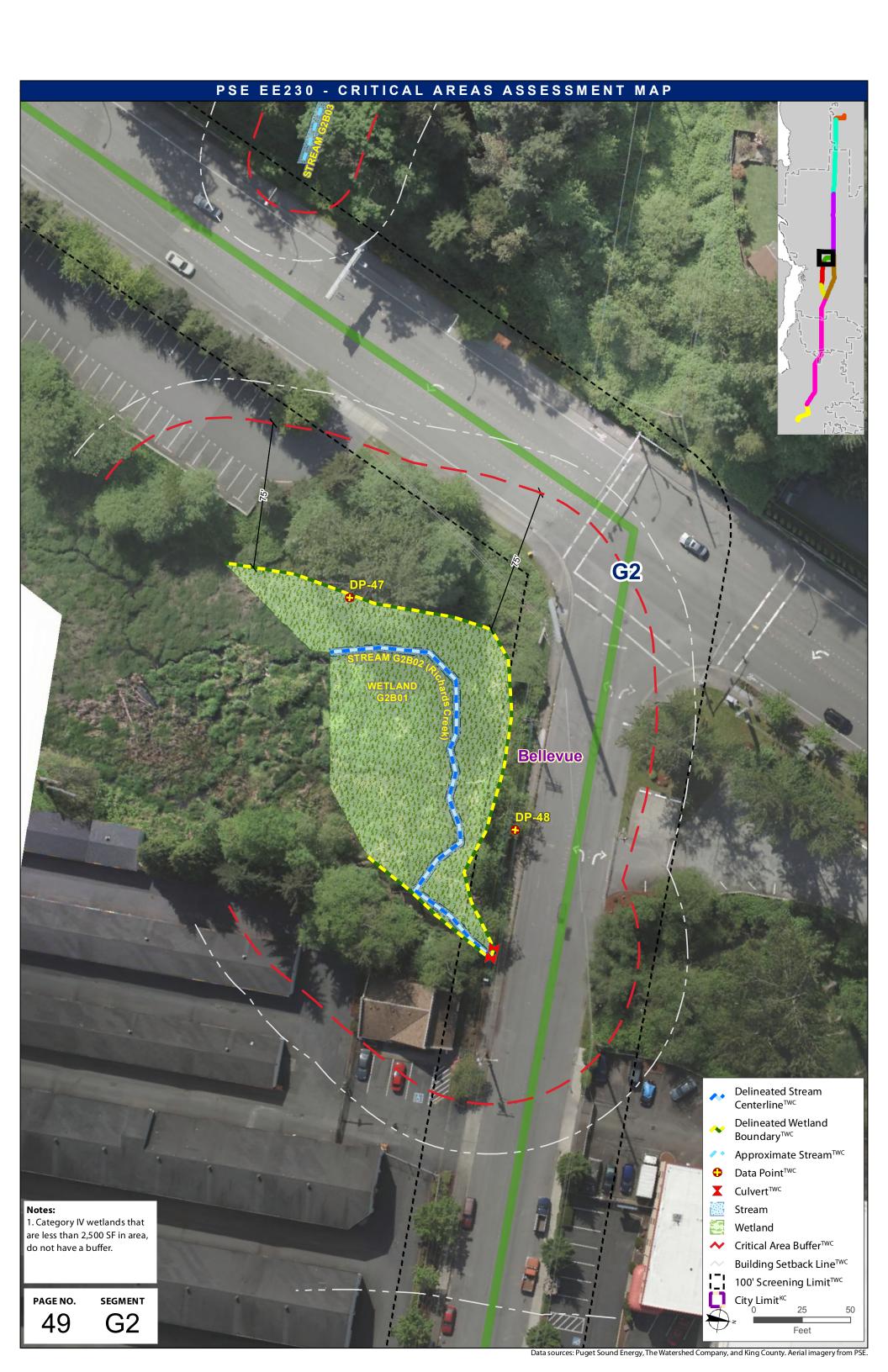


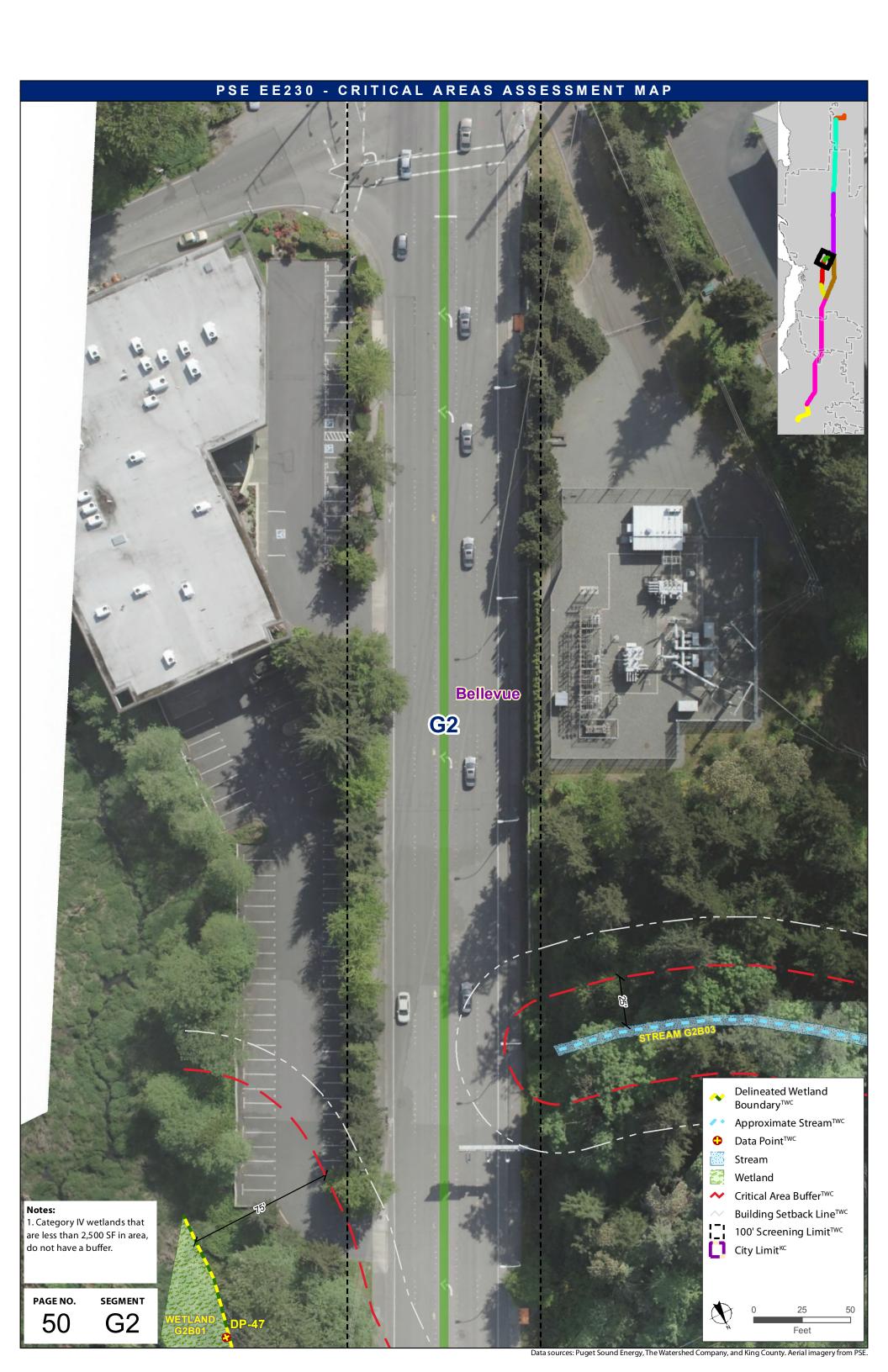


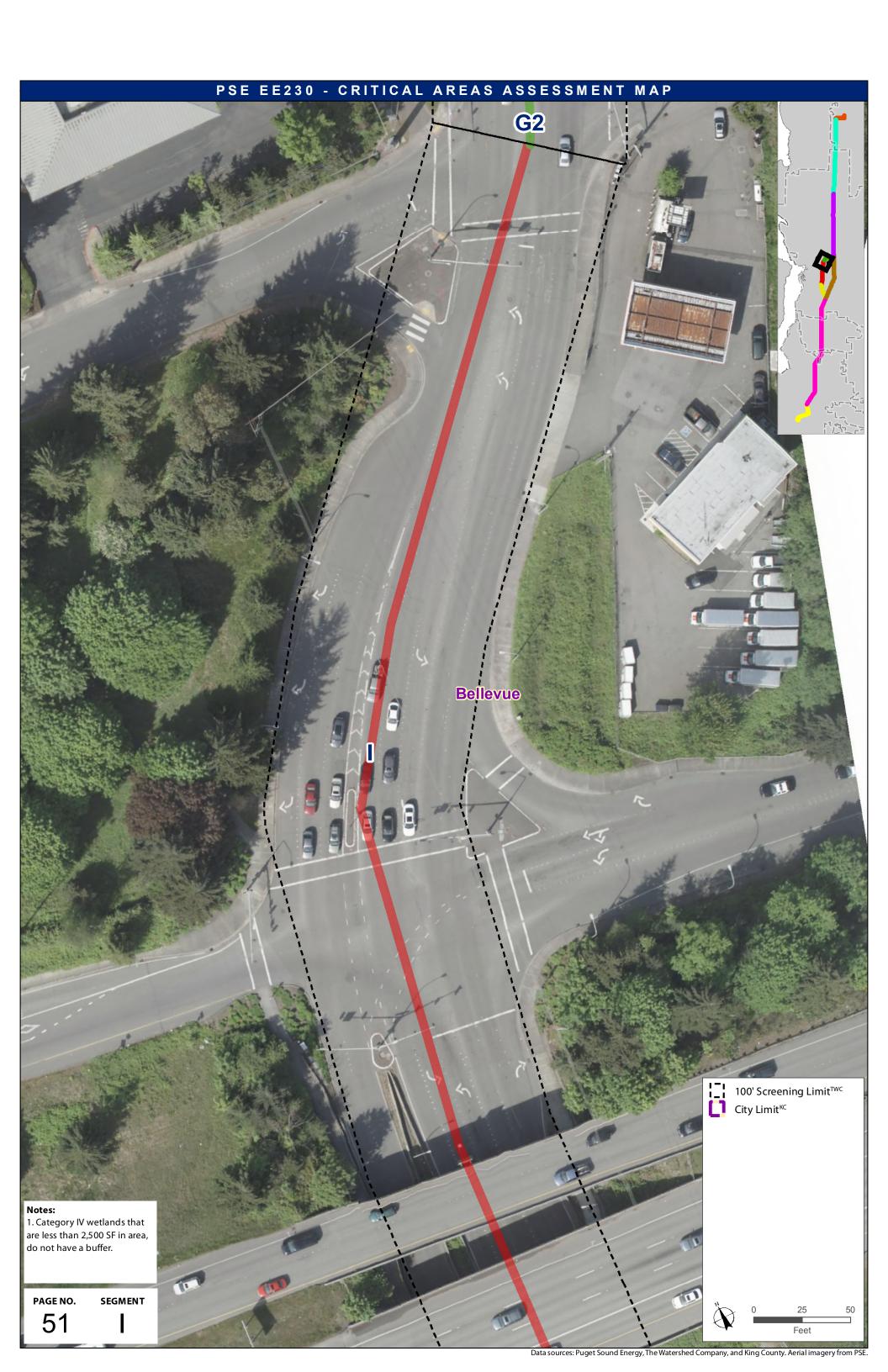


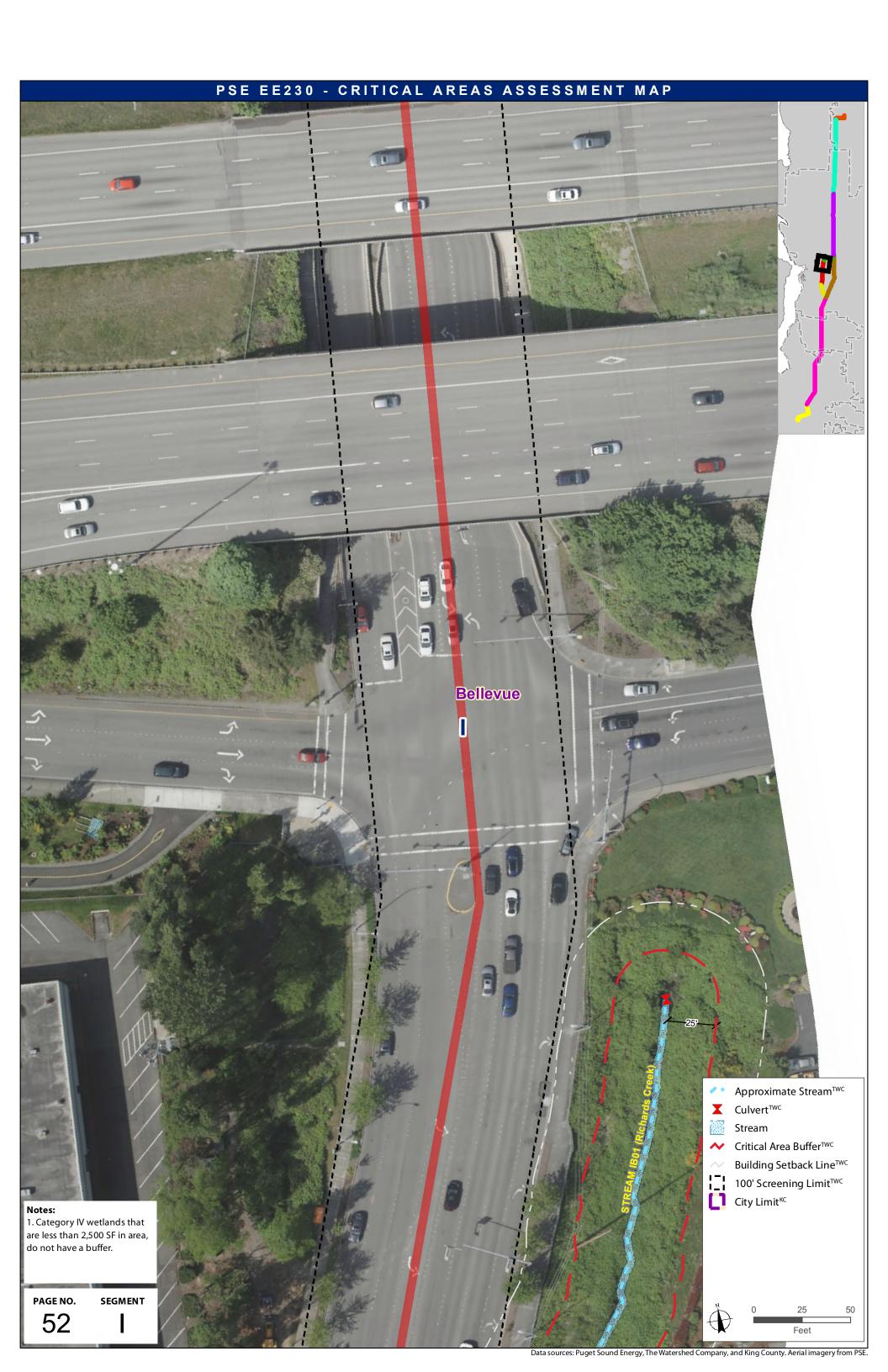


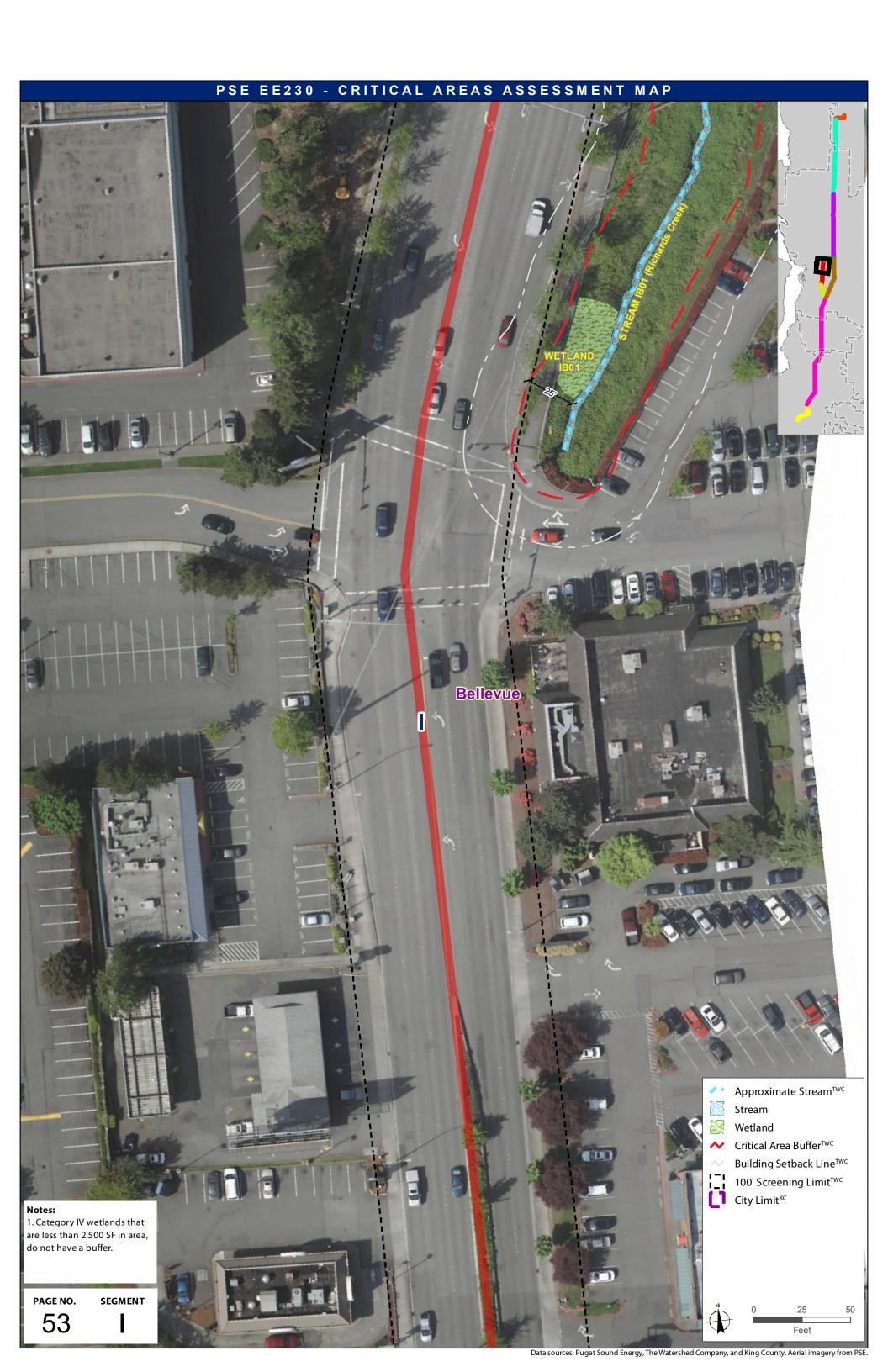


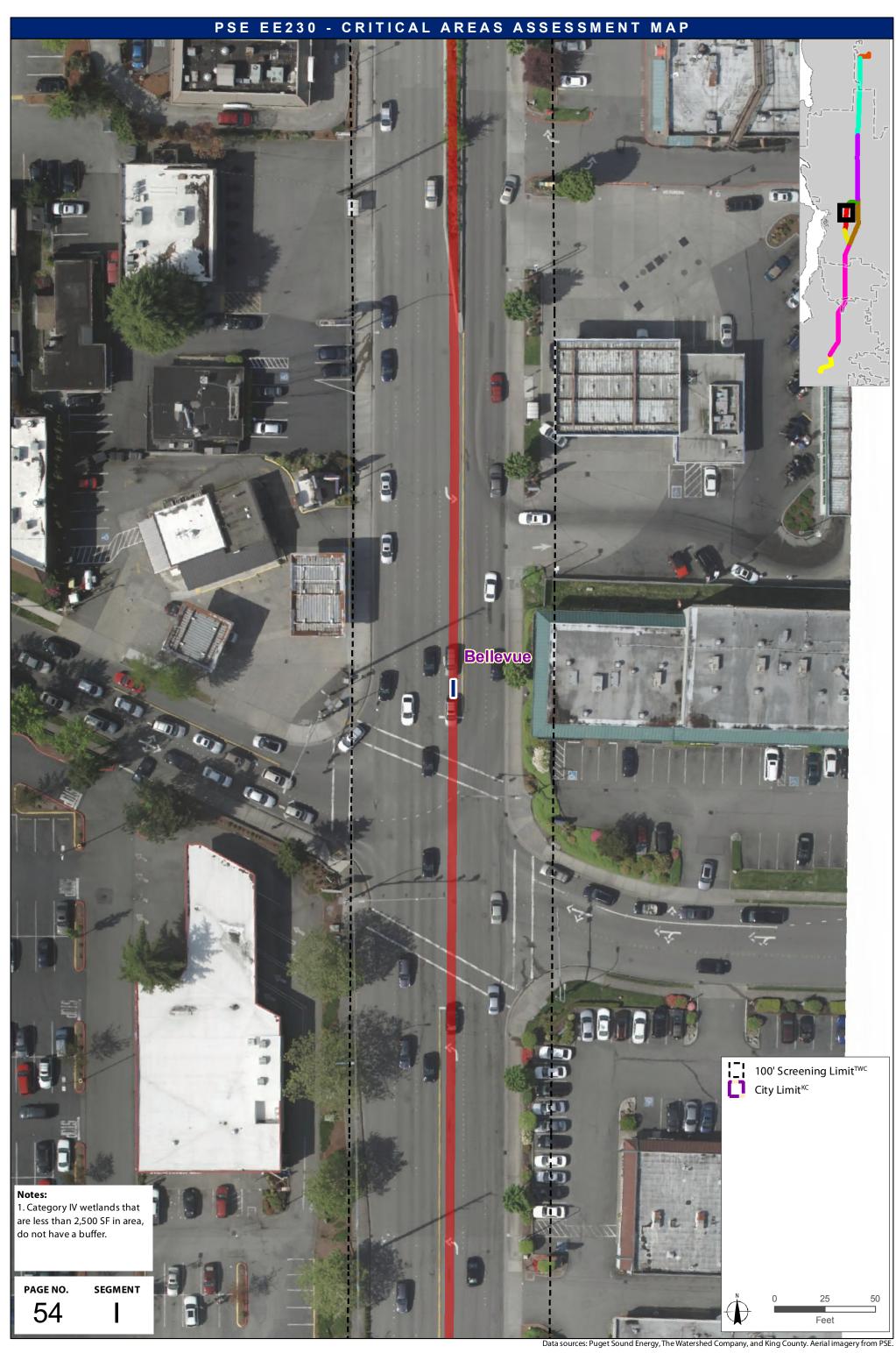


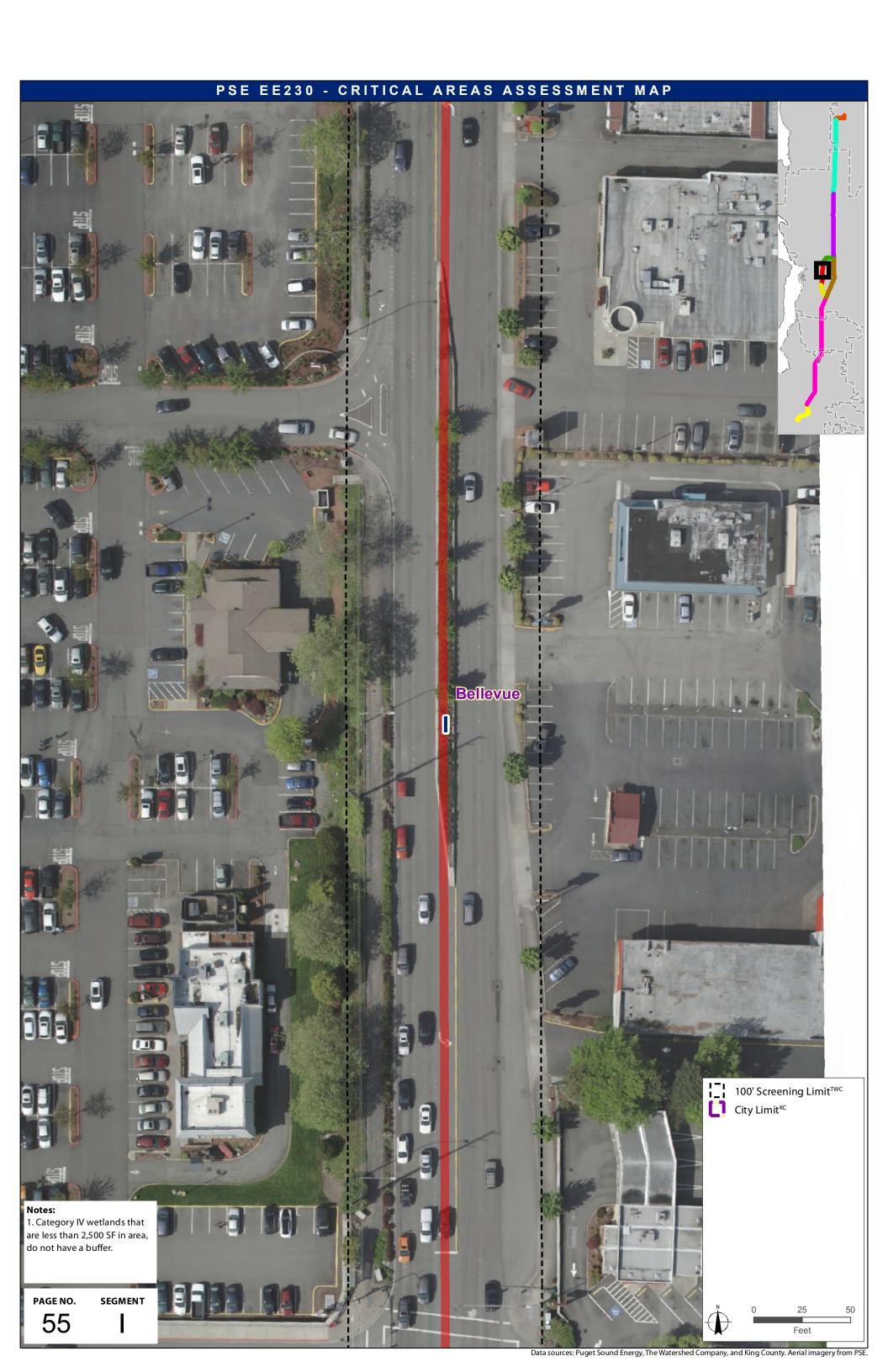


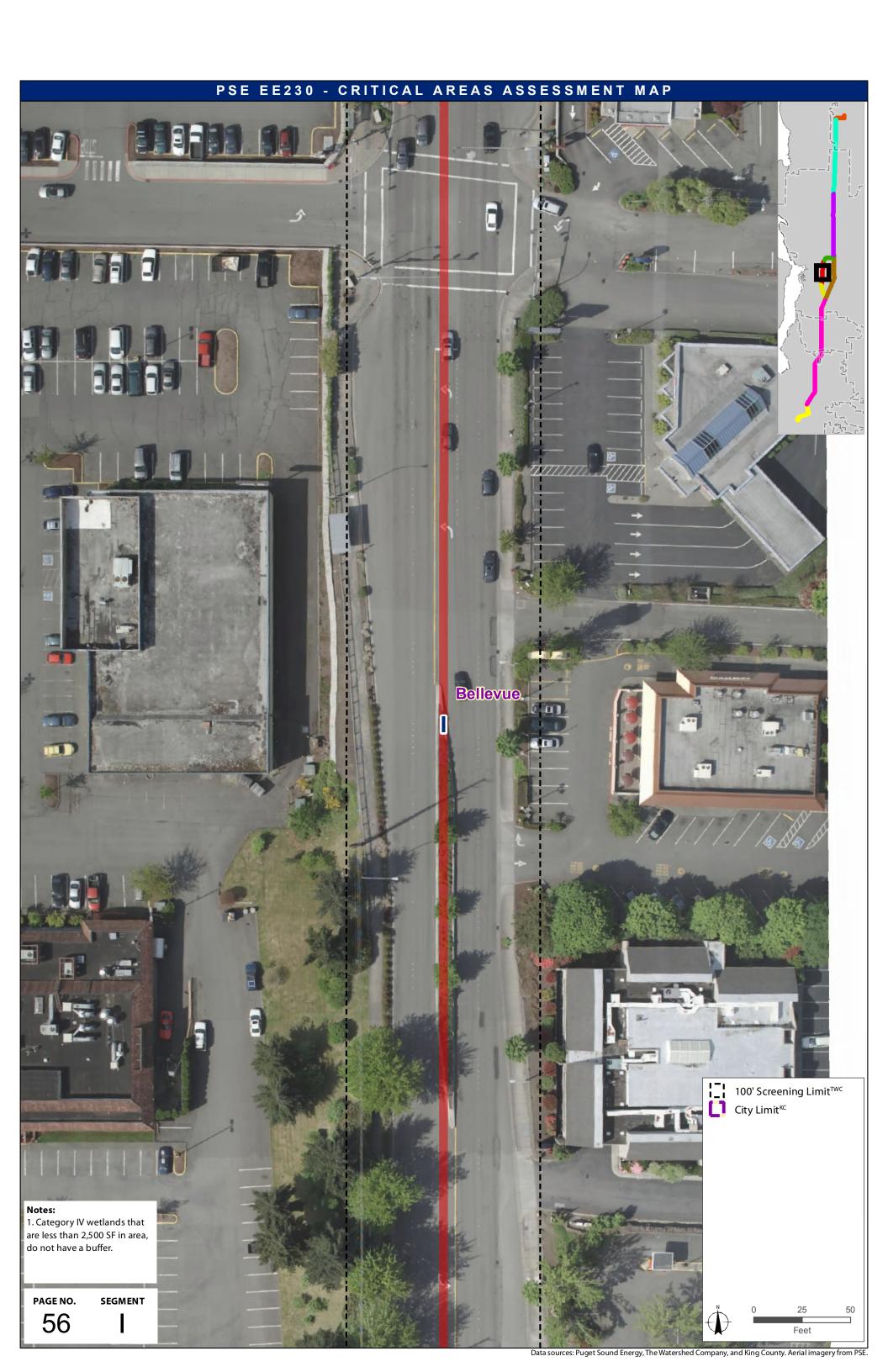




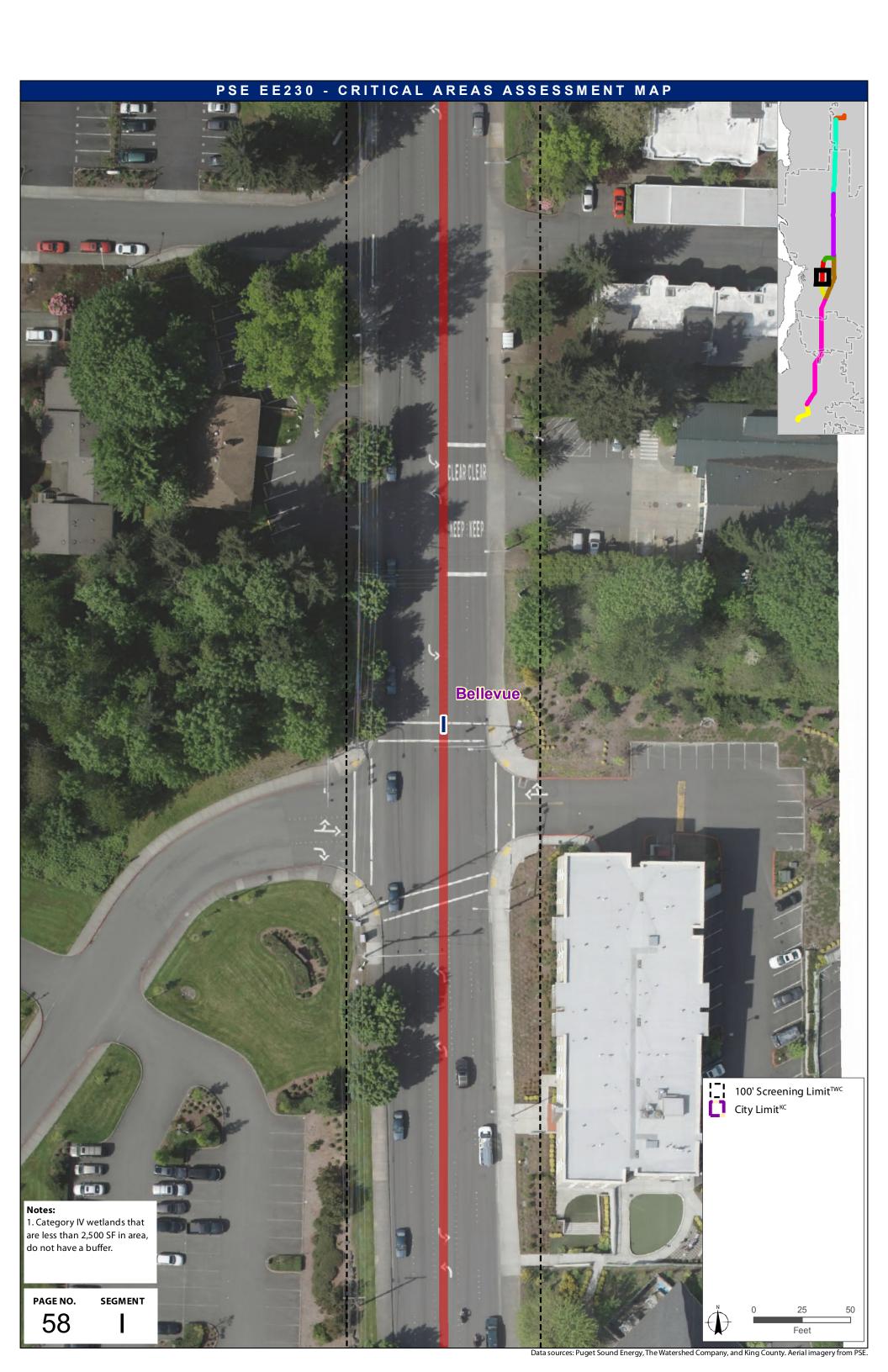


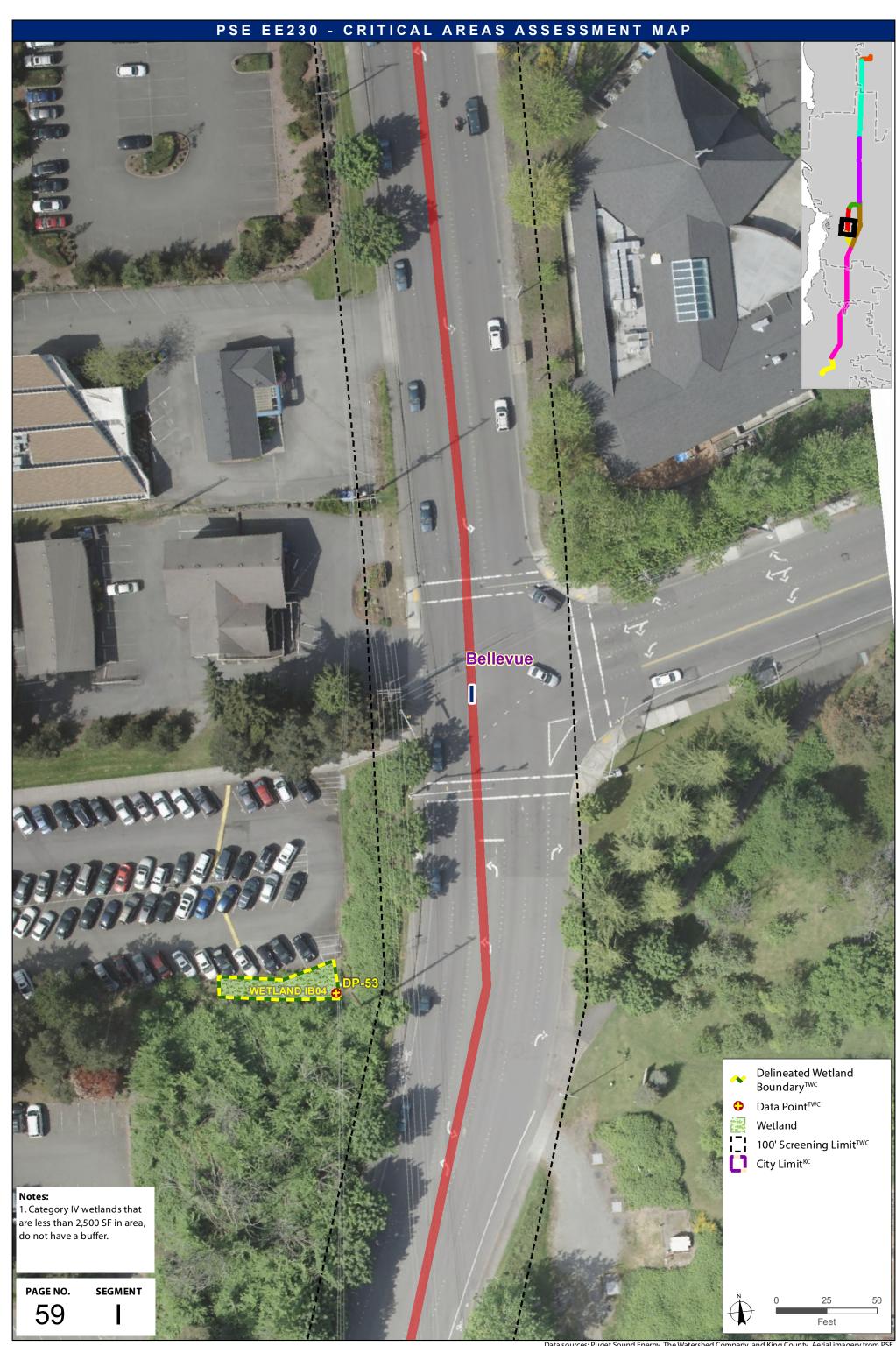


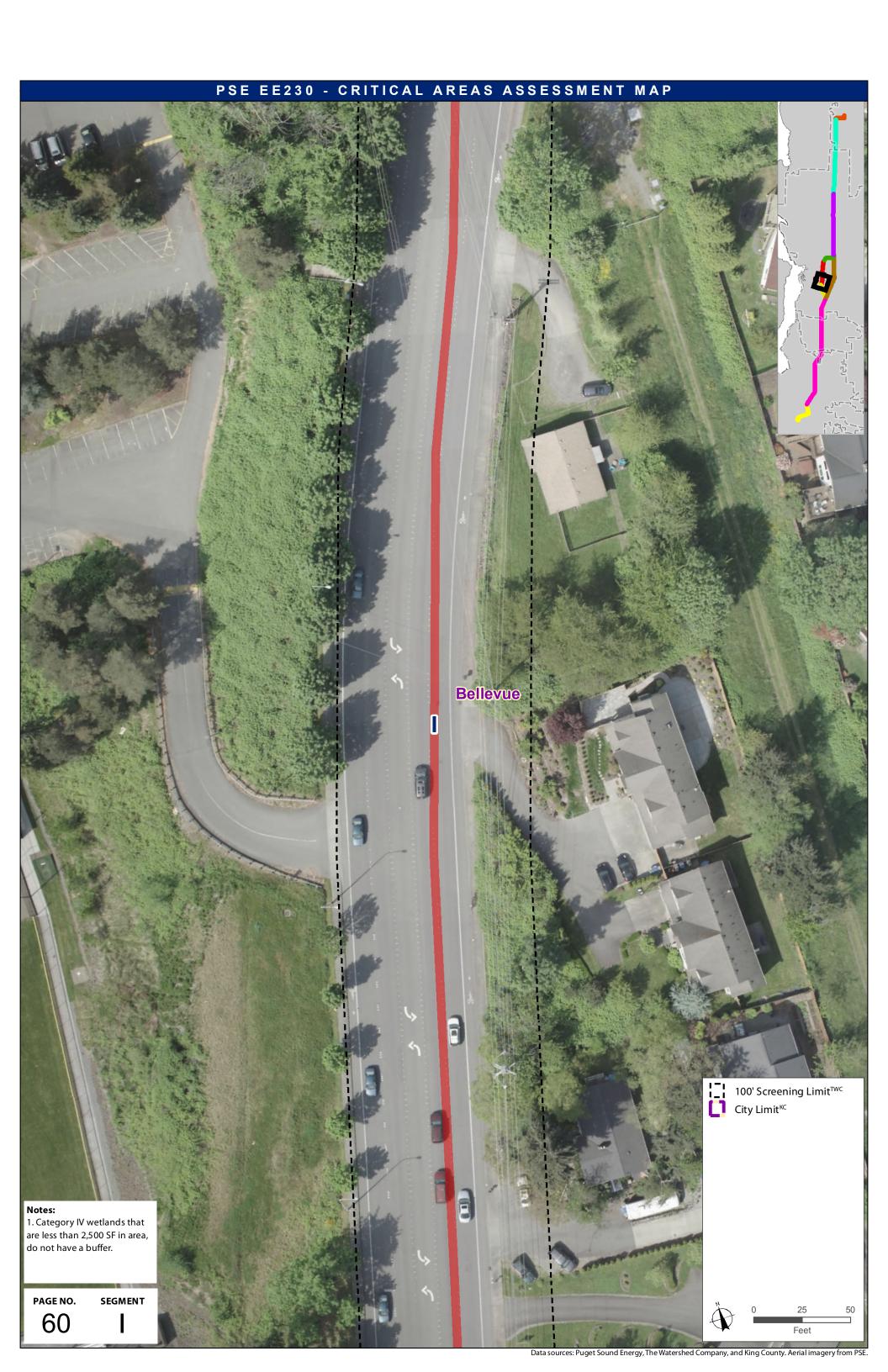


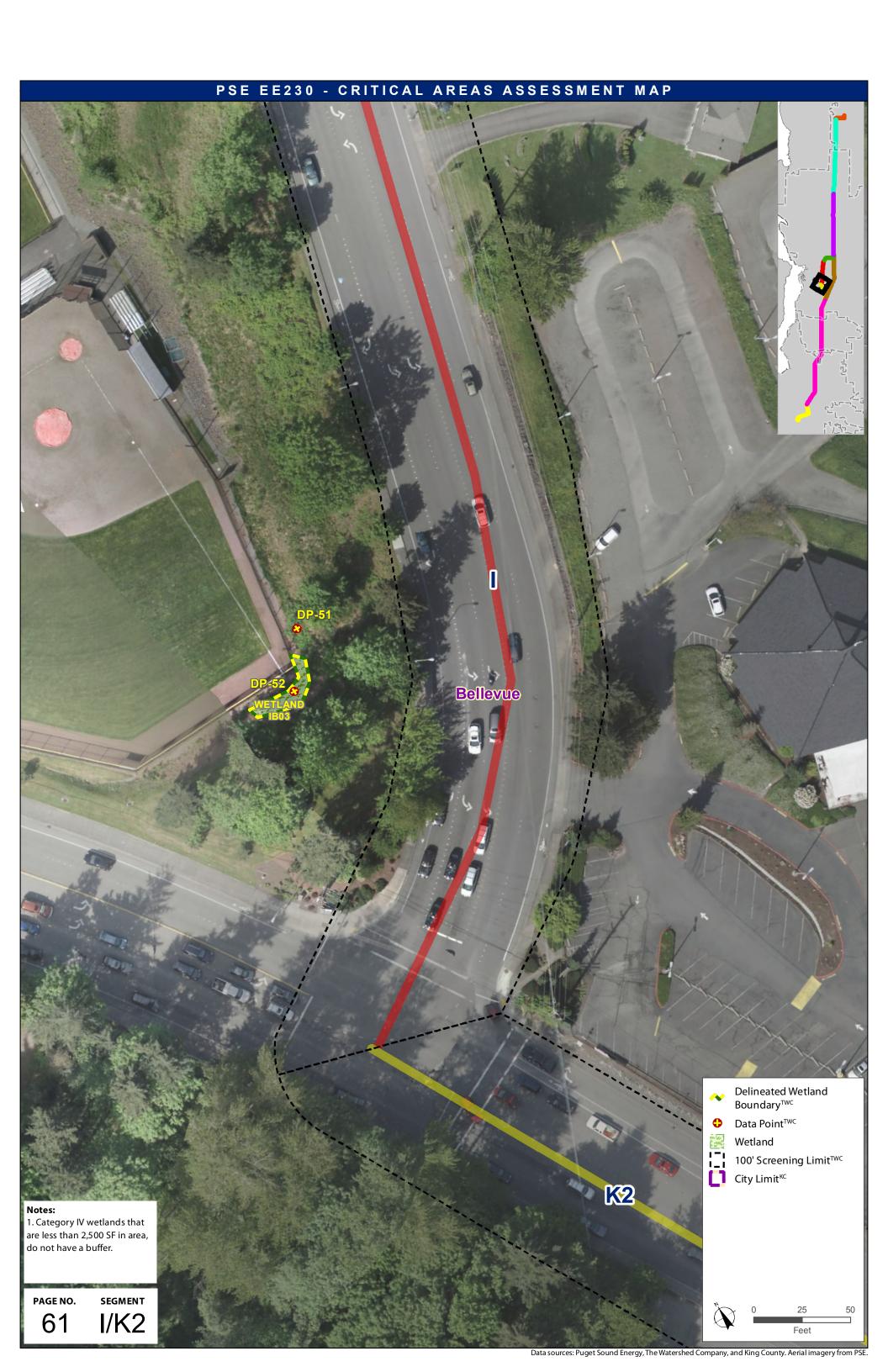


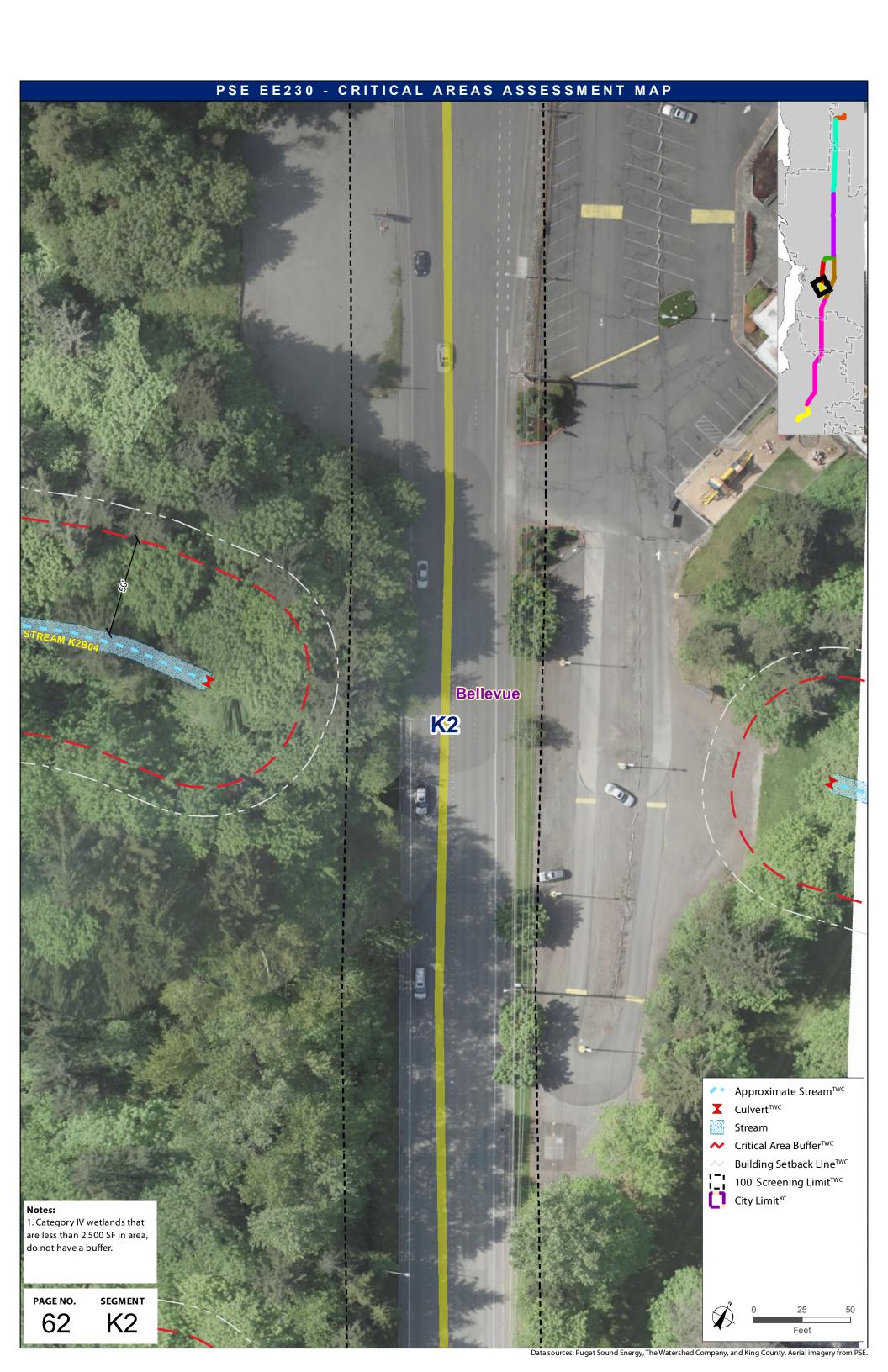


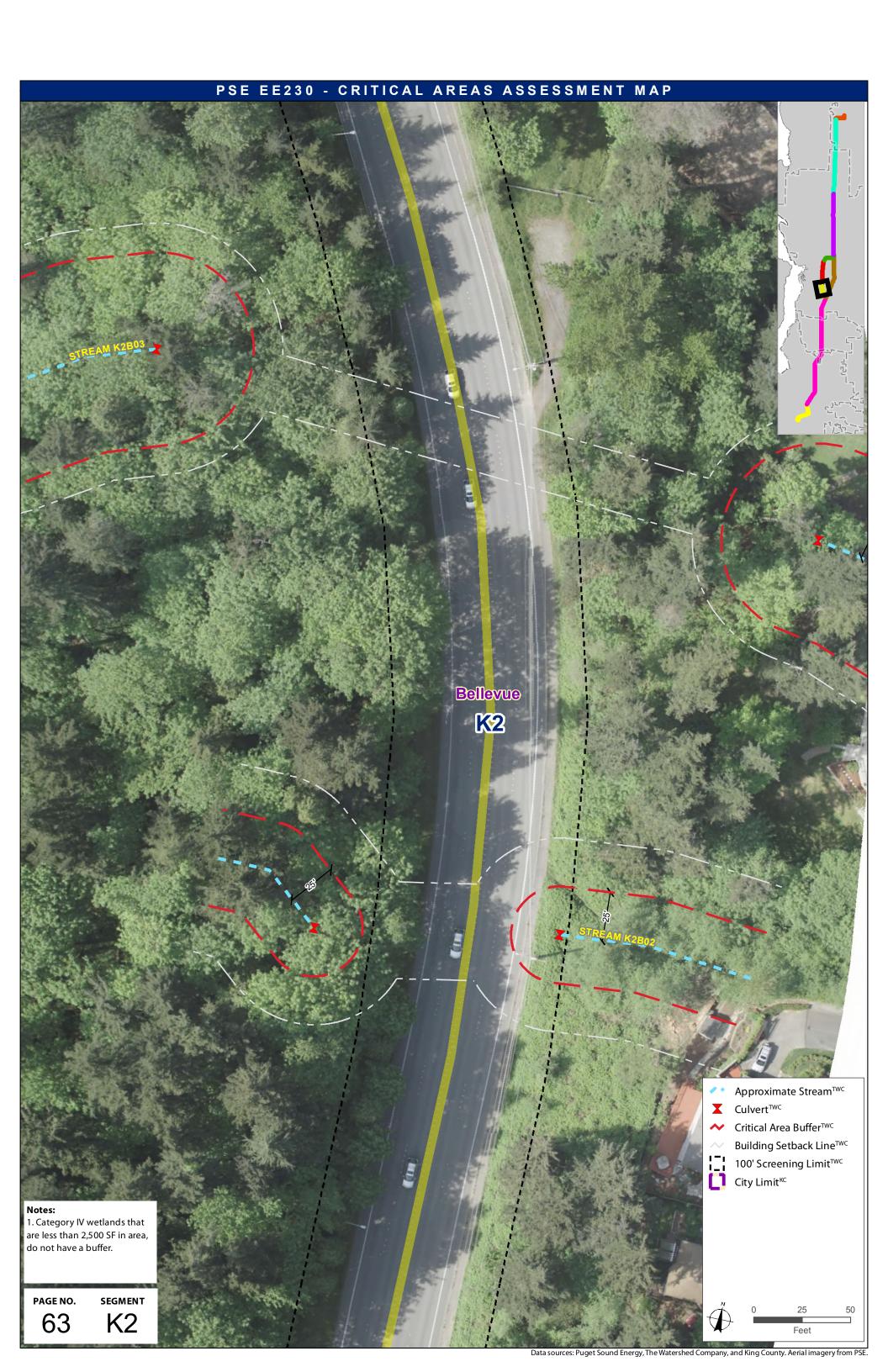


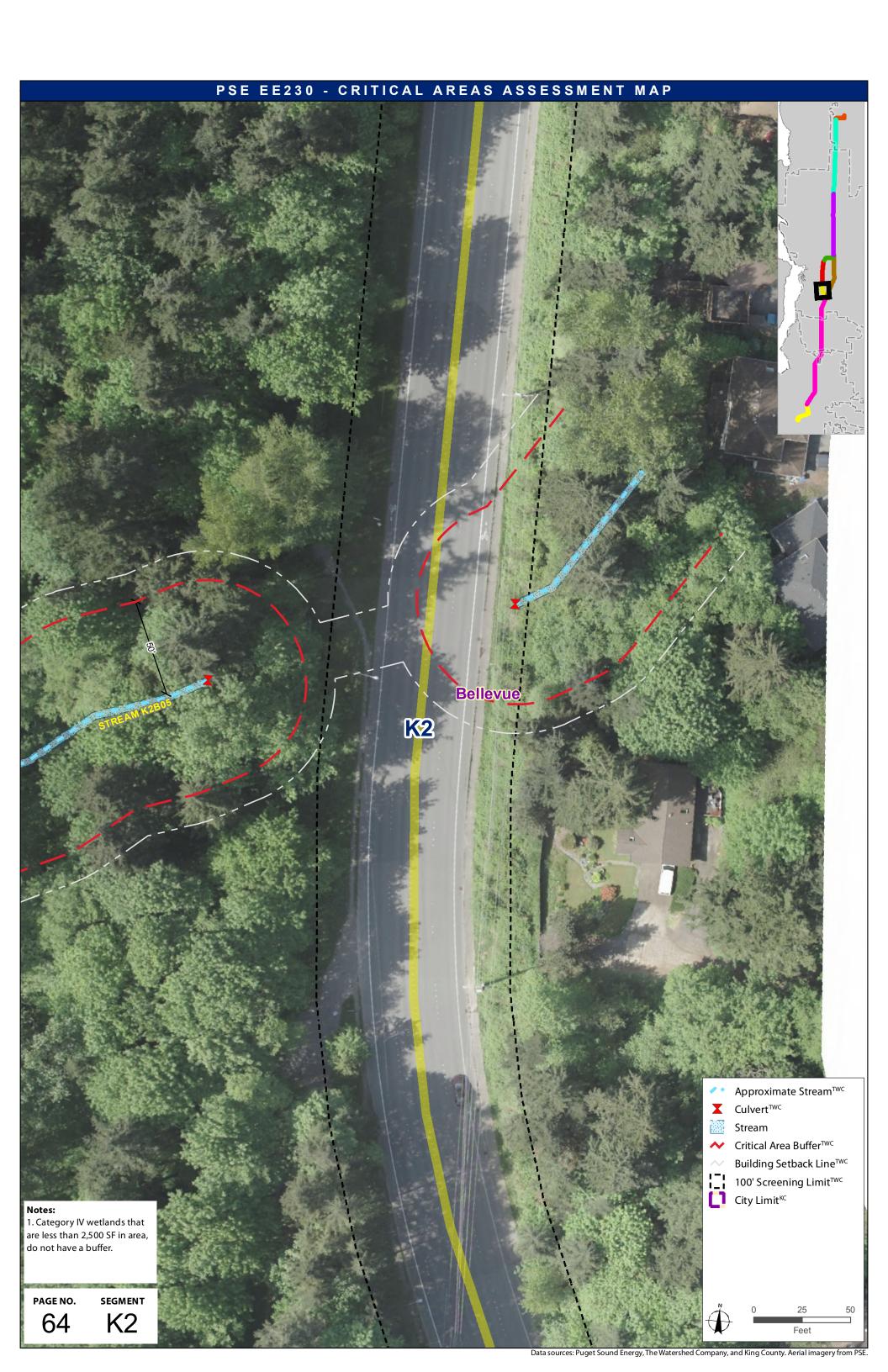




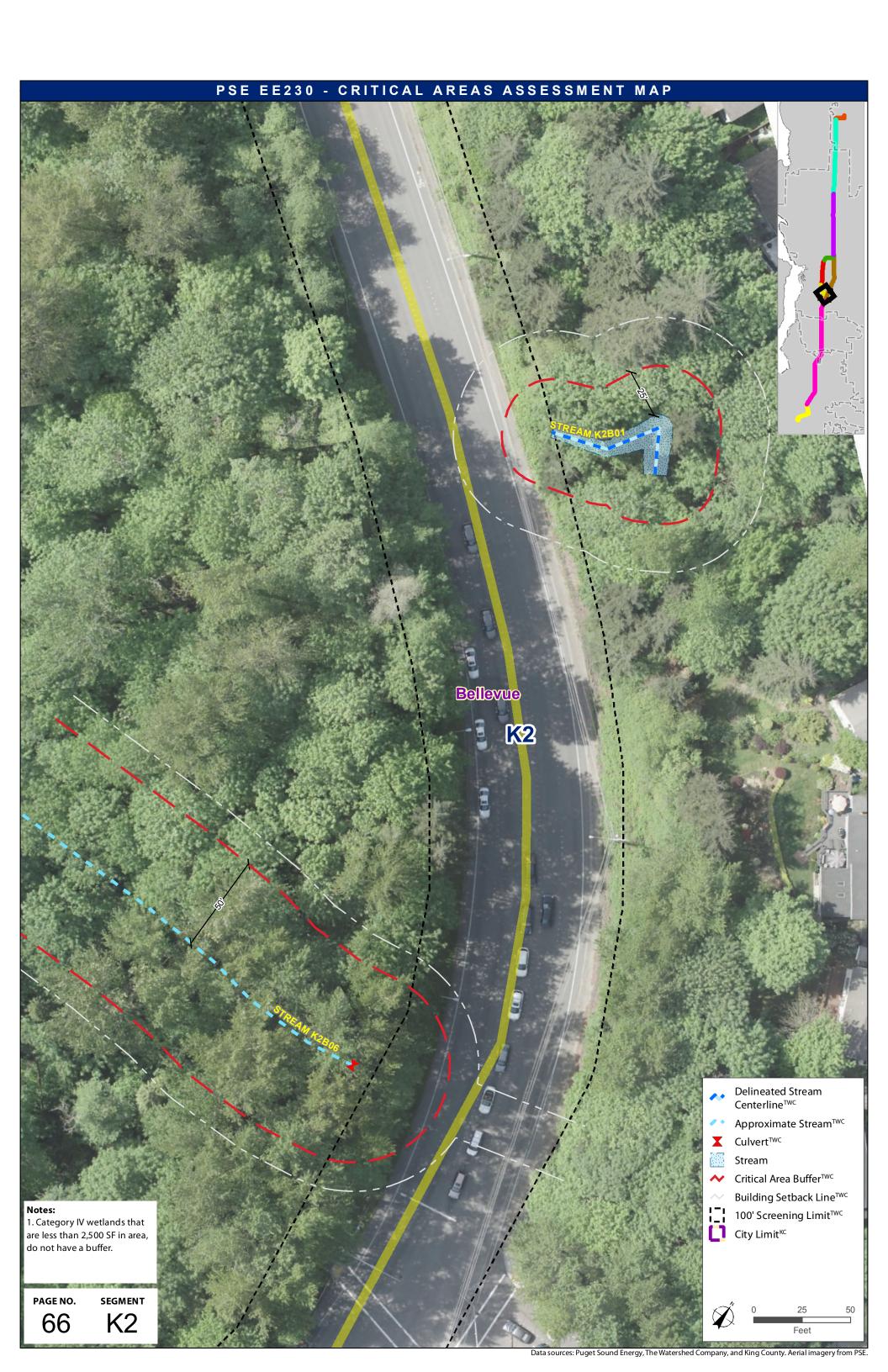


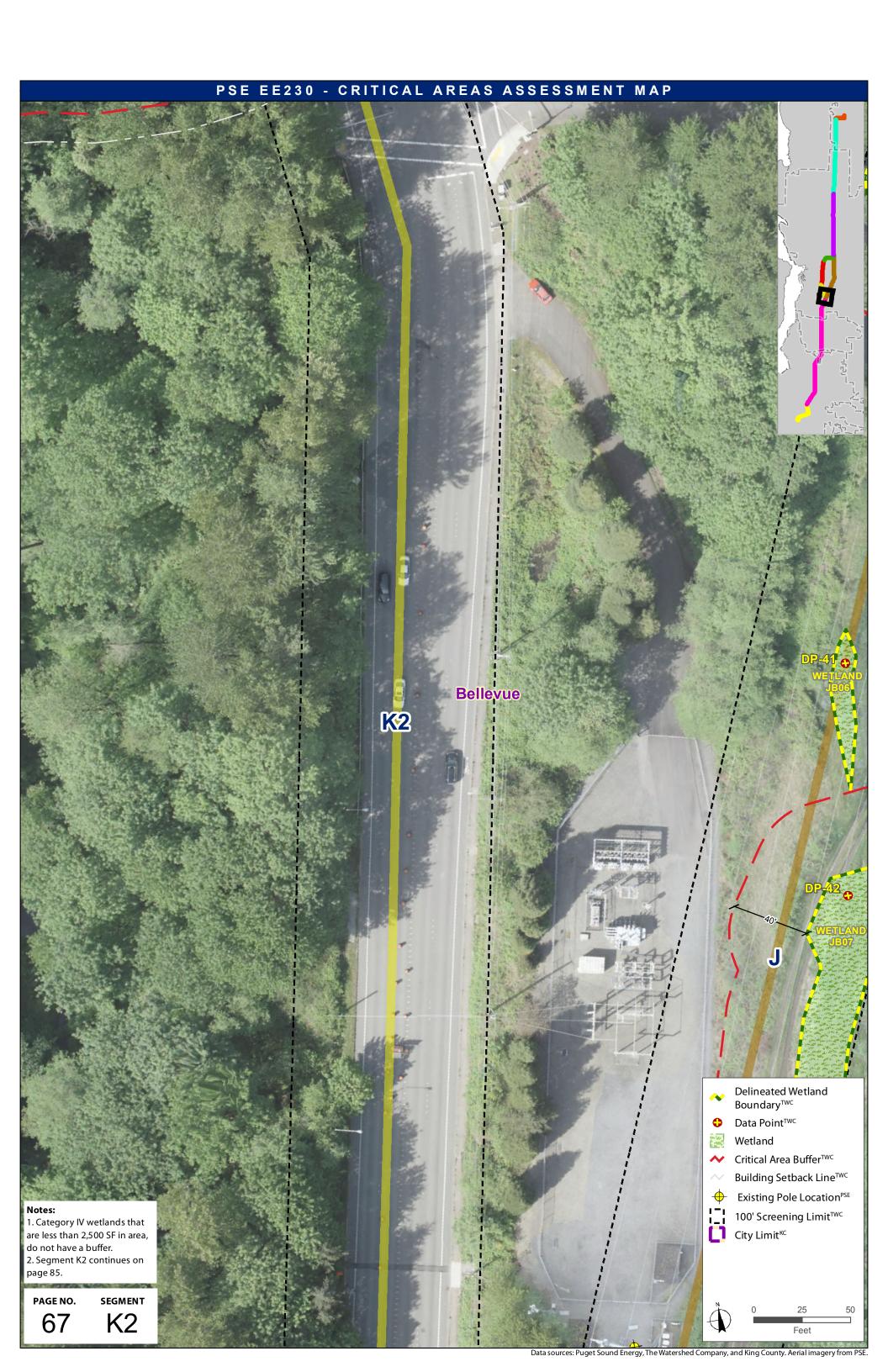


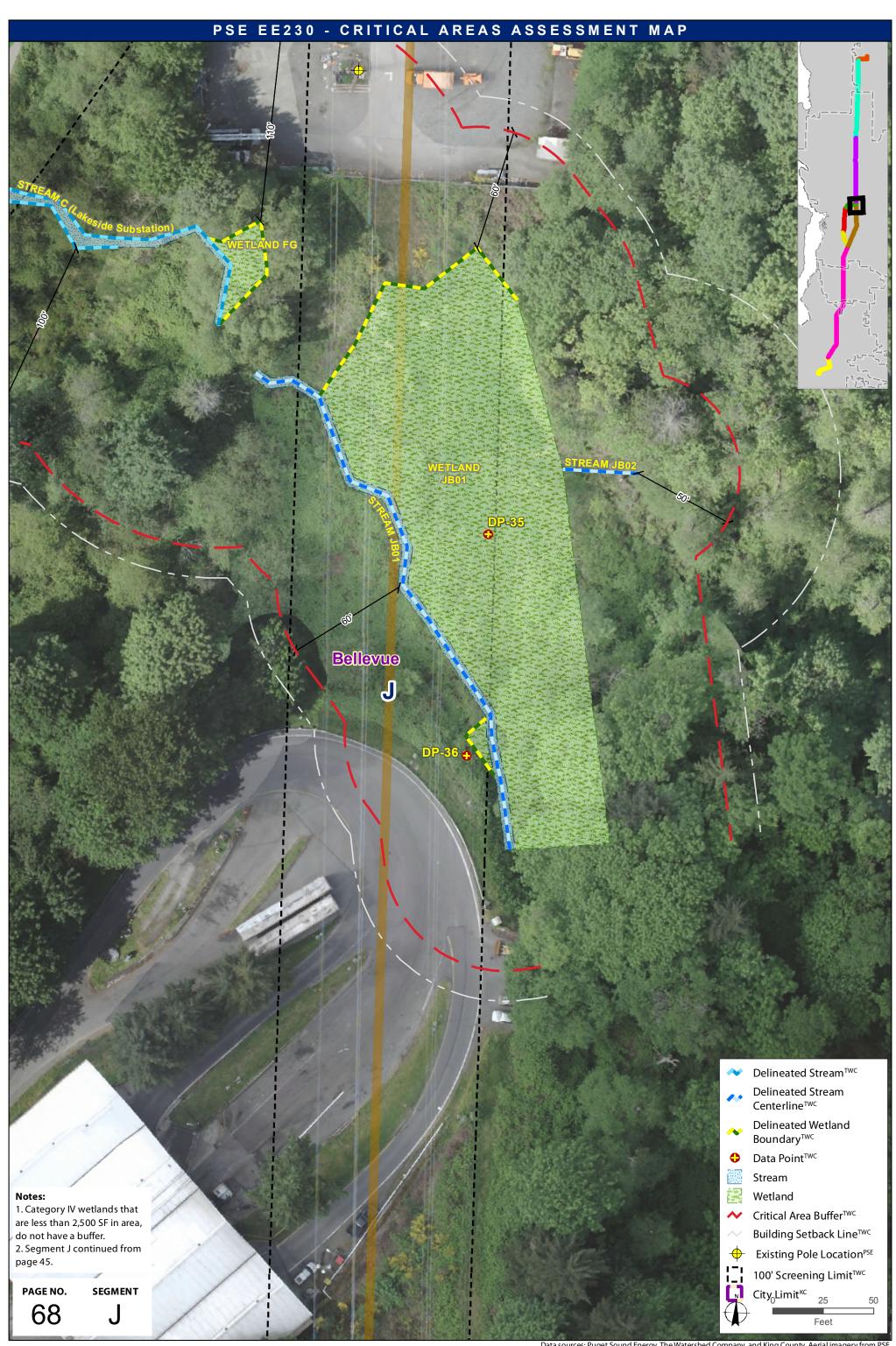


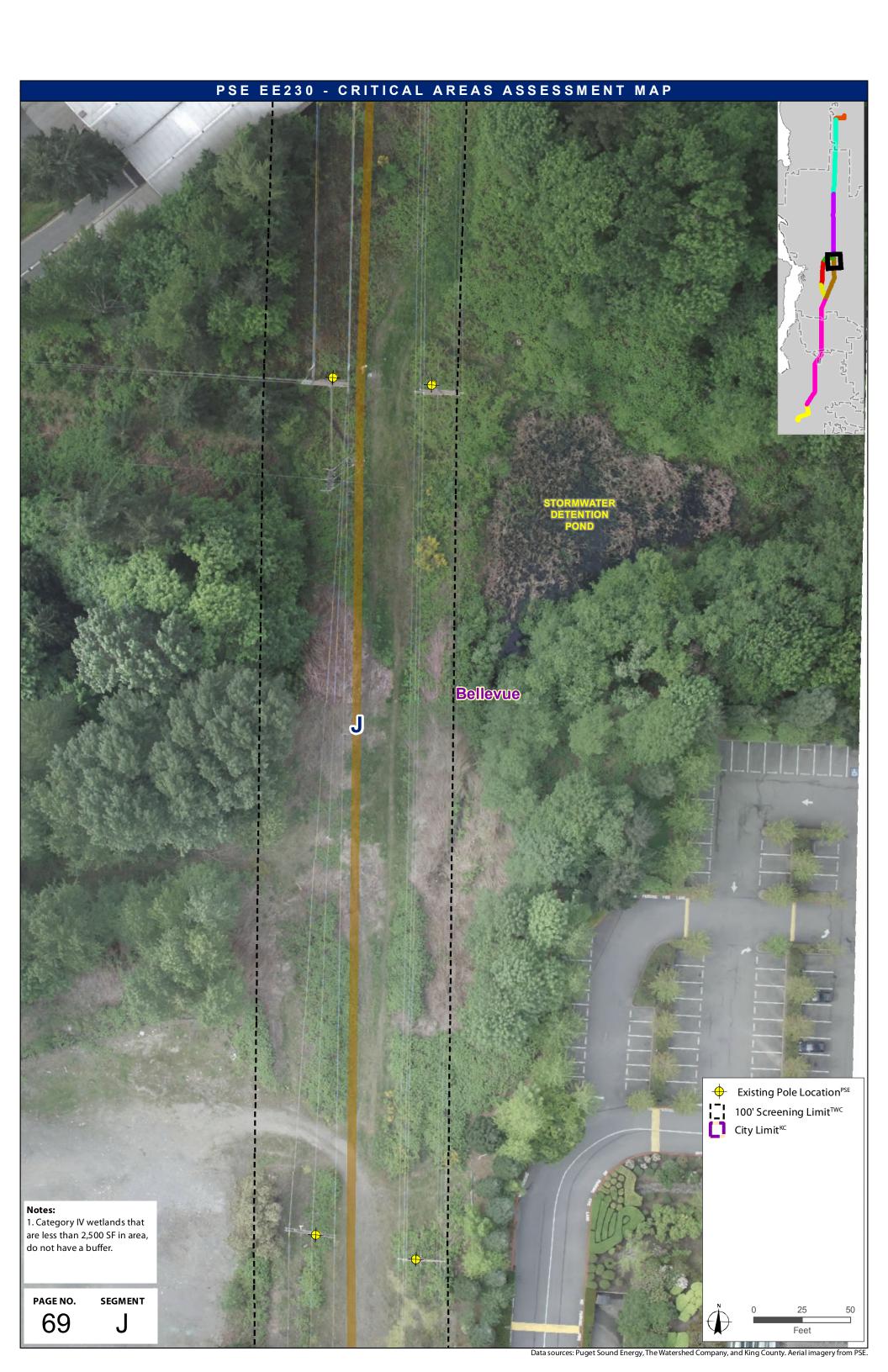


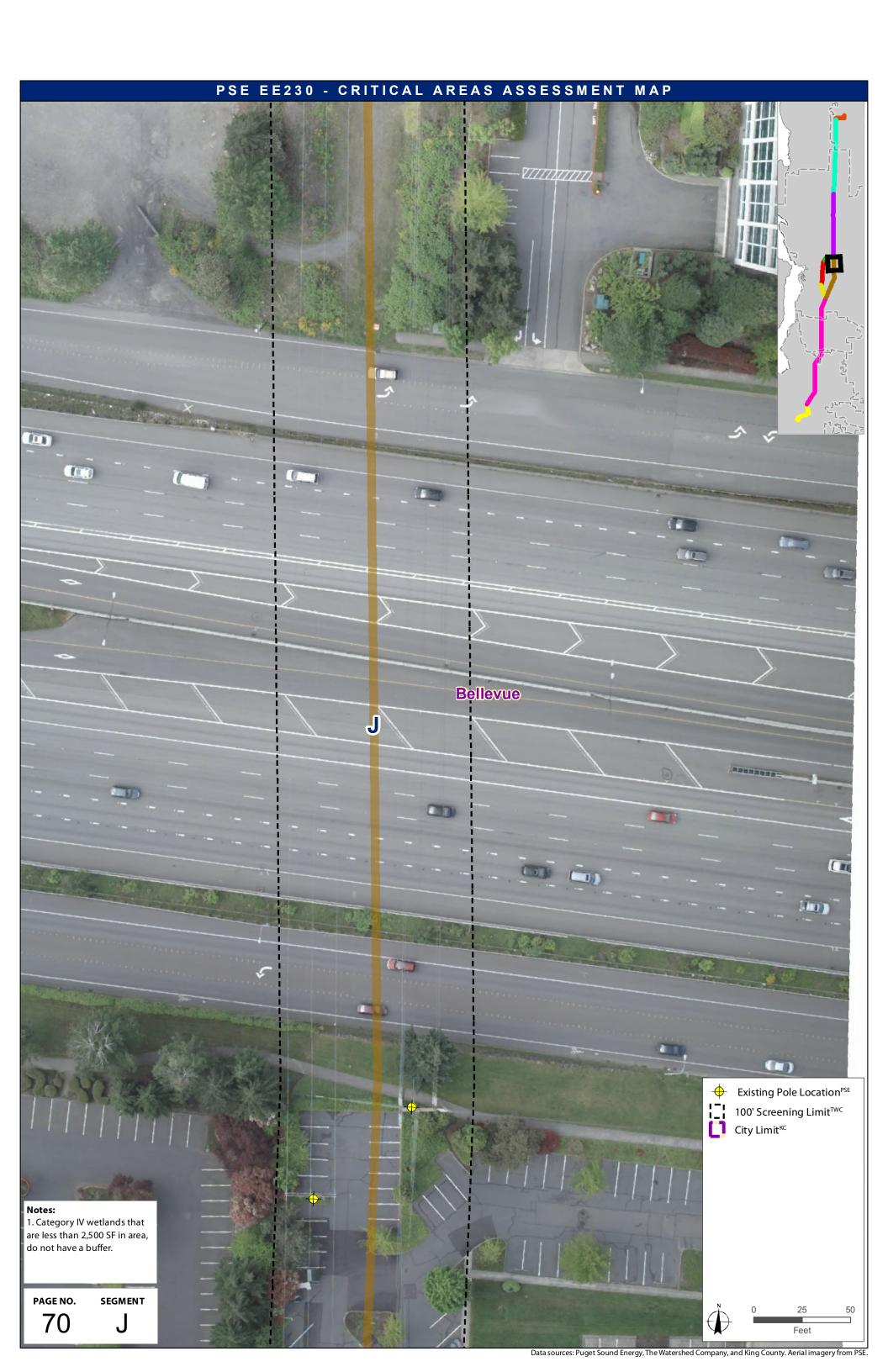


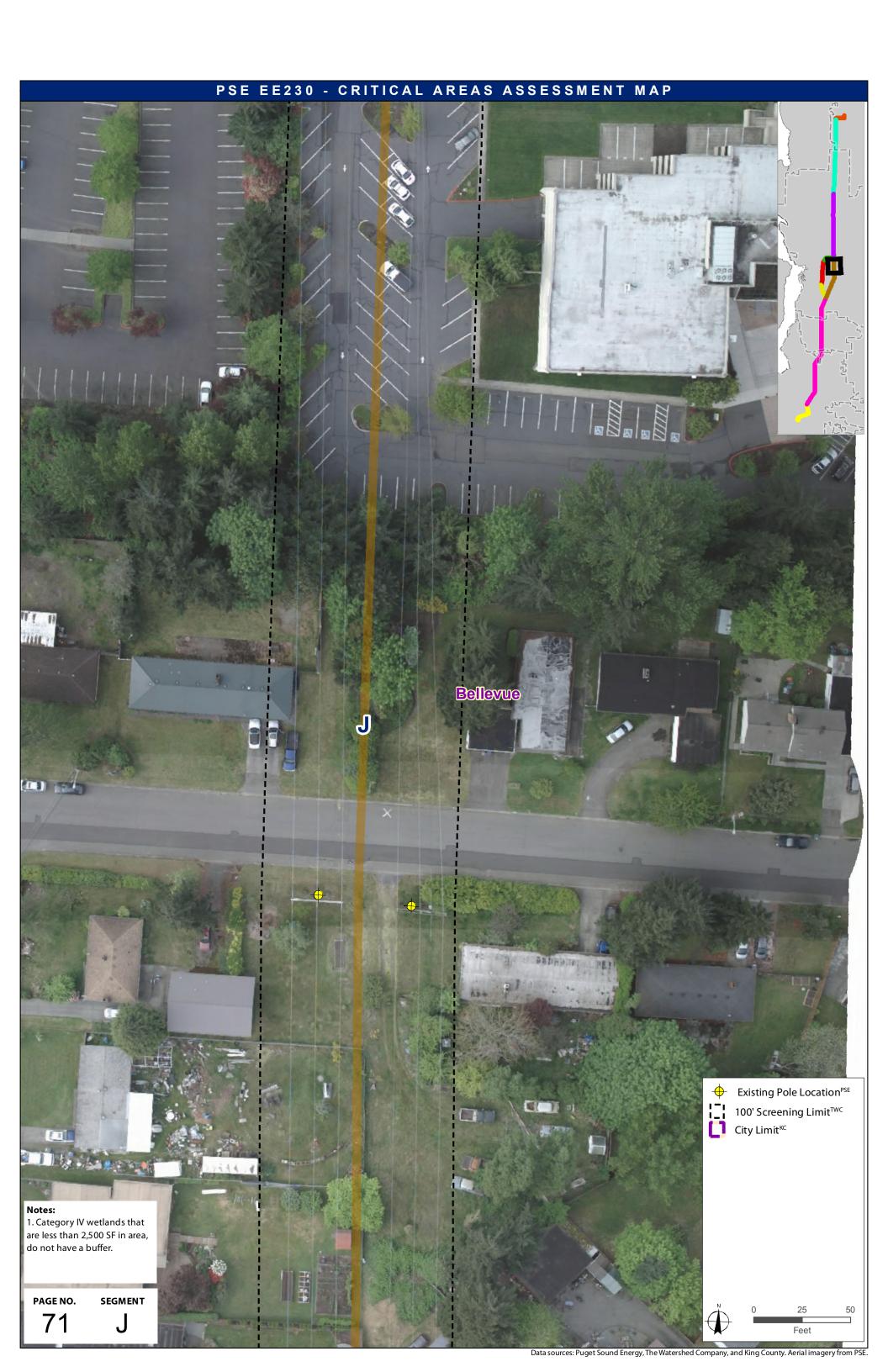


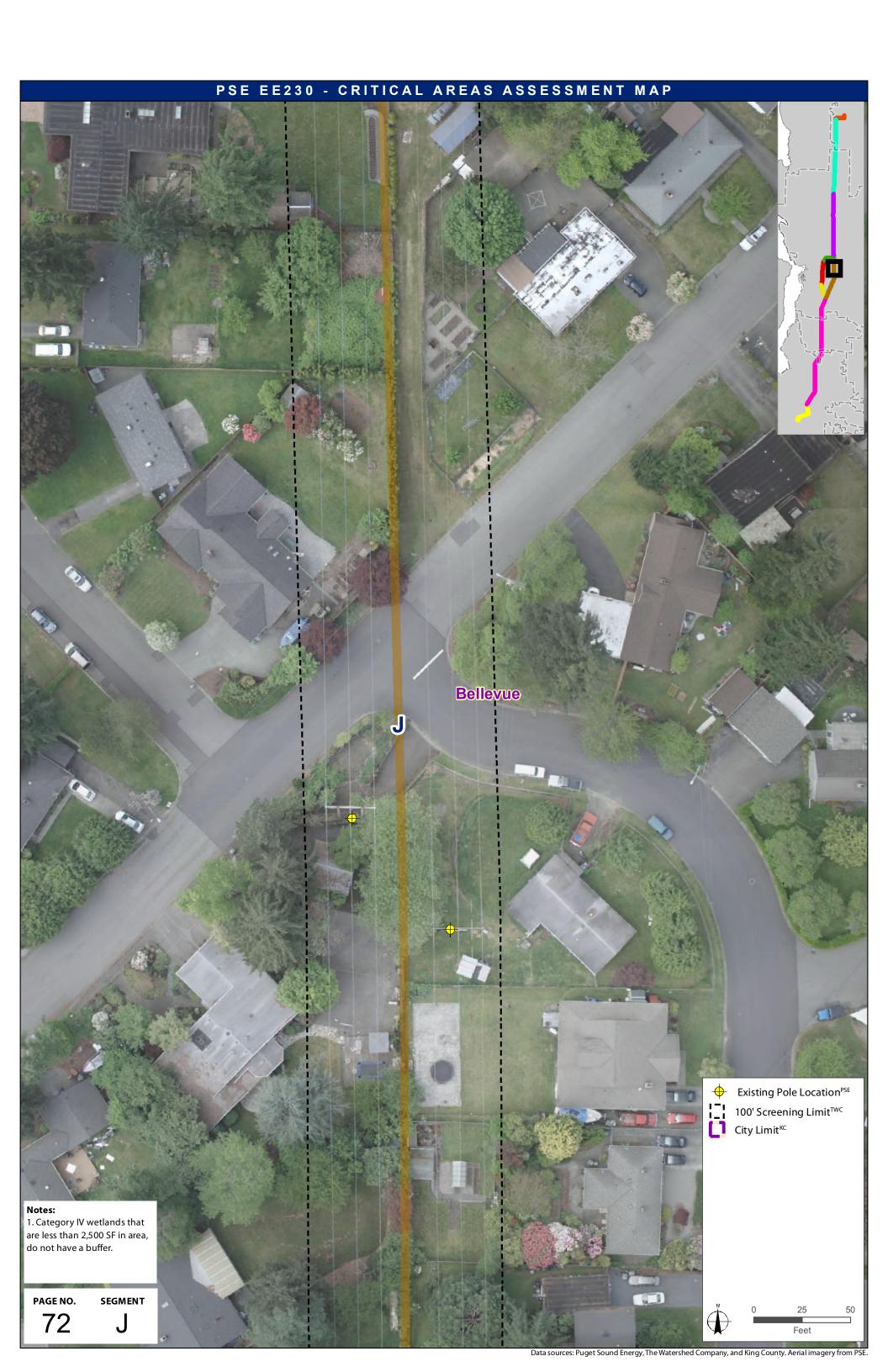


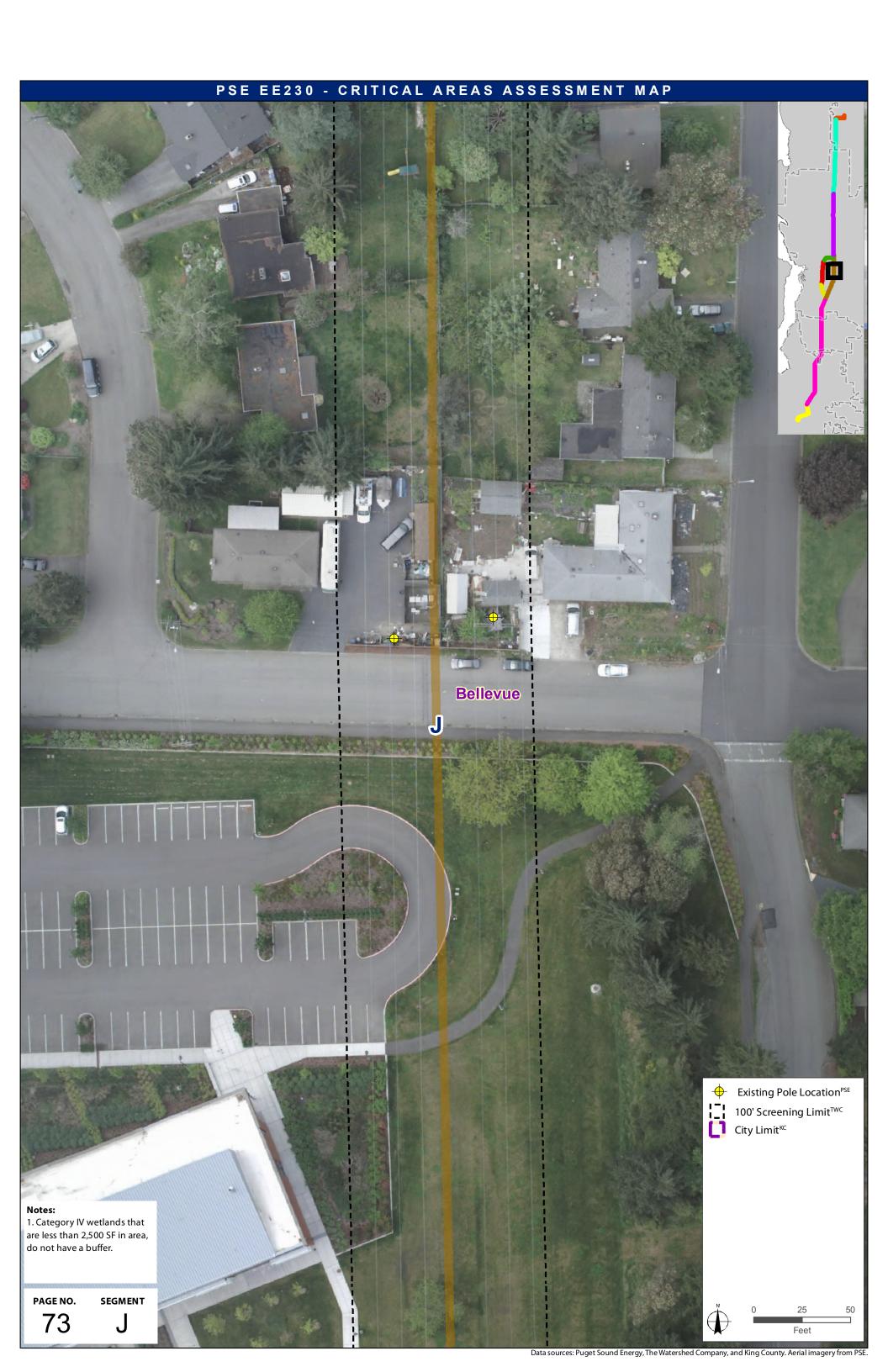


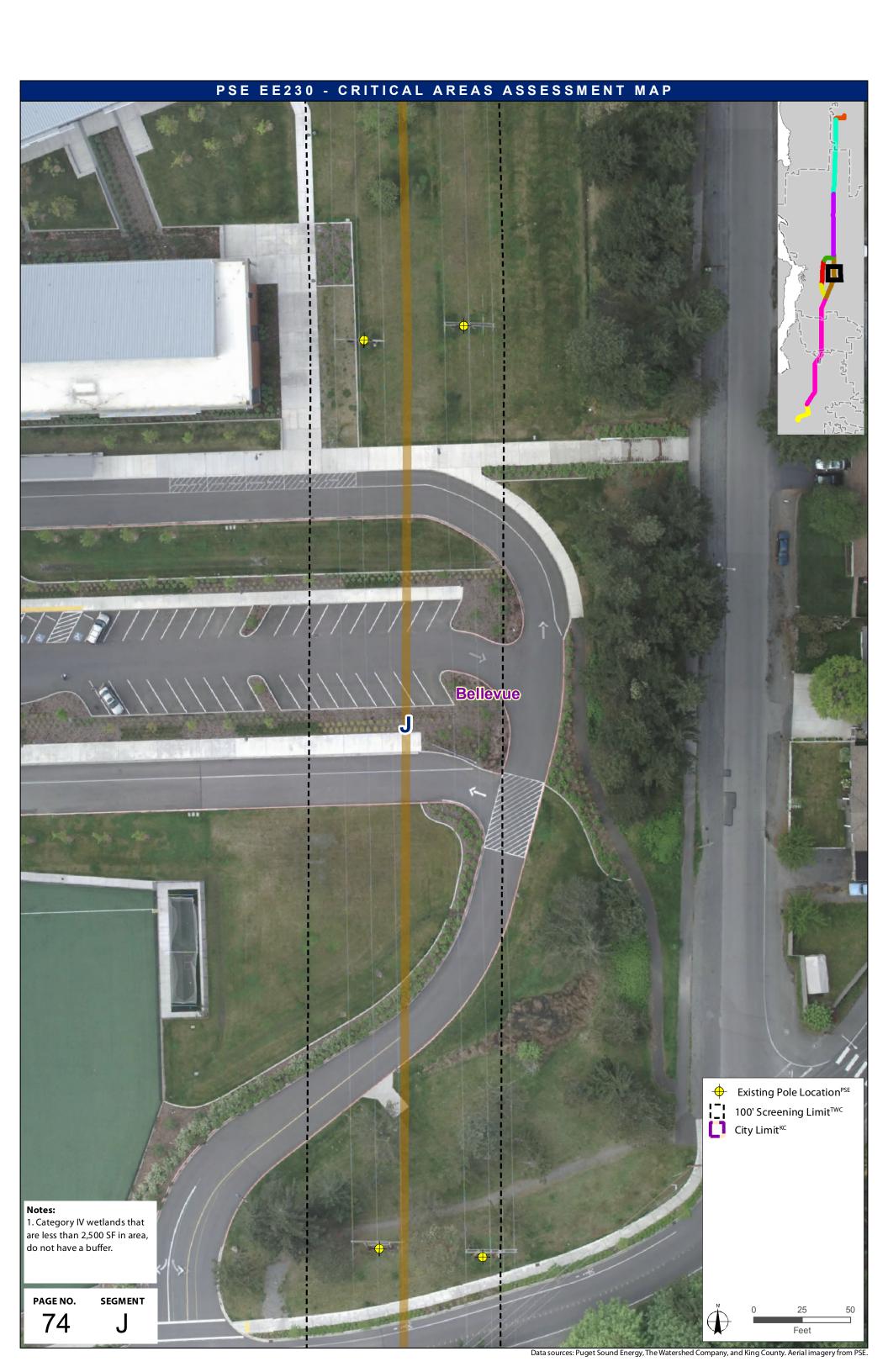


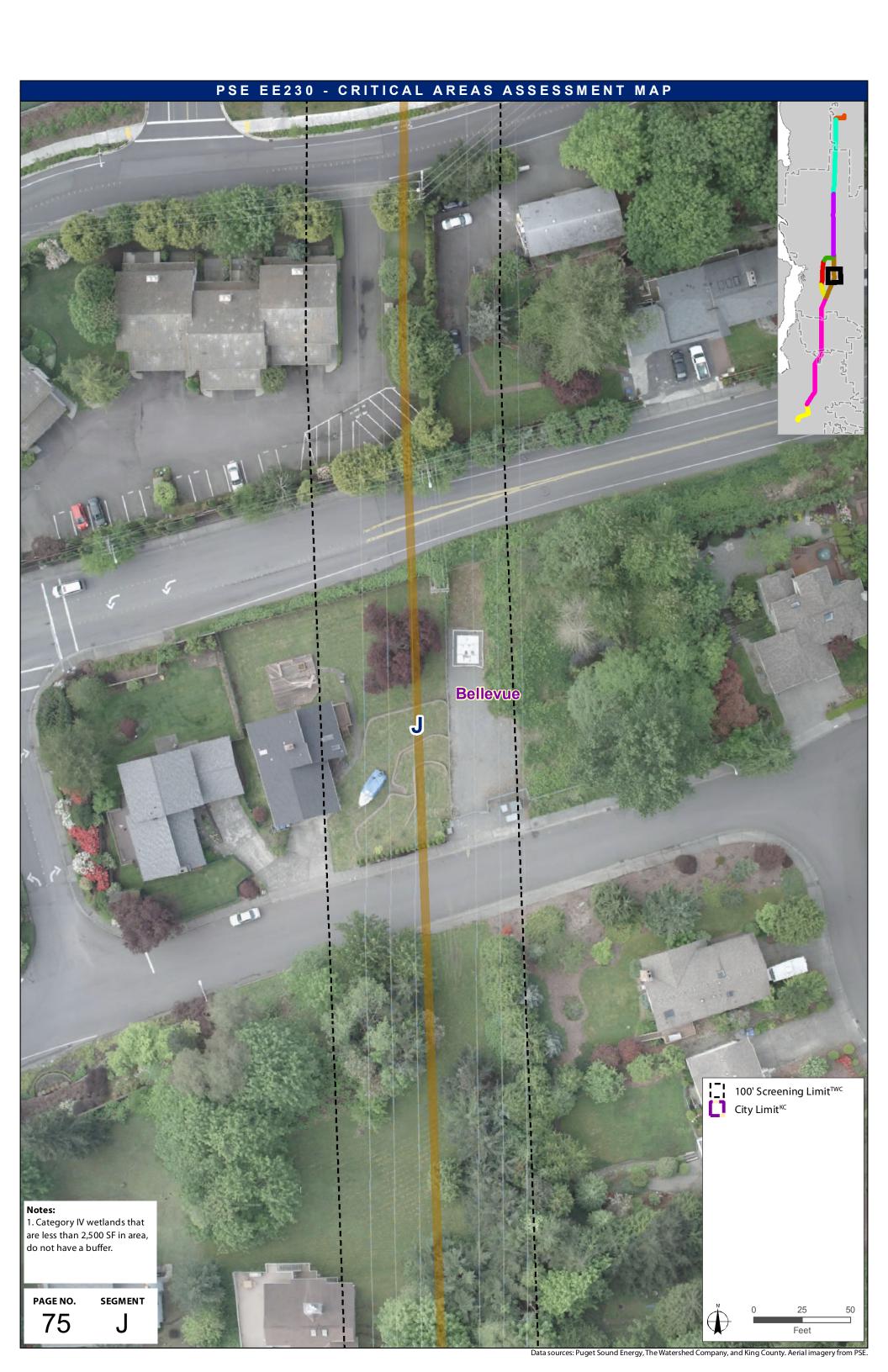




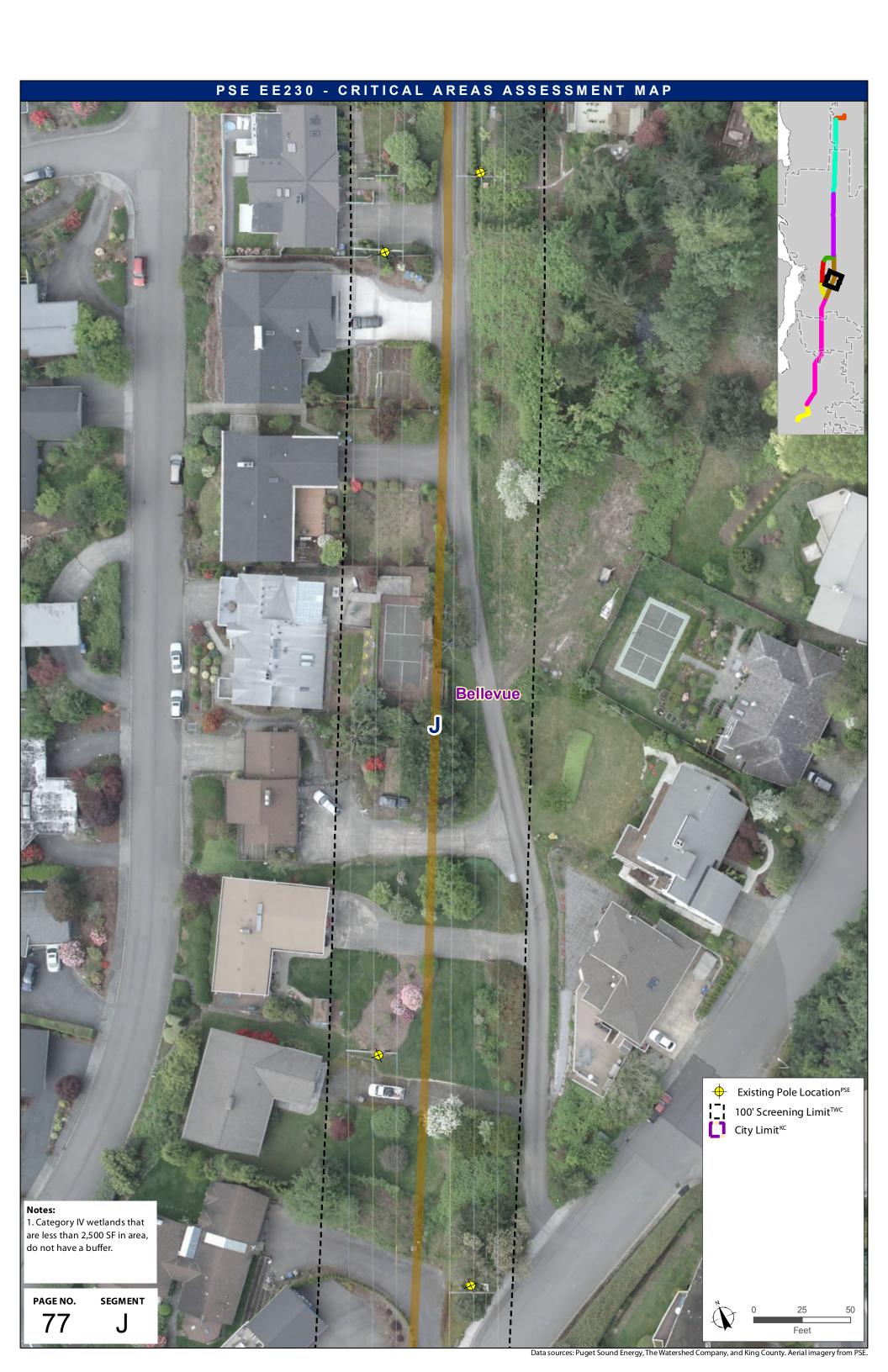


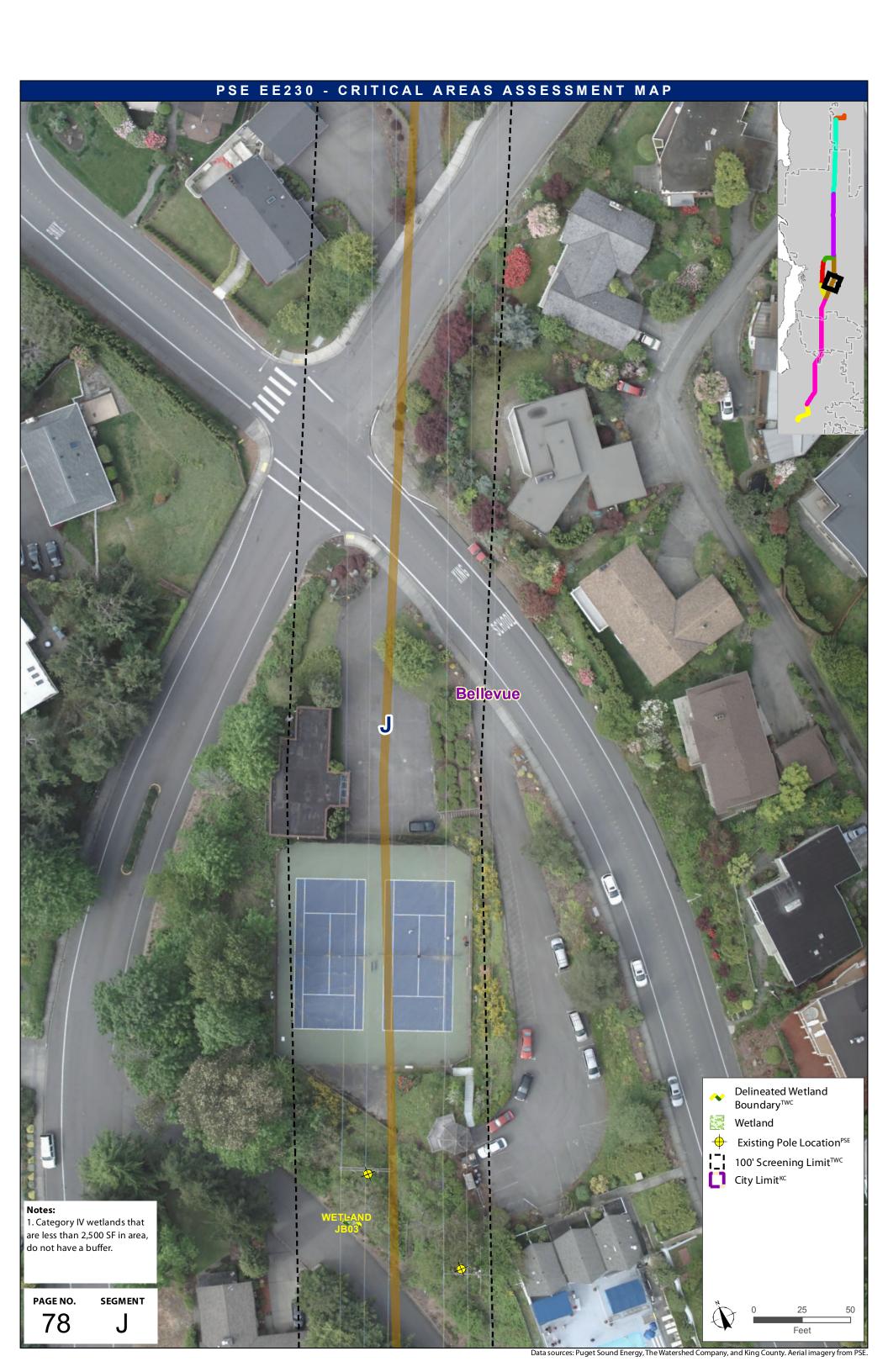










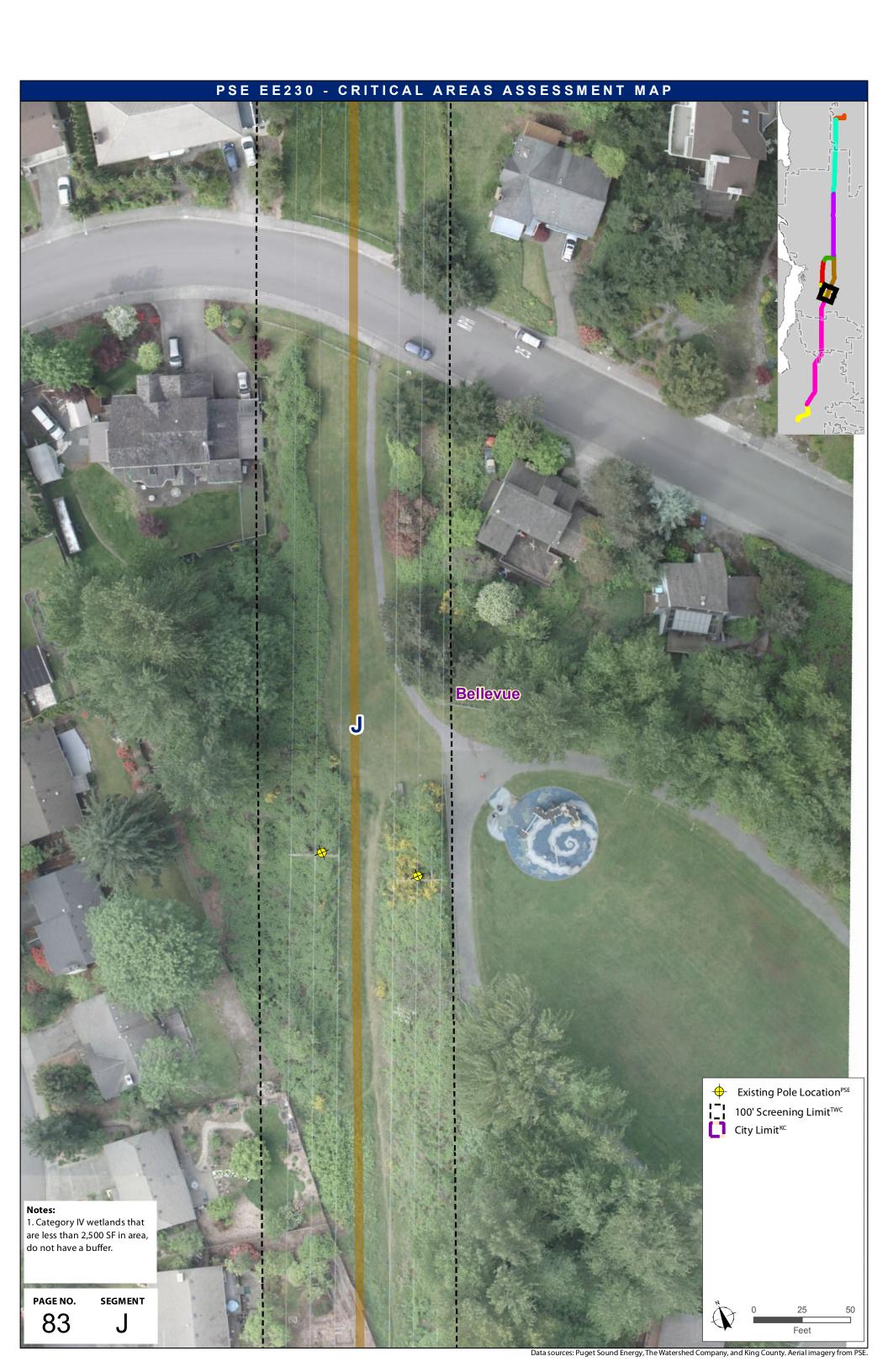


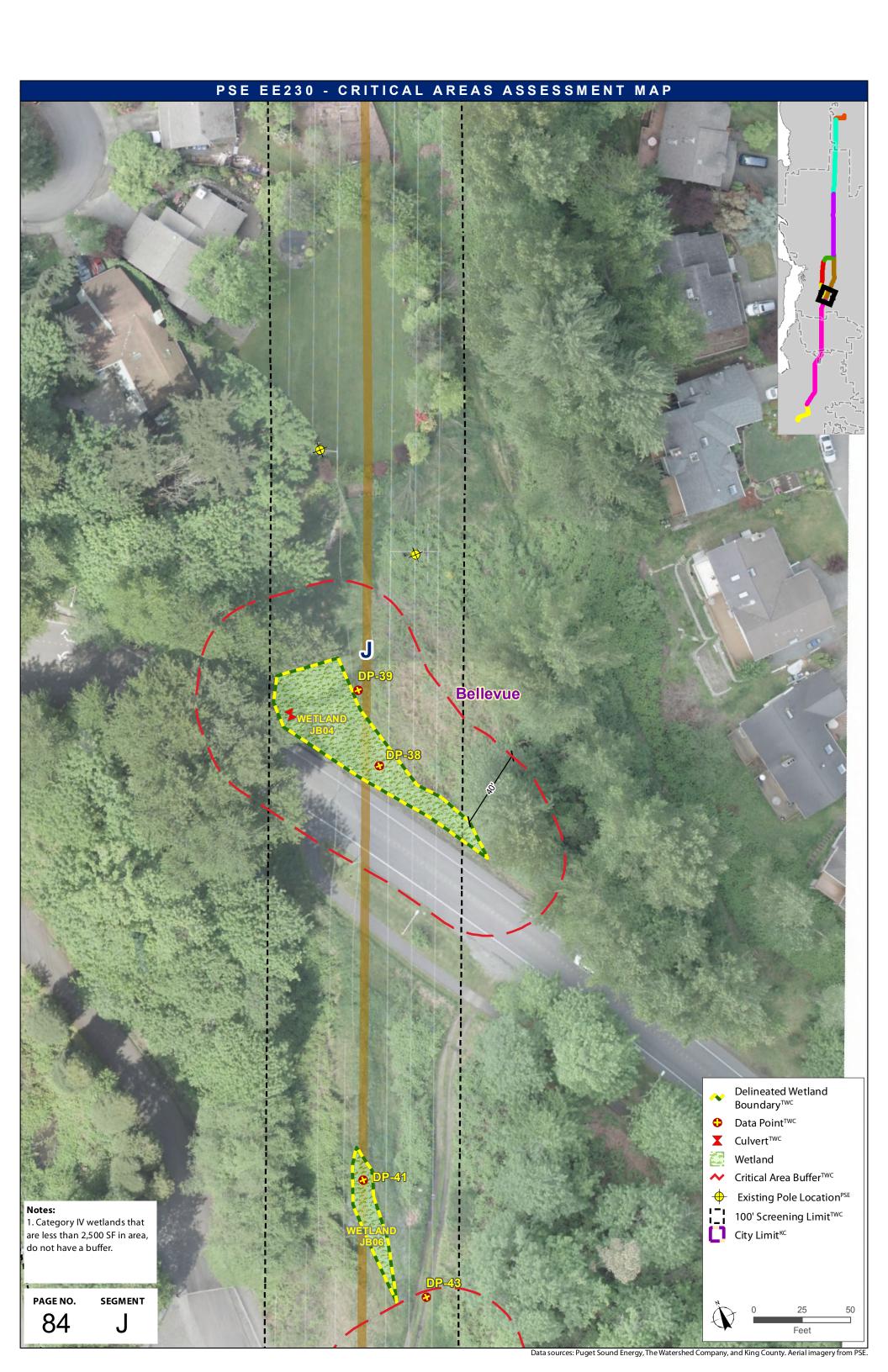


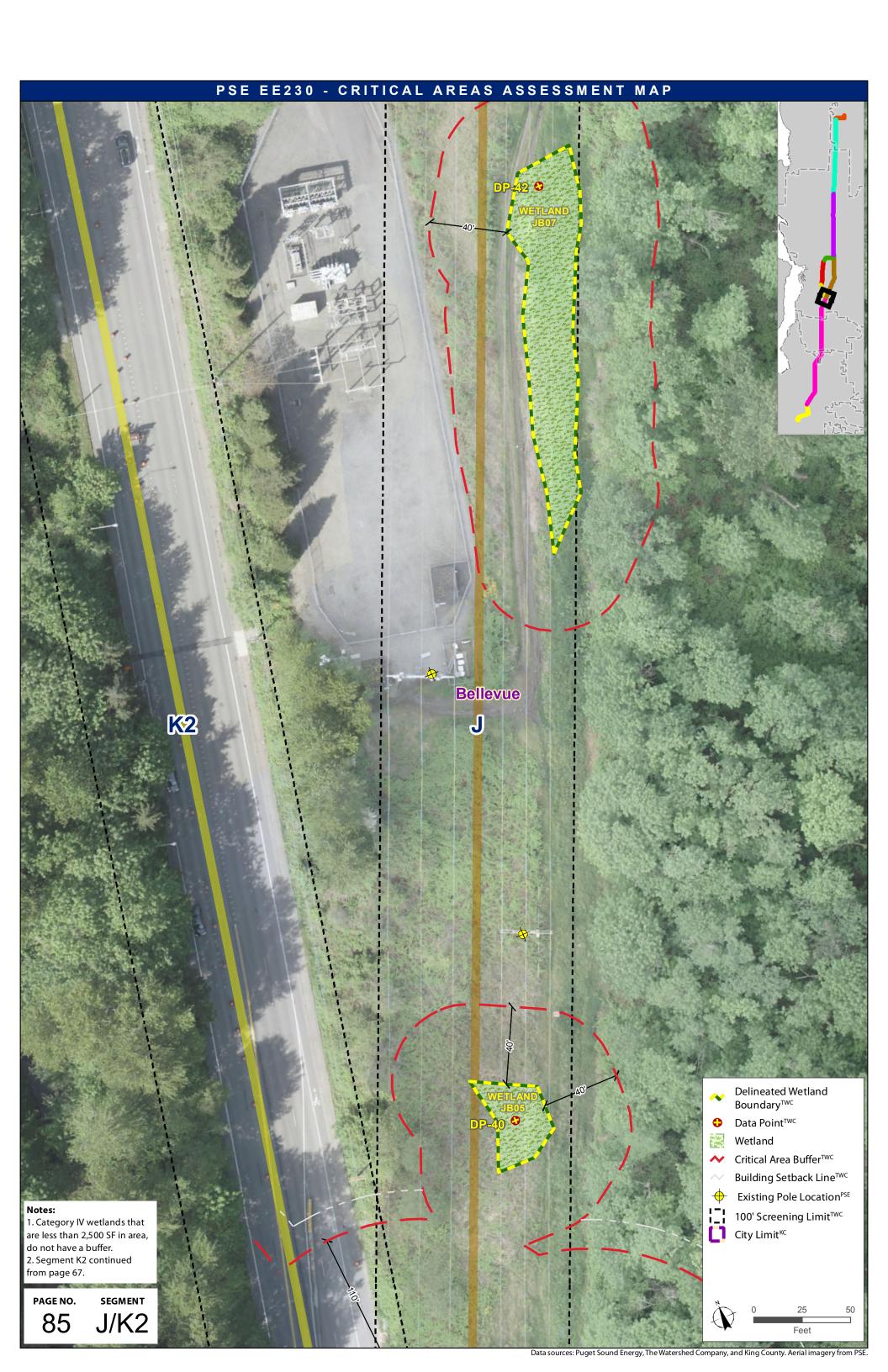


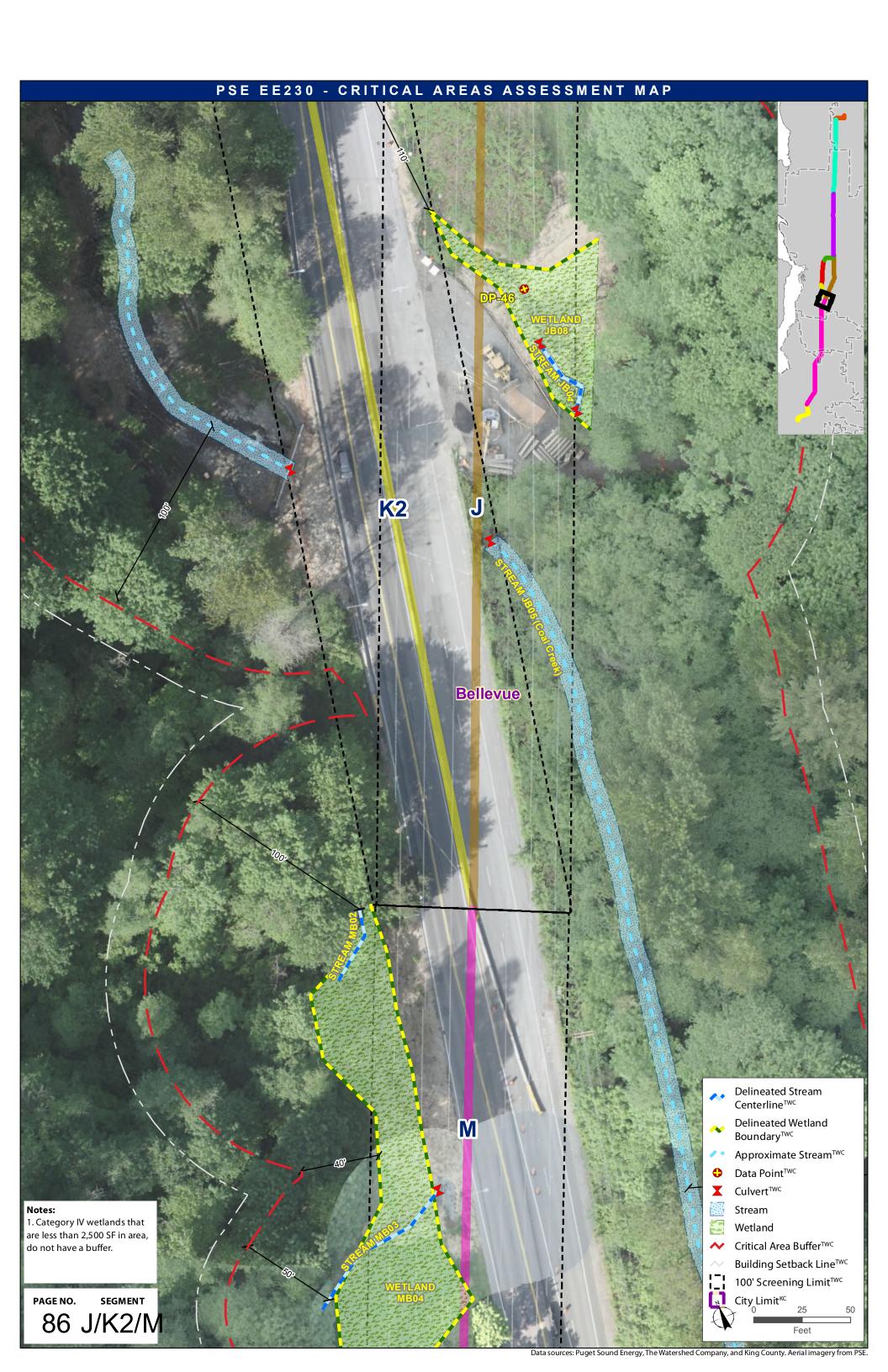


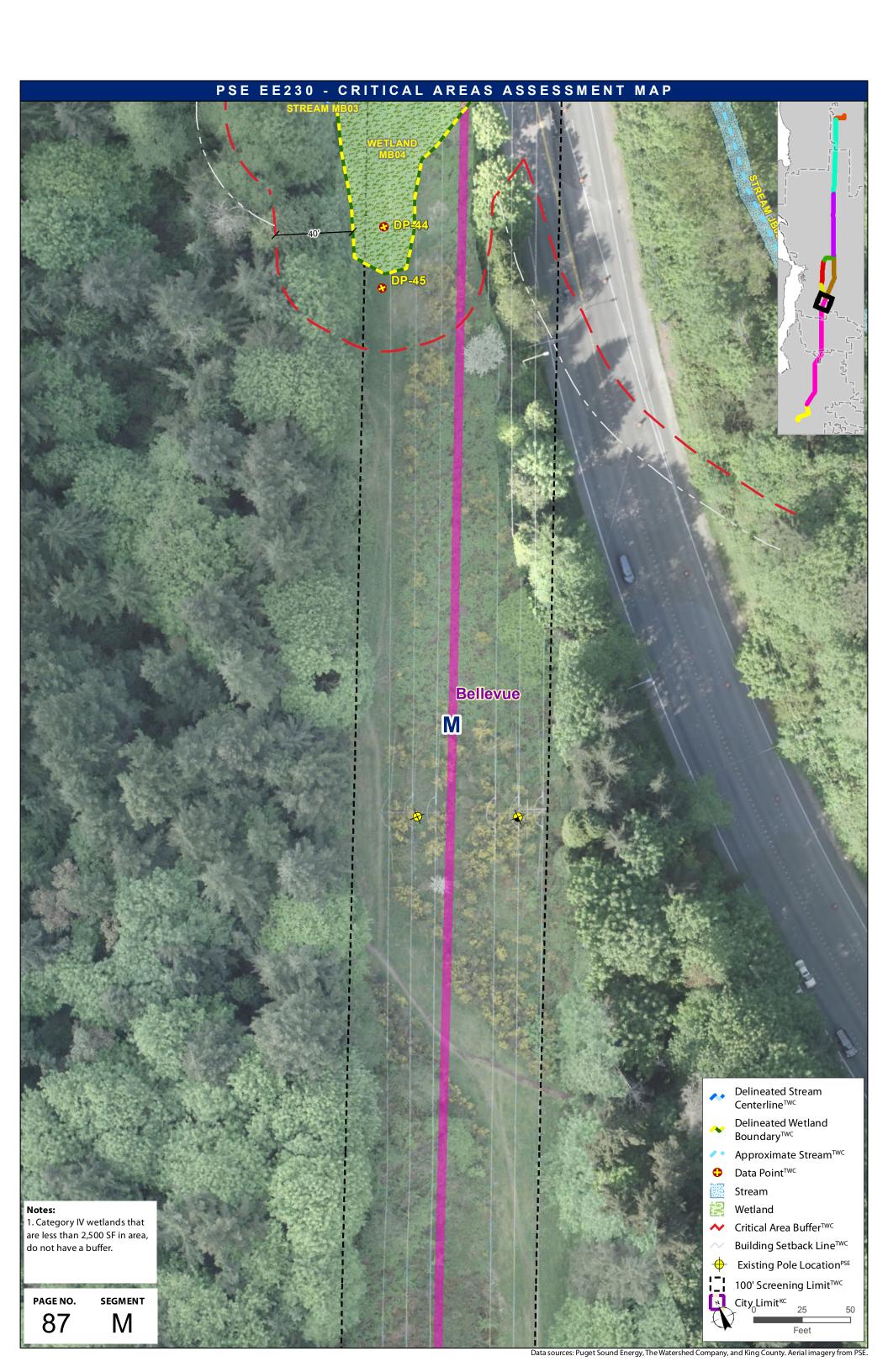


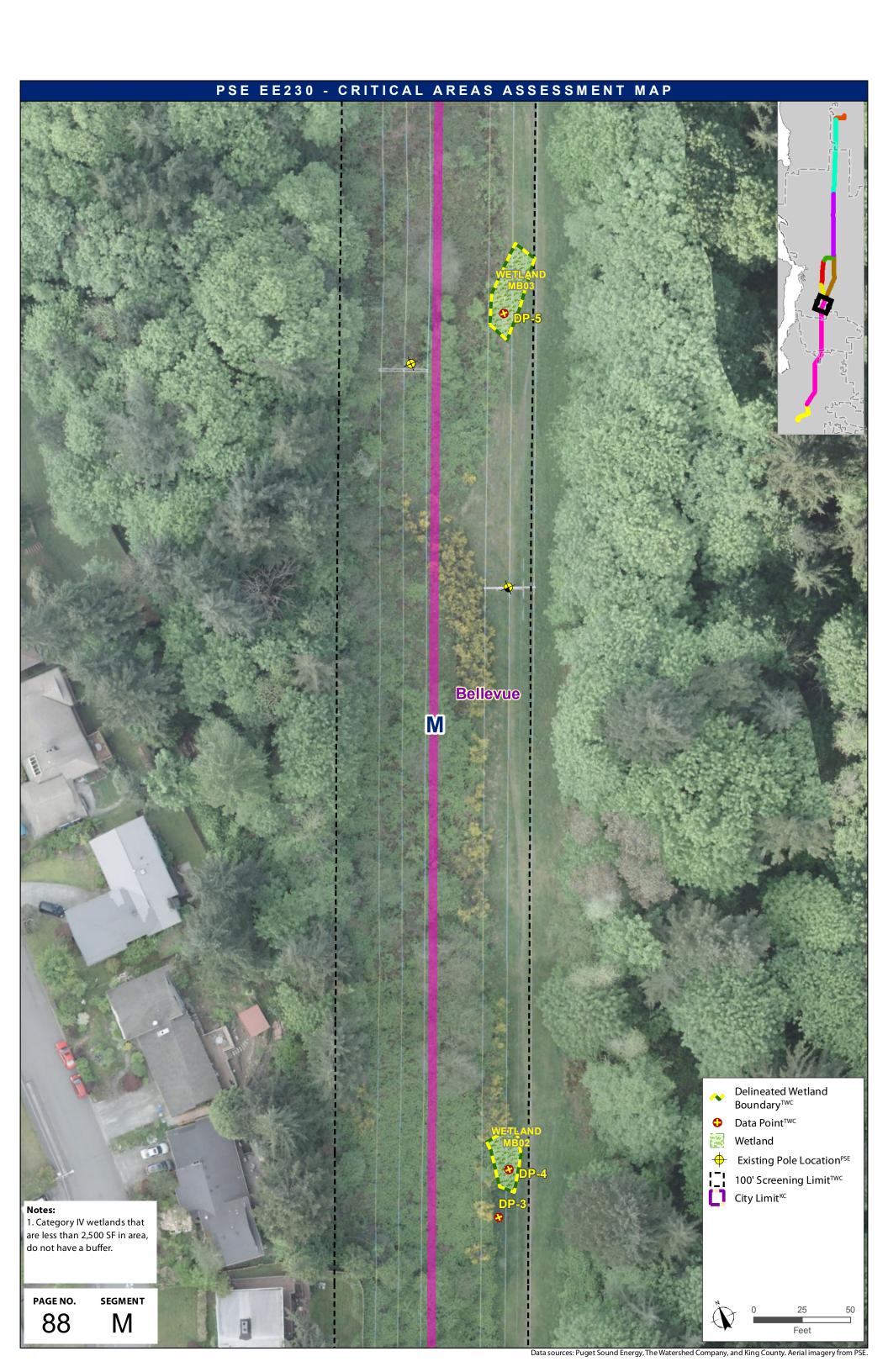


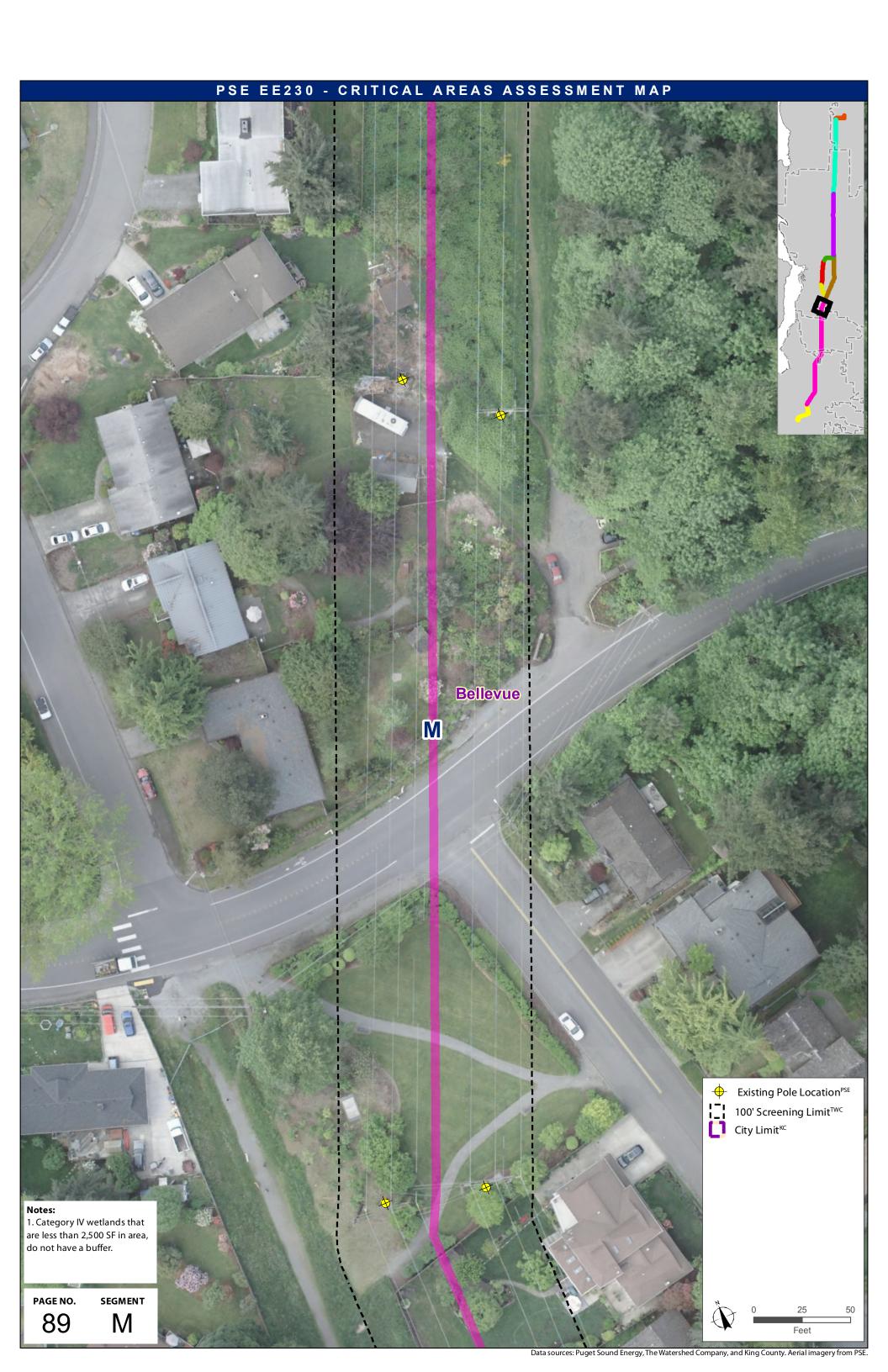


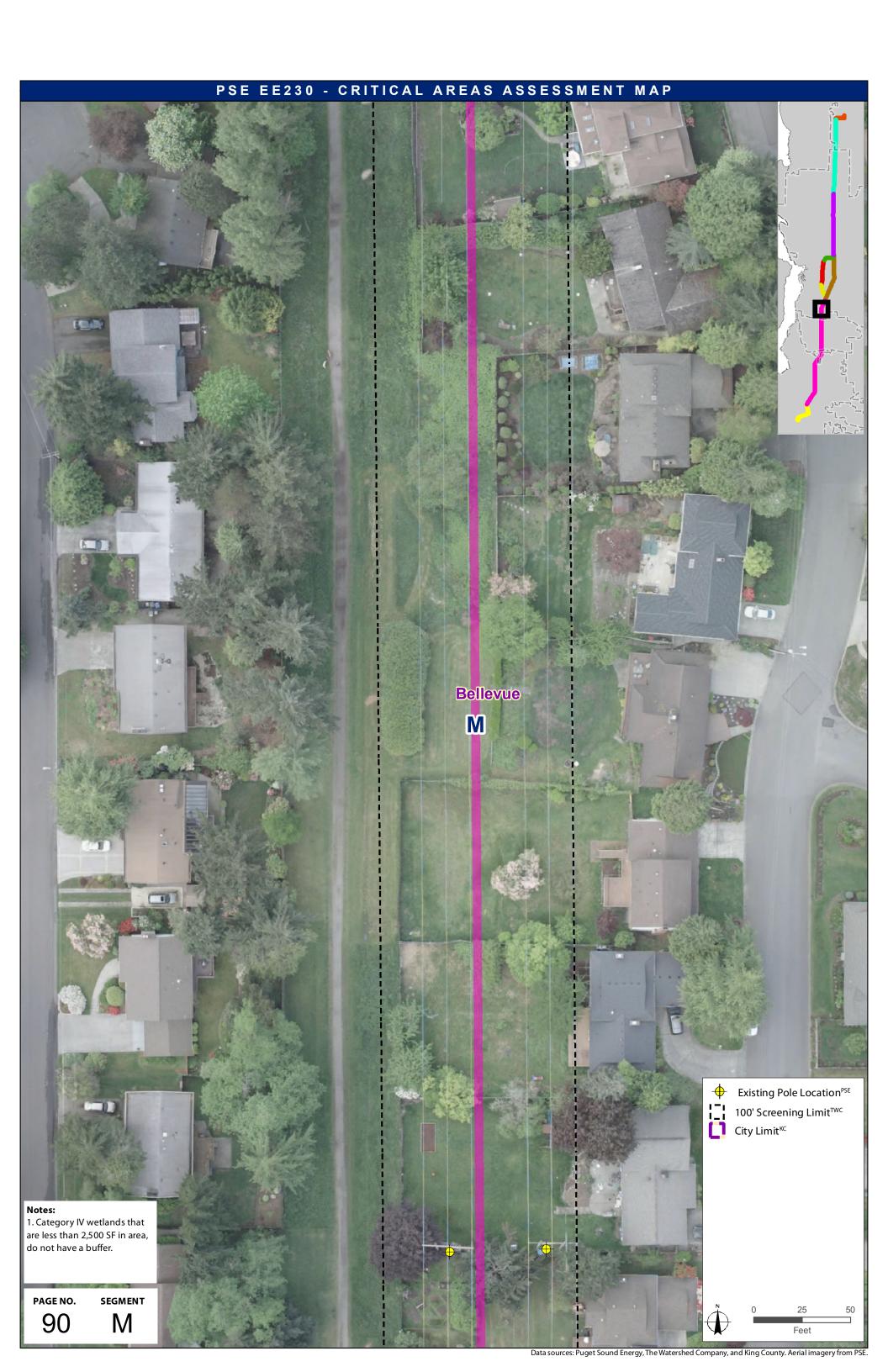


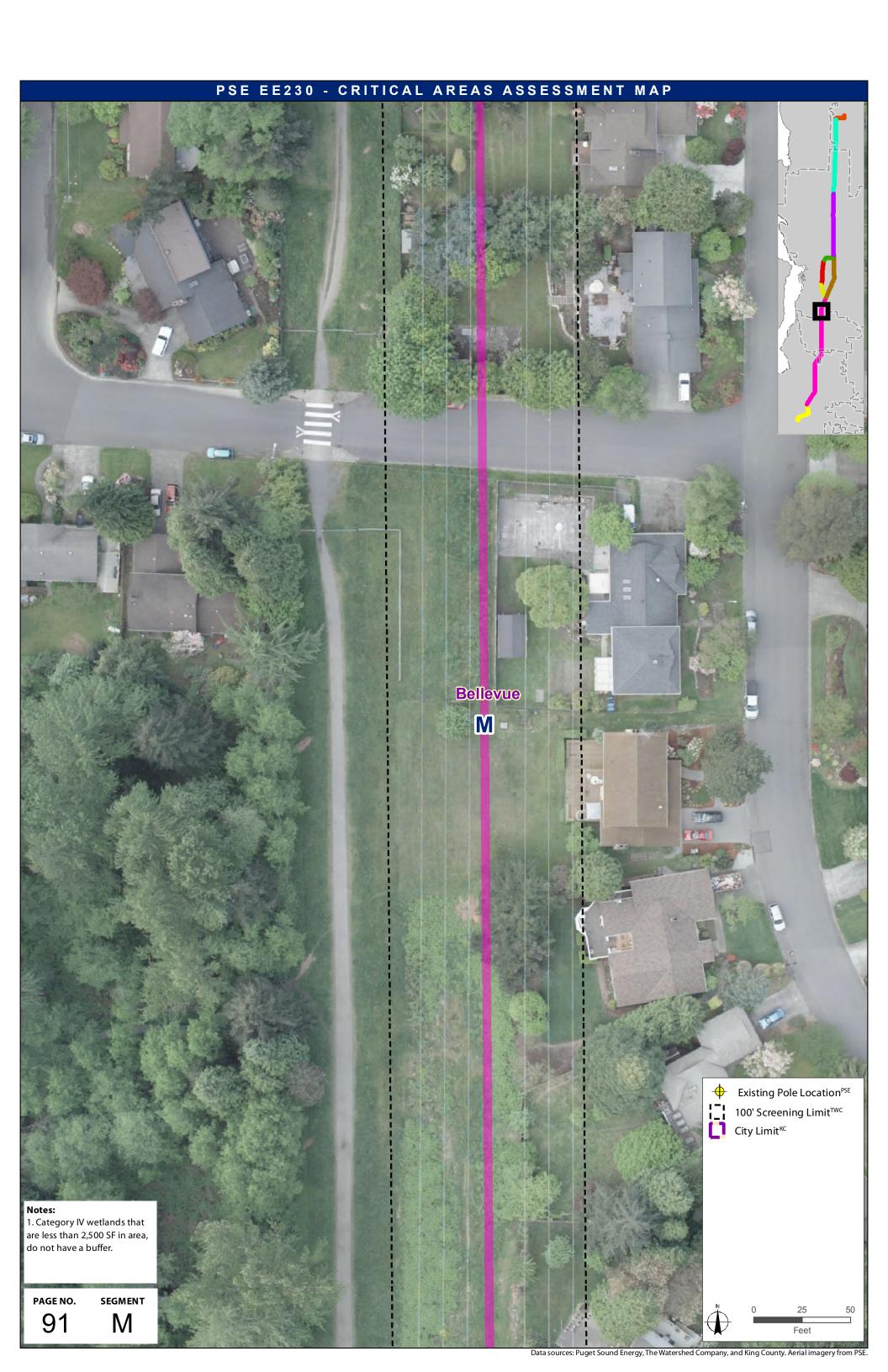






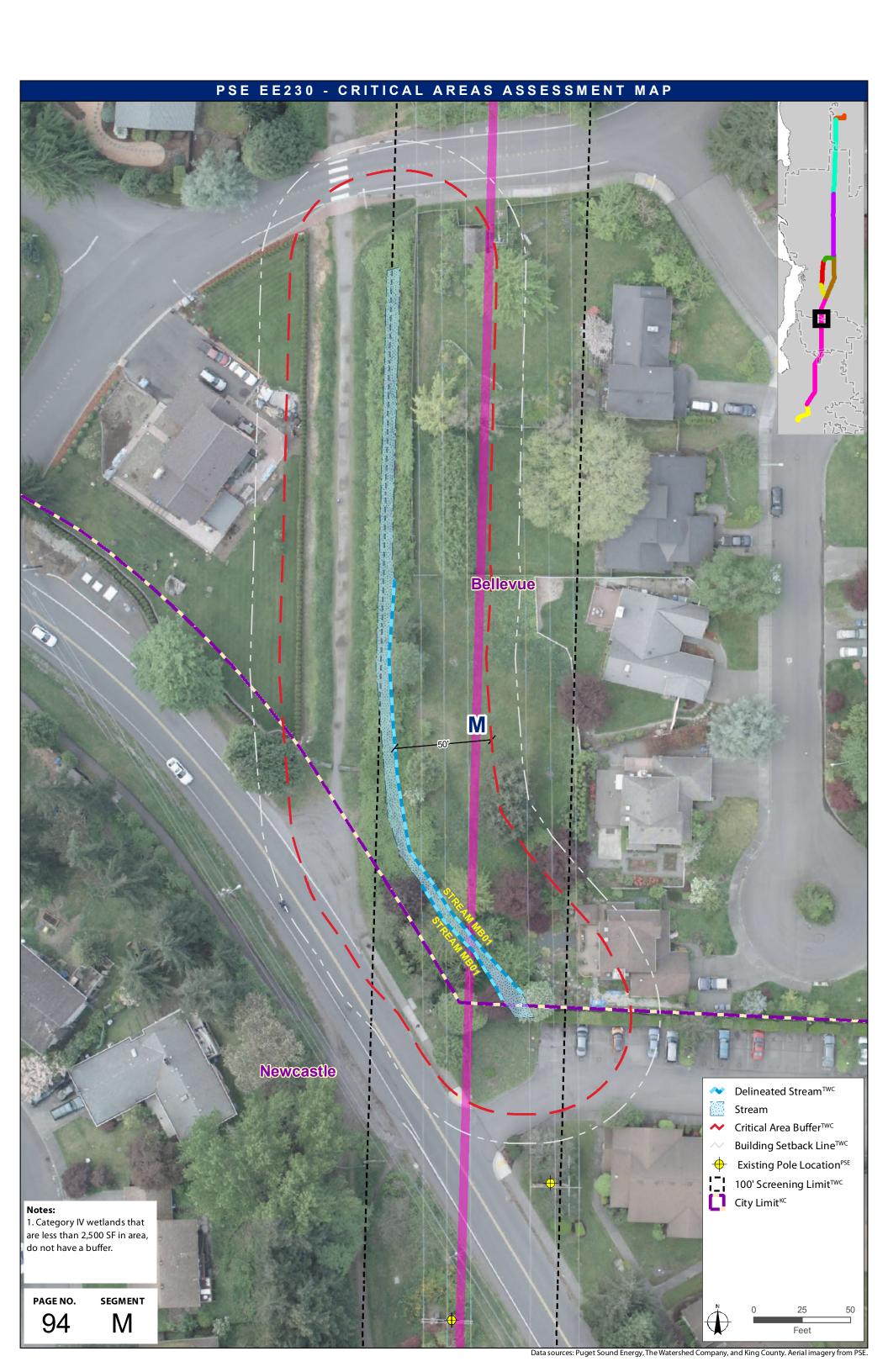












APPENDIX B

Wetland Determination Data Forms



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 1

						<u> </u>			
- · · · · · ·						0 " 0 "			•
Project Site:	Segment M - 63080					Sampling Date:	4/6/2015		
Applicant/Owner:	Puget Sound Ener	gy				Sampling Point:	DP- 1		
Investigator: Sect., Township, Range:	K. Crandall	4N R 05E				City/County: State:	Bellevue WA		
Landform (hillslope, terrace,		411 1 036	<u> </u>	Ol (0/)	.E): Concave	-
, , , , , , , , , , , , , , , , , , , ,	etc): milisiope			Slope (%):	<0	Local relief (concav	e, convex, none	,	
Subregion (LRR): A				Lat:	1	Long:		Datum:	
Soil Map Unit Name: AgC	 Alderwood gravel 	ly sandy loam	, 8-15%	slopes		NWI classification:	NA		
Are climatic/hydrologic condi	tions on the site typical f	or this time of ye	ar?	⊠ Yes [☐ No	(If no, explain in rer	marks.)		
Are "Normal Circumstances"	present on the site?			⊠ Yes [☐ No				
Are Vegetation□, Soil □, or		•				//f		2	
Are Vegetation□, Soil □, or	Hydrology naturally p	oroblematic				(If needed, explain	any answers in F	Remarks.)	
SUMMARY OF FINDING	S – Attach site man	showing sam	nlina pa	oint locatio	ns. trans	sects, important fo	eatures, etc.		
				Jiiit io outio	no, mane	ooto, important i	<u> </u>		
Hydrophytic Vegetation Pres	ent?	∕es ⊠ No	_						
Hydric Soils Present?	`	res ⊠ No	о Ц	Is the Sam	pling Poir	nt within a Wetland?	Yes [$\overline{\lambda}$	No 🗌
Wetland Hydrology Present?	`	Yes ⊠ No	o 🗌				•	<u> </u>	
Remarks: Wetland	MB01								
VEGETATION - Use sci	entific names of pla	ints.							
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina		ndicator	Dominance Tes	st Worksheet		
Option to a form two		Cover	Specie		tatus	North an of Dansin			
1. Salix lasiandra		100		Y	FACW	Number of Domina that are OBL, FAC		3	
2.						Total Number of D			(A)
3.						Species Across Al		4	(D)
4.		100	= Total	Cover		Percent of Domina			(B)
			-			that are OBL, FAC		75	(A /D)
Sapling/Shrub Stratum (Plo	ot size: 3m diam)					·	· —		(A/B)
1. Cornus alba		5		Y	FACW	Prevalence Ind	av Warkshaat		
2.				•	.,		Cover of		Itiply by
3.						OBL species		x 1 =	
4.						FACW species		x 2 =	
5.						FAC species		x 3 =	
		5	= Total	Cover		FACU species		x 4 =	
						UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)					Column totals	(A)	(B)	
1.						Duarrala a a a la	- day D / A		
2. 3.						Prevalence II	ndex = B / A =		
4.						Hydrophytic Ve	agetation India	rators	
5.							test is > 50%	cators	
6.							test is ≤ 3.0 *		
7.							cal Adaptations *	(provide suppo	orting
8.							arks or on a sepa		nung
9.							n-Vascular Plant		
10.							Hydrophytic Ve		ain)
11.							Trydrophlytto Vo	gotation (oxpi	3.1.1)
11.			= Total	Cover		* Indicators of hyd	ric soil and wetla	nd hydrology m	nust be
			-			present, unless dis			1401 50
Woody Vine Stratum (Plot s	size:)								
1. Rubus armeniacu	IS	30		Y	FACU				
2. Solanum dulcama	ara	20		Y	FAC	Hydrophytic Vo		Yes 🔀	No \square
		50	= Total	Cover		Present	17	. 55	.•• Ш
% Bare Ground in Herb Stra	tum: 97								
Remarks:									
Ï									

SOIL								Sampli	ng Point -	- DP-1
Profile Descr	iption: (Descri	be to the d	epth neede	ed to document the	indicator or confir	m the absence o	of indicators.	.)		
	I	Matrix			Redox Featu			,		
Depth (inches)	Color (m		%	Color (moist		Type ¹	Loc ²	т.	ovture	Domorko
(inches) 0-14	7.5YR 2.5/1		100	Color (moist)) %	туре	Loc	Loam	exture	Remarks High organic
										content
¹Type: C=Con	centration, D=D	Depletion, F	RM=Reduce	d Matrix, CS=Covere	d or Coated Sand (Grains ² Loc: Pl	_=Pore Lining	g, M=Matrix		
-		licable to		nless otherwise not	ed.)	_	ors for Probl		ric Soils³	
☐ Histosol (/	•			andy Redox (S5)		_	n Muck (A10)			
☐ Histic Epip	pedon (A2)		□ S	tripped Matrix (S6)		☐ Red	d Parent Mate	erial (TF2)		
☐ Black Hist	ic (A3)			oamy Mucky Mineral	(F1) (except MLR	A 1) 🛛 Oth	er (explain in	remarks)		
☐ Hydrogen	Sulfide (A4)			oamy Gleyed Matrix	(F2)					
□ Depleted	Below Dark Sur	face (A11)	□ D	epleted Matrix (F3)						
☐ Thick Dar	k Surface (A12)		□R	edox Dark Surface (F	F6)					land hydrology must
☐ Sandy Mu	cky Mineral (S1)	□ D	epleted Dark Surface	e (F7)	be prese	ent, unless di	sturbed or pr	oblematic	
_	eyed Matrix (S4)	•		edox Depressions (F	` '					
		•			·					
	yer (if present):									
Туре:						Hydric soil	present?	Yes	\boxtimes	No
Depth (inches):								_	
Primary India Surface v High Wat Saturation Water Ma Sediment Drift Depr Algal Mat Iron Depa Surface S Inundatio (B7) Field Observa	rology Indicatorators (minimum vater (A1) er Table (A2) n (A3) r Deposits (B2) or State (B4) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aei	rial Imager	S W S S S S S S S S		(except MLRA 1, 1) (B13) (F (C1) (B13) (F (C1) (B13) (F (C1) (2, 4A & 4B) (B9)	☐ Wate ☐ Drair ☐ Dry-5 ☐ Satu ☒ Geor ☐ Shall ☒ FAC ☐ Rais ☐ Frost	nage Pattern: Season Wate ration Visible morphic Posi low Aquitard -Neutral Test ed Ant Moun t-Heave Hum	eaves (B9) (s (B10) er Table (C2 e on Aerial II ition (D2) (D3) t (D5) ids (D6) (LR	MLRA 1, 2, 4A & 4B) (1) (2) (2) (3) (4) (5) (7) (7) (7) (8) (8) (9) (9) (9)
Water Table F	resent?	Yes 🗵	No 🗆	Depth (in):	7" BGS	Wetland Hydro	ology Preser	nt? Ye	es 🔀	No 🗍
Saturation Pre (includes capi		Yes ⊠	No 🗆	Depth (in):	0" BGS					🗀
Describe Reco	orded Data (stre	eam gauge	, monitoring	well, aerial photos, p	revious inspections	s), if available:				
Remarks:	BGS = belov	w ground	surface							
		=								
ı										



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 2

Designat City	Commont M CO	0000020				Committee Date	4/C/004E		
Project Site:	Segment M - 63					Sampling Date:	4/6/2015		
Applicant/Owner:	Puget Sound Er	nergy				Sampling Point:	DP- 2		
Investigator:	K. Crandall					City/County:	Bellevue		
Sect., Township, Range:	S 28 T	24N R	05E			State:	WA		
Landform (hillslope, terrace,	etc): Hillslope				Slope (%): 5-10	Local relief (concar	ve, convex, none):	None	
Subregion (LRR): A					Lat:	Long:		Datum:	
	Alalamira a al musi		l 0	450/			NI A		
Soil Map Unit Name: AgC					-	NWI classification:	NA		
Are climatic/hydrologic cond	itions on the site typic	al for this time	of year?	Σ	🛚 Yes 🗌 No	(If no, explain in re	marks.)		
Are "Normal Circumstances"	present on the site?			\triangleright	🛚 Yes 🗌 No				
Are Vegetation□, Soil □, or	Hydrology 🗆 signific	antly disturbe	d?						
Are Vegetation□, Soil □, or						(If needed, explain	any answers in Rer	narks.)	
	,	, p							
SUMMARY OF FINDING	SS - Attach site m	ap showing	g samplir	ng po	int locations, trans	sects, important f	eatures, etc.		
					·	-			
Hydrophytic Vegetation Pres	sent?	Yes 🛚							
Hydric Soils Present?		Yes 🗆	No	\boxtimes	Is the Sampling Poi	nt within a Wetland	? Yes Γ] No	
Wetland Hydrology Present?)	Yes	No	\boxtimes]	
Remarks: Wetland	MB01 out-pit								
Nemarks. Wetland	wibo i out-pit								
VEGETATION – Use sc	ientific names of	plants.				_			
Tree Stratum (Plot size: 5m	diam.)	Absolu	te % D	omina	nt Indicator	Dominance Te	st Worksheet		
		Cover	S	pecies	? Status				
1.						Number of Domin		1	
2.						that are OBL, FAC	CW, or FAC:	1	(A)
3.						Total Number of D	Dominant		` ′
4.						Species Across A	Il Strata:	1	(B)
				Total C	over	Percent of Domina	ant Species		(B)
						that are OBL, FAC		100	
						1			(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)								
1.						Prevalence Inc	lex Worksheet		
2.						Total %	Cover of	Multip	ly by
3.						OBL species		x 1 =	
4.						FACW species		x 2 =	
5.						FAC species		x 3 =	
			=	Total C	over	FACU species		x 4 =	
						UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam \					Column totals	(A)	(B)	
,		40	^		/ FAC*	Column totals	(A)	(D)	
1. Various field gras		10		`		- B	la dan D / A		
2. Taraxacum officii	naie	7		- 1	N FACU	Prevalence i	ndex = B / A =		
3.						<u> </u>			
4.							egetation Indicat	iors	
5.							test is > 50%		
6.						☐ Prevalence	test is ≤ 3.0 *		
7.						Morphologi	cal Adaptations * (pr	rovide supportir	ng
8.							arks or on a separat		3
						-	on-Vascular Plants *	0.1001)	
9.									
10.						☐ Problemation	Hydrophytic Veget	ation * (explain))
11.									
		10	7 =	Total C	over	* Indicators of hyd	Iric soil and wetland	hydrology mus	st be
						present, unless di	sturbed or problema	itic	
Woody Vine Stratum (Plot	size:)								
1.						1			
2.						Hydrophytic V	enetation	<u> </u>	
:				Total C		Presen		s 🔀 N	No
			_		over				
			=	Total C	over	l resem			
			=	Total	cover	T TOSCII			
% Bare Ground in Herb Stra	tum:	_	= 	Total C	cover	T TOSCII			
% Bare Ground in Herb Stra *Remarks: *presumed			=	- Total C	over	rescii			
			=	Total C	over	T TOSCII			

OIL								Sampling Point – I	DP-2
Profile Desc	ription: (Describ	e to the d	epth nee	ded to document the indica	tor or confir	m the absence of	f indicators	i.)	
Depth	i i	Matrix			Redox Featu	res		Ī	
(inches)	Color (mo		%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 2/2	,,,,,	100	Goid: (inidiat)	,,	. , p o	200	Gravelly sandy loan	
4-8+	10YR 3/3		100					Gravelly loamy sand	d
									Compact with cobbles
¹ Type: C=Co	ncentration, D=De	epletion, R	M=Reduc	ced Matrix, CS=Covered or C	oated Sand (Grains ² Loc: PL	=Pore Linin	g, M=Matrix	
Hydric Soil I	ndicators: (Appl	licable to a	all LRRs,	unless otherwise noted.)		Indicato	rs for Probl	lematic Hydric Soils ³	
Histosol (Sandy Redox (S5)			Muck (A10	-	
☐ Histic Ep	ipedon (A2)			Stripped Matrix (S6)			Parent Mat		
☐ Black His				Loamy Mucky Mineral (F1) (except MLR		er (explain ir	` '	
	n Sulfide (A4)			Loamy Gleyed Matrix (F2)	ожоо р е		or (oxpiairi ii	Tromanio,	
		(111)							
•	Below Dark Surf	ace (ATT)		Depleted Matrix (F3)		31			
	rk Surface (A12)			Redox Dark Surface (F6)				ohytic vegetation and wetla isturbed or problematic	ina nyarology musi
=	ucky Mineral (S1)			Depleted Dark Surface (F7)		ne biese	iii, uiiicoo U	otarsea or problematic	
□ Sandy Gl □	leyed Matrix (S4)			Redox Depressions (F8)					
Restrictive La	ayer (if present):								
Туре:						Hydric soil	nresent?	Yes	No 🔀
	`					Hydric soil	presenti	res	NO 🔼
Jeptii (iiiciie.	s):								
YDROLOG									
Wetland Hyd	drology Indicator		u ira de a la	cole all that annh i).			Sacandani	Indicators (2 or more requi	iro di
Wetland Hyd Primary Indi	drology Indicator icators (minimum			eck all that apply):	- Conform (DO		-	Indicators (2 or more requ	
Wetland Hyd Primary Inda	Irology Indicator icators (minimum water (A1)			Sparsely Vegetated Concave	· ·		☐ Wat	er-Stained Leaves (B9) (M	
Wetland Hyd Primary Indi □ Surface □ High Wa	drology Indicator icators (minimum water (A1) tter Table (A2)			Sparsely Vegetated Concave Water-Stained Leaves (exce	· ·		☐ Wat	er-Stained Leaves (B9) (M nage Patterns (B10)	
Wetland Hyd Primary Indi □ Surface □ High Wa	drology Indicator icators (minimum water (A1) tter Table (A2)			Sparsely Vegetated Concave	· ·		☐ Wat	er-Stained Leaves (B9) (M	
Wetland Hyd Primary Inda □ Surface □ High Wa □ Saturatio	drology Indicator icators (minimum water (A1) tter Table (A2)			Sparsely Vegetated Concave Water-Stained Leaves (exce	· ·		☐ Wat	er-Stained Leaves (B9) (M nage Patterns (B10)	LRÁ 1, 2, 4A & 4B
Wetland Hyc Primary Inda □ Surface □ High Wa □ Saturatio □ Water M	drology Indicator icators (minimum water (A1) tter Table (A2) on (A3)			Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11)	· ·		☐ Wat ☐ Drai ☐ Dry- ☐ Satu	er-Stained Leaves (B9) (M) nage Patterns (B10) Season Water Table (C2)	LRÁ 1, 2, 4A & 4B
Wetland Hyden Primary Indicates Surface High Wa Saturation Water M ☐ Sedimer	trology Indicator icators (minimum water (A1) ter Table (A2) on (A3) arks (B1)			Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13)	pt MLRA 1, 2	2, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo	er-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) ıration Visible on Aerial Ima	LRÁ 1, 2, 4A & 4B
Wetland Hyc Primary Ind. Surface High Wa Saturatic Water M Sedimer Drift Dep	trology Indicator icators (minimum water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2)			Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	pt MLRA 1, 2	2, 4A & 4B) (B9)	 □ Wat □ Drai □ Dry- □ Satu □ Geo □ Shat 	er-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) iration Visible on Aerial Ima morphic Position (D2)	LRÁ 1, 2, 4A & 4B
Wetland Hyc Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	trology Indicator icators (minimum water (A1) ter Table (A2) on (A3) tarks (B1) tot Deposits (B2) posits (B3)			Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along	pt MLRA 1, 2 g Living Roots (24)	2, 4A & 4B) (B9)	 □ Wat □ Drai □ Dry- □ Satu □ Geo □ Shai □ FAC 	er-Stained Leaves (B9) (M nage Patterns (B10) Season Water Table (C2) tration Visible on Aerial Ima morphic Position (D2) llow Aquitard (D3)	LRÅ 1, 2, 4A & 4B agery (C9)
Wetland Hyc Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	trology Indicator icators (minimum water (A1) ther Table (A2) on (A3) tarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)			Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C	pt MLRA 1, 2 g Living Roots C4) ed Soils (C6)	2, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Shai ☐ FAC ☐ Rais	er-Stained Leaves (B9) (Minage Patterns (B10) Season Water Table (C2) Irration Visible on Aerial Imamorphic Position (D2) Illow Aquitard (D3) -Neutral Test (D5)	LRÅ 1, 2, 4A & 4B agery (C9)
Wetland Hyc Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	trology Indicator icators (minimum water (A1) ther Table (A2) on (A3) tarks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one req		Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till	pt MLRA 1, 2 g Living Roots C4) ed Soils (C6)	2, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Shat ☐ FAC ☐ Rais	er-Stained Leaves (B9) (Minage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Imamorphic Position (D2) Illow Aquitard (D3) Inheat Ant Mounds (D6) (LRR	LRÅ 1, 2, 4A & 4B agery (C9)
Wetland Hyc Primary Ind. Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic (B7)	drology Indicator icators (minimum water (A1) ther Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeri	of one req		Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stressed Plants (pt MLRA 1, 2 g Living Roots C4) ed Soils (C6)	2, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Shat ☐ FAC ☐ Rais	er-Stained Leaves (B9) (Minage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Imamorphic Position (D2) Illow Aquitard (D3) Inheat Ant Mounds (D6) (LRR	LRÅ 1, 2, 4A & 4B agery (C9)
Wetland Hyc Primary Ind. Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic (B7)	drology Indicator icators (minimum water (A1) ther Table (A2) on (A3) larks (B1) ht Deposits (B2) cosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aeri	of one req		Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stressed Plants (Other (explain in remarks)	pt MLRA 1, 2 g Living Roots C4) ed Soils (C6)	2, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Shat ☐ FAC ☐ Rais	er-Stained Leaves (B9) (Minage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Imamorphic Position (D2) Illow Aquitard (D3) Inheat Ant Mounds (D6) (LRR	LRÅ 1, 2, 4A & 4B agery (C9)
Wetland Hyc Primary Inde Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic (B7)	drology Indicator icators (minimum water (A1) ther Table (A2) on (A3) tarks (B1) to Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerications	ial Imagery		Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stressed Plants (Other (explain in remarks) Depth (in):	pt MLRA 1, 2 g Living Roots C4) ed Soils (C6)	e, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Shai ☐ FAC ☐ Rais	er-Stained Leaves (B9) (Minage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Imamorphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5) Ided Ant Mounds (D6) (LRR Interval Imamorphic Position (D5)	LRA 1, 2, 4A & 4B agery (C9) A)
Wetland Hyc Primary Ind. Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic (B7) Field Observ Surface Water Table Saturation Pr	drology Indicator icators (minimum water (A1) ther Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerications Present?	of one req	No No	Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stressed Plants (Other (explain in remarks)	pt MLRA 1, 2 g Living Roots C4) ed Soils (C6)	2, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Shai ☐ FAC ☐ Rais	er-Stained Leaves (B9) (Minage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Imamorphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5) Ided Ant Mounds (D6) (LRR Interval Imamorphic Position (D5)	LRÅ 1, 2, 4A & 4B agery (C9)
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Wetland Hyc Primary Ind. Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic (B7) Field Observ Surface Water Table Is Saturation Pr (includes cap	drology Indicator icators (minimum water (A1) ther Table (A2) on (A3) tarks (B1) arks (B1) to Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeri vations ar Present?	ial Imagery Yes Yes Yes Yes Yes	No No No	Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stressed Plants (i Other (explain in remarks) Depth (in): Depth (in):	pt MLRA 1, 2 g Living Roots 24) ed Soils (C6) D1) (LRR A)	e, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Shai ☐ FAC ☐ Rais	er-Stained Leaves (B9) (Minage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Imamorphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5) Ided Ant Mounds (D6) (LRR It-Heave Hummocks	LRA 1, 2, 4A & 4B agery (C9) A)
Wetland Hyc Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic (B7) Field Observ Surface Water Table Saturation Pr (includes cap	drology Indicator icators (minimum water (A1) ther Table (A2) on (A3) tarks (B1) arks (B1) to Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeri vations ar Present?	ial Imagery Yes Yes Yes Yes Yes	No No No	Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stressed Plants (i Other (explain in remarks) Depth (in): Depth (in):	pt MLRA 1, 2 g Living Roots 24) ed Soils (C6) D1) (LRR A)	e, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Shai ☐ FAC ☐ Rais	er-Stained Leaves (B9) (Minage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Imamorphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5) Ided Ant Mounds (D6) (LRR It-Heave Hummocks	LRA 1, 2, 4A & 4B agery (C9) A)
Wetland Hyc Primary Ind. Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic (B7) Field Observ Surface Water Table Is Saturation Pr (includes cap	drology Indicator icators (minimum water (A1) ther Table (A2) on (A3) tarks (B1) arks (B1) to Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeri vations ar Present?	ial Imagery Yes Yes Yes Yes Yes	No No No	Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stressed Plants (i Other (explain in remarks) Depth (in): Depth (in):	pt MLRA 1, 2 g Living Roots 24) ed Soils (C6) D1) (LRR A)	e, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Shai ☐ FAC ☐ Rais	er-Stained Leaves (B9) (Minage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Imamorphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5) Ided Ant Mounds (D6) (LRR It-Heave Hummocks	LRA 1, 2, 4A & 4B agery (C9) A)
Wetland Hyc Primary Ind. Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic (B7) Field Observ Surface Water Table Saturation Pr (includes cap	drology Indicator icators (minimum water (A1) ther Table (A2) on (A3) tarks (B1) arks (B1) to Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeri vations ar Present?	ial Imagery Yes Yes Yes Yes Yes	No No No	Sparsely Vegetated Concave Water-Stained Leaves (exce Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (C Recent Iron Reduction in Till Stunted or Stressed Plants (i Other (explain in remarks) Depth (in): Depth (in):	pt MLRA 1, 2 g Living Roots 24) ed Soils (C6) D1) (LRR A)	e, 4A & 4B) (B9)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Geo ☐ Shai ☐ FAC ☐ Rais	er-Stained Leaves (B9) (Minage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Imamorphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5) Ided Ant Mounds (D6) (LRR It-Heave Hummocks	LRA 1, 2, 4A & 4E agery (C9) A)



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 3

D : .00					0 " 0 .	4/0/0045		
Project Site:	Segment M - 212				Sampling Date:	4/8/2015		
Applicant/Owner:	Puget Sound En				Sampling Point:	DP- 3		
Investigator:	K. Crandall, R. V				City/County:	Bellevue		
Sect., Township, Range:	S 21 T	24N R 05E	•		State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 10	Local relief (concave	e, convex, none):	None	
Subregion (LRR): A				Lat:	Long:		Datum:	
Soil Map Unit Name: AkF	- Alderwood and	Kitsap soils, ver	v steep	•	NWI classification:	NA		
Are climatic/hydrologic condi			•	⊠ Yes □ No	(If no, explain in rem			
Are "Normal Circumstances"		arior tino time or ye		⊠ Yes □ No	(II 110, explain in ren	iaino.)		
Are Vegetation□, Soil □, or	•	antly disturbed?	L	∆ 165 □ 1N0				
Are Vegetation□, Soil □, or		-			(If needed, explain a	nv answers in Re	marks.)	
Are vegetation , Soil , or	Hydrology 🗆 Haturali	ly problematic			(
SUMMARY OF FINDING	S - Attach site m	ap showing san	pling po	oint locations, trans	sects, important fe	atures, etc.		
		🖂			•			
Hydrophytic Vegetation Pres	ent?	Yes 🗵 N						
Hydric Soils Present?		Yes □ N	o 🗵	Is the Sampling Poi	nt within a Wetland?	Yes	No.	\boxtimes
Wetland Hydrology Present?		Yes 🗵 N	o 🗌				_	
Remarks: Out-pit ne	ear Wetlands MB0)2 and MB03						
-								
VEGETATION – Use sci	entific names of p	plants.						
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant Indicator	Dominance Tes	t Worksheet		
`		Cover	Specie	s? Status				
1.					Number of Domina		2	
2.					that are OBL, FACV	V, or FAC:		(A)
3.					Total Number of Do		2	
4.					Species Across All	Strata:	2	(B)
			= Total (Cover	Percent of Dominar		400	_
			_		that are OBL, FACV	V, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)							_ ` ′
1.					Prevalence Inde	x Worksheet		
2.					Total % (Multiply	y by
3.					OBL species		x 1 =	
4.					FACW species		x 2 =	
5.					FAC species		x 3 =	
			= Total (Cover	FACU species		x 4 =	
			_		UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)				Column totals	(A)	(B)	
Phalaris arundina	•	100		Y FACW	o o i a i i i i i i i i i i i i i i i i	(* ')	(D)	
2. Unknown grass	cea	50		Y FAC*	Prevalence In	dev - B / A -		
3.				i iAO	1 TOVAICTICE III	ucx = D / A =		
4.					Hydrophytic Ve	netation Indica	tors	
5.					Dominance t		10.0	
					☐ Prevalence to			
6.							vanida armandia	~
7.					 	al Adaptations * (p		g
8.					→	rks or on a separa	·	
9.					☐ Wetland Non	-Vascular Plants '	r	
10.					☐ Problematic	Hydrophytic Vege	tation * (explain)	
11.								
		150	= Total (Cover	* Indicators of hydri			be
		,	_		present, unless dist	urbed or problema	atic	
Woody Vine Stratum (Plot s								
(Rubus armeniac	us growing upslo	pe						
of wetland area)					11. 1			
2.					Hydrophytic Ve Present		es 🔀 No	o 🗌
		<u> </u>	= Total (Cover	Fresent	•		
			_					
% Bare Ground in Herb Strat	tum: 97							
Remarks: *Presumed	FAC:	<u> </u>			<u> </u>	<u> </u>		
i resumeu								

SOIL Sampling Point - DP-3 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth (inches) Color (moist) Color (moist) Type¹ Texture Remarks Loc² 0-8+ 10YR 3/2 10YR 4/6 С Gravelly sandy loam Compact М with cobbles ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) ☐ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present):

Hydric soil present?

Yes

Remarks:

Type: Compact fill material

BGS = below ground surface

Depth (inches): ~8" BGS

Wetland Hydrology Indicate								•	
Primary Indicators (minimur Surface water (A1)	n or o	ne requir	rea: cr		11 2/	oncave Surface (Do\	Seco	ndary Indicators (2 or more required): Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
` '				, ,	J	`	,	_	(
☐ High Water Table (A2)						(except wilka	I, 2, 4A & 4B) (B9)		Drainage Patterns (B10)
Saturation (A3)				Salt Crus	, ,	(5.40)			Dry-Season Water Table (C2)
☐ Water Marks (B1)					nvertebrates	` ,			Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)			Ш	, ,	n Sulfide Odo	` '		\boxtimes	Geomorphic Position (D2)
☐ Drift Deposits (B3)				Oxidized	Rhizosphere	s along Living Ro	ots (C3)		Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)				Presence	e of Reduced	Iron (C4)		\boxtimes	FAC-Neutral Test (D5)
☐ Iron Deposits (B5)				Recent I	ron Reduction	in Tilled Soils (C	6)		Raised Ant Mounds (D6) (LRR A)
□ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A)						Frost-Heave Hummocks			
☐ Inundation Visible on Ae (B7)	rial Im	nagery		Other (ex	xplain in rema	rks)			
Field Observations									
Surface Water Present?	Yes				Depth (in):				
Water Table Present?	Yes		No	\boxtimes	Depth (in):		Wetland Hydro	ology I	Present? Yes No
Saturation Present? (includes capillary fringe)	Yes		No		Depth (in):	0-8 BGS			
Describe Recorded Data (stre	eam g	jauge, m	onitor	ing well, a	erial photos, p	revious inspection	ns), if available:		
Remarks: BGS - below	N ar	aund ei	ITTOC						
Remarks: BGS = below	w gr	ound sı	urtac	е					
Remarks: BGS = below	w gr	ound sı	urtac	е					
Remarks: BGS = below	w gr	ound sı	urtac	е					

X

No



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DP- 4

Project Site:	Segment M - 21240	59001			Sampling Date:	4/8/2015		
Applicant/Owner:	Puget Sound Energ				Sampling Point:	DP- 4		
Investigator:	K. Crandall, R. Whit				City/County:	Bellevue		
•	S 21 T 24				, ,	WA		
Sect., Township, Range:		N R 05E			State:			
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): <5	Local relief (concav	re, convex, none): (Concave	
Subregion (LRR): A				Lat:	Long:		Datum:	
Soil Map Unit Name: AkF	- Alderwood and Kite	san soils, very st	een		NWI classification:	NΔ		
				7 V				
Are climatic/hydrologic condi		or this time of year?	Σ		(If no, explain in rer	narks.)		
Are "Normal Circumstances"	•		\triangleright	☑ Yes □ No				
Are Vegetation□, Soil □, or	Hydrology ☐ significantly	y disturbed?						
Are Vegetation□, Soil □, or	Hydrology ☐ naturally pr	roblematic			(If needed, explain	any answers in Rem	arks.)	
SUMMARY OF FINDING	S – Attach site map	showing samplir	ng po	int locations, trans	sects, important fo	eatures, etc.		
Hydrophytic Vegetation Pres	ont? V	es 🗵 No						
, , , ,								_
Hydric Soils Present?	Ye	es 🗵 No		Is the Sampling Poi	nt within a Wetland?	Yes 🔀	No	
Wetland Hydrology Present?	Y	es 🗵 No						_
Remarks: Wetland	MB02							
VEGETATION – Use sci	entific names of plan	nts						
TEGETIANIGH GGG GG.	ontino namos or piar							
Tree Stretum (Diet size: Em	diam \	Absolute % D		nt Indiantar	Daminana Ta	4 \Mankaka		
Tree Stratum (Plot size: 5m	diam.)		omina pecies		Dominance Tes	st worksneet		
1.		COVEI 3	pecies	s: Status	Number of Domina	ant Species		
2.					that are OBL, FAC		2	(4)
								_ (A)
3.					Total Number of D Species Across Al		2	
4.			T . 10		<u>'</u>			_ (B)
		=	Total C	over	Percent of Domina		100	
					that are OBL, FAC	W, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)							_
1.					Prevalence Ind	ex Worksheet		
2.						Cover of	Multiply	bv
3.					OBL species		x 1 =	
4.					FACW species		x 2 =	
5.					FAC species		x 3 =	
3.			Total C	:over	FACU species		x 4 =	
			Total C	JOVE1	UPL species		x 4 =	
Hark Ctuature (Dist size of the	-!: \				<u> </u>	(A)	-	
Herb Stratum (Plot size: 1m	,	400		/ FAOW	Column totals	(A)	(B)	
1. Phalaris arundina		100		Y FACW	4	. 5/4		
2. Other mowed gra	sses	50		Y FAC*	Prevalence II	ndex = B / A =		
3.								
4.						egetation Indicate	ors	
5.						test is > 50%		
6.					☐ Prevalence	test is ≤ 3.0 *		
7.					Morphologic	al Adaptations * (pro	vide supporting	
8.						arks or on a separate		
					_	n-Vascular Plants *	,	
9.							ti * (l-i-)	
10.					☐ Problematic	Hydrophytic Vegeta	ion " (explain)	
11.								
		150 =	Total C	Cover		ric soil and wetland h		Эе
					present, unless dis	turbed or problemati	С	
Woody Vine Stratum (Plot s	size:)				4			
1.								
2.					Hydrophytic Vo	egetation	N	
		=	Total C	Cover	Present		∑ No	Ш
% Bare Ground in Herb Stra	tum: 97							
5 ,								
*Presumed	FAC							
I								

OIL							Sampling Point - DF	P-4
Profile Descripti	ion: (Describe to the	depth need	ed to document the ind	icator or con	firm the absence o	f indicators		
Pepth	Matrix	-	1	Redox Fea			,	
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
)-4 1	10YR 2/2	100					Gravelly sandy loam	Roots
4-8 1	I0YR 4/2	80	7.5YR 4/6	20	С	М	Gravelly loamy sand	
							with cobbles	
Type: C=Concer	ntration, D=Depletion,	I RM=Reduce	d Matrix, CS=Covered o	r Coated Sand	d Grains ² Loc: Pl	_=Pore Linir	ng, M=Matrix	
Hydric Soil Indic		-	Inless otherwise noted. Sandy Redox (S5)	.)		ors for Prob	olematic Hydric Soils ³	
☐ Histosof (AT)☐ Histic Epiped			Stripped Matrix (S6)			Parent Ma	•	
☐ Histic Epiped☐ Black Histic (oamy Mucky Mineral (F1	1) (except ML		er (explain i	,	
☐ Hydrogen Su	,		oamy Gleyed Matrix (F2			ei (expiaii. i	III IEInarkoj	
	ow Dark Surface (A11)		Depleted Matrix (F3)	,				
☐ Depleted Bell ☐ Thick Dark S	, ,		Redox Dark Surface (F6)		³ Indicate	ore of hydro	phytic vegetation and wetland	hydrology mu
 ☐ Thick Dark 3 ☐ Sandy Mucky 	` '	_	Depleted Dark Surface (F6)	71			disturbed or problematic	i Hydrology ma
Sandy MuckySandy Gleye	, , ,	_	Redox Depressions (F8)	7)	•	,		
			redox Depressions (i o)					
Restrictive Layer			·					
Гуре: Compact fi	II material				Hydric soil	present?	Yes 🔀	No
epth (inches): 8	BGS						_	_
emarks:								
YDROLOGY Wetland Hydrolo Primary Indicato	ogy Indicators: ors (minimum of one re	equired: chec	ck all that apply):			Secondary	y Indicators (2 or more require	d):
☐ Surface water			parsely Vegetated Conc	ave Surface (I	38)	-	ter-Stained Leaves (B9) (MLR	*
	` ,		Vater-Stained Leaves (ex			_	ninage Patterns (B10)	
Saturation (A			alt Crust (B11)	•	, , , , , , ,		-Season Water Table (C2)	
☐ Water Marks	•		quatic Invertebrates (B1:	3)		,	ruration Visible on Aerial Image	erv (C9)
☐ Sediment De	` '		lydrogen Sulfide Odor (C	•			omorphic Position (D2)	, (,
☐ Drift Deposit			xidized Rhizospheres al	•	ots (C3)		allow Aquitard (D3)	
☐ Algal Mat or	, ,		resence of Reduced Iron		()		C-Neutral Test (D5)	
☐ Iron Deposits			ecent Iron Reduction in	` '	6)		sed Ant Mounds (D6) (LRR A))
-	Cracks (B6)		tunted or Stressed Plant		,		st-Heave Hummocks	,
	risible on Aerial Imager		Other (explain in remarks)	. , .	,		ot ribato rialililione	
Field Observation	ons							
Surface Water Pr	resent? Yes	No 🗆	Depth (in):					
Water Table Pres	sent? Yes ⊠	No 🗆	Depth (in):	2 BGS*	Wetland Hydro	ology Prese	ent? Yes 🔀	No
Saturation Prese	nt? Yes ⊠	No 🗆	Depth (in):	0 BGS	110111111111111111111111111111111111111			
includes capillar								
Dogariba Bagard	ad Data (atroom gours	monitorina	well periol photos prov	ious inspectio	no) if oveileble:			
Describe Record	ed Data (Stream gauge	e, monitoring	well, aerial photos, prev	ious inspectio	ris), ii avaliable:			
	GS = below ground							
* 1	water seeping into	pit from 2	-6 inches					



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DP- 5

D :	0 11 010105	2004				0 " D (4/0/0045		•
Project Site:	Segment M - 2124059					Sampling Date:	4/8/2015		
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 5		
Investigator:	K. Crandall, R. Whits					City/County:	Bellevue		
Sect., Township, Range:	S 21 T 24N	I R 05E				State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%	: 10	Local relief (concav	e, convex, none):	NA	
Subregion (LRR): A				Lat:		Long:		Datum:	
Soil Map Unit Name: AkF	Aldorwood and Kites	an soils yor	v stoon			NWI classification:	NΛ		
				7					
Are climatic/hydrologic cond	= = =	this time of yea		⊠ Yes	☐ No	(If no, explain in rer	marks.)		
Are "Normal Circumstances"	•			⊠ Yes	☐ No				
Are Vegetation□, Soil □, or	Hydrology significantly	disturbed?					. 5		
Are Vegetation□, Soil □, or	Hydrology naturally pro	blematic				(If needed, explain	any answers in Rei	marks.)	
CLIMMA DV OF FINDING	20 Attack alta man al			.!	4				
SUMMARY OF FINDING	35 – Attach Site map Si	nowing sam	pling po	omt iocati	ons, trans	sects, important re	eatures, etc.		
Hydrophytic Vegetation Pres	sent? Yes	s 🗵 No	, \square						
Hydric Soils Present?	Yes	s 🗵 No	, 	1. 4. 0.			. v	7	. \square
· ·				is the Sa	mpling Poli	nt within a Wetland?	Yes 🔀	[] No) [
Wetland Hydrology Present?	? Yes	s 🗵 No) <u> </u>						
Damandar Madanad	MD00								
Remarks: Wetland	MIBU3								
VEGETATION – Use sc	iontific names of plant								
VEGETATION - USE SC	entine names of plant	.5.				1			
T C44 (DI-4-i F	dia an V	A l l 4 0/	D!		l.,	D	. () () () (
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina		Indicator	Dominance Tes	st Worksneet		
4		Cover	Specie	8?	Status	Number of Domina	nt Chasins		
1.						that are OBL, FAC		3	
2.									(A)
3.						Total Number of D		4	
4.			-	_		Species Across All			(B)
	=		= Total (Jover		Percent of Domina		75	
						that are OBL, FAC	W, or FAC:		(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)								
1.						Prevalence Ind	ex Worksheet		
2.						Total %	Cover of	Multir	oly by
3.						OBL species		x 1 =	-
4.						FACW species		x 2 =	
5.	-					FAC species		x 3 =	
			= Total (Cover		FACU species		x 4 =	
	-		-			UPL species		x 5 =	
Herb Stratum (Plot size: 1m	ı diam)					Column totals	(A)	(B)	
1. Phalaris arundina		50		Y	FACW	Coldinii totalo	(7.1)	(D)	
2. Unknown grass	icea	50		Y	FAC*	Prevalence la	ndex = B / A =		
3. Juncus effusus		30		Y	FACW	1 Tevalence II	idex = D / A =		
4. Lotus corniculatu	10	5		N .	FAC	Hydrophytic Va	egetation Indicat	tors	
	15	<u> </u>		IN	FAC		test is > 50%	1015	
5.									
6.							test is ≤ 3.0 *		
7.							cal Adaptations * (pr		ng
8.						☐ data in rema	arks or on a separat	te sheet)	
9.							n-Vascular Plants *		
10.						☐ Problematic	Hydrophytic Veget	ation * (explair	1)
11.	-					-			-
		135	= Total (Cover		* Indicators of hydi	ric soil and wetland	hvdrology mus	st be
	_		-				sturbed or problema		
Woody Vine Stratum (Plot	size:)						•		
1. Rubus armeniacu		15		Y	FACU				
2.						Hydrophytic Ve	egetation		
		15	= Total (Cover		Present		es 🔀 I	No
	-	13	-	-					
% Bare Ground in Herb Stra	tum: 97								
						I			
Remarks: *presumed	FAC								
II									

SOIL							Sampling Point – D	P-5
Profile Descr	ption: (Describe to the	depth need	ed to document the in	dicator or con	firm the absence	of indicator	s.)	
Depth	Matrix	<u> </u>		Redox Fea			<u>′</u>	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 3/2	100			31		Sandy Ioam	With some
								gravel
4-11	10GY 4/1	75	7.5YR 4/4	25	С	M	Gravelly sandy clay	
							loam	
¹ Type: C=Con	centration, D=Depletion,	RM=Reduce	d Matrix, CS=Covered	or Coated San	d Grains ² Loc: P	L=Pore Linir	ng, M=Matrix	
Hydric Soil In	dicators: (Applicable to	o all LRRs, u	nless otherwise noted	d.)	Indicat	ors for Prob	olematic Hydric Soils ³	
☐ Histosol (A	A1)		andy Redox (S5)		□ 2c	m Muck (A10	0)	
☐ Histic Epip	pedon (A2)		stripped Matrix (S6)		☐ Re	d Parent Ma	aterial (TF2)	
☐ Black Hist	ic (A3)		oamy Mucky Mineral (F	1) (except ML	.RA 1) 🗌 Ot	ner (explain	in remarks)	
☐ Hydrogen	Sulfide (A4)	⊠ L	oamy Gleyed Matrix (F	2)				
□ Depleted I	Below Dark Surface (A1	1) 🗆 🗆	epleted Matrix (F3)					
☐ Thick Darl	Surface (A12)	□ F	Redox Dark Surface (F6	5)	³ Indica	tors of hydro	phytic vegetation and wetlan	d hydrology must
☐ Sandy Mu	cky Mineral (S1)		epleted Dark Surface (F7)	be pres	ent, unless o	disturbed or problematic	
☐ Sandy Gle	eyed Matrix (S4)	□ F	Redox Depressions (F8))				
Donatal attical to	(:f)							
	/er (if present):							
Type: Compac	i illi materiai				Hydric so	I present?	Yes 🔀	No
Depth (inches): 8" BGS							
Primary India Surface w High Wat Saturation Water Ma Sediment Drift Depo	er Table (A2) n (A3) urks (B1) Deposits (B2) osits (B3) or Crust (B4)	S S W S S A C C C C P	parsely Vegetated Con /ater-Stained Leaves (e alt Crust (B11) quatic Invertebrates (B ydrogen Sulfide Odor (ixidized Rhizospheres a resence of Reduced Inc	except MLRA 1 13) C1) along Living Ro on (C4)	ots (C3)	☐ Wall Dra ☐ Dry ☐ Sat ☐ Sha	y Indicators (2 or more requiniter-Stained Leaves (B9) (ML) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagomorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A	R Á 1, 2, 4A & 4B) gery (C9)
☐ Iron Depo			ecent Iron Reduction in	•	,	_	` , `	4)
	soil Cracks (B6) n Visible on Aerial Image		tunted or Stressed Plar ther (explain in remark	. , .	4)	☐ Fro	st-Heave Hummocks	
☐ Inundation (B7)	ii visible oli Aeliai illiage	;iy C	mier (explain in remark	5)				
Field Observa								
Surface Water	103 🗀	No 🗵						
Water Table P		No 🗵			Wetland Hydr	ology Pres	ent? Yes 🔀	No 🗌
Saturation Pre	100 🖆	No 🗆	Depth (in):	0 BGS			_	_
(includes capil	lary fringe)							
Describe Reco	orded Data (stream gaug	e, monitoring	well, aerial photos, pre	vious inspectio	ns), if available:			
Remarks:								



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DP- 6

D :						0 " 0 '	E (00 (00 4 E		
Project Site:	Segment E, parcel n		2100140			Sampling Date:	5/29/2015		
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 6		
Investigator:	K. Crandall, R. Whits	son, M. Fost	ter			City/County:	Bellevue		
Sect., Township, Range:	S 27 T 25N	I R 051	E			State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): -	~5	Local relief (concave	e, convex, none):	Concave	
Subregion (LRR): A				Lat:		Long:	·	Datum:	
	Aldomico d arevelli	aandy laam		241		T -	NI A	2444	
Soil Map Unit Name: AgC						NWI classification:			
Are climatic/hydrologic cond	itions on the site typical for	this time of ye	ear?	☑ Yes □	No	(If no, explain in rem	narks.)		
Are "Normal Circumstances"	' present on the site?			☑ Yes □	No				
Are Vegetation□, Soil □, or	Hydrology ☐ significantly	disturbed?							
Are Vegetation□, Soil □, or	Hydrology naturally pro	blematic				(If needed, explain a	any answers in Re	emarks.)	
SUMMARY OF FINDING	5S – Attach site map s	nowing san	npling po	oint location	s, trans	sects, important fe	atures, etc.		
Hydrophytic Vegetation Pres	sent? Yes	s 🗵 N	lo 🗆						
, , , ,		_	_					7	
Hydric Soils Present?	Ye			Is the Samp	ling Poir	nt within a Wetland?	Yes ≥	<u> </u>	> <u> </u>
Wetland Hydrology Present?	? Ye:	s 🗵 N	lo 🗌						
Remarks: Wetland	EB01 in-pit. Wetland i	near Kelsey	Creek u	nder lines; v	veedy c	corridor area.			
VEGETATION – Use sc	ientific names of plant	is.							
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina		icator	Dominance Tes	t Worksheet		
		Cover	Specie	s? Sta	atus				
1.						Number of Domina		2	
2.						that are OBL, FACV			(A)
3.						Total Number of Do		2	
4.						Species Across All	Strata:	2	(B)
			= Total	Cover		Percent of Dominar		100	
	_		_			that are OBL, FACV	N, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)								(
1.						Prevalence Inde	v Workshoot		
2.						Total % (Multir	oly by
3.						OBL species	OOVER OF	x 1 =	<u>Jiy Dy</u>
						FACW species		x 2 =	
4.									
5.			= Total	Cover		FACILITIES		x 3 =	
	-		= 10tar	Cover		FACU species		x 4 =	
U. 1 00 01 00 (D) 1 1 1	P \					UPL species	(4)	x 5 =	
Herb Stratum (Plot size: 1m						Column totals	(A)	(B)	
1. Scirpus microcar		60			OBL	4			
2. Phalaris arundina		50			ACW	Prevalence In	dex = B / A =		
3. Equisetum telma		30			ACW				
4. Stachys chamiss	onis cooleyae	5			ACW	Hydrophytic Ve		ators	
5. Galium sp.		5		N F	FAC*				
6. Carex obnupta		5		N (OBL	☐ Prevalence to	est is ≤ 3.0 *		
7.						Morphologica	al Adaptations * (orovide supporti	ing
8.						☐ data in rema	rks or on a separa	ate sheet)	
9.							-Vascular Plants	*	
10.							Hydrophytic Vege		n)
							Trydrophlytto vege	tation (explain	'/
11.		455	= Total	Cover		*	!! !	-	-4
	-	155		Jovei		* Indicators of hydri present, unless dist			si de
Woody Vine Stratum (Plot	size·)					present, unless dist	dibed of problem	alic	
1.	0120.					1			
						1			
2.			_ Tate!	Cover		Hydrophytic Ve Present		es 🔀 I	No 🗌
	-		= Total	Jover		Fresent	•	<u> 4</u>	
% Bare Ground in Herb Stra	tum:								
Remarks: *Presumed	FAC								

SOIL							Sampling Point - D	P-6
Profile Descri	ption: (Describe to the	depth neede	ed to document the indica	ator or confi	rm the absence of	f indicators		
Depth	Matrix			Redox Features				\top
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	10YR 3/1	100					Sandy Ioam	
12-16	2.5Y 3/1	95	10YR 3/4	5	С	М	Sandy Ioam	
¹ Type: C=Cond	centration, D=Depletion, F	RM=Reduced	d Matrix, CS=Covered or C	oated Sand	Grains ² Loc: PL	.=Pore Linin	g, M=Matrix	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Redox Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Indicators for Problematic Hydric Soils³ 2cm Muck (A10) Red Parent Material (TF2) Red Parent Material (TF2) Dother (explain in remarks) Thick Dark Surface (A11) Depleted Matrix (F3) Aldicators of hydrophytic vegetation and wetland be present, unless disturbed or problematic						ıd hydrology must		
Restrictive Lay		□ R	ledox Depressions (F8)					
l _					Hydric soil	nresent?	Yes 🔀	No \square
):				11,4.10 00	prosont.		,,o L
Remarks:	·							
HADBOI OGA								
Primary Indic Surface w High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S	rology Indicators: rators (minimum of one revater (A1) er Table (A2) rks (B1) Deposits (B2) osits (B3) or Crust (B4) soil Cracks (B6) n Visible on Aerial Imager	Sp W Sa Ac Hy Ox Pr Re St	k all that apply): parsely Vegetated Concave /ater-Stained Leaves (exce alt Crust (B11) quatic Invertebrates (B13) ydrogen Sulfide Odor (C1) xidized Rhizospheres along resence of Reduced Iron (Cecent Iron Reduction in Tille tunted or Stressed Plants (I ther (explain in remarks)	g Living Root C4) led Soils (C6)	2, 4A & 4B) (B9) ts (C3)	 □ Watt □ Drain □ Dry- □ Satu ⋈ Geon □ Shal ⋈ FAC □ Rais 	Indicators (2 or more requirer-Stained Leaves (B9) (ML nage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Image morphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5) Ised Ant Mounds (D6) (LRR A	RÁ 1, 2, 4A & 4B) gery (C9)
Surface Water Water Table P Saturation Pre (includes capill	Present? Yes ☐ resent? Yes ☒ sent? Yes ☒ lary fringe)	No ⊠ No □ No □	Depth (in): 7 B	3GS 3GS us inspection	Wetland Hydro	ology Prese	nt? Yes 🔀	No
Remarks:	BGS = below ground	d surface						



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DP- 7

Danis at Oite	0		70400440		0 l' D-1	F (00 (004 F	
Project Site:	Segment E, parcel n	Sampling Date:	5/29/2015				
Applicant/Owner:	Puget Sound Energy	Sampling Point:	DP- 7				
Investigator:	K. Crandall, R. White	City/County:	Bellevue				
Sect., Township, Range:	S 27 T 25	N R 0)5E		State:	WA	
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 3	Local relief (concav	e, convex, none):	None
Subregion (LRR): A				Lat:	Long:		Datum:
Soil Map Unit Name: AgC	- Alderwood gravelly	sandy loa	am		NWI classification:	NΔ	
				☑ Yes □ No			
Are climatic/hydrologic cond		this time of	-		(If no, explain in ren	narks.)	
Are "Normal Circumstances"			ا	⊠ Yes □ No			
Are Vegetation □, Soil □, or					(If needed, explain	any answers in Ren	marke)
Are Vegetation□, Soil □, or	Hydrology naturally pro	blematic			(II riccaca, explain	arry arrowers in reci	nano.)
SUMMARY OF FINDING	S – Attach site map s	howing s	ampling po	int locations, tra	nsects, important fe	atures, etc.	
				, , , , , , , , , , , , , , , , , , , ,	, p		
Hydrophytic Vegetation Pres	sent? Ye	s 🗵	No \square				
Hydric Soils Present?	Ye	s \square	No 🗵	Is the Sampling P	oint within a Wetland?	Yes	l No ⊠
Wetland Hydrology Present?	? Ye	s 🗌	No 🗵				
, ,,							
Remarks: Wetland	EB01 out-pit.						
VEGETATION - Use sc	ientific names of plan	ts.					
	•						
Tree Stratum (Plot size: 5m	diam.)	Absolute 9	% Domina	ant Indicator	Dominance Tes	t Worksheet	
(111	,	Cover	Specie		201111111111111111111111111111111111111		
1.					Number of Domina		3
2.					that are OBL, FAC	W, or FAC:	(A)
3.					Total Number of D		4
4.					Species Across All	Strata:	4 (B)
			= Total (Cover	Percent of Domina		75
	•				that are OBL, FAC	W, or FAC:	(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)						
1. Rubus parviflorus							
	S	10	,	Y FACU	Prevalence Inde	ex Worksheet	
2.	S	10		Y FACU		ex Worksheet Cover of	Multiply by
2.	S	10	,	Y FACU			Multiply by
	S	10		Y FACU	Total %		1
3.	S	10	,	Y FACU	Total % OBL species		x 1 =
3. 4.	S	10	= Total (Total % OBL species FACW species		x 1 = x 2 =
3. 4.	S	10			OBL species FACW species FAC species		x 1 = x 2 = x 3 =
3. 4.		10			Total % OBL species FACW species FAC species FACU species		x 1 = x 2 = x 3 = x 4 =
3. 4. 5.		70	= Total (Total % OBL species FACW species FAC species FACU species UPL species	Cover of	x 1 = x 2 = x 3 = x 4 = x 5 =
3. 4. 5. Herb Stratum (Plot size: 1m			= Total (Cover	Total % OBL species FACW species FAC species FACU species UPL species Column totals	Cover of	x 1 = x 2 = x 3 = x 4 = x 5 =
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus	n diam.)	70	= Total (Cover Y FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir	Cover of (A)	x 1 = x 2 = x 3 = x 4 = x 5 =
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass	n diam.)	70 60	= Total (Cover Y FAC Y FAC*	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir	(A) ndex = B / A =	x 1 = x 2 = x 3 = x 4 = x 5 = (B)
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat	n diam.) teia ensis	70 60 20	= Total (Cover Y FAC Y FAC* N FACW	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir	(A) ndex = B / A =	x 1 = x 2 = x 3 = x 4 = x 5 = (B)
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat 4. Alopecurus prate	n diam.) teia ensis	70 60 20 10	= Total (Cover Y FAC Y FAC* N FACW N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve	(A) ndex = B / A = getation Indicat	x 1 = x 2 = x 3 = x 4 = x 5 = (B)
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telman 4. Alopecurus prate 5. Athyrium cycloso	n diam.) teia ensis	70 60 20 10	= Total (Cover Y FAC Y FAC* N FACW N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve □ Dominance □ Prevalence of	(A) ndex = B / A = getation Indicatest is > 50%	x 1 = x 2 = x 3 = x 4 = x 5 = (B)
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat 4. Alopecurus prate 5. Athyrium cycloso 6.	n diam.) teia ensis	70 60 20 10	= Total (Cover Y FAC Y FAC* N FACW N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve □ Dominance □ Prevalence Ir	(A) ndex = B / A = getation Indicatest is > 50% east is ≤ 3.0 *	x 1 =
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmai 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8.	n diam.) teia ensis	70 60 20 10	= Total (Cover Y FAC Y FAC* N FACW N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve	(A) ndex = B / A = getation Indicatest is > 50% lest is ≤ 3.0 * al Adaptations * (pr	x 1 =
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9.	n diam.) teia ensis	70 60 20 10	= Total (Cover Y FAC Y FAC* N FACW N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence of Morphologic data in remain wetland Nor	Cover of (A) Index = B / A = getation Indicatest is > 50% Lest is < 3.0 * al Adaptations * (promotes or on a separation-Vascular Plants *	x 1 =
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmai 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9.	n diam.) teia ensis	70 60 20 10	= Total (Cover Y FAC Y FAC* N FACW N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence of Morphologic data in remain wetland Nor	Cover of (A) Index = B / A = getation Indicates is > 50% lest is < 3.0 * al Adaptations * (promiss or on a separate	x 1 =
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9.	n diam.) teia ensis	70 60 20 10 5	= Total (Y FAC Y FAC* N FACW N FAC N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence Morphologic data in rema Wetland Not Problematic	Cover of (A) Index = B / A = Getation Indicate lest is > 50% Item is > 3.0 * Item is >	x 1 = x 2 = x 3 = x 4 = x 5 = (B)
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmai 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9.	n diam.) teia ensis	70 60 20 10	= Total (Y FAC Y FAC* N FACW N FAC N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence of Morphologic data in rema Wetland Noo Problematic * Indicators of hydr	Cover of (A) Index = B / A = getation Indicatest is > 50% Lest is < 3.0 * al Adaptations * (promotes or on a separation-Vascular Plants *	x 1 = x 2 = x 3 = x 4 = x 5 = (B) cors covide supporting re sheet) ation * (explain) hydrology must be
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmai 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9.	n diam.) teia nsis orum	70 60 20 10 5	= Total (Y FAC Y FAC* N FACW N FAC N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence of Morphologic data in rema Wetland Noo Problematic * Indicators of hydr	(A) Index = B / A = getation Indicate test is > 50% Itest is ≤ 3.0 * al Adaptations * (prinks or on a separation-Vascular Plants * Hydrophytic Vegetatic soil and wetland	x 1 = x 2 = x 3 = x 4 = x 5 = (B) cors covide supporting re sheet) ation * (explain) hydrology must be
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9. 10. 11.	n diam.) teia nsis orum	70 60 20 10 5	= Total (Y FAC Y FAC* N FACW N FAC N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence of Morphologic data in rema Wetland Noo Problematic * Indicators of hydr	(A) Index = B / A = getation Indicate test is > 50% Itest is ≤ 3.0 * al Adaptations * (prinks or on a separation-Vascular Plants * Hydrophytic Vegetatic soil and wetland	x 1 = x 2 = x 3 = x 4 = x 5 = (B) cors covide supporting re sheet) ation * (explain) hydrology must be
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1. Rubus armeniact	n diam.) teia nsis orum	70 60 20 10 5	= Total (Cover Y FAC Y FAC* N FACW N FAC N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Morphologic data in rema Wetland Not Problematic * Indicators of hydr	Cover of (A) (A) Index = B / A = Getation Indicated the set is > 50% Lest is ≤ 3.0 * Lead Adaptations * (promotion of the set is considered the set is the set	x 1 = x 2 = x 3 = x 4 = x 5 = (B) cors covide supporting te sheet) ation * (explain) hydrology must be tic
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9. 10. 11.	n diam.) teia nsis orum	70 60 20 10 5	= Total (Y FAC Y FAC* N FACW N FAC N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence of Morphologic data in rema Wetland Noo Problematic * Indicators of hydr	(A) Index = B / A = getation Indicatest is > 50% Itest is ≤ 3.0 * al Adaptations * (processor on a separate in-Vascular Plants * Hydrophytic Vegetatic soil and wetland turbed or problemates the segetation in the segetation i	x 1 = x 2 = x 3 = x 4 = x 5 = (B) cors covide supporting te sheet) ation * (explain) hydrology must be tic
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1. Rubus armeniact	n diam.) teia nsis orum	70 60 20 10 5	= Total (Y FAC Y FAC* N FACW N FAC N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence Ir Wetland Nor Problematic * Indicators of hydr	(A) Index = B / A = getation Indicatest is > 50% Itest is ≤ 3.0 * al Adaptations * (processor on a separate in-Vascular Plants * Hydrophytic Vegetatic soil and wetland turbed or problemates the segetation in the segetation i	x 1 = x 2 = x 3 = x 4 = x 5 = (B) cors covide supporting te sheet) ation * (explain) hydrology must be tic
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size: 1m 1. Rubus armeniacus 2.	n diam.) teia nsis brum size:)	70 60 20 10 5	= Total (Y FAC Y FAC* N FACW N FAC N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence Ir Wetland Nor Problematic * Indicators of hydr	(A) Index = B / A = getation Indicatest is > 50% Itest is ≤ 3.0 * al Adaptations * (processor on a separate in-Vascular Plants * Hydrophytic Vegetatic soil and wetland turbed or problemates the segetation in the segetation i	x 1 = x 2 = x 3 = x 4 = x 5 = (B) cors covide supporting te sheet) ation * (explain) hydrology must be tic
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telman 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size: 1m 1. Rubus armeniacu 2.	n diam.) tela size: Jis tum:	70 60 20 10 5	= Total (Y FAC Y FAC* N FACW N FAC N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence Ir Wetland Nor Problematic * Indicators of hydr	(A) Index = B / A = getation Indicatest is > 50% Itest is ≤ 3.0 * al Adaptations * (processor on a separate in-Vascular Plants * Hydrophytic Vegetatic soil and wetland turbed or problemates the segetation in the segetation i	x 1 = x 2 = x 3 = x 4 = x 5 = (B) cors covide supporting te sheet) ation * (explain) hydrology must be tic
3. 4. 5. Herb Stratum (Plot size: 1m 1. Holcus lanatus 2. Other grass 3. Equisetum telmat 4. Alopecurus prate 5. Athyrium cycloso 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size: 1m 1. Rubus armeniacus 2.	n diam.) tela size: Jis tum:	70 60 20 10 5	= Total (Y FAC Y FAC* N FACW N FAC N FAC	Total % OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Ir Hydrophytic Ve Dominance Prevalence Ir Wetland Nor Problematic * Indicators of hydr	(A) Index = B / A = getation Indicatest is > 50% Itest is ≤ 3.0 * al Adaptations * (processor on a separate in-Vascular Plants * Hydrophytic Vegetatic soil and wetland turbed or problemates the segetation in the segetation i	x 1 = x 2 = x 3 = x 4 = x 5 = (B) cors covide supporting te sheet) ation * (explain) hydrology must be tic

OIL							Sampling Point -	DP-7	
	ption: (Describe to the	depth need	ed to document the indic	ator or con	firm the absence of	of indicator			
Depth	Matrix		T	Redox Fea			, T	1	
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rem	narks
0-4	10YR 3/2	100					Loam		
4-8	10YR 4/2	98	10YR 4/6	2	С	М	Loam		
			1 1 1 1 1 1 1						
¹Type: C=Con	centration, D=Depletion,	RM=Reduce	ed Matrix, CS=Covered or C	Coated Sand	d Grains ² Loc: P	L=Pore Linir	ng, M=Matrix	-	
Hydric Soil Ir			inless otherwise noted.) Sandy Redox (S5)		_	ors for Prob	olematic Hydric Soils³		
☐ Histosof (/	,		Stripped Matrix (S6)			d Parent Ma	·		
☐ Black Hist	` '		oamy Mucky Mineral (F1)	(except MI		ner (explain	,		
☐ Hydrogen			oamy Gleyed Matrix (F2)	(CXCCPt IIIL		ici (expiairi	in remarks)		
	Selow Dark Surface (A11		Depleted Matrix (F3)		ш				
•	Selow Dark Surface (ATT)	,	Redox Dark Surface (F6)		³ Indicat	ors of hydro	ophytic vegetation and wetla	and hydrology	v must
	cky Mineral (S1)		Depleted Dark Surface (F7)				disturbed or problematic	and mydrology	, must
=	eyed Matrix (S4)		Redox Depressions (F8)			,			
	. ,		redux Depressions (i o)						
	er (if present):								<u></u>
Гуре:					Hydric soi	I present?	Yes	No	\boxtimes
Depth (inches):								
	ology Indicators:								
	cators (minimum of one re	equired: ched	ck all that apply):	o Curtoso /F	20)		y Indicators (2 or more requ		N 0 4D
☐ Surface v	` '		Sparsely Vegetated Concav				iter-Stained Leaves (B9) (M	ILKA 1, 2, 4A	1 & 4B
-	er Table (A2)		Vater-Stained Leaves (exc	ept WLKA 1	, 2, 4A & 4B) (B9)		ainage Patterns (B10)		
☐ Saturatio			Salt Crust (B11)			-	-Season Water Table (C2)		
☐ Water Ma	` '		quatic Invertebrates (B13)				turation Visible on Aerial Im	agery (C9)	
	Deposits (B2)		lydrogen Sulfide Odor (C1)		. (00)		omorphic Position (D2)		
☐ Drift Dep			Oxidized Rhizospheres alon		ots (C3)		allow Aquitard (D3)		
_	or Crust (B4)		Presence of Reduced Iron (,	0)		C-Neutral Test (D5)		
☐ Iron Depo			Recent Iron Reduction in Til		,		ised Ant Mounds (D6) (LRR	R A)	
	Soil Cracks (B6)	 -	Stunted or Stressed Plants ((D1) (LRR A	A)	☐ Fro	st-Heave Hummocks		
(B7)	n Visible on Aerial Image	ry 🗆 C	Other (explain in remarks)						
Field Observ									
Surface Wate	Present? Yes	No 🛭	Depth (in):						
Water Table F	103 🗆	No 🛭	Depth (in):		Wetland Hydr	ology Pres	ent? Yes	No	\times
Saturation Pre (includes capi		No 🛭	Depth (in):				_		
		n monitoria	well periol photos provin	ue inepostic	ns) if available:				
Jeschibe Kec	orueu Data (stream gauge	z, momonong	well, aerial photos, previo	us mspecilo	iiəj, ii avallable:				
Remarks:									



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 8

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- · · · · · ·					0///00/	
Project Site:	Segment C, parcel nu	mber 2725059045		Sampling Date:	6/1/2015	
Applicant/Owner:	Puget Sound Energy			Sampling Point:	DP- 8	
Investigator:	Katy Crandall, Mike F			City/County:	Bellevue	
Sect., Township, Range:	S 27 T 25N	R 05E	1	State:	WA	
Landform (hillslope, terrace,	etc): Hillslope		Slope (%): 3	Local relief (concav	re, convex, none):	Concave
Subregion (LRR): A			Lat:	Long:		Datum:
Soil Map Unit Name: EvC	- Everett gravelly sand	v loam, 5-15% slo	pes.	NWI classification:	NA	
Are climatic/hydrologic condi		•	⊠ Yes □ No	(If no, explain in rer		
		ilis tillie or year!		(II 110, explain III lei	iiaiks.)	
Are "Normal Circumstances"	•	:-+b10	⊠ Yes □ No			
Are Vegetation ☐, Soil ☐, or				(If needed, explain	any answers in Re	marks)
Are Vegetation□, Soil □, or	Hydrology 🗆 Haturally prob	nemano		(
SUMMARY OF FINDING	SS – Attach site map sh	owing sampling	oint locations, tran	sects, important for	eatures, etc.	
			·	•	•	
Hydrophytic Vegetation Pres	sent? Yes					
Hydric Soils Present?	Yes	⊠ No □	Is the Sampling Po	int within a Wetland?	Yes 🔀	No 🗌
Wetland Hydrology Present?	Yes	⊠ No □	_			ы <u> </u>
·						
Remarks: Wetland	CB01 in-pit. Wetland is	located north of	520.			
	•					
VEGETATION – Use sci	ientific names of plants	S				
Tree Stratum (Plot size: 5m	diam.)	Absolute % Domi		Dominance Tes	st Worksheet	
		Cover Spec		_		
1. Alnus rubra		30	Y FAC	Number of Domina		3
2.				that are OBL, FAC		(A)
3.				Total Number of D		3
4.				Species Across Al		(B)
		30 = Tota	l Cover	Percent of Domina		100
				that are OBL, FAC	W, or FAC:	(A/B
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)					
1.				Prevalence Ind	ex Worksheet	
2.				Total %	Cover of	Multiply by
3.				OBL species		x 1 =
4.				FACW species		x 2 =
5.				FAC species		x 3 =
		= Tota	l Cover	FACU species		x 4 =
	_			UPL species		x 5 =
Herb Stratum (Plot size: 1m	ı diam.)			Column totals	(A)	(B)
1. Phalaris arundina	сеа	80	Y FACW			
2. Scirpus microcar	pus	70	Y OBL	Prevalence I	ndex = B / A =	
3. Carex stipata		10	N OBL			
4.				Hydrophytic Ve	getation Indica	tors
5.					test is > 50%	
6.				☐ Prevalence	test is ≤ 3.0 *	
7.				Morphologic	al Adaptations * (p	rovide supporting
8.				☐ data in rema	arks or on a separa	te sheet)
9.				_	n-Vascular Plants *	,
10.					Hydrophytic Veget	
				Troblematic	Trydrophytic veget	ation (explain)
11.		460 - Tota	l Cover	* Indicators of bud	والمصالح والمصالح والمصا	hudrala au muat ha
	_	160 = Tota	i Covei		aturbed or problema	hydrology must be
Woody Vine Stratum (Plot s	size·)			present, unless dis	sturbed of problems	XIIO .
1.)			_		
2.				I buda a abudia M		_
2.		- Tota	I Cover	Hydrophytic Vo		es 🗙 No 🗌
	_	= 10ta	1 00061	Fieselli	••	
0/ Page Ones: 11 11 1 2:	t					
% Bare Ground in Herb Strat	tum:					
Remarks:						
ĬĬ						

SOIL								Sampl	ing Point - DF	P-8	
Profile Descri	ption: (Describe to th	ne depth need	ed to document the indic	ator or conf	irm the a	bsence of	indicators				
Depth	Matrix	•	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Redox Fea							
(inches)	Color (moist)	%	Color (moist)	%		rpe ¹	Loc ²	1 7	Гexture	Re	emarks
0-6	10YR 3/2	95	7.5YR 4/6	5	С		М	Sandy lo			
6-12	10YR 4/1	85	7.5YR 4/6	15	С		M, PL	Gravelly	sandy loam		
Hydric Soil In Histosol (A Histic Epip Black Histi Hydrogen Depleted E Sandy Mu Sandy Gle Restrictive Lay Type: Depth (inches) Remarks:	dicators: (Applicable .1) edon (A2) c (A3)	to all LRRs, u		(except MLF	RA 1)	Indicator 2cm Red Othe	Muck (A10 Parent Mater (explain in	terial (TF2) n remarks)	Iric Soils ³	l hydrold	ogy must
Primary Indic Surface w High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	□ S □ W □ S □ A □ H ⊠ C □ P □ R □ S	ck all that apply): parsely Vegetated Concave /ater-Stained Leaves (exc alt Crust (B11) quatic Invertebrates (B13) ydrogen Sulfide Odor (C1) exidized Rhizospheres alor resence of Reduced Iron (ecent Iron Reduction in Til tunted or Stressed Plants other (explain in remarks)	ept MLRA 1,) ng Living Roo (C4) Illed Soils (C6	ots (C3)		Ust Wat Drai Dry- Usatt Satt Second Shat FAC Rais	er-Stained L nage Patterr Season Wat uration Visibl morphic Pos llow Aquitard C-Neutral Tes	ter Table (C2) e on Aerial Imag sition (D2) d (D3) st (D5) nds (D6) (LRR A	ery (C9)	·
Remarks:	Present? Yes [resent? Yes [sent? Yes [ary fringe) rded Data (stream gare)	□ No ☑ □ No ☑ uge, monitoring	Depth (in):		ns), if avai	lable:	logy Prese		res 🔀	No ata, ge	nerated



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DP- 9

Davis at Oites	0					OB-t	0/4/0045		
Project Site:	Segment C, parcel nu	mber 2/250	159045			Sampling Date:	6/1/2015		
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 9		
Investigator:	Katy Crandall, Mike F					City/County:	Bellevue		
Sect., Township, Range:	S 27 T 25N	R 05E		П		State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%):	10	Local relief (concave	e, convex, none):	None	
Subregion (LRR): A				Lat:		Long:		Datum:	
Soil Map Unit Name: EvC	- Everett gravelly sand	y loam, 5-1	5% slop	es.		NWI classification:	NA		
Are climatic/hydrologic cond	itions on the site typical for the	his time of vea	ır?	⊠ Yes □	No	(If no, explain in rem	narks.)		
Are "Normal Circumstances"		, , , , ,		⊠ Yes □		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		
Are Vegetation□, Soil □, or	•	isturbed?							
Are Vegetation□, Soil □, or	, 0, 0 ,					(If needed, explain a	any answers in Rei	marks.)	
SUMMARY OF FINDING	SS – Attach site map sh	owing sam	pling po	oint location	s, trans	sects, important fe	atures, etc.		
Hydrophytic Vegetation Pres	sent? Yes	⊠ No							
, , , ,		_	-					1	
Hydric Soils Present?	Yes			Is the Sam	oling Poi	nt within a Wetland?	Yes	_ No) <u>X</u>
Wetland Hydrology Present	Yes	☐ No	\boxtimes						
Remarks: Wetland	CB01 out-pit.								
VEGETATION – Use sc	ientific names of nlants								
VEGETATION CSC SC	entino names or plants	<u>, </u>							
Tree Stratum (Plot size: 5m	diam)	Absolute %	Domina	ant In	dicator	Dominance Tes	t Workshoot		
Tree Gratain (1 fot 3/26: 5/1)		Cover	Specie		atus	Dominance res	t Worksneet		
1. Alnus rubra		10		Y	FAC	Number of Dominal	nt Species		
2.						that are OBL, FACV	W, or FAC:	3	(A)
3.						Total Number of Do	minant		(, ,
4.						Species Across All	Strata:	4	(B)
		10	= Total	Cover		Percent of Dominar	nt Species		` ′
	_		•			that are OBL, FACV	W, or FAC:	75	(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)								(,,,,,
1.						Prevalence Inde	x Worksheet		
2.						Total % (Multip	olv bv
3.						OBL species		x 1 =	
4.						FACW species		x 2 =	
5.						FAC species		x 3 =	
			= Total	Cover		FACU species		x 4 =	
	_		•			UPL species		x 5 =	
Herb Stratum (Plot size: 1m	ı diam.)					Column totals	(A)	(B)	
1. Phalaris arundina	сеа	70		Y	FAC				
2. Other grass		40		Y	FAC*	Prevalence In	dex = B / A =		
3. Galium sp.		15		N	FAC*				
4.						Hydrophytic Ve		tors	
5.							est is > 50%		
6.						☐ Prevalence to	est is ≤ 3.0 *		
7.						Morphologica	al Adaptations * (p	rovide supporti	ng
8.						☐ data in rema	rks or on a separa	te sheet)	
9.							-Vascular Plants *		
10.						☐ Problematic	Hydrophytic Veget	ation * (explain	1)
11.									
		125	= Total	Cover		* Indicators of hydri	c soil and wetland	hydrology mus	st be
	-	-	-			present, unless dist			
Woody Vine Stratum (Plot	size:)								
1. Rubus armeniaci	IS	45		Y	FACU				
2.						Hydrophytic Ve		s 🔀 s	No \square
		45	= Total	Cover	_	Present*	?	, M	1 0
	_								
% Bare Ground in Herb Stra	tum:								
Remarks: *Presumed	FAC								

SOIL Sampling Point - DP-9 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Type¹ Texture Remarks (inches) Color (moist) 100 0-10 10 YR 4/2 Sandy Ioam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3 ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): XHydric soil present? Yes No Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Surface water (A1) П Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) ☐ High Water Table (A2) Drainage Patterns (B10) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) (B7)Field Observations Surface Water Present? Depth (in): Yes \square No \boxtimes Water Table Present? Yes \boxtimes Depth (in): Nο \boxtimes Wetland Hydrology Present? Saturation Present? Depth (in): Yes No ⊠ (includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



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DP- 10

COMMIN												
Project Site:	Segment E, parcel r	number 3/250	50010			Samn	ling Date:	6/3/2015				
Applicant/Owner:	Puget Sound Energ		33010				ling Point:					
Investigator:	Katy Crandall, Mike						County:	Bellevu				
Sect., Township, Range:	S 34 T 25					State:		WA				
Landform (hillslope, terrace,				Slope (%)	: 10			ive, convex, no	ne): N	one		
Subregion (LRR): A	, .			Lat:			Long:			atum:		
Soil Map Unit Name: AgC	- Alderwood gravelly	v sandy loam	8-15%			NIWI d	lassification	· ΝΔ		ara		
Are climatic/hydrologic condi				Yes Yes	☐ No		explain in re					
Are "Normal Circumstances"	= = =	i tilis tillie oi yea		⊠ res ⊠ Yes	□ No □ No	(11 110,	ехріані ін те	emarks.)				
Are Vegetation□, Soil □, or	•	, disturbed?	L	⊴ 162								
Are Vegetation□, Soil □, or						(If nee	ded, explair	n any answers	in Rema	arks.)		
SUMMARY OF FINDING			oling po	oint locati	ons, trans	ects, ir	mportant	features, etc	;.			
Hydrophytic Vegetation Pres	ent? Ye	es 🗵 No										
Hydric Soils Present?	Ye		\boxtimes	l= 4b= 0=		. 4 ! 4 ! . !		10 V				
Wetland Hydrology Present?	Υe	_	_	is the Sa	mpling Poir	nt within	i a wetiand	l? Yes	Ш	N	10	\triangle
Welland Hydrology Fresent!	16	,5 🔲 110										
Remarks: EB02 out-	pit											
VEGETATION – Use sci	ontific names of plan	te										
VEGETATION - USE SCI	enunc names or plan	15.				1						
Tree Stratum (Plot size: 5m	diam.)	Absolute % Cover	Domina Specie		Indicator Status	Dom	inance Te	est Workshe	et			
1.								ant Species		2		
2.								CW, or FAC:			((A)
3.							Number of			3		
4.			Tatal	20100			es Across A				((B)
			= Total (-over				ant Species CW, or FAC:		67		
Sapling/Shrub Stratum (Plo	t cize: 3m diam)					tilat a	IC ODE, I A	OVV, 01 1710.			((A/B)
, ,	t size. Sili diam.)					Drove	alanaa In	day Markab				
1. 2.						Fiev		dex Worksh <u>6 Cover of</u>	eet	Mult	iply by	
3.						OBL	species			x 1 =	ipiy by	
4.							V species			x 2 =		
5.							species			x 3 =		
			= Total (Cover		FACU	species			x 4 =		
						UPL s	species			x 5 =		
Herb Stratum (Plot size: 1m	,					Colum	nn totals	(A)		(B)		
1. Phalaris arundina		80		Y	FACW							
2 Agrostis stolonife	ra	35		Y	FAC	Pı	revalence	Index = B / A	\ =			
3. Holcus lanatus		15		N	FAC	Llevele		/	-l:4-			
4. Vicia sp.		15		N N	FAC*			egetation In test is > 50%		rs		
5. Galium sp.		5		N .	FAC*							
6. Cirsium arvense		5		N	FAC			e test is ≤ 3.0 *			41	
7. Carex sp.		Trace		N		1 _		ical Adaptatior narks or on a s	**		ung	
8.								on-Vascular Pl	•	Sileet)		
9.										ion * (ovoloi	in)	
10.							Fiobleman	c Hydrophytic	vegetati	iori (expiai	11)	
11.		155	= Total (Cover		* India	cators of his	dric soil and we	atland h	drology m	ist he	
		133						isturbed or pro			or ne	
Woody Vine Stratum (Plot s												
Rubus armeniacu	s	35	,	Y	FACU							
2.				2		Hy	drophytic \		Yes	\boxtimes	No	
		35	= Total (over			Presei	IL f		<u>ir V</u>		
% Bare Ground in Herb Strat	rim. U											
Remarks: *Presumed I												
Fresumed	AC											

SOIL Sampling Point - DP-10 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix (inches) Color (moist) Color (moist) Type¹ Texture Remarks 0-5 10YR 4/2 100 Sandy loam 5-14 10YR 4/3 97 7.5YR 5/8 3 С М **Gravelly sandy loam** Relict redox features* ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Stripped Matrix (S6) ☐ Histic Epipedon (A2) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) ☐ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic Depleted Dark Surface (F7) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Hydric soil present? \boxtimes Yes No Depth (inches): Remarks: *Redox features are hard nodules with sharp edges **HYDROLOGY**

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one requi	red: c	heck all that apply):	Secondary Indicators (2 or more required):
☐ Surface water (A1)		Sparsely Vegetated Concave Surface (B8)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
☐ High Water Table (A2)		Water-Stained Leaves (except MLRA 1, 2, 4	4A & 4B) (B9) Drainage Patterns (B10)
☐ Saturation (A3)		Salt Crust (B11)	□ Dry-Season Water Table (C2)
☐ Water Marks (B1)		Aquatic Invertebrates (B13)	 Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)	⊠ Geomorphic Position (D2)
☐ Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots (C	C3) Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	☐ FAC-Neutral Test (D5)
☐ Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)	Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)	☐ Frost-Heave Hummocks
☐ Inundation Visible on Aerial Imagery (B7)		Other (explain in remarks)	
Field Observations			
Surface Water Present? Yes □	No	□ Depth (in):	
Water Table Present? Yes □	No	□ Depth (in): □	Wetland Hydrology Present? Yes No
Saturation Present? Yes (includes capillary fringe)	No	☐ Depth (in):	
Describe Recorded Data (stream gauge, m	onitor	ing well, aerial photos, previous inspections), if	f available:
Remarks: Dry			



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DP- 11

5 1 1 60									•		
Project Site:	Segment E, parcel i		059010				ing Date:	6/3/2015			
Applicant/Owner:	Puget Sound Energ						ling Point:	DP- 11			
Investigator:	Katy Crandall, Mike					City/C	ounty:	Bellevue			
Sect., Township, Range:	S 34 T 25	N R 05	•			State:		WA			
Landform (hillslope, terrace,	etc): Hillslope			Slope (9	%): 5	Local re	elief (concav	e, convex, none)	: Concave	Э	
Subregion (LRR): A				Lat:			Long:		Datum:		
			0.450/			T			Datam.		
Soil Map Unit Name: AgC	- Alderwood gravelly	y sandy loan	1, 8-15%	siopes		NWI cla	assification:	NA			
Are climatic/hydrologic cond	tions on the site typical fo	or this time of ye	ar?	⊠ Yes	☐ No	(If no, e	explain in ren	narks.)			
Are "Normal Circumstances"	present on the site?			⊠ Yes	☐ No						
Are Vegetation□, Soil □, or	Hydrology ☐ significantly	v disturbed?									
Are Vegetation□, Soil □, or	Hydrology □ naturally pr	oblematic				(If need	ded, explain	any answers in R	lemarks.)		
, , , , , , , , , , , , , , , , , , , ,	7 37										
SUMMARY OF FINDING	S - Attach site map	showing san	npling po	oint loca	itions, trans	sects, in	nportant fe	eatures, etc.			
		✓									
Hydrophytic Vegetation Pres	ent? Yo	es 🗵 N									
Hydric Soils Present?	Y	es 🗵 N	o 🗆	Is the S	Sampling Poir	nt within	a Wetland?	Yes	\overline{X}	No	
Wetland Hydrology Present?	Υ.	es 🖂 N	o 🗆								ш
, , , , , , , , , , , , , , , , , , , ,											
Remarks: Wetland	EB02 in-pit										
Nemarks.	LDUZ III-PIL										
VECETATION	lantifia namaa af nia.	-4-									
VEGETATION – Use sc	entific names of plar	nts.									
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina		Indicator	Domi	nance Tes	t Worksheet			
		Cover	Specie	s?	Status						
1.							er of Domina		2		
2.						that ar	e OBL, FAC	W, or FAC:			(A)
3.							Number of De		3		
4.						Specie	es Across All	Strata:	3		(B)
			= Total (Cover		Percer	nt of Domina	nt Species			,
			_			that ar	e OBL, FAC	W, or FAC:	67		(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam)										(A/D)
	7. Size. om diam.)					-		10/ 1 1 /			
1.						Preva		ex Worksheet			
2.						-		Cover of		Multiply b	ı <u>V</u>
3.						OBL s			x 1 =		
4.							species		x 2 =		
5.						FAC s			x 3 =		
			= Total (Cover		FACU	species		x 4 =		
						UPL sp	pecies		x 5 =		
Herb Stratum (Plot size: 1m	diam.)					Colum	n totals	(A)	(B)		
1. Juncus ensifolius		60		Υ	FACW		•				
2. Juncus tenuis		40		Υ	FAC	Pre	evalence Ir	ndex = B / A =			
3. Holcus lanatus		20		N	FAC						
4. Carex stipata		5		N	OBL	Hydro	onhytic Ve	getation Indic	ators		
5. Ranunculus repe	ne	5		N	FAC			test is > 50%	410.0		
								test is ≤ 3.0 *			
6. Equisetum telmat	eia	5		N	FACW						
7. Plantago major		5		N	FAC	_		al Adaptations *		porting	
8. Trifolium repens		5		N	FAC		data in rema	rks or on a sepa	rate sheet)		
9.							Wetland Nor	n-Vascular Plants	*		
10.						1 🗆	Problematic	Hydrophytic Veg	etation * (ex	plain)	
11.											
11.		145	= Total (Cover		* Indic	ators of hydr	ic soil and watlar	ad bydrology	must he	_
		143						ic soil and wetlar turbed or probler		must DE	,
Woody Vine Stratum (Plot	size·)					procon	n, arnoco alo	tarboa or probler	natio		
1. Rubus armeniacu	·	5		Υ	FACU	1					
	15	<u> </u>		T	FACU	4					
2.						Hyd	Irophytic Ve		res 🔀	No	
		5	= Total (Jover		1	Present	ſ			ш
% Bare Ground in Herb Stra	tum:										
Remarks:						·		·			

SOIL Sampling Point - DP-11 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix (inches) Color (moist) Color (moist) Type¹ Texture Remarks 0-5 10YR 4/2 100 Sandy loam 5-12 2.5Y 6/2 75 7.5YR 4/6 25 С M, PL Sandy loam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Hydric soil present? X Yes No

HYDROLOGY

Depth (inches): Remarks:

Wetland Hydrology Indicators:				_	
Primary Indicators (minimum of one require	red: ci	* * * * * * * * * * * * * * * * * * * *		_	ndary Indicators (2 or more required):
☐ Surface water (A1)	Ш	Sparsely Vegetated Concave Surface (B8)			Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
☐ High Water Table (A2)		Water-Stained Leaves (except MLRA 1, 2,	, 4A & 4B) (B9)		Drainage Patterns (B10)
☐ Saturation (A3)		Salt Crust (B11)			Dry-Season Water Table (C2)
☐ Water Marks (B1)		Aquatic Invertebrates (B13)			Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		\boxtimes	Geomorphic Position (D2)
☐ Drift Deposits (B3)	\boxtimes	Oxidized Rhizospheres along Living Roots	(C3)		Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		\boxtimes	FAC-Neutral Test (D5)
☐ Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)			Frost-Heave Hummocks
☐ Inundation Visible on Aerial Imagery (B7)		Other (explain in remarks)			
Field Observations					
Surface Water Present? Yes □	No	□ Depth (in):			
Water Table Present? Yes □	No	□ Depth (in):	Wetland Hydro	loav	Present? Yes X No
Saturation Present? Yes (includes capillary fringe)	No	□ Depth (in):	,		
Describe Recorded Data (stream gauge, m	onitor	ing well, aerial photos, previous inspections),	, if available:		
Remarks:					



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DP- 12

COMMIN	*							-					
Project Site:	Segment E, parcel nu	ımber 3/250/	50010			Samr	oling Date		6/3/201	5			
Applicant/Owner:	Puget Sound Energy		33010				oling Point		DP- 12				
Investigator:	Katy Crandall, Mike F						County:	_	Bellevu				
Sect., Township, Range:	S 34 T 25N					State			WA				
Landform (hillslope, terrace,				Slope (%	%): 5-10		relief (conc			one): C	Concave		
Subregion (LRR): A				Lat:	-, -		Long:		- ,		Datum:		
Soil Map Unit Name: AgC	- Alderwood gravelly	sandy loam	8-15%			NIW/I o	lassification	n· NA			- araiiii		
Are climatic/hydrologic condi		-		Yes	□ No		explain in i						
Are "Normal Circumstances"	• • • • • • • • • • • • • • • • • • • •	uns ume or year		⊴ res ⊴ Yes	☐ No ☐ No	(II IIO,	explain in i	Temaik	5.)				
Are Vegetation□, Soil □, or	•	dicturbod?	L	7 162									
Are Vegetation□, Soil □, or						(If nee	eded, expla	in any	answers	in Rem	arks.)		
SUMMARY OF FINDING	, , , , , , , , , , , , , , , , , , , ,		ling po	int loca	tions, trans	ects, i	mportant	t featu	ıres, etc	c.			
Hydrophytic Vegetation Pres	ent? Yes	. ⊠ No											
Hydric Soils Present?	Yes	No		la tha S	ompling Boir	st swith is	n a Watlan	42	Voc			No	
Wetland Hydrology Present?		_		is the 3	ampling Poir	it Within	n a wellan	iu r	Yes	\boxtimes		No	Ш
Welland Trydrology T Tesent:		, <u>N</u>											
Remarks: Wetland I	EB03; west of SE 1st s	treet.											
VEGETATION – Use sci	entific names of plant	S.											
Tree Stratum (Plot size: 5m	diam.)	Absolute % Cover	Domina Species		Indicator Status	Dom	ninance T	est W	orkshe	et			
1.							per of Domi				2		
2.							are OBL, FA						(A)
3.							Number of ies Across				2		
4.			= Total (Cover									(B)
	_		= Total C	ovei			ent of Domi are OBL, FA				100		
Sapling/Shrub Stratum (Plo	ot size: 3m diam)						0 022,	,					(A/B)
	7. Size. Sili diaili.)					D		l V	Maulaala	4			
1. 2.						Prev	alence In	1dex v % Cov		eet	N/	ultiply b	
3.						OBL	species	70 000	<u>ei oi</u>		x 1 =	unipiy b	<u>y</u>
4.							V species				x 2 =		
5.						FAC:	species				x 3 =		
			= Total (Cover		FACL	J species				x 4 =		
	_					UPL:	species				x 5 =		
Herb Stratum (Plot size: 1m	diam.)					Colur	nn totals	(A)			(B)		
1. Phalaris arundina		100		Y	FACW	_							
2. Solanum dulcama	ira	50		Y	FAC	l P	revalence	Index	K = B / A	A =			
3.						Usali	rankıdla l	Vonet	ation le	- di 4 -			
4.						⊢⊠	rophytic \ Dominand				ors		
5.						1 -	Prevalence						
6.							Morpholo				wide euer	ortina	
7.							data in rei	•		11		Jorung	
8. 9.						-	Wetland N			•	Jilogi)		
						┨ 🖯	Problema				tion * (ovr	alain)	
10.							FIODICIIIa	ilic i iyo	порттупс	vegeta	uon (ex	лант)	
11.		150	= Total (Cover		* Indi	cators of hy	vdric se	oil and w	etland h	vdrology	must be	.
	=	100	. 0 (0)				ent, unless					must DE	•
Woody Vine Stratum (Plot s	size:)												
1.]							
2.						Ну	drophytic		ation	Yes	∇	No	
	_		= Total (Cover			Prese	ent?		163		110	Ш
% Bare Ground in Herb Strat													
Remarks: Rubus arme	eniacus growing in plo	t from upslop	pe										

Sampling Point - DP-12 SOIL

Profile Descri	ption: (Describe to th	e depth neede	ed to document the indica	tor or confi	rm the absence o	f indicators	s.)	
Depth	Matrix			Redox Feat	ures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 3/2	100					Sandy Ioam	
10-12	5GY 4/1	100					Sandy loam	Slightly higher sand content
¹Type: C=Cond	centration, D=Depletion	, RM=Reduce	d Matrix, CS=Covered or C	oated Sand	Grains ² Loc: PL	_=Pore Linin	g, M=Matrix	
Hydric Soil In			nless otherwise noted.) andy Redox (S5)			ors for Probl n Muck (A10	lematic Hydric Soils ³	
☐ Histic Epip	edon (A2)	□ S	tripped Matrix (S6)		☐ Red	Parent Mat	terial (TF2)	
☐ Black Histi	c (A3)		oamy Mucky Mineral (F1) (except MLR	A 1)	er (explain ir	n remarks)	
☐ Hydrogen	Sulfide (A4)	⊠ L	oamy Gleyed Matrix (F2)					
☐ Depleted B	Below Dark Surface (A1	1) 🗆 D	epleted Matrix (F3)					
☐ Thick Dark	Surface (A12)	□R	edox Dark Surface (F6)		³ Indicate	ors of hydror	phytic vegetation and wetlan	d hydrology must
☐ Sandy Mu	cky Mineral (S1)		epleted Dark Surface (F7)		be prese	ent, unless d	isturbed or problematic	
☐ Sandy Gle	yed Matrix (S4)	□R	edox Depressions (F8)					
Restrictive Lav	er (if present):							
II -					Hydric soil	present?	Yes 🔀	No 🗍
Depth (inches)	:				nyano con	procent.	100 🔼	П
Remarks:								
7.077.07								
HYDROLOGY								
THE ROLOGI								
	ology Indicators:							
	ators (minimum of one	•		. Of (D	. \		Indicators (2 or more require	
Surface w	, ,		parsely Vegetated Concave	,	•		ter-Stained Leaves (B9) (ML	RA 1, 2, 4A & 4B)
ll -	er Table (A2)		/ater-Stained Leaves (exce	pt MLRA 1,	2, 4A & 4B) (B9)		inage Patterns (B10)	
⊠ Saturation	` '		alt Crust (B11)			•	-Season Water Table (C2)	(0.0)
☐ Water Ma	* *		quatic Invertebrates (B13)				uration Visible on Aerial Imag	gery (C9)
	Deposits (B2)		ydrogen Sulfide Odor (C1)				omorphic Position (D2)	
☐ Drift Depo			xidized Rhizospheres along	-	s (C3)		llow Aquitard (D3)	
_	or Crust (B4)		resence of Reduced Iron (C	,			C-Neutral Test (D5)	
☐ Iron Depo	` '		ecent Iron Reduction in Tille	` '	1		sed Ant Mounds (D6) (LRR A	A)
	oil Cracks (B6)	-	tunted or Stressed Plants (I	D1) (LRR A)		☐ Fros	st-Heave Hummocks	
☐ Inundation (B7)	n Visible on Aerial Imag	ery 🗌 O	ther (explain in remarks)					
Field Observa	tions							
Surface Water			Depth (in): +1/	lo"				
Water Table P	103 2		. ,					
				surface	Wetland Hydro	ology Prese	ent? Yes 🔀	No
Saturation Pre (includes capil	103 2	l No □] Depth (in): Thi	roughout				
Describe Reco	rded Data (stream gau	ge, monitoring	well, aerial photos, previou	s inspections	s), if available:			
			·					
Remarks:	About a half an inc	h of surface	water flow near the te	est pit.				



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 13

0											
B : (0)							. 5	0/0/0045			
Project Site:	Segment E, parcel n		9010				oling Date:	6/3/2015			
Applicant/Owner:	Puget Sound Energy	<u>/</u>					oling Point:	DP- 13			
Investigator:	Katy Crandall, Mike					City/0	County:	Bellevue			
Sect., Township, Range:	S 34 T 25N	I R 05E				State	:	WA			
Landform (hillslope, terrace,	etc): Hillslope			Slope (9	%): 10	Local	relief (concav	re, convex, none):	Concave	!	
Subregion (LRR): A				Lat:	L.		Long:		Datum:		
<u> </u>			450/				-		Datam.		
Soil Map Unit Name: AgC	- Alderwood gravelly	sandy loam, 8-	-15%	siopes		NWIC	lassification:	NA			
Are climatic/hydrologic cond	itions on the site typical for	this time of year?		Yes	☐ No	(If no,	explain in rer	narks.)			
Are "Normal Circumstances"	' present on the site?			Yes	☐ No						
Are Vegetation□, Soil □, or	Hvdrology significantly	disturbed?									
Are Vegetation□, Soil □, or	r Hvdrology □ naturally pro	blematic				(If nee	eded, explain	any answers in Re	emarks.)		
						l .					
SUMMARY OF FINDING	S - Attach site map s	howing sampli	ng po	int loca	tions, trans	ects, i	mportant fe	eatures, etc.			
					•		-				
Hydrophytic Vegetation Pres	sent? Yes	s 🗵 No									
Hydric Soils Present?	Yes	s 🛛 No		Is the S	ampling Poir	nt withi	n a Wetland?	Yes 🔽	<	No	
Wetland Hydrology Present?	? Yes	s 🕅 No	П		pg . c			.00 2	Ŋ	110	ш
Tremaina Tiyarenegy Treesing											
Remarks: Wetland	EPO4: depression adi:	soont to trail or	suth a	f ED02							
Nemarks. Wetland	EB04; depression adja	delli io irali sc	outil C	ii EBUS.							
VEGETATION – Use sc	ientific names of plant	s.									
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant	Indicator	Dom	inance Tes	st Worksheet			
		Cover S	Specie	s?	Status						
1.							per of Domina		1		
2.						that a	are OBL, FAC	W, or FAC:	'		(A)
3.						Total	Number of D	ominant			. ,
4.						Spec	ies Across All	Strata:	1		(B)
		=	- Total (Cover		Perce	ent of Domina	nt Species			(=)
	-						are OBL, FAC		100		(A /D)
Santing/Shrub Stratum (DI	at size. 2m diam \						,				(A/B)
Sapling/Shrub Stratum (Pl	ot size. Sili dialii.)										
1.						Prev		ex Worksheet			
2.								Cover of	M	ultiply b	<u>y</u>
3.							species		x 1 =		
4.						FAC	N species		x 2 =		
5.						FAC	species		x 3 =		
		=	Total (Cover		FACI	J species		x 4 =		
	-					UPL:	species		x 5 =		
Herb Stratum (Plot size: 1m	n diam.)					Colur	nn totals	(A)	(B)		
1. Holcus lanatus	,	75	-	Y	FAC			· /	(_)		
2. Equisetum telma	toia	25		N.	FACW	Р	revalence Ir	ndex = B / A =			
3. Carex stipata	iciu	25		N	OBL	- '	rovalonoo n	Idox = B / / (=			
		20		N	FACW	Llvd	rophytic Va	getation Indica	otoro		
4. Phalaris arundina	icea								11015		
5. Juncus effusus		20		N	FACW	\boxtimes		test is > 50%			
6.							Prevalence	test is ≤ 3.0 *			
7.							Morphologic	al Adaptations * (p	provide supp	orting	
8.							data in rema	arks or on a separa	ate sheet)		
9.							Wetland No	n-Vascular Plants	*		
						1 🗖		Hydrophytic Vege		dain)	
10.							Tioblematic	Trydrophytic vege	tation (exp	iaiii)	
11.			T								
	<u>-</u>	165 =	= Total (Cover				ric soil and wetland		must be)
						prese	ent, unless dis	turbed or problem	atic		
Woody Vine Stratum (Plot	size:)										
1.											
2.						Hv	drophytic Ve	egetation	🖂	N ! =	
		=	- Total (Cover		7 1	Present		es 🔀	No	Ш
	-					1					
% Bare Ground in Herb Stra	itum:										
	AMIII.					1					
Remarks:											
İ											

SOIL Sampling Point - DP-13

2-16	Depth	Matrix			Redox Fea	tures			
"Type: C=Concertration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains "Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils* Histosoi (A1)	(inches) 0-2		_	Color (moist)	%	Type ¹	Loc ²		Remarks
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoso (A1)	2-16	5Y 4/1	85	10YR 4/6	15	С	M		
□ Inundation Visible on Aerial Imagery □ Other (explain in remarks) Field Observations Surface Water Present? Yes □ No □ Depth (in): Water Table Present? Yes ☑ No □ Depth (in): 15" BGS Saturation Present? Yes ☑ No □ Depth (in): surface Wetland Hydrology Present? Yes ☑ No □ Depth (in): surface	Hydric Soil II Histosol (Histic Epi Black His Hydroger Depleted Thick Dar Sandy Mt Sandy Gl Restrictive La Type: Depth (inches	ndicators: (Applicable (A1) pedon (A2) tic (A3) I Sulfide (A4) Below Dark Surface (A1) k Surface (A12) ucky Mineral (S1) eyed Matrix (S4) yer (if present):	So all LRRs, t	contest of the rwise noted.) Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	(except MLI	Indicate 2cr 2cr RA 1) Oth 3 Indicate be pres	ors for Prob m Muck (A10 d Parent Mar ner (explain i tors of hydro ent, unless d	llematic Hydric Soils³)) terial (TF2) n remarks) phytic vegetation and wetland listurbed or problematic	
Water Table Present? Yes No □ Depth (in): 15" BGS Saturation Present? Yes No □ Depth (in): surface includes capillary fringe) Wetland Hydrology Present? Yes No □	VEROLOG¹ Wetland Hyd Primary Indi Surface v High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface s	rology Indicators: cators (minimum of one water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)	S V S A H C F F S	sparsely Vegetated Concav Vater-Stained Leaves (exc salt Crust (B11) equatic Invertebrates (B13) dydrogen Sulfide Odor (C1 excitized Rhizospheres alor exceent eron Reduced Iron (excent Iron Reduction in Ti	ept MLRA 1) ng Living Roo (C4) Illed Soils (C6	ots (C3)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Gec ☐ Sha ☐ FAC ☐ Rais	ter-Stained Leaves (B9) (MLR inage Patterns (B10) -Season Water Table (C2) -Season Witer Table (C2) -Season Water Table (C2) -Season Water Table (C2) -Season Water Table (C2) -Season Water Table (C2) -Neutral Test (D5) -Sead Ant Mounds (D6) (LRR A	A 1, 2, 4A & 4B
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	YDROLOG` Wetland Hyd Primary Indi □ Surface v □ High Wa ⊠ Saturatio □ Water M: □ Sedimen □ Drift Dep □ Algal Ma □ Iron Dep □ Surface s □ Inundatio (B7)	rology Indicators: cators (minimum of one water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Imag	S V S A H C F F S	sparsely Vegetated Concav Vater-Stained Leaves (exc salt Crust (B11) equatic Invertebrates (B13) dydrogen Sulfide Odor (C1 oxidized Rhizospheres alor presence of Reduced Iron (Recent Iron Reduction in Till Stunted or Stressed Plants other (explain in remarks)	ept MLRA 1) ng Living Roo (C4) Illed Soils (C6	ots (C3)	☐ Wat ☐ Drai ☐ Dry- ☐ Satu ☐ Gec ☐ Sha ☐ FAC ☐ Rais	ter-Stained Leaves (B9) (MLR inage Patterns (B10) -Season Water Table (C2) -Season Witer Table (C2) -Season Water Table (C2) -Season Water Table (C2) -Season Water Table (C2) -Season Water Table (C2) -Neutral Test (D5) -Sead Ant Mounds (D6) (LRR A	A 1, 2, 4A & 4B
	YDROLOG¹ Wetland Hyd Primary Indi Surface \ High Wa Saturatio Water M: Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatio (B7) Field Observ Surface Water Table F Saturation Pri	rology Indicators: cators (minimum of one water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Imag ations r Present? Present? Yes Esent? Yes	S S S S S S S S S S	Sparsely Vegetated Concavariate Stained Leaves (except leaves) Adult Crust (B11) Adult Crust (B13) Advingen Sulfide Odor (C1) Oxidized Rhizospheres alore of Reduced Iron (Recent Iron Reduction in Tistunted or Stressed Plants Other (explain in remarks) Depth (in): Depth (in): 15	ept MLRA 1) ng Living Roo C4) Illed Soils (C6 (D1) (LRR A	ots (C3)	☐ Wat ☐ Drai ☐ Dry ☐ Satu ☒ Gec ☐ Sha ☐ FAC ☐ Rais	ter-Stained Leaves (B9) (MLR inage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Image omorphic Position (D2) Illow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (LRR A st-Heave Hummocks	A 1, 2, 4A & 4B



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DP- 14

Davis at Oits	0					O D-1	0/0/0045		
Project Site:	Segment E, parcel r		059010			Sampling Date:	6/3/2015		
Applicant/Owner:	Puget Sound Energ					Sampling Point:	DP- 14		
Investigator:	Katy Crandall, Mike					City/County:	Bellevue		
Sect., Township, Range:	S 34 T 25	N R 051	E			State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 5-10	Local relief (concav	e, convex, none): N	IA	
Subregion (LRR): A				Lat:	<u>_</u>	Long:	[Datum:	
			0.450/					Jatani.	
Soil Map Unit Name: AgC	– Alderwood gravelly	<i>i</i> sandy loan	1, 8-15%	siopes		NWI classification:	NA		
Are climatic/hydrologic cond	tions on the site typical fo	r this time of ye	ear?	⊠ Yes	☐ No	(If no, explain in ren	narks.)		
Are "Normal Circumstances"	present on the site?		[⊠ Yes	☐ No				
Are Vegetation□, Soil □, or	Hvdrology ☐ significantly	/ disturbed?							
Are Vegetation□, Soil □, or						(If needed, explain a	any answers in Rem	ıarks.)	
	, у — р.								
SUMMARY OF FINDING	S - Attach site map s	showing sar	npling p	oint loca	ations, trans	ects, important fe	atures, etc.		
						•			
Hydrophytic Vegetation Pres	sent? Ye	es □ N	lo 🗵						
Hydric Soils Present?	Υe	es 🗆 N	lo 🗵	Is the S	Sampling Poir	nt within a Wetland?	Yes 🗍	No	∇
Wetland Hydrology Present?	Υe	es 🗆 N	lo 🗵		pg		.00	110	
Treatand Hydrelegy Freeding			.0						
Remarks: EB03/EB	04 out pit								
Remarks.	04 out-pit								
VEGETATION – Use sc	entific names of plan	ıts.							
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domin	ant	Indicator	Dominance Tes	t Worksheet		
		Cover	Specie	s?	Status				
1.						Number of Domina		2	
2.						that are OBL, FAC	W, or FAC:	2	(A)
3.						Total Number of Do	ominant		- ` ′
4.						Species Across All	Strata:	4	(B)
			= Total	Cover		Percent of Domina	nt Species		_ (D)
			_			that are OBL, FAC		50	(A /D)
0	-4 -i Oii \					, , ,			_ (A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)								
1.						Prevalence Inde	ex Worksheet		
2.						Total %	Cover of	Multiply	<u>by</u>
3.						OBL species		x 1 =	
4.						FACW species		x 2 =	
5.						FAC species		x 3 =	
			= Total	Cover		FACU species		x 4 =	
						UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)					Column totals	(A)	(B)	
Dactylis glomerat		30		Y	FACU		(7	1 (5)	
2. Holcus lanatus	a	30		Y	FAC	Drovolonco In	adox – B / A –		
				•		Frevalence II	ndex = B / A =		
3. Other grass		30		<u>Y</u>	FAC*	11 1 1 2 14			
4. Rumex crispus		10		N	FAC		getation Indicato	ors	
5.							test is > 50%		
6.						☐ Prevalence t	test is ≤ 3.0 *		
7.						Morphologic	al Adaptations * (pro	ovide supporting	J
8.						☐ data in rema	arks or on a separate	sheet)	
9.						4	n-Vascular Plants *	•	
						┨Ё ╻		tion * (aumlain)	
10.						Problematic	Hydrophytic Vegeta	tion (explain)	
11.									
		100	= Total	Cover			ic soil and wetland h		эе
						present, unless dis	turbed or problemati	iC	
Woody Vine Stratum (Plot	size:)								
 Rubus armeniacu 	IS	10		Υ	FACU				
2.	·					Hydrophytic Ve	egetation		
		10	= Total	Cover		Present		∐ No	
			_						
% Bare Ground in Herb Stra	tum: 0								
5 ,						1			
Remarks: *Presumed	FAC								
1									

SOIL Sampling Point - DP-14 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Type¹ Remarks (inches) Color (moist) Texture 100 Gravelly sandy loam 0-8 10 YR 3/2 ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3 ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): XHydric soil present? Yes No Depth (inches): Remarks: Soil very compact **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Surface water (A1) П Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) Drainage Patterns (B10) ☐ High Water Table (A2) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) (B7)Field Observations Surface Water Present? Depth (in): Yes \square No \boxtimes Water Table Present? Yes \boxtimes Depth (in): Nο \boxtimes Wetland Hydrology Present? Saturation Present? Depth (in): Yes No ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:



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DP- 15

D : (0)						0 : 0 :	0/0/0045		•
Project Site:	Segment E, parcel n		J59010			Sampling Date:	6/3/2015		
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 15		
Investigator:	Katy Crandall, Mike I					City/County:	Bellevue		
Sect., Township, Range:	S 34 T 25N	I R 05E				State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 5	Local relief (concav	e, convex, none):	Concave	
Subregion (LRR): A				Lat:		Long:		Datum:	
Soil Map Unit Name: AgC	- Alderwood gravelly	sandy loam	Q_15%	slones		NWI classification:	NΛ		
Are climatic/hydrologic cond	= = =	this time of year		⊠ Yes	☐ No	(If no, explain in rei	marks.)		
Are "Normal Circumstances"	•		Į.	⊠ Yes	☐ No				
Are Vegetation□, Soil □, or						(If needed, explain	any anawara in Ba	marka \	
Are Vegetation□, Soil □, or	Hydrology Inaturally pro	blematic				(II fieeded, explain	arry arrswers in ite	marks.)	
SUMMARY OF FINDING	S – Attach site man s	howing sam	nlina na	oint loca	tions trans	sects, important fo	eatures, etc.		
	7				,	ooto, importanti			
Hydrophytic Vegetation Pres	sent? Yes	s 🗵 No	, L						
Hydric Soils Present?	Yes	s 🗵 No		Is the S	Sampling Poir	nt within a Wetland?	Yes 🔀	an No	. П
Wetland Hydrology Present?	? Yes	s 🖂 No	o 🗆					א	′ Ш
, , , , , , , , , , , , , , , , , , , ,									
Remarks: Wetland	EB05 in-pit								
VEGETATION - Use sc	ientific names of plant	s.							
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant	Indicator	Dominance Tes	st Worksheet		
(111		Cover	Specie		Status	201111111111111111111111111111111111111			
1.						Number of Domina		2	
2.						that are OBL, FAC	W, or FAC:	2	(A)
3.						Total Number of D		2	
4.						Species Across Al	l Strata:	2	(B)
			= Total	Cover		Percent of Domina		100	
	_		_			that are OBL, FAC	W, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Ple	ot size: 3m diam.)								` ′
1.						Prevalence Ind	ex Worksheet		
2.						Total %	Cover of	Multip	oly by
3.						OBL species		x 1 =	<u></u>
4.						FACW species		x 2 =	
5.						FAC species		x 3 =	
			= Total	Cover		FACU species		x 4 =	
	-		-			UPL species		x 5 =	
Herb Stratum (Plot size: 1m	ı diam.)					Column totals	(A)	(B)	
1. Phalaris arundina	acea	60		Υ	FACW				
2. Holcus lanatus		60		Υ	FAC	Prevalence I	ndex = B / A =		
3. Vicia sp.		5		N	FAC*	1			
4. Equisetum telman	teia	5		N	FACW	Hydrophytic Ve	egetation Indica	tors	
5.							test is > 50%		
6.						☐ Prevalence	test is ≤ 3.0 *		
7.						Morphologic	cal Adaptations * (p	rovide supporti	ina
8.							arks or on a separa		5
9.						_	n-Vascular Plants '	•	
							: Hydrophytic Vege		2)
10.							Trydropriyiic vege	iation (explain	'/
11.		130	= Total	^over		* Indicators of bud	ria aail aa d watlaad	l budrala au racur	a4 h a
	-	130	_ Total •	50461			ric soil and wetland sturbed or problema		st be
Woody Vine Stratum (Plot	size:)					processing armood and	otario a or problem	*****	
1.	,								
2.						Hydrophytic V	egetation	-	_
			= Total	Cover		Present		∍s ⊠ I	No
	-		-						
% Bare Ground in Herb Stra	tum:								
						1			
Remarks: *Presumed	FAC								

SOIL Sampling Point - DP-15 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) Remarks (inches) Color (moist) Type¹ Texture 100 0-9 2.5Y 3/2 Loam High organic content 9-16 5GY 4/1 100 Gravelly sandy loam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) \boxtimes Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) \Box Redox Dark Surface (F6) П Depleted Dark Surface (F7) be present, unless disturbed or problematic □ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Hydric soil present? \boxtimes Yes No Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): ☐ Surface water (A1) ☐ Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) Drainage Patterns (B10) Salt Crust (B11) Dry-Season Water Table (C2) ☐ Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) ☐ Sediment Deposits (B2) \boxtimes Hydrogen Sulfide Odor (C1) \boxtimes Geomorphic Position (D2) ☐ Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) ☐ Algal Mat or Crust (B4) \Box \square Presence of Reduced Iron (C4) FAC-Neutral Test (D5)

П

Iron Deposits (B5)

Field Observations
Surface Water Present?

Water Table Present?

(includes capillary fringe)

Saturation Present?

Remarks:

Surface Soil Cracks (B6)

Inundation Visible on Aerial Imagery

Yes 🏻

Yes 🗵

Yes 🛛

Shallow standing water

 \Box

No

No \square

No \square

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Recent Iron Reduction in Tilled Soils (C6)

Stunted or Stressed Plants (D1) (LRR A)

+1/2

At surface

Throughout

Other (explain in remarks)

Depth (in):

Depth (in):

Depth (in):

П

П

Wetland Hydrology Present?

Raised Ant Mounds (D6) (LRR A)

X

No

Frost-Heave Hummocks



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 16

750 Sixth Street South Kirkland, Washington 98033 (425) 822-5242 watershedco.com

Project Site: Segment E, parcel number 3425059010 Applicant/Owner: Puget Sound Energy Investigator: Katy Crandall, Mike Foster Sect., Township, Range: S 34 T 25N R 05E									Sampling Date: Sampling Point: City/County:	; e				
Sect., Township, Range:									State:	WA				
Landform (hillslope, terrace, etc): Hillslope Slope (%):								1	Local relief (concave	, convex, no	ne): C	oncave		
Subregion (LRR): A Lat:									Long:		D:	atum:		
Soil Map Unit Name: AgC – Alderwood gravelly sandy loam, 8-15% slopes									NWI classification: NA					
Are climatic/hydrologic condi	Are climatic/hydrologic conditions on the site typical for this time of year? No									arks.)				
Are "Normal Circumstances"	present on the site?					⊠ Yes		No						
Are Vegetation□, Soil □, or Are Vegetation□, Soil □, or		-		?					(If needed, explain a	ny answers i	n Rema	arks.)		
SUMMARY OF FINDING	S – Attach site ma	ap sho	wing	sampl	ing po	oint loca	itions	, trans	sects, important fea	atures, etc				
Hydrophytic Vegetation Pres	ent?	Yes	\boxtimes	No										
Hydric Soils Present?		Yes	\boxtimes	No		Is the S	Sampli	ing Poi	nt within a Wetland?	Yes	\boxtimes	No)	
Wetland Hydrology Present? Yes ⊠ No □														
Remarks: Wetland I	EB06													

VEGETATION - Use scientific names of plants. Tree Stratum (Plot size: 5m diam.) Absolute % Dominant Indicator **Dominance Test Worksheet** Cover Species? Status Number of Dominant Species 2 that are OBL, FACW, or FAC: 2. (A) **Total Number of Dominant** 3. 2 Species Across All Strata: 4. (B) = Total Cover Percent of Dominant Species 100 that are OBL, FACW, or FAC: (A/B) Sapling/Shrub Stratum (Plot size: 3m diam.) **Prevalence Index Worksheet** 2. Total % Cover of Multiply by **OBL** species x 1 = 3. FACW species x 2 = 5 FAC species x 3 = = Total Cover FACU species x 4 = **UPL** species x 5 = Herb Stratum (Plot size: 1m diam.) Column totals (A) (B) Phalaris arundinacea 90 **FACW** Equisetum telmateia 50 Υ **FACW** Prevalence Index = B / A = FAC* Vicia sp. 20 Ν 3. N FAC **Hydrophytic Vegetation Indicators** 5 4. Cirsium arvense Dominance test is > 50% 5. Prevalence test is ≤ 3.0 * 6. Morphological Adaptations * (provide supporting 7. 8. data in remarks or on a separate sheet) Wetland Non-Vascular Plants * 9. П Problematic Hydrophytic Vegetation * (explain) 10. 11. 165 = Total Cover * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Woody Vine Stratum (Plot size: 2. **Hydrophytic Vegetation** No = Total Cover Present? % Bare Ground in Herb Stratum: Remarks: *Presumed FAC

SOIL Sampling Point - DP-16 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix (inches) Color (moist) Color (moist) Type¹ Texture Remarks Sandy loam 0-5 2.5Y 3/2 100 5-14 10GY 4/1 90 10YR 4/8 10 С M, PL Loamy sand ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Hydric soil present? X Yes No Depth (inches):

HYDROLOGY

Remarks:

IIIDKOLOGI									
Wetland Hydrology Indicat									
Primary Indicators (minimum	n of oi	ne requi	red: ci		11 2/	0 ((0		Seco	ndary Indicators (2 or more required):
☐ Surface water (A1)			Ш	•		oncave Surface (B8	•	Ш	Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
☐ High Water Table (A2)				Wate	r-Stained Leaves	(except MLRA 1,	2, 4A & 4B) (B9)		Drainage Patterns (B10)
⊠ Saturation (A3)				Salt C	Crust (B11)				Dry-Season Water Table (C2)
☐ Water Marks (B1)				Aquat	tic Invertebrates	(B13)			Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)				Hydro	gen Sulfide Odo	or (C1)		\boxtimes	Geomorphic Position (D2)
☐ Drift Deposits (B3)			\boxtimes	Oxidiz	zed Rhizosphere	s along Living Root	s (C3)		Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)				Prese	nce of Reduced	Iron (C4)		\boxtimes	FAC-Neutral Test (D5)
☐ Iron Deposits (B5)				Recei	nt Iron Reduction	n in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)			Stunte	ed or Stressed P	lants (D1) (LRR A)			Frost-Heave Hummocks
☐ Inundation Visible on Ae (B7)	rial Im	nagery		Other	(explain in rema	arks)			
Field Observations									
Surface Water Present?	Yes		No	\boxtimes	Depth (in):				
Water Table Present?	Yes		No	\boxtimes	Depth (in):		Wetland Hydro	ology	Present? Yes 🗙 No
Saturation Present? (includes capillary fringe)	Yes		No		Depth (in):	Throughout		0,	
Describe Recorded Data (str Remarks: Water seep						ground surface		botte	om of pit.



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DP- 17

Duniant Cita	Commont E monocli		700025			C	nline Date.	C/E/204E				
Project Site:	Segment E, parcel r		/00035				pling Date:	6/5/2015				
Applicant/Owner:	Puget Sound Energ		l F				pling Point:	DP- 17				
Investigator:	Katy Crandall, Rose			er		•	County:	Bellevue				
Sect., Township, Range:	S 03 T 24	N R 05E		0. (State		WA	` ^			
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 5	Local	relief (conca	ve, convex, non	ie): C	oncave		
Subregion (LRR): A				Lat:			Long:		D	atum:		
Soil Map Unit Name: AgD	- Alderwood gravelly	y sandy loam	, 15-30%	slopes	;	NWI	classification:	NA				
Are climatic/hydrologic cond				✓ Yes	☐ No	(If no.	, explain in re	marks.)				
Are "Normal Circumstances"	= = =	, , , , , , , , , , , , , , , , , , , ,		⊠ Yes	□ No	,	, . ,	,				
Are Vegetation□, Soil □, or		/ disturbed?										
Are Vegetation □, Soil □, or						(If ne	eded, explain	any answers ir	Rema	arks.)		
SUMMARY OF FINDING	S - Attach site map	showing sam	pling po	oint loca	tions, trans	ects, i	important f	eatures, etc.				
Hydrophytic Vegetation Pres	cont2 V	es 🗵 No										
, , , ,		_	_						_			_
Hydric Soils Present?	Ye			Is the S	Sampling Poir	nt withi	n a Wetland	? Yes	\boxtimes		No	Ш
Wetland Hydrology Present?	? Y€	es 🗵 No	o 🗌									
Remarks: Wetland	EB11											
VECETATION	iantifia namaa af mlan	4-										
VEGETATION – Use sc	entific names of plan	its.				1						
						l _						
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina		Indicator	Don	ninance Te	st Workshee	t			
4		Cover	Specie	S?	Status	Num	ber of Domin	ant Species				
1. 2.							are OBL, FAC			2		(4)
							Number of D					(A)
3. 4.							cies Across A			2		(D)
4.			= Total (over			ent of Domina					(B)
			TOTAL V	J0V61			are OBL, FAC			100		
C!(Cl	- 4 - i O Ii \						a.o ozz,	-				(A/B)
Sapling/Shrub Stratum (Plo												
1. Rubus spectabilis	<u>\$</u>	15		Y	FAC	Prev		lex Workshe	et			
2.								Cover of			<u>ıltiply b</u>	У
3.							species			x 1 =		
4.							W species			x 2 =		
5.			= Total (Cover			species			x 3 =		
			= 10tarv	Jovei			U species species			x 4 =		
Harb Stratum (Diet eine, 4m	, diam \						mn totals	(A)		x 5 =		
Herb Stratum (Plot size: 1m		0.5		·	E A CIA/	Colu	min totals	(A)		(B)		
1. Phalaris arundina	icea	85		<u>Y</u>	FACW	-		Inday D / A				
 Juncus effusus Typha latifolia 		20		<u>N</u> N	FACW	-	revalence i	Index = B / A	=			
		15			OBL FACU	Llscal	ranhydia V	agatatian Ind	licata			
4. Galium sp.		10		N				egetation Inc test is > 50%	licato	15		
5. Stachys cooleyae		5		N	FACW							
6. Athyrium cycloso		5		N	FAC			test is ≤ 3.0 *				
7. Equisetum telmat	eia	Trace		N	FACW	1		cal Adaptations			orting	
8.								arks or on a sep		sheet)		
9.							Wetland No	on-Vascular Pla	nts *			
10.							Problemation	c Hydrophytic V	egetati	on * (expl	ain)	
11.												
		140	= Total (Cover				fric soil and wet			nust be	÷
			_			prese	ent, unless di	sturbed or prob	lematic	;		
Woody Vine Stratum (Plot	size:)					1						
1.						1						
2.						Hy	ydrophytic V		Yes	\boxtimes	No	
			= Total (Cover			Presen	it?	100		140	Ш
% Bare Ground in Herb Stra	tum:											
Remarks:												
I												

SOIL Sampling Point - DP-17 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix (inches) Color (moist) Color (moist) Type¹ Texture Remarks Loc² 7.5YR 3/4 Sandy loam 0-5 10YR 3/2 10 С М 7 5-14 10Y 3/1 93 5YR 3/4 С PL Coarse sandy loam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) □ Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Hydric soil present? X Yes No Depth (inches): Remarks:

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one require	ed: ci	11 37	Secondary Indicators (2 or more required):
Surface water (A1)	Ш	Sparsely Vegetated Concave Surface (B8)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
☐ High Water Table (A2)		Water-Stained Leaves (except MLRA 1, 2, 4A	, , ,
⊠ Saturation (A3)		Salt Crust (B11)	Dry-Season Water Table (C2)
☐ Water Marks (B1)		Aquatic Invertebrates (B13)	 Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)	☑ Geomorphic Position (D2)
☐ Drift Deposits (B3)	\boxtimes	Oxidized Rhizospheres along Living Roots (C3	3) Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	
☐ Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)	Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)	☐ Frost-Heave Hummocks
☐ Inundation Visible on Aerial Imagery (B7)		Other (explain in remarks)	
Field Observations			
Surface Water Present? Yes □	No	□ Depth (in):	
Water Table Present? Yes □	No	□ Depth (in): w	etland Hydrology Present? Yes X No
Saturation Present? Yes 🖂 (includes capillary fringe)	No		
Describe Recorded Data (stream gauge, m	onitor	ing well, aerial photos, previous inspections), if a	available:
Remarks:			



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DP- 18

Davis at Oile	0		70000			On and the art Dates	0/5/0045		
Project Site:	Segment E, parcel n		/00035			Sampling Date:	6/5/2015		
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 18		
Investigator:	Katy Crandall, Rose			er		City/County:	Bellevue		
Sect., Township, Range:	S 03 T 24N	N R 05E				State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%	%): 5	Local relief (concav	/e, convex, none):	None	
Subregion (LRR): A				Lat:		Long:		Datum:	
Soil Map Unit Name: AgD	- Alderwood gravelly	eandy loam	15_30%	slones		NWI classification:	NΛ		
Are climatic/hydrologic cond		this time of year		⊠ Yes	□ No	(If no, explain in re	marks.)		
Are "Normal Circumstances"	•		Į.	⊠ Yes	☐ No				
Are Vegetation□, Soil □, or						(If needed explain	any answers in Rei	marka)	
Are Vegetation□, Soil □, or	Hydrology □ naturally pro	blematic				(II fleeded, explain	any answers in ite	marks.)	
SUMMARY OF FINDING	S – Attach site man s	howing sam	nlina na	oint loca	tions trans	ects, important fo	eatures, etc.		
	7 Autuon onto map o				,	ooto, iii portuii r			
Hydrophytic Vegetation Pres	ent? Ye	s ∐ No	$_{\mathrm{o}}$						
Hydric Soils Present?	Ye	s 🗆 No		Is the S	Sampling Poir	nt within a Wetland?	Yes	7 No	
Wetland Hydrology Present?	Ye	s 🗌 No			pg . c				
, , , , , , , , , , , , , , , , , , , ,									
Remarks: Wetland	EB11 out-pit								
VEGETATION - Use sci	ientific names of plant	ts.							
	-								
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant	Indicator	Dominance Tes	st Worksheet		
`	,	Cover	Specie	s?	Status				
1.						Number of Domina		1	
2.						that are OBL, FAC	CW, or FAC:	,	(A)
3.						Total Number of D		2	
4.						Species Across Al	l Strata:	2	(B)
			= Total	Cover		Percent of Domina		50	
	•		='			that are OBL, FAC	CW, or FAC:	50	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)								` ′
1.						Prevalence Ind	ex Worksheet		
2.						Total %	Cover of	Multip	ly by
3.						OBL species		x 1 =	
4.						FACW species		x 2 =	
5.						FAC species		x 3 =	
			= Total	Cover		FACU species		x 4 =	
	-		-			UPL species		x 5 =	
Herb Stratum (Plot size: 1m	ı diam.)					Column totals	(A)	(B)	
1. Various unknown	grasses	80		Υ	FAC*				
2. Equisetum telmat	•	15		N	FACW	Prevalence I	ndex = B / A =		
3. Phalaris arundina	ncea	15		N	FACW				
4.						Hydrophytic Ve	egetation Indica	tors	
5.							test is > 50%		
6.						☐ Prevalence	test is ≤ 3.0 *		
7.						4 =	cal Adaptations * (p	rovide supportir	na
8.							arks or on a separa		.9
9.							n-Vascular Plants *	,	
						1 —	: Hydrophytic Veget		١
10.						☐ Problemation	Trydropriytic veget	ation (explain	
11.		440	= Total	Cover					
	-	110	- 10tdl t	OOVEI			ric soil and wetland sturbed or problema		ιbe
Woody Vine Stratum (Plot :	size:					p. 55511, 4711655 UK		<u></u>	
Rubus armeniacu	·	20		Υ	FACU	1			
2. Rubus ursinus	••	Trace		N.	FACU	Hydrophytic V	ogotation	_	_
เงนมนอ นเอแเนอ		20	= Total		. 700	Hydrophytic ve Present		:s ∐ N	4o 🔀
	-	20	-						
% Bare Ground in Herb Stra	tum:								
						L			
Remarks: *Presumed	FAC								

SOIL Sampling Point - DP-18 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) Type¹ Texture Remarks (inches) Color (moist) 100 0-9 10YR 2/2 Sandy Ioam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3 ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: XHydric soil present? Yes No Depth (inches): Remarks: Soils contain some cobbles and is compact. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Surface water (A1) П Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) ☐ High Water Table (A2) Drainage Patterns (B10) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) П Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) (B7)Field Observations Surface Water Present? Depth (in): Yes \square No \boxtimes Water Table Present? Yes \boxtimes Depth (in): Nο \boxtimes Wetland Hydrology Present? Saturation Present? Depth (in): Yes No ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

dry



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DP- 19

001111111	*							. •				
Project Site:	Segment E, parcel	number 2077	700042			Sampling I	Jate.	6/5/2015				
Applicant/Owner:	Puget Sound Energ		700042			Sampling I		DP- 19				
Investigator:	Katy Crandall, Ros		ke Fost	er		City/Count		Bellevue	1			
Sect., Township, Range:		4N R 05E				State:	, .	WA				
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): <5	5	Local relief	concave	e, convex, nor	ne): N	one		
Subregion (LRR): A				Lat:		L	ong:		D	atum:		
Soil Map Unit Name: AgD	- Alderwood gravell	ly sandy loam	, 15-30%	slopes		NWI classifi	cation:	NA				
Are climatic/hydrologic condit	ions on the site typical f	or this time of ye	ar?	⊠ Yes □	No	(If no, expla	in in rem	arks.)				
Are "Normal Circumstances"	present on the site?			⊠ Yes □	No							
Are Vegetation \square , Soil \square , or	, 0, 0	•							_			
Are Vegetation□, Soil □, or	Hydrology ☐ naturally p	roblematic				(If needed, 6	explain a	any answers ir	n Kema	ırks.)		
SUMMARY OF FINDING	S – Attach site map	showing sam	pling po	oint locations,	trans	ects, impor	tant fe	atures, etc.	ı			
Hydrophytic Vegetation Pres	ent? Y	∕es ⊠ No	o 🗆									
Hydric Soils Present?	Υ	∕es ⊠ No	o 🗆	Is the Samplir	na Poin	t within a W	atland?	Yes	\boxtimes		No	
Wetland Hydrology Present?	Υ	′es ⊠ No	_	is the oumpin	ig i oiii	it within a w	Juana .	103			140	Ш
, ,,												
Remarks: Wetland B	B12											
VEGETATION II :												
VEGETATION – Use sci	entific names of pla	nts.				1						
Tree Stratum (Plot size: 5m	diam)	Absolute %	Domina	ant Indic	ator	Dominan	ce Tes	t Workshee	t			
(1.00.01201.011	<u> </u>	Cover	Specie			Dominan	00 100	· · · · · · · · · · · · · · · · · · ·	•			
1. Salix scouleriana		100		Y F	AC	Number of that are OB				4		
2.								· ·				(A)
3. 4.						Total Numb Species Ac				5		(D)
4.			= Total (Cover		Percent of						(B)
		-	_			that are OB				80		(A/B)
Sapling/Shrub Stratum (Plo	t size: 3m diam.)							-		-		()
1. Rubus spectabilis		45		Y F	AC	Prevalen	ce Inde	x Workshe	et			
2.						-		Cover of		<u>M</u>	ultiply b	<u>y</u>
3.						OBL specie				x 1 =		
4. 5.						FACW specie				x 2 =		
5.		45	= Total (Cover		FACU specie				x 4 =		
			-			UPL specie				x 5 =		
Herb Stratum (Plot size: 1m	diam.)					Column tota	als	(A)		(B)		
1. Equisetum telmate	eia	10		Y FA	CW							
3.						Preval	ence In	dex = B / A	=			
4.						Hydronhy	rtic Ve	getation Inc	licato	re		
5.								est is > 50%	ilouto			
6.						_ ☐ Prev	alence t	est is ≤ 3.0 *				
7.						Morp	hologica	al Adaptations	* (prov	vide supp	orting	
8.						☐ data	in rema	rks or on a se	parate	sheet)		
9.						_		-Vascular Pla				
10.						☐ Prob	lematic	Hydrophytic V	'egetati	on * (exp	olain)	
11.		40	- Total (Cover		* 1 " '						
		10	= Total (J0161				c soil and wet urbed or prob			must be	•
Woody Vine Stratum (Plot s	ize:)											
1. Rubus armeniacu	s	50		Y FA	CU							
2. Solanum dulcama	nra	25			AC			getation	Yes	\square	No	
		75	= Total (Cover		[F	Present'	?	100		. 10	Ш
9/ Para Cround in Hash Chart	um: 70											
% Bare Ground in Herb Strat Remarks:	uiii. 70					<u> </u>						
Nomano.												
ii												

SOIL Sampling Point - DP-19 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features (inches) Color (moist) Color (moist) Type¹ Texture Remarks 0-10 10YR 3/1 100 Silt loam 10-14 2.5Y 3/1 100 Coarse loamy sand Few cobbles ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Red Parent Material (TF2) ☐ Stripped Matrix (S6) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic Depleted Dark Surface (F7) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Hydric soil present? \boxtimes П Yes No Depth (inches): Remarks: Soils very saturated, no redox visible at the time of sampling.

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one require	ed: ci	neck all that apply):		Seco	ndary Indicators (2 or more required):
☐ Surface water (A1)		Sparsely Vegetated Concave Surface (B8)			Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
☐ High Water Table (A2)		Water-Stained Leaves (except MLRA 1, 2,	4A & 4B) (B9)		Drainage Patterns (B10)
		Salt Crust (B11)			Dry-Season Water Table (C2)
☐ Water Marks (B1)		Aquatic Invertebrates (B13)			Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)	\boxtimes	Hydrogen Sulfide Odor (C1)		\boxtimes	Geomorphic Position (D2)
☐ Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots	(C3)		Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)			FAC-Neutral Test (D5)
☐ Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)			Frost-Heave Hummocks
☐ Inundation Visible on Aerial Imagery (B7)		Other (explain in remarks)			
Field Observations					
Surface Water Present? Yes □	No	□ Depth (in):			
Water Table Present? Yes ⊠	No	☐ Depth (in): 5 BGS	Wetland Hydro	loav I	Present? Yes No
Saturation Present? Yes ⊠	No	☐ Depth (in): throughout	Wolland Hydro	.cg,	100 🖂
(includes capillary fringe)					
Describe Recorded Data (stream gauge, mo	onitor	ling well, aerial photos, previous inspections)	, if available:		
Remarks: Surface soil visibly satu	ırate	d due to groundwater seeps. BGS =	below ground	sur	face



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DP- 20

Desired Oites	0		50040			OB-t	0/0/0045			
Project Site:	Segment E, parcel r		59016			Sampling Date:	6/8/2015			
Applicant/Owner:	Puget Sound Energ					Sampling Point:	DP- 20			
Investigator:	Katy Crandall, Nell I		wuters			City/County:	Bellevue			
Sect., Township, Range:	S 34 T 25	N R 05E		T		State:	WA			
Landform (hillslope, terrace,	etc): Hillslope				%): 5-10	Local relief (concav	ve, convex, none):	None		
Subregion (LRR): A				Lat:		Long:		Datum:		
Soil Map Unit Name: AgD	 Alderwood gravelly 	y sandy loam,	15-30%	slopes	6	NWI classification:	NA			
Are climatic/hydrologic condi	tions on the site typical for	r this time of yea	ır? [Yes	☐ No	(If no, explain in rei	marks.)			
Are "Normal Circumstances"				⊠ Yes	☐ No					
Are Vegetation□, Soil □, or	Hydrology ☐ significantly	/ disturbed?								
Are Vegetation□, Soil □, or						(If needed, explain	any answers in Rer	narks.)		
SUMMARY OF FINDING	S – Attach site map s	showing sam	pling po	oint loca	ations, trans	sects, important fo	eatures, etc.			
Hydrophytic Vegetation Pres	ent? Ye	es 🗵 No								
Hydric Soils Present?	Ye	es 🗵 No		1-416	0 II D - i-		, v., 🔽	1	NI.	
· ·			_	is the s	Sampling Poli	nt within a Wetland?	? Yes 🔀		No	Ш
Wetland Hydrology Present?	Te	;5 🛆 INU	Ш							
Remarks: Wetland I	EB08									
V=0=1=1=1										
VEGETATION – Use sci	entific names of plan	its.				1				
						l				
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domin		Indicator	Dominance Tes	st Worksheet			
1.		Cover	Specie	S?	Status	Number of Domina	ant Species			
2.						that are OBL, FAC		4		(4)
3.						Total Number of D				(A)
4.						Species Across Al		4		(D)
4.			= Total	Cover		Percent of Domina				(B)
						that are OBL, FAC		100		(A (D)
Sapling/Shrub Stratum (Plo	ot cizo: 2m diam \					, ,				(A/B)
					F40	D				
1. Populus balsamif	era (sapiing)	5		Y	FAC	Prevalence Ind	Cover of	M	ıltiply by	.,
3.						OBL species	Cover or	x 1 =	ilipiy by	<u>Y</u>
4.						FACW species		x 2 =		
5.						FAC species		x 3 =		
J.		5	= Total	Cover		FACU species		x 4 =		
						UPL species		x 5 =		
Herb Stratum (Plot size: 1m	diam.)					Column totals	(A)	(B)		
1. Phalaris arundina		90		Υ	FACW		()	1(5)		
2. Juncus effusus		35		Y	FACW	Prevalence I	ndex = B / A =			
3. Carex stipata		5		N	OBL	1				
4.						Hydrophytic Ve	egetation Indicat	ors		
5.							test is > 50%			
6.						☐ Prevalence	test is ≤ 3.0 *			
7.						4 =	cal Adaptations * (pr	ovide suppo	ortina	
8.							arks or on a separat			
9.						_	on-Vascular Plants *	,		
10.							Hydrophytic Vegeta	ation * (expl	ain)	
11.	_						Tryaropriyao vogoa	ation (oxpit		
11.		130	= Total	Cover		* Indicators of hyd	ric soil and wetland	hydrology m	nust ha	
		100		•			sturbed or problema		.401 00	
Woody Vine Stratum (Plot s	size: 3m diam)						•			
1. Solanum dulcama		15		Υ	FAC					
2.						Hydrophytic V	egetation			
		15	= Total	Cover		Present		s 🔀	No	Ш
% Bare Ground in Herb Strat	tum:									
Remarks:						•		-		

SOIL Sampling Point – DP-20

Profile Descri	ption: (Describe to the	depth neede	d to document the ind	licator or confi	rm the absence	of indicators	s.)	
Depth	Matrix			Redox Feat	ures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 3/2	100					Sandy Ioam	
4-12	10GY 4/1	90	7.5YR 4/6	10	С	M, PL	Sandy clay loam	
¹ Type: C=Con	centration, D=Depletion,	RM=Reduce	d Matrix, CS=Covered o	r Coated Sand	Grains ² Loc: 1	PL=Pore Linin	g, M=Matrix	
-	dicators: (Applicable to			.)			lematic Hydric Soils³	
☐ Histosol (A	•		andy Redox (S5)			cm Muck (A10	,	
☐ Histic Epip	` '		tripped Matrix (S6)	4) /		ed Parent Mat	, ,	
☐ Black Histi	` '		pamy Mucky Mineral (F		•	ther (explain i	n remarks)	
☐ Hydrogen			pamy Gleyed Matrix (F2	2)				
	Below Dark Surface (A11	,	epleted Matrix (F3)		3			
	Surface (A12)		edox Dark Surface (F6)				phytic vegetation and wetlan isturbed or problematic	d hydrology must
1	cky Mineral (S1)		epleted Dark Surface (F	- 7)	be pre	sent, uniess u	isturbed of problematic	
☐ Sandy Gle	eyed Matrix (S4)	□R	edox Depressions (F8)					
_	er (if present):							
Type:					Hydric so	oil present?	Yes 🔀	No 🗌
Depth (inches)	:							
Remarks:								
HYDROLOGY	,							
	ology Indicators: eators (minimum of one re	auirad: abaa	k all that apply):			Sacandan	Indicators (2 or more require	od):
☐ Surface w	•		oarsely Vegetated Conc	ave Surface (R	8)		er-Stained Leaves (B9) (ML	*
	er Table (A2)		ater-Stained Leaves (e)	,	*		nage Patterns (B10)	1, 2, 4A & 4B)
☐ Flight Water ☐ Saturation	` '		alt Crust (B11)	kcept william i,	2, 4A & 4B) (B9	•	Season Water Table (C2)	
☐ Water Ma	, ,		quatic Invertebrates (B1	3)		•	uration Visible on Aerial Imag	nery (CQ)
	, ,			,			•	Jery (Ca)
	Deposits (B2)		ydrogen Sulfide Odor (C	-	to (C2)		omorphic Position (D2)	
☐ Drift Depo			xidized Rhizospheres al		is (C3)		llow Aquitard (D3)	
_	or Crust (B4)		esence of Reduced Iron	` '	`		C-Neutral Test (D5)	A.\
☐ Iron Depo	` '		ecent Iron Reduction in	`	,		sed Ant Mounds (D6) (LRR A	4)
	oil Cracks (B6)		unted or Stressed Plant	. , . ,		☐ Fros	st-Heave Hummocks	
☐ Inundation (B7)	n Visible on Aerial Image	ry 🗆 O	ther (explain in remarks))				
Field Observa	ations				1			
Surface Water		No ⊠	Depth (in):		1			
Water Table P	.00 🗆						.	\Box
Saturation Pre	163			4-12 BGS	Wetland Hyd	Irology Prese	ent? Yes 🔀	No
(includes capil		No 🗆	Debili (III).	- 12 DGG	1			
				<u> </u>				
Describe Reco	orded Data (stream gauge	e, monitoring	well, aerial photos, prev	vious inspection	s), if available:			

Remarks:

BGS = below ground surface



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DP- 21

COMMIN	*										
Project Site:	Segment E, parcel r	umber 34250	59016			Sampling	Date:	6/8/2015			
Applicant/Owner:	Puget Sound Energ		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Sampling		DP- 21			
Investigator:	Katy Crandall, Nell I		Muters			City/Cour		Bellevue			
Sect., Township, Range:	S 34 T 25I		matoro			State:		WA			
Landform (hillslope, terrace,				Slope (%): ~5		(concave	, convex, none	e): Nor	ne	
Subregion (LRR): A				Lat:	,		Long:		Datı	um:	
Soil Map Unit Name: AgD	- Alderwood gravelly	sandy loam.	15-30%	slopes	<u> </u>	NWI classi	fication:	NA .			
Are climatic/hydrologic condit				⊻ Yes	☐ No	(If no, expl	ain in rem	arks.)			
Are "Normal Circumstances"		, , , , , , , , , , , , , , , , , , , ,		⊠ Yes	□ No	(-, -		,			
Are Vegetation□, Soil □, or	Hydrology ☐ significantly	disturbed?									
Are Vegetation□, Soil □, or	Hydrology naturally pro	oblematic				(If needed,	explain a	ny answers in	Remark	s.)	
SUMMARY OF FINDING	S – Attach site map s	showing sam	pling po	oint loca	itions, trans	ects, impo	ortant fea	atures, etc.			
Hydrophytic Vegetation Pres	ent? Ye	s 🗵 No	, \square								
Hydric Soils Present?	Ye	s 🗆 No		Is the S	Sampling Poi	nt within a V	Vetland?	Yes		No	∇
Wetland Hydrology Present?	Ye	s 🗆 No	_	13 1110 0	Jamping i on	it within a v	· Cliana	103	ш	140	
, 0,											
Remarks: Former w	etland per GeoEngin	eers' 2008 de	lineatio	n							
VEGETATION – Use sci	entific names of plan	ts.				1					
Tree Stratum (Plot size: 5m	diam)	Absolute %	Domina	ant	Indicator	Domina	nce Test	Worksheet			
Tree Stratum (1 lot 3126. 5111	ulam.)	Cover	Specie		Status	Domina	ice resi	WOIKSHEEL			
1.						Number o				3	
2.						that are O		•		J	(A)
3.						Total Num				4	
4.			Total	201101		Species A				•	_ (B)
			= Total (Jover		Percent of that are O				75	
Sapling/Shrub Stratum (Plo	t cize: 3m diam)					triat are o	DL, I AOV	-			_ (A/B)
1. Alnus rubra	t 3ize. 3iii didiii.)	5	,	Y	FAC	Brovolor	oo Indo	x Workshee			
2.		5		1	FAC	Frevalei	Total % C		·L	Multiply	hv
3.						OBL spec		/0701 01	Ιx	: 1 =	<u>Dy</u>
4.						FACW spe				: 2 =	
5.						FAC spec	ies		х	3 =	
		5	= Total (Cover		FACU spe	ecies		х	: 4 =	
			-			UPL spec	ies		Х	: 5 =	
Herb Stratum (Plot size: 1m	diam.)					Column to	tals	(A)	(B)	
Juncus effusus		75		Y	FACW	1 _		/ -			
2. Phalaris arundina	cea	40		Y	FACW	Preva	ilence In	dex = B / A =	:		
3.						Hydronk	veic Voc	otation Indi	catore		
4. 5.								getation Indi est is > 50%	Calors		
6.								est is ≤ 3.0 *			
7.								I Adaptations '	* (provid	e supporting	
8.								ks or on a sep	***		
9.								Vascular Plan		,	
10.						1 -		Hydrophytic Ve		* (explain)	
11.							2.0	., a. op., ,	gotation	(0/10/11/1)	
•		115	= Total (Cover		* Indicator	s of hvdrid	soil and wetla	and hvdr	ology must I	oe
			-					urbed or proble			
Woody Vine Stratum (Plot s		20	,	v	EACH	4					
1. Rubus armeniacu	5	20		Y	FACU	┨	de de M				
2.		20	= Total (Cover		Hydrop	hytic Veg Present?		Yes	No.	
		4 0									
% Bare Ground in Herb Strat	um:										
Remarks:						•					
I											

SOIL Sampling Point - DP-21 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Type¹ Remarks (inches) Color (moist) Texture 100 0-5 10 YR 3/2 Gravelly sandy clay loam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: \boxtimes Hydric soil present? Yes No Depth (inches): Remarks: Compact, cannot dig below 5" depth. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): ☐ Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Surface water (A1) Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) ☐ High Water Table (A2) Drainage Patterns (B10) ☐ Saturation (A3) Salt Crust (B11) П Dry-Season Water Table (C2) □ Water Marks (B1) Aquatic Invertebrates (B13) П Saturation Visible on Aerial Imagery (C9) ☐ Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) ☐ Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aguitard (D3) ☐ Algal Mat or Crust (B4) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Other (explain in remarks) Inundation Visible on Aerial Imagery П (B7)Field Observations Surface Water Present? Depth (in): Yes \square \boxtimes No Water Table Present? Depth (in): Yes \square \boxtimes No Wetland Hydrology Present? \boxtimes Saturation Present? Depth (in): Yes □ No 🗵 (includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



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DP- 22

750 Sixth Street South Kirkland, Washington 98033 (425) 822-5242 watershedco.com

COMITAIN	(1									Waterer		0.00
Project Site:	Segment E, parcel	number 3425	059017			Sampling I	Date.	6/8/201	5			
Applicant/Owner:	Puget Sound Ener		000017			Sampling I		DP- 22				
Investigator:	Katy Crandall, Nell		Muters			City/Count		Bellevi				
Sect., Township, Range:		5N R 05E				State:	· y ·	WA				
Landform (hillslope, terrace,			_	Slope (%): 2	Local relief (concave		one): C	oncave		
Subregion (LRR): A	,			Lat:	7-7-		ong:	-,,	, -	atum:		
Soil Map Unit Name: AgD	- Alderwood gravel	ly sandy loam	15-30%		1	NWI classifi		NΔ		<u> </u>		
Are climatic/hydrologic cond				⊠ Yes	No	(If no, explai						
Are "Normal Circumstances"	**	or ano amo or yo		⊠ Yes	□ No	(ii iio, oxpiai		iaino.)				
Are Vegetation□, Soil □, or	•	ly disturbed?										
Are Vegetation □, Soil □, or		•				(If needed, e	explain a	any answers	in Rema	arks.)		
SUMMARY OF FINDING	SS – Attach site map	showing sam	pling po	oint loca	ations, trans	sects, impor	tant fe	atures, et	c.			
Hydrophytic Vegetation Pres	sent?	∕es ⊠ No	. 🗆									
Hydric Soils Present?		res ⊠ No	_									
			_	Is the S	Sampling Poir	nt within a We	etland?	Yes	\boxtimes	N	0	
Wetland Hydrology Present?	?	res ⊠ No	0 🗌									
Remarks: Wetland	EB09 – Stream EB07	r present with	in bound	daries.								
Tronana Tronana		procent man	boun	aaoo.								
VEGETATION – Use sc	ientific names of pla	inte										
VEGETATION - USE SC	lentific flames of pla	iii.										
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant	Indicator	Dominan	ce Tes	t Worksh	eet			
		Cover	Specie		Status							
1. Thuja plicata	···· (va a ta d a · · t)	30		Y	FAC	Number of that are OB				3		
2. Acer macrophlly 3.	ım (rootea out)					Total Numb		•				(A)
4.						Species Ac				4		(B)
		30	= Total (Cover		Percent of I	Dominar	nt Species		75		(=)
			_			that are OB	L, FAC\	W, or FAC:		75		(A/B)
Sapling/Shrub Stratum (Ple	ot size: 3m diam.)											
1. Rubus spectabilis	s	90		Υ	FAC	Prevalence			neet			
2.						_	1	Cover of			ply by	<u>'</u>
3.						OBL specie				x 1 =		
4.						FACW spec				x 2 =		
5.		90	= Total (Cover		FAC specie				x 3 = x 4 =		
			_			UPL specie				x 5 =		
Herb Stratum (Plot size: 1m	n diam.)					Column tota		(A)		(B)		
1. Equisetum telmas		20		Υ	FACW		1	· /		(=)		
2.						Preval	ence In	dex = B /	A =			
3.												
4.						Hydrophy				rs		
5.						_		est is > 50%				
6.								est is ≤ 3.0				
7.						- '	•		\ 1	vide support	ing	
8.						4		rks or on a		sneet)		
9.								ı-Vascular F		: * /1-:-	- \	
10.						☐ Prob	iematic	Hydropnytic	vegetat	ion * (explair	n)	
11.		20	= Total (Cover		* Indicators	of hydri	c soil and w	etland h	drology mu	st he	
			-			present, un					0. 50	
Woody Vine Stratum (Plot : 1. Rubus armeniacu	·	10		Y	FACU	4						
1. Rubus armeniaci	10	10			FACU	Livelence		antatia				
۷.		10	= Total (Cover			nytic Ve Present	getation ?	Yes	\boxtimes	No	
			_									
% Bare Ground in Herb Stra	tum:											

Remarks:

SOIL Sampling Point - DP-22 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) Type¹ Remarks (inches) Color (moist) Texture 100 0-10 10YR 3/1 Gravelly sandy clay loam 10-16 5GY 5/1 100 **Gravelly clay loam** ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) \boxtimes ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): \boxtimes Hydric soil present? Yes No Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Surface water (A1) Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) ☐ High Water Table (A2) \boxtimes Drainage Patterns (B10) Saturation (A3) Salt Crust (B11) \boxtimes Dry-Season Water Table (C2) □ Water Marks (B1) Aquatic Invertebrates (B13) П Saturation Visible on Aerial Imagery (C9) ☐ Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) ☐ Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aguitard (D3) ☐ Algal Mat or Crust (B4) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) П

Depth (in):

Depth (in):

Depth (in):

Surface water (Stream EB07) located nearby. BGS = below ground surface

15" BGS

throughout

Wetland Hydrology Present?

No 🗵

No \square

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No \square

(B7)

Field Observations

Surface Water Present?

Remarks.

Water Table Present?

(includes capillary fringe)

Saturation Present?

Yes \square

Yes 🛛

Yes ⊠

No



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 23

Davis at Oits	0					0	- Para Data	0/0/0045				
Project Site:	Segment E, parcel n		159009				pling Date:	6/8/2015				
Applicant/Owner:	Puget Sound Energy						pling Point:	DP- 23				
Investigator:	Katy Crandall, Nell L S 34 T 25N		wuters			,	County:	Bellevue	,			
Sect., Township, Range:		N K USE		01 (0)	· F 40	State			` _			
Landform (hillslope, terrace,	etc): nilisiope			Slope (%): 5-10	Local	`	ve, convex, no		Concave		
Subregion (LRR): A				Lat:			Long:			Datum:		
Soil Map Unit Name: AgD	- Alderwood gravelly	sandy loam,	15-30%	slopes		NWI	classification:	NA				
Are climatic/hydrologic cond	itions on the site typical for	this time of year	ar?	⊠ Yes	□ No	(If no,	, explain in re	marks.)				
Are "Normal Circumstances"	present on the site?			⊠ Yes	☐ No							
Are Vegetation□, Soil □, or	Hydrology ☐ significantly	disturbed?										
Are Vegetation□, Soil □, or	Hydrology ☐ naturally pro	blematic				(If ne	eded, explain	any answers i	n Rema	arks.)		
SUMMARY OF FINDING	S – Attach site man s	howing sam	nlina na	oint locati	ions trans	ects i	important f	eatures, etc.				
	-				,	,						
Hydrophytic Vegetation Pres		_	_						_			
Hydric Soils Present?	Ye			Is the Sa	mpling Poir	nt withi	n a Wetland	? Yes	\boxtimes		No	Ш
Wetland Hydrology Present?	Ye Ye	s 🗵 No	· 🗆									
Domosto Watland												
Remarks: Wetland	EDIU											
VEGETATION – Use sc	entific names of plant	ts.				1						
T 04 /DL	P \	A1 1 0	ъ.									
Tree Stratum (Plot size: 5m	diam.)	Absolute % Cover	Domina Specie		Indicator Status	Don	ninance le	st Workshee)t			
1.		Covei	Opecie	3:	Otatus	Num	ber of Domin	ant Species				
2.							are OBL, FAC			3		(A)
3.						Total	Number of D	Oominant				(71)
4.						Spec	cies Across A	l Strata:		3		(B)
			= Total (Cover		Perc	ent of Domina	ant Species				(-)
	-		-			that a	are OBL, FAC	CW, or FAC:		100		(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)											()
1.						Prev	valence Ind	ex Workshe	et			
2.						1		Cover of		<u>Μι</u>	ultiply b	υV
3.						OBL	species			x 1 =		-
4.						FAC	W species			x 2 =		
5.						FAC	species			x 3 =		
			= Total (Cover			U species			x 4 =		
							species			x 5 =		
Herb Stratum (Plot size: 1m						Colu	mn totals	(A)		(B)		
1. Scirpus microcar	pus	25		Y	OBL	↓ _		. 5/.				
2. Juncus effusus		25		Υ	FACW	Į F	revalence l	ndex = B/A	=			
3. Phalaris arundina	icea	20		<u>Y</u>	FACW	11			.1			
4. Carex stipata		10		N N	OBL			egetation In test is > 50%	aicato	rs		
5. Athyrium cycloso	rum	10		N	FAC							
6.								test is ≤ 3.0 *	+ /			
7.						4_		cal Adaptations arks or on a se	**		orting	
8.									•	sneet)		
9.								n-Vascular Pla				
10.							Problemation	: Hydrophytic \	/egetat	ion * (expl	lain)	
11.			· ·			1						
	-	90	= Total (Jover				ric soil and we sturbed or prob			nust be	}
Woody Vine Stratum (Plot s	size:					pies	ont, unicoo di	standed of blot	nemall			
1.	, ,					1						
2.	_					<u>"</u>	ydrophytic V	enetation		,		
			= Total (Cover		1 "	yarophytic v Presen		Yes	\boxtimes	No	
	=			-								
% Bare Ground in Herb Stra	tum:											
Remarks:												

	ription: (Describ	Matrix			Redox Fe	aturac			- i			1	
Depth	Color (mo		0/	Color (maint)	atures	Tum a 1	Loci	2	.			Damarka	
inches) D-8	2.5Y 3/1	DIST)	% 95	Color (moist) 2.5Y 3/3	5	С	Type ¹	Loc ²			Texture lay loam		Remarks
7-0	2.51 3/1		33	2.31 3/3	3	٠		IVI	'	Salluy C	iay ioaiii		
3-14	10Y 4/1		70	7.5YR 4/6	30	С		M		Gravelly loam	sandy cla	ıy	
ydric Soil II Histosol (Histic Epi Black His Hydroger Depleted Thick Dai Sandy Mi Sandy Gl estrictive La	ndicators: (App A1) pedon (A2)	face (A11)	all LRRs, u		.) 1) (except ML		Indicato 2cm Rec Oth 3 Indicate	ors for P n Muck (A d Parent er (expla ors of hy ent, unles	Probler A10) Materi ain in re drophy	al (TF2) emarks) rtic vegeta	ation and we problematic	tland hydr	
emarks:													
DROLOG Tetland Hyd Primary India	rology Indicato cators (minimum water (A1)		□ S	ck all that apply): Sparsely Vegetated Conc			. 8.4D\/D0\	_ '	Water-	Stained L	2 or more rec eaves (B9) (2, 4A & 4
DROLOG Vetland Hyd Primary Indi Surface High Wa	Irology Indicato cators (minimum water (A1) ter Table (A2)		□ S	Sparsely Vegetated Cond Vater-Stained Leaves (ex			a & 4B) (B9)		Water- Draina	Stained L ge Patterr	eaves (B9) (ns (B10)	MLRA 1,	2, 4A & 4
DROLOG Vetland Hyd Primary Indi Surface High Wa Saturatio	Irology Indicato cators (minimum water (A1) ter Table (A2) on (A3)		□ s □ s	Sparsely Vegetated Cond Vater-Stained Leaves (ex Salt Crust (B11)	ccept MLRA		a & 4B) (B9)		Water- Draina Dry-Se	Stained Loge Patterreason Wat	eaves (B9) (ns (B10) ter Table (C2	MLRA 1, :	
DROLOG Vetland Hyd Primary India Surface High Wa Saturatio Water M	Irology Indicato cators (minimum water (A1) ter Table (A2) on (A3) arks (B1)		□ S □ V □ S □ A	Sparsely Vegetated Cond Vater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B1	xcept MLRA		A & 4B) (B9)		Water- Draina Dry-Se Satura	Stained Lage Pattern eason Wattion Visible	eaves (B9) (ns (B10) ter Table (C2 e on Aerial I	MLRA 1, :	
Vetland Hyde Primary India Surface High Wa Saturatio Water M Sedimen	rology Indicato cators (minimum water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)		S V S A	Sparsely Vegetated Cond Vater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C	3)	1, 2, 4 <i>4</i>	, , ,		Water- Draina Dry-Se Satura Geomo	Stained Lage Patterreason Wattion Visible orphic Pos	eaves (B9) (ns (B10) ter Table (C2 e on Aerial I sition (D2)	MLRA 1, :	
Vetland Hyde Primary India Surface High Wa Saturatio Water M Sediment	rology Indicato cators (minimum water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3)		S S S S S S S S S S	Sparsely Vegetated Cond Vater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres al	xcept MLRA 3) (1) long Living Ro	1, 2, 4 <i>4</i>	, , ,		Water- Draina Dry-Se Satura Geomo Shallo	Stained Lage Pattern eason Wattion Visible orphic Posw Aquitare	eaves (B9) (ns (B10) ter Table (C2 e on Aerial In sition (D2) d (D3)	MLRA 1, :	
Vetland Hyd Primary Indi Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma	rology Indicato cators (minimum water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		S V S A C C C C P	Sparsely Vegetated Conc Vater-Stained Leaves (exact Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (Co Oxidized Rhizospheres all Presence of Reduced Iron	Accept MLRA 2 3) C1) ong Living Ro n (C4)	1, 2, 4 <i>A</i>	, , ,		Water- Draina Dry-Se Satura Geomo Shallov FAC-N	Stained Lage Pattern eason Wattion Visible orphic Posw Aquitard eutral Tes	eaves (B9) (ns (B10) ter Table (C2 e on Aerial li sition (D2) d (D3) st (D5)	MLRA 1, : 2) magery (C	
Vetland Hyde Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma	rology Indicato cators (minimum water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)		S V S A A C C C C C C C C	Sparsely Vegetated Conc Vater-Stained Leaves (exactle Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (Co Oxidized Rhizospheres al Presence of Reduced Iron Recent Iron Reduction in	3) (c1) (ong Living Ron (C4) Tilled Soils (C	1, 2, 4 <i>A</i> oots (C3	, , ,		Water- Draina Dry-Se Satura Geomo Shallov FAC-N Raiseo	Stained Lage Patterreason Wattion Visible orphic Posw Aquitarde eutral Test	eaves (B9) (ns (B10) ter Table (C2 e on Aerial Institution (D2) d (D3) st (D5) nds (D6) (LR	MLRA 1, : 2) magery (C	
Vetland Hyder Primary India Surface High Water M Sedimen Drift Dep Algal Ma Iron Dep Surface	rology Indicato cators (minimum water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	of one red	S S V S S S S S S S S S S S S S S S S S	Sparsely Vegetated Conc Vater-Stained Leaves (exact Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (Co Oxidized Rhizospheres all Presence of Reduced Iron	3) C1) long Living Ro n (C4) Tilled Soils (C ts (D1) (LRR A	1, 2, 4 <i>A</i> oots (C3	, , ,		Water- Draina Dry-Se Satura Geomo Shallov FAC-N Raiseo	Stained Lage Pattern eason Wattion Visible orphic Posw Aquitard eutral Tes	eaves (B9) (ns (B10) ter Table (C2 e on Aerial Institution (D2) d (D3) st (D5) nds (D6) (LR	MLRA 1, : 2) magery (C	
VDROLOG Wetland Hyde Primary Indi Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic (B7)	irology Indicato cators (minimum water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aer	of one red	S S V S S S S S S S S S S S S S S S S S	sparsely Vegetated Conc Vater-Stained Leaves (exactle Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (Co Oxidized Rhizospheres al Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant	3) C1) long Living Ro n (C4) Tilled Soils (C ts (D1) (LRR A	1, 2, 4 <i>A</i> oots (C3	, , ,		Water- Draina Dry-Se Satura Geomo Shallov FAC-N Raiseo	Stained Lage Patterreason Wattion Visible orphic Posw Aquitarde eutral Test	eaves (B9) (ns (B10) ter Table (C2 e on Aerial Institution (D2) d (D3) st (D5) nds (D6) (LR	MLRA 1, : 2) magery (C	
Vetland Hyder Primary India Surface High Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundation (B7)	Irology Indicato cators (minimum water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aer	of one red	S S V S S S S S S S S S S S S S S S S S	sparsely Vegetated Conc Vater-Stained Leaves (ex salt Crust (B11) equatic Invertebrates (B1 dydrogen Sulfide Odor (C exidized Rhizospheres al presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (explain in remarks	3) C1) long Living Ro n (C4) Tilled Soils (C ts (D1) (LRR A	1, 2, 4 <i>A</i> oots (C3	, , ,		Water- Draina Dry-Se Satura Geomo Shallov FAC-N Raiseo	Stained Lage Patterreason Wattion Visible orphic Posw Aquitarde eutral Test	eaves (B9) (ns (B10) ter Table (C2 e on Aerial Institution (D2) d (D3) st (D5) nds (D6) (LR	MLRA 1, : 2) magery (C	
Vetland Hyde Primary Indi Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio (B7)	rology Indicato cators (minimum water (A1) ter Table (A2) on (A3) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aer	o of one red	S S V S S S S S S S S S S S S S S S S S	sparsely Vegetated Conc Vater-Stained Leaves (ex salt Crust (B11) equatic Invertebrates (B1 dydrogen Sulfide Odor (C oxidized Rhizospheres al Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (explain in remarks	3) C1) long Living Ro n (C4) Tilled Soils (C ts (D1) (LRR A	1, 2, 4A poots (C: C:6) A)	3)		Water- Draina Dry-Se Satura Geomo Shallov FAC-N Raiseo Frost-h	Stained L ge Patterr eason Wat tion Visiblo prphic Pos w Aquitarc eutral Tes I Ant Mour Heave Hur	eaves (B9) (ns (B10) ter Table (C2 e on Aerial II sition (D2) d (D3) st (D5) nds (D6) (LR mmocks	MLRA 1, 2 2) magery (C	9)
VDROLOG Wetland Hyde Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic (B7) Field Observe Surface Water Table I Saturation Pr	irology Indicato cators (minimum water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) it or Crust (B4) it or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aer	ial Imager	S V S S A A S S C S S C S C S C S C S C S C S C S C S C S C C	sparsely Vegetated Conc Vater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B1 Aydrogen Sulfide Odor (C Dixidized Rhizospheres al Presence of Reduced Iron Reduction in Stunted or Stressed Plant Other (explain in remarks Depth (in): Depth (in):	3) C1) long Living Ro n (C4) Tilled Soils (C ts (D1) (LRR A	1, 2, 4A poots (C: C:6) A)	, , ,		Water- Draina Dry-Se Satura Geomo Shallov FAC-N Raiseo Frost-h	Stained L ge Patterr eason Wat tion Visiblo prphic Pos w Aquitarc eutral Tes I Ant Mour Heave Hur	eaves (B9) (ns (B10) ter Table (C2 e on Aerial Institution (D2) d (D3) st (D5) nds (D6) (LR	MLRA 1, 2 2) magery (C	
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio (B7) Field Observ Surface Water Table I Saturation Pr (includes cap	irology Indicato cators (minimum water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aer	ial Imagery Yes □ Yes ⊠ Yes ⊠	S V S A A A A A A A A A	sparsely Vegetated Conc Vater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B1 Aydrogen Sulfide Odor (C Dixidized Rhizospheres al Presence of Reduced Iron Reduction in Stunted or Stressed Plant Other (explain in remarks Depth (in): Depth (in):	3) 3) 51) 6ng Living Ro n (C4) Tilled Soils (C s (D1) (LRR I	1, 2, 4A pots (C: 66) A)	3) etland Hydro		Water- Draina Dry-Se Satura Geomo Shallov FAC-N Raiseo Frost-h	Stained L ge Patterr eason Wat tion Visiblo prphic Pos w Aquitarc eutral Tes I Ant Mour Heave Hur	eaves (B9) (ns (B10) ter Table (C2 e on Aerial II sition (D2) d (D3) st (D5) nds (D6) (LR mmocks	MLRA 1, 2 2) magery (C	9)
YDROLOG Wetland Hyd Primary Indi Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic (B7) Field Observ Surface Water Table I Saturation Pr (includes cap	irology Indicato cators (minimum water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aer	ial Imagery Yes □ Yes ⊠ Yes ⊠	S V S A A A A A A A A A	sparsely Vegetated Conc Vater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B1 Addrogen Sulfide Odor (Concidence of Reduced Iron Recent Iron Reduction in Stanted or Stressed Plant Other (explain in remarks Depth (in): Depth (in):	3) 3) 51) 6ng Living Ro n (C4) Tilled Soils (C s (D1) (LRR I	1, 2, 4A pots (C: 66) A)	3) etland Hydro		Water- Draina Dry-Se Satura Geomo Shallov FAC-N Raiseo Frost-h	Stained L ge Patterr eason Wat tion Visiblo prphic Pos w Aquitarc eutral Tes I Ant Mour Heave Hur	eaves (B9) (ns (B10) ter Table (C2 e on Aerial II sition (D2) d (D3) st (D5) nds (D6) (LR mmocks	MLRA 1, 2 2) magery (C	9)



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 24

5 1 100						0 : 0 :	6/8/2015		
Project Site:	Segment E, parcel n		059009			Sampling Date:			
Applicant/Owner:	Puget Sound Energy					Sampling Point:			
Investigator:	Katy Crandall, Nell L	.und, Clover	Muters			City/County:	Bellevue		
Sect., Township, Range:	S 34 T 25N	N R 05E				State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%	%): >10	Local relief (concar	ve, convex, none):	None	
Subregion (LRR): A				Lat:		Long:		Datum:	
	Aldemuse ed americallis		45 200			_	NIA	- Datam.	
Soil Map Unit Name: AgD		-				NWI classification:			
Are climatic/hydrologic cond	itions on the site typical for	this time of year	ar?	⊠ Yes	☐ No	(If no, explain in re	marks.)		
Are "Normal Circumstances"	present on the site?			Yes	☐ No				
Are Vegetation□, Soil □, o	Hydrology significantly	disturbed?							
Are Vegetation□, Soil □, o	Hydrology naturally pro	blematic				(If needed, explain	any answers in Rer	marks.)	
					_				<u></u>
SUMMARY OF FINDING	3S – Attach site map s	howing sam	pling po	oint loca	tions, trans	ects, important f	eatures, etc.		
Hydrophytic Vegetation Pres	sent? Yes	s 🗵 No	o 🗆						
			_					_	_
Hydric Soils Present?	Yes	s 🗵 No		Is the S	Sampling Poir	nt within a Wetland	? Yes	No	, X
Wetland Hydrology Present	? Yes	s 🗌 No	o 🛛					-	
Remarks: Wetland	EB10 out-pit								
	•								
VEGETATION - Use sc	ientific names of plant	ts.							
Tree Stratum (Plot size: 5m	diam)	Absolute %	Domina	ant	Indicator	Dominance Te	et Workshoot		
Tree Stratum (1 lot size. 511	diam.)	Cover	Specie		Status	Dominance res	St WOIKSHEEL		
1.		00101	Ороско	<u>. </u>	Otatao	Number of Domina	ant Species		
2.						that are OBL, FAC		2	(4)
						Total Number of D			(A)
3.						Species Across Al		3	
4.			T			· .			(B)
	<u>-</u>		= Total	Jover		Percent of Domina		67	
						that are OBL, FAC	JVV, OI FAC:		(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)								
1.						Prevalence Ind	lex Worksheet		
2.						Total %	Cover of	Multip	oly by
3.						OBL species		x 1 =	
4.						FACW species		x 2 =	
5.						FAC species		x 3 =	
- G.			= Total	Cover		FACU species		x 4 =	
	_		_			UPL species		x 5 =	
Herb Stratum (Plot size: 1n	a diam \					Column totals	(A)		
	i diam.)				FAO*	Column totals	(A)	(B)	
1 Unknown grass		30		Y	FAC*	1	. 5/.		
2. Equisetum telma		15		Υ	FACW	Prevalence I	ndex = B / A =		
3. Phalaris arundina	icea	5		N	FACW				
4.							egetation Indicat	tors	
5.							test is > 50%		
6.						☐ Prevalence	test is ≤ 3.0 *		
7.						Morphologi	cal Adaptations * (pr	rovide supporti	na
8.							arks or on a separat		Ü
							on-Vascular Plants *	,	
9.						1 —			,
10.						☐ Problemation	Hydrophytic Vegeta	ation " (explain	1)
11.									
	_	50	= Total	Cover			ric soil and wetland		st be
						present, unless di	sturbed or problema	ıtic	
Woody Vine Stratum (Plot	· · · · · · · · · · · · · · · · · · ·					<u> </u>			
1. Rubus armeniaci	us	5		Υ	FACU				
2.						Hydrophytic V	egetation		
		5	= Total	Cover		Presen		s 🔼 l	No
	-		_						
% Bare Ground in Herb Stra	itum:								
Remarks:						1			
nemans.									
ii									

SOIL Sampling Point - DP-24 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) Texture Remarks (inches) Color (moist) Type¹ 10YR 3/4 С 0-8 2.5Y 3/2 10 М Sandy Ioam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3 ☐ Sandy Redox (S5) ☐ Histosol (A1) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) \boxtimes Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): X Hydric soil present? Yes No Depth (inches): Remarks: Soils compact **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Surface water (A1) П Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) ☐ High Water Table (A2) Drainage Patterns (B10) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) П Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) FAC-Neutral Test (D5) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) (B7)Field Observations Surface Water Present? Depth (in): Yes \square No \boxtimes Water Table Present? Yes \boxtimes Depth (in): Nο \boxtimes **Wetland Hydrology Present?** Saturation Present? Depth (in): Yes No ⊠

(includes capillary fringe)

Remarks:

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:



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750 Sixth Street South Kirkland, Washington 98033 (425) 822-5242 watershedco.com

DP- 24A

								L					
Decided Cites	C		2405	050040			C	lina Data.	C/4 E/004	-			
Project Site:	Segment E – parc		er 3425	059010	1			ling Date:					
Applicant/Owner:	Puget Sound Ene							ling Point:					
Investigator:	K. Crandall, R. W		O 055				- 1	county:	Bellevue	,			
Sect., Township, Range:		25N	R 05E		I	(a.) 4F	State:		WA	` `			
Landform (hillslope, terrace,	etc): Hillslope				Slope	(%): 15	Local r	elief (conca	ive, convex, nor	ne): C	oncave	<u> </u>	
Subregion (LRR): A					Lat:			Long:		D	atum:		
Soil Map Unit Name: EwC	- Everett-Alderwo	od grave	llv sand	dv Ioan	s. 6-15	% slopes	NWI cl	assification	: NA				
Are climatic/hydrologic condi					Yes	⊠ No		explain in re					
Are "Normal Circumstances"		1 101 1113 111	ne or yea		⊠ Yes	□ No	(11 110, 1	oxpiaiii iii ii	zmarks.)				
Are Vegetation□, Soil □, or	•	مادر مائمه راهم		ı	△ 162								
	, ,,	•					(If need	ded. explair	n any answers ir	n Rema	rks.)		
Are Vegetation□, Soil □, or	nyurology 🗆 naturaliy	problema	lic				(,		
SUMMARY OF FINDING	S - Attach site ma	p showii	ng sami	oling p	oint loc	ations, trans	sects, ir	nportant	features, etc.				
						,	,		, , , , , , , , , , , , , , , , , , , ,				
Hydrophytic Vegetation Pres	ent?	Yes 🗵	No.										
Hydric Soils Present?		Yes 🗵] No		Is the	Sampling Poir	nt within	a Wetland	ı? Yes	\boxtimes		No	
Wetland Hydrology Present?		Yes 🗵] No										ш
, 0,													
Remarks: Wetland I	EB07 inpit.												
VEGETATION - Use sci	entific names of pl	lants.											
	<u> </u>												
Tree Stratum (Plot size: 5m	diam)	Ahso	lute %	Domin	ant	Indicator	Dom	inance Te	est Workshee	1			
1100 Guatam (1 101 0120: 0111	diam.,	Cove		Specie		Status	50	illalice ic	St WOIRSHOO				
1.							Numb	er of Domir	nant Species				
2.							that a	re OBL, FA	CW, or FAC:		1		(A)
3.							Total I	Number of	Dominant				(-)
4.							Specie	es Across A	All Strata:		1		(B)
				= Total	Cover		Perce	nt of Domin	ant Species				(5)
									CW, or FAC:		100		(A/B)
Sapling/Shrub Stratum (Plo	at size: 3m diam)								-				(A/D)
• • •	t oizo. om diam.)						Dunie	alamaa lm	-l \\\l	-4			
1.							Preva		dex Workshe	et		ما برامتقانیا	
2.							ODL 6		<u>6 Cover of</u>	1		lultiply b	<u>y</u>
3.								pecies / species			x 1 =		
4.								-					
5.				= Total	Cover			species			x 3 =		
				= 10tai	Oover			pecies			x 4 =		
Hark Stratum (Diet einer 1m	diam \							•	(4)				
Herb Stratum (Plot size: 1m			00		V	E A C\A/	Coluir	n totals	(A)		(B)		
1. Phalaris arundina			00		<u>Y</u>	FACW	_ ا		La dans D / A				
2. Scirpus microcar	ous		10		N	OBL	Pr	evalence	Index = B / A	=			
3.							11		/ / /				
4.									egetation Inc	uicatoi	8		
5.									e test is > 50%				
6.									e test is ≤ 3.0 *				
7.							_		ical Adaptations	11		orting	
8.								data in rem	narks or on a se	parate	sheet)		
9.								Wetland N	on-Vascular Pla	ants *			
10.								Problemati	c Hydrophytic V	/egetati	on * (exp	olain)	
11.													
		1	10	= Total	Cover		* India	ators of hy	dric soil and wet	tland hy	drology	must be	,
									isturbed or prob				
Woody Vine Stratum (Plot s	size:)								-				
1.													
2.							Hv	drophytic \	/egetation				
				= Total	Cover		٦,`	Prese		Yes	\boxtimes	No	Ш
% Bare Ground in Herb Strat	um:												
							1						
Herbaceous	vegetation is mov	ved.											

OIL								Sampl	ing Point – DF	P-24A
Profile Desc	ription: (Describe to th	e depth need	ed to document the ind	icator or con	firm the a	absence of	indicators	i.)		
Depth	Matrix				1					
(inches)	Color (moist)	%	Color (moist)	Redox Fe %		ype ¹	Loc ²	Texture		Remar
0-18	2.5Y 3/1	100		,,		,,,,,			loamy sand	
										
18-24	5GY 5/1	90	7.5YR 3/2	10	С		М	Gravelly	loamy sand	Round small pe gravel
Hydric Soil Histosol Histic Ep Black His Hydroge Depleted Sandy M Sandy G Restrictive Larype: Depth (inche Remarks:	Indicators: (Applicable (A1) sipedon (A2) stic (A3) n Sulfide (A4) d Below Dark Surface (A12) lucky Mineral (S1) leyed Matrix (S4) ayer (if present): s):	to all LRRs, u)) (except ML)	.RA 1)	Indicators 2cm I Red I Other	s for Probl Muck (A10 Parent Mat r (explain in rs of hydrop tt, unless d	erial (TF2) n remarks)	Iric Soils ³	d hydrology m
Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma Iron Deg Surface Inundati (B7)	darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial Image	S S V S S S S S S S S S S S S S S S S S	cx air that apply): sparsely Vegetated Conce Vater-Stained Leaves (ex vater-Stained Leaves (ex vater (B11) squatic Invertebrates (B13 lydrogen Sulfide Odor (C exidized Rhizospheres ale vesence of Reduced Iron vatecent Iron Reduction in catunted or Stressed Plant other (explain in remarks)	3) 11) ong Living Ro 11 (C4) Tilled Soils (C 12 (D1) (LRR A	1, 2, 4A & oots (C3)		□ Wat□ Drai□ Dry-□ Satu⊠ Geo□ Shai⋈ FAC□ Rais	er-Stained L nage Patteri Season Wai iration Visibl morphic Pos llow Aquitard -Neutral Tes	ter Table (C2) le on Aerial Imag sition (D2) d (D3) st (D5) nds (D6) (LRR A	RA 1, 2, 4A &
•	er Present? Yes □ Present? Yes □ resent? Yes □ resent? Yes □	No E	Depth (in): Depth (in):	0 BGS		and Hydrol	ogy Prese	nt? Y	∕es ⊠	No [
Describe Re	corded Data (stream gau	ge, monitoring	well, aerial photos, prev	ious inspection	ons), if ava	iilable:				
Remarks:	BGS = below grou Some surface water		rom test pit							



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DP- 25

П										
Project Site:	Segment E - par	cel number	03240	59066			Sampling Date:	6/15/2015		
Applicant/Owner:	Puget Sound En						Sampling Point:	DP- 25		
Investigator:	K. Crandall, R. W						City/County:	Bellevue		
, and the second			055							
Sect., Township, Range:		24N R	05E			_	State:	WA		
Landform (hillslope, terrace,	etc): Hillslope				Slope (%): 5	Local relief (concav	e, convex, none):	Concave	
Subregion (LRR): A					Lat:		Long:		Datum:	
	Aldonico d ares	ully sandy	loom 1	E 200/	alamas			NI A		
Soil Map Unit Name: AgD							NWI classification:			
Are climatic/hydrologic cond		al for this time	of year?	, [Yes	⊠ No	(If no, explain in ren	narks.)		
Are "Normal Circumstances"	present on the site?				Yes	☐ No	Below avg precipi	tation		
Are Vegetation□, Soil □, or	Hydrology signification	antly disturbed	d?							
Are Vegetation□, Soil □, or	Hvdrology □ naturall	v problematic	;				(If needed, explain	any answers in Re	emarks.)	
, , , , , , , , , , , , , , , , , , , ,	7 57	71								
SUMMARY OF FINDING	S - Attach site ma	ap showing	sampl	ing po	int loca	itions, trans	ects, important fe	eatures, etc.		
	_	🔽								
Hydrophytic Vegetation Pres	ent?	Yes 🗵	No							
Hydric Soils Present?		Yes 🖾	No		Is the S	Sampling Poir	nt within a Wetland?	Yes D	₹ No	
Wetland Hydrology Present?	>	Yes 🖂	No		10 1.10	ounping : on	it within a wonana.	100 2	<u> </u>	ш
Wolland Hydrology 1 1000m.		100 🔼	110							
Remarks: Wetland	ED12 in nit									
Remarks. vvetiano	EB13 in-pit									
VEGETATION – Use sc	entific names of p	olants.								
Tree Stratum (Plot size: 5m	diam.)	Absolut	e %	Domina	ant	Indicator	Dominance Tes	t Worksheet		
(* 100 0 11 11 11 11 11 11 11 11 11 11 11		Cover		Species		Status		i Workonoot		
1. Alnus rubra		100			Y	FAC	Number of Domina	int Species	_	
2.							that are OBL, FAC	W, or FAC:	2	(A)
3.							Total Number of Do	nminant		(/ (/
4.							Species Across All		2	(D)
4.		- 40		= Total C	201100					(B)
		100	<u> </u>	= TOTAL C	ovei		Percent of Domina		100	
							that are OBL, FAC	W, OI FAC:		(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)									
1.							Prevalence Inde	ex Worksheet		
2.								Cover of	Multipl	v bv
3.							OBL species		x 1 =	, -,
4.							FACW species		x 2 =	
5.							· · · · · · · · · · · · · · · · · · ·			
5.				Total C	201100		FAC species		x 3 =	
				= Total C	over		FACU species		x 4 =	
							UPL species		x 5 =	
Herb Stratum (Plot size: 1m	ı diam.)						Column totals	(A)	(B)	
1. Phalaris arundina	icea	85	i	,	Y	FACW				
2. Equisetum telmat	teia	15	,		N	FACW	Prevalence Ir	ndex = B / A =		
3. Cardamine oligos	perma	5			N	FAC				
4.							Hydrophytic Ve	getation Indica	ators	
5.								test is > 50%		
								test is ≤ 3.0 *		
6.										
7.							Morphologic	al Adaptations * (ıg
									ata abaat)	
8.							☐ data in rema	irks or on a separa	ate Sheet)	
8. 9.							_	irks or on a separa n-Vascular Plants	•	
9.							☐ Wetland Nor	n-Vascular Plants	*	
9.							☐ Wetland Nor	•	*	
9.				- Total (20vor		☐ Wetland Noi ☐ Problematic	n-Vascular Plants Hydrophytic Vege	* etation * (explain)	
9.		109	<u> </u>	= Total (Cover		☐ Wetland Noi ☐ Problematic * Indicators of hydr	n-Vascular Plants Hydrophytic Vege	* etation * (explain) d hydrology must	
9. 10. 11.		10	5	= Total C	Cover		☐ Wetland Noi ☐ Problematic	n-Vascular Plants Hydrophytic Vege	* etation * (explain) d hydrology must	
9. 10. 11. Woody Vine Stratum (Plots	size:)	10	5	= Total (Cover		☐ Wetland Noi ☐ Problematic * Indicators of hydr	n-Vascular Plants Hydrophytic Vege	* etation * (explain) d hydrology must	
9. 10. 11.	size:)	109	5	= Total (Cover		☐ Wetland Noi ☐ Problematic * Indicators of hydr	n-Vascular Plants Hydrophytic Vege	* etation * (explain) d hydrology must	
9. 10. 11. Woody Vine Stratum (Plots	size:)	109	<u> </u>	= Total (Cover		☐ Wetland Noi ☐ Problematic * Indicators of hydr	n-Vascular Plants Hydrophytic Vege ic soil and wetland turbed or problem	* etation * (explain) d hydrology must	be
9. 10. 11. Woody Vine Stratum (Plot :	size:)	10:		= Total (☐ Wetland Noi ☐ Problematic * Indicators of hydr present, unless dis	n-Vascular Plants Hydrophytic Vege ic soil and wetland turbed or problem	* etation * (explain) d hydrology must	be
9. 10. 11. Woody Vine Stratum (Plot :	size:)	10!					☐ Wetland Not ☐ Problematic * Indicators of hydr present, unless dis Hydrophytic Ve	n-Vascular Plants Hydrophytic Vege ic soil and wetland turbed or problem	* etation * (explain) d hydrology must	be
9. 10. 11. Woody Vine Stratum (Plot : 1. 2.							☐ Wetland Not ☐ Problematic * Indicators of hydr present, unless dis Hydrophytic Ve	n-Vascular Plants Hydrophytic Vege ic soil and wetland turbed or problem	* etation * (explain) d hydrology must	be
9. 10. 11. Woody Vine Stratum (Plot : 1. 2. % Bare Ground in Herb Stra							☐ Wetland Not ☐ Problematic * Indicators of hydr present, unless dis Hydrophytic Ve	n-Vascular Plants Hydrophytic Vege ic soil and wetland turbed or problem	* etation * (explain) d hydrology must	be
9. 10. 11. Woody Vine Stratum (Plot : 1. 2.							☐ Wetland Not ☐ Problematic * Indicators of hydr present, unless dis Hydrophytic Ve	n-Vascular Plants Hydrophytic Vege ic soil and wetland turbed or problem	* etation * (explain) d hydrology must	be
9. 10. 11. Woody Vine Stratum (Plot : 1. 2. % Bare Ground in Herb Stra							☐ Wetland Not ☐ Problematic * Indicators of hydr present, unless dis Hydrophytic Ve	n-Vascular Plants Hydrophytic Vege ic soil and wetland turbed or problem	* etation * (explain) d hydrology must	be

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Lot Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Ind Histosol (A1)		ndicato			oint – DF	25	
Depth Matrix Redox Features Color (moist) % Color (moist) % Type Depth Type			rs.)				
Color (moist) % Color (moist) % Type			1			1	
Dept		Loc ²	T	Texture	e	R€	emarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Lo Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Ind Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Histic Epipedon (A2) Stripped Matrix (S6) Histic Epipedon (A2) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Thick Dark Surface (A12) Redox Dark Surface (F6) Indicators (A12) Redox Dark Surface (F7) Depleted Dark Surface (F7)			Grave	elly sand			
**Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2. Chapter of the Concentration of the Concen		М	Grave	elly sand	4v loam	With	n large
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)		IVI	Giave	Hly Sain	ay ioaiii	cobb	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	1					1	0.00
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)							
Histic Epipedon (A2)	:: PL=F	Pore Lin	ing, M=Mat	trix			
Histosol (A1)	cators	for Pro	blematic H	Ivdric Sc	ils ³		
□ Black Histic (A3) □ Loamy Mucky Mineral (F1) (except MLRA 1) □ Hydrogen Sulfide (A4) □ Loamy Gleyed Matrix (F2) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) ³ Importance (B12) □ Redox Dark Surface (F7) □ Depleted Dark Surface (F7) □ Pepleted Dark Surface (F7) □ Depleted Dark Surface (F7) □ Pepleted Dark Surface (F7) □		/luck (A1		·y	,,,,		
☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ ☐ Depleted Below Dark Surface (A12) ☐ Redox Dark Surface (F6) 3 Intick Dark Surface (F1) ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) be I ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type:	Red P	arent M	aterial (TF2	2)			
□ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) Restrictive Layer (if present): Type: □ Pepth (inches): □	Other	(explain	in remarks	3)			
☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) 3 Interpretation (B1) ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) be I ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type:							
□ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) be I □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) Restrictive Layer (if present): Type: □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □							
Sandy Gleyed Matrix (S4) Redox Depressions (F8)			ophytic veg			d hydrolo	gy mus
Restrictive Layer (if present): Type:	resent	, unless	disturbed of	or problen	natic		
Type:							
Type:							
Depth (inches): Remarks:	aeil ni		Va			No	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Surface water (A1) High Water Table (A2) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Field Observations	son þi	resentr	Ye	es 🔀		No	Ш
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): □ Surface water (A1) □ Sparsely Vegetated Concave Surface (B8) □ High Water Table (A2) □ Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (☑ Saturation (A3) □ Salt Crust (B11) □ Water Marks (B1) □ Aquatic Invertebrates (B13) □ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) ☑ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Inundation Visible on Aerial Imagery (B7) Other (explain in remarks)							
□ Surface water (A1) □ Sparsely Vegetated Concave Surface (B8) □ High Water Table (A2) □ Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (□ Saturation (A3) □ Salt Crust (B11) □ Water Marks (B1) □ Aquatic Invertebrates (B13) □ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Inundation Visible on Aerial Imagery (B7) Other (explain in remarks)	<u> </u>	`acandai	ry Indicator	/2 or m	ere require	٠ ١٠.	
☐ High Water Table (A2) ☐ Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (☑ Saturation (A3) ☐ Salt Crust (B11) ☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Algal Mat or Crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (explain in remarks)	J		ater-Staine	•	•		4A & 4E
⊠ Saturation (A3) □ Salt Crust (B11) □ Water Marks (B1) □ Aquatic Invertebrates (B13) □ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (explain in remarks)	39)	_	ainage Pati			,	
□ Water Marks (B1) □ Aquatic Invertebrates (B13) □ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (explain in remarks)	,		y-Season V		-		
□ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (explain in remarks)			turation Vis		, ,	erv (C9)	
 □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) ☑ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ Surface Soil Cracks (B6) □ Inundation Visible on Aerial Imagery (B7) Field Observations □ Oxidized Rhizospheres along Living Roots (C3) □ Presence of Reduced Iron (C4) □ Recent Iron Reduction in Tilled Soils (C6) □ Stunted or Stressed Plants (D1) (LRR A) □ Other (explain in remarks) 			eomorphic F		•	0., (==,	
□ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (explain in remarks)			allow Aquit		,		
☑ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (explain in remarks)			C-Neutral				
□ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (explain in remarks) Field Observations			aised Ant M	, ,		4)	
☐ Inundation Visible on Aerial Imagery ☐ Other (explain in remarks) Field Observations			ost-Heave I			,	
Field Observations							
Surface Water Present? Yes \(\bar{\sqrt{No.}} \(\bar{\sqrt{No.}} \(\bar{\sqrt{No.}} \) Depth (in):							
103	_						_
Water Table Present? Yes ☐ No ☒ Depth (in): Wetland H		gy Pres	sent?	Yes	\boxtimes	No	
Saturation Present? Yes ⊠ No □ Depth (in): throughout (includes capillary fringe)	ydrolo						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available	ydrolo						
	-						
Remarks: Groundwater seeps in pit at 6 inches below ground surface. Iron deposite	:						



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 26

Duniant Cita	Commont E monoclar	b 02240500	20		Committee Date:	C/4E/004E		
Project Site:	Segment E – parcel nu	ımber 03240590	00		Sampling Date:	6/15/2015 DP- 26		
Applicant/Owner:	Puget Sound Energy	<u> </u>			Sampling Point:	Bellevue		
Investigator:	K. Crandall, R. Whitso	R 05E			City/County:	WA		
Sect., Township, Range:		K USE	01 (0)	` -	State:		C	
Landform (hillslope, terrace,	etc): milisiope		Slope (%): 5	Local relief (concave	e, convex, none):	Concave	
Subregion (LRR): A			Lat:		Long:		Datum:	
Soil Map Unit Name: AgD	 Alderwood gravelly sa 	andy loam, 8-15	% slopes		NWI classification:	NA		
Are climatic/hydrologic cond	itions on the site typical for th	is time of year?	☐ Yes	⊠ No	(If no, explain in rem	narks.)		
Are "Normal Circumstances"	present on the site?			□ No	Below avg precipit	ation		
Are Vegetation□, Soil □, or	Hydrology ☐ significantly dis	sturbed?						
	Hydrology naturally proble				(If needed, explain a	any answers in Rer	narks.)	
SUMMARY OF FINDING	SS – Attach site map sho	owing sampling	point locat	ions, trans	ects, important fe	atures, etc.		
Lludranhutia Vagatatian Dros	vent? Ven	⊠ _{No} □						
Hydrophytic Vegetation Pres							-	_
Hydric Soils Present?	Yes	⊠ No □	Is the Sa	mpling Poir	nt within a Wetland?	Yes 🔀	No	
Wetland Hydrology Present?	Yes	⊠ No □					-	
Remarks: Wetland	EB14 in-pit							
VEGETATION – Use sc	ientific names of plants.	<u> </u>			_			
Tree Stratum (Plot size: 5m		Absolute % Dom	inant cies?	Indicator Status	Dominance Tes	t Worksheet		
1. Alnus rubra		100	Y	FAC	Number of Domina		2	
2.					that are OBL, FAC\			(A)
3.					Total Number of Do		2	
4.			1.0		Species Across All			(B)
	_	100 = Tot	al Cover		Percent of Dominar		100	
					that are OBL, FAC\	W, OI FAC:		(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)							
1.					Prevalence Inde	ex Worksheet		
2.					Total %	Cover of	Multiply	<u>/ by</u>
3.					OBL species		x 1 =	
4.					FACW species		x 2 =	
5.					FAC species		x 3 =	
		= lot	al Cover		FACU species		x 4 =	
Hank Chartern /Dist size : 4 as	alla and A				UPL species	(4)	x 5 =	
Herb Stratum (Plot size: 1m		400	V	E A CIA/	Column totals	(A)	(B)	
Phalaris arundina Athurium avalaga		100 25	Y	FACW FAC	Dravalance In	dov D/A		
2. Athyrium cycloso 3. Urtica dioica	orum	5	N N	FAC	Prevalence In	idex = b / A =		
			IN	FAC	Hydrophytic Ve	gotation Indicat	tore	
4.							.ors	
5.					4 <u>-</u> .			
6.					☐ Prevalence t			
7.						al Adaptations * (pr		j
8.					-1	rks or on a separat	e sneet)	
9.						n-Vascular Plants *		
10.					☐ Problematic	Hydrophytic Vegeta	ation * (explain)	
11.								
		130 = Tot	al Cover		* Indicators of hydri present, unless dist			be
Woody Vine Stratum (Plot s	size:)				-			
1.					10	4-4:-		
2.		T	al Cover		Hydrophytic Ve Present		s 🛛 No	о П
	_	= 100	ai GUV U Í		Fieseni	•	_	_
9/ Para Craundia Harb Cr	tum.							
% Bare Ground in Herb Stra					I			
Remarks: Equisetum	telmateia and Rubus arr	meniacus nearby	/.					

Depth					firm the					
	Matrix			Redox Fea	atures					
(inches)	Color (moist)	%	Color (moist)	%		Type ¹	Loc ²	Textu		Rema
0-5	10YR 3/1	100						Sandy silt lo	am	Moist
5-18	10YR 4/1	80	10YR 4/6	20	С		M, PL	Sandy loam		Medium large si gravel
Type: C=Coi	ncentration, D=Depletion,	RM=Reduce	ed Matrix, CS=Covered or	r Coated Sand	d Grains	² Loc: P	L=Pore Linir	ng, M=Matrix		
-	ndicators: (Applicable to	-		.)		_		lematic Hydric S	oils³	
Histosol (,		Sandy Redox (S5)				n Muck (A10			
☐ Histic Epi			Stripped Matrix (S6)				d Parent Ma	, ,		
☐ Black His	` '		_oamy Mucky Mineral (F1		.RA 1)		ner (explain i	n remarks)		
	Sulfide (A4)		_oamy Gleyed Matrix (F2))						
•	Below Dark Surface (A11)	,	Depleted Matrix (F3)			2				
	rk Surface (A12)		Redox Dark Surface (F6)					phytic vegetation		d hydrology r
=	ucky Mineral (S1)		Depleted Dark Surface (F	7)		be prese	ent, uniess c	listurbed or proble	emauc	
☐ Sandy GI	eyed Matrix (S4)	☐ F	Redox Depressions (F8)							
Restrictive La	yer (if present):									
Туре:						Hydric soil	present?	Yes 🔀	7	No
Depth (inches	s):					-	-	<u>-</u>	_	_
<u>(DROLOG</u>	<u>r</u>									
Primary Indi Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface	Irology Indicators: icators (minimum of one re water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) iosits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)	S S V S S S S S S S S S S S S S S S S S	Sparsely Vegetated Concavater-Stained Leaves (exemple) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (Concavate Concavate Con	accept MLRA 1 3) c1) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A	oots (C3)		☐ Wa ☐ Dra ☐ Dry ☐ Sat ☐ Gec ☐ Sha ☐ FAC	r Indicators (2 or nater-Stained Leave inage Patterns (B-Season Water Tauration Visible on information Visible on information Visible on information Visible on information Visible on information Visible on information Visible on Vi	s (B9) (MLF 10) able (C2) Aerial Imag (D2)) 5)	R Á 1, 2, 4A &
Wetland Hyd Primary Indi Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface:	Irology Indicators: icators (minimum of one re water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) iosits (B3) t or Crust (B4) osits (B5)	S S V S S S S S S S S S S S S S S S S S	Sparsely Vegetated Conce Vater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in	accept MLRA 1 3) c1) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A	oots (C3)		☐ Wa ☐ Dra ☐ Dry ☐ Sat ☐ Gec ☐ Sha ☐ FAC	ter-Stained Leave- inage Patterns (B -Season Water Ta uration Visible on morphic Position illow Aquitard (D3 C-Neutral Test (D5 sed Ant Mounds (I	s (B9) (MLF 10) able (C2) Aerial Imag (D2)) 5)	R Á 1, 2, 4A &
Wetland Hyd Primary Indi Surface High Wa Saturatic Water M. Sedimen Drift Dep Algal Ma Iron Dep Surface: Inundatic (B7)	Irology Indicators: icators (minimum of one re water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Imager	S S V S S S S S S S S S S S S S S S S S	Sparsely Vegetated Concavater-Stained Leaves (exemple) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (Concavate Concavate Con	accept MLRA 1 3) c1) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A	oots (C3)		☐ Wa ☐ Dra ☐ Dry ☐ Sat ☐ Gec ☐ Sha ☐ FAC	ter-Stained Leave- inage Patterns (B -Season Water Ta uration Visible on morphic Position illow Aquitard (D3 C-Neutral Test (D5 sed Ant Mounds (I	s (B9) (MLF 10) able (C2) Aerial Imag (D2)) 5)	R Á 1, 2, 4A &
Wetland Hyd Primary Indi Surface High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Surface: Inundatic	Irology Indicators: icators (minimum of one re water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Imager	S S V S S S S S S S S S S S S S S S S S	Sparsely Vegetated Concavater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B13) Advidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plant Other (explain in remarks)	accept MLRA 1 3) c1) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A	oots (C3)		☐ Wa ☐ Dra ☐ Dry ☐ Sat ☐ Gec ☐ Sha ☐ FAC	ter-Stained Leave- inage Patterns (B -Season Water Ta uration Visible on morphic Position illow Aquitard (D3 C-Neutral Test (D5 sed Ant Mounds (I	s (B9) (MLF 10) able (C2) Aerial Imag (D2)) 5)	R Á 1, 2, 4A &
Wetland Hyd Primary Indi Surface High Wa Saturatic Water M. Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatic (B7) Field Observ Surface Water	Irology Indicators: icators (minimum of one re water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) osits (B3) it or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Imager rations	S	Sparsely Vegetated Concavater-Stained Leaves (except the concavater (B11) Aquatic Invertebrates (B13) Advidized Rhizospheres also Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plants (Dther (explain in remarks) Depth (in):	accept MLRA 1 3) c1) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A	nots (C3)		☐ Wa ☐ Dra ☐ Dry ☐ Sat ☐ Gec ☐ Sha ☐ FAC	ter-Stained Leave- inage Patterns (B -Season Water Ta- uration Visible on omorphic Position allow Aquitard (D3 C-Neutral Test (D5 sed Ant Mounds (I st-Heave Hummon	s (B9) (MLF 10) able (C2) Aerial Imag (D2)) 5) D6) (LRR A	R Á 1, 2, 4A &
Wetland Hyd Primary Indi Surface \(\) High Wa Saturatic Water M. Sedimen Drift Dep Algal Ma Iron Dep Surface \(\) Inundatic (B7) Field Observ Surface Water Table I Saturation Pri	Irology Indicators: icators (minimum of one re water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) osits (B3) it or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Imager rations er Present? Present? Yes	S S S S S S S S S S	Sparsely Vegetated Conce Vater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B13 Addrogen Sulfide Odor (C Dixidized Rhizospheres ale Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plants Other (explain in remarks) Depth (in): Depth (in):	accept MLRA 1 3) c1) ong Living Ro n (C4) Tilled Soils (C s (D1) (LRR A	nots (C3)		☐ Wa ☐ Dra ☐ Dry ☐ Sati ☒ Gec ☐ Sha ☒ FAC ☐ Rai: ☐ Fro:	ter-Stained Leave- inage Patterns (B -Season Water Ta- uration Visible on omorphic Position allow Aquitard (D3 C-Neutral Test (D5 sed Ant Mounds (I st-Heave Hummor	s (B9) (MLF 10) able (C2) Aerial Imag (D2)) 5)	ery (C9)
Wetland Hyd Primary Indi Surface v High Wa Saturatic Water M. Sedimen Drift Dep Algal Ma Iron Dep Surface v Inundatic (B7) Field Observ Surface Water Table I Saturation Pri	Irology Indicators: icators (minimum of one re water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) osits (B3) it or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Imager rations er Present? Present? Yes	S V S S S S S S S S	Sparsely Vegetated Concavater-Stained Leaves (except the concavater (B11) Aquatic Invertebrates (B13) Advidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plants (explain in remarks) Depth (in): Depth (in):	accept MLRA 1 3) 51) ong Living Ro on (C4) Tilled Soils (C as (D1) (LRR A)	(C3)	tland Hydr	☐ Wa ☐ Dra ☐ Dry ☐ Sati ☒ Gec ☐ Sha ☒ FAC ☐ Rai: ☐ Fro:	ter-Stained Leave- inage Patterns (B -Season Water Ta- uration Visible on omorphic Position allow Aquitard (D3 C-Neutral Test (D5 sed Ant Mounds (I st-Heave Hummon	s (B9) (MLF 10) able (C2) Aerial Imag (D2)) 5) D6) (LRR A	ery (C9)
Wetland Hyd Primary Indi Surface v High Wa Saturatic Water M. Sedimen Drift Dep Algal Ma Iron Dep Surface v Inundatic (B7) Field Observ Surface Water Table I Saturation Pri	Irology Indicators: icators (minimum of one re water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) iosits (B3) it or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Imager rations er Present? Yes Present? Yes esent? Yes illary fringe)	S S S S S S S S S S S S S S S S S S S	Sparsely Vegetated Concavater-Stained Leaves (except the concavater (B11) Aquatic Invertebrates (B13) Advidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in Stunted or Stressed Plants (explain in remarks) Depth (in): Depth (in):	accept MLRA 1 3) 51) ong Living Ro on (C4) Tilled Soils (C as (D1) (LRR A)	(C3)	tland Hydr	☐ Wa ☐ Dra ☐ Dry ☐ Sati ☒ Gec ☐ Sha ☒ FAC ☐ Rai: ☐ Fro:	ter-Stained Leave- inage Patterns (B -Season Water Ta- uration Visible on omorphic Position allow Aquitard (D3 C-Neutral Test (D5 sed Ant Mounds (I st-Heave Hummon	s (B9) (MLF 10) able (C2) Aerial Imag (D2)) 5) D6) (LRR A	ery (C9)



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DP- 27

Project Site:	Segment E – parce	d number 102	<i>1</i> 050080			Sampling	Date:	6/17/201	5			
Applicant/Owner:	Puget Sound Energ		+000000	<u>'</u>		Sampling		DP- 27	<u> </u>			
Investigator:	K. Crandall, R. Whi					City/Count		Bellevue	<u> </u>			
Sect., Township, Range:		4N R 05E	•			State:	.у.	WA	<u> </u>			
Landform (hillslope, terrace,			_	Slope (%)): 5		(concave	, convex, no	ne): N	A		
Subregion (LRR): A	· · · · · · · · · · · · · · · · · · ·			Lat:	·		ong:			atum:		
Soil Map Unit Name: RdE	- Ragnar-Indianola	association n	noderate			NWI classifi		JΔ				
Are climatic/hydrologic condi					⊠ No	(If no, expla						
Are "Normal Circumstances"	= = =	or triis time or ye		i res ⊠ Yes	□ No	(II IIO, EXPIA	III III I CIII	aiks.)				
Are Vegetation□, Soil □, or	•	lv disturbed?										
Are Vegetation□, Soil □, or	Hydrology ☐ naturally p	roblematic				(If needed, e	explain a	ny answers i	in Rema	ırks.)		
SUMMARY OF FINDING	S – Attach site map	showing sam	npling po	oint locati	ons, trans	ects, impo	rtant fea	atures, etc	; <u>.</u>			
Hydrophytic Vegetation Pres	ent? V	′es ⊠ N	o 🗆									
Hydric Soils Present?		es ⊠ N	_	la tha Ca	malina Daiı	nt within a W	otland?	Voc	\boxtimes		No	
,			_	is the Sa	ilipilily Foli	nt within a W	elianu r	Yes			No	Ш
Wetland Hydrology Present?	Y	′es ⊠ N	0 🗆									
Remarks: Wetland I	EB20 in-pit.											
	•											
VEGETATION – Use sci	entific names of pla	nts.				1						
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant	Indicator	Dominan	ce Test	Workshee	et			
Troc Guarani (r lot oleo: oli		Cover	Specie		Status							
1.						Number of				2		
2.						that are OE	-	-				(A)
3. 4.						Total Numb				3		(D)
4.			= Total (Cover		Percent of						(B)
		•	_			that are OE				67		(A/B)
Sapling/Shrub Stratum (Plo	t size: 3m diam.)											(100)
1. Salix lasiandra		50		Υ	FACW	Prevalen	ce Inde	x Workshe	eet			
2.] :	Total % C	over of		Mu	ultiply b	<u>y</u>
3.						OBL specie				x 1 =		
4.						FACW spe				x 2 =		
5.						FAC specie				x 3 =		
		50	= Total (Cover		FACU spec				x 4 =		
Hart Ctastons (Diet sies des	-U \					UPL specie		(A)		x 5 =		
Herb Stratum (Plot size: 1m		100		Υ	FACW	Column tot	ais	(A)		(B)		
 Phalaris arundina Cirsium arvense 	cea	100		N .	FAC	Preval	anca Ind	dex = B / A	_			
3.		10		iN .	FAC	Fievai	ence m	JEX = D / A	. =			
4.						Hydrophy	ytic Vec	etation In	dicato	rs		
5.								est is > 50%				
6.						☐ Prev	alence te	est is ≤ 3.0 *				
7.						Morp	hologica	I Adaptation	s * (prov	ide supp	orting	
8.						☐ data	in remar	ks or on a se	eparate :	sheet)		
9.						☐ Wetl	and Non-	Vascular Pla	ants *			
10.						☐ Prob	lematic H	Hydrophytic \	Vegetati	on * (exp	lain)	
11.												
		110	= Total (Cover				soil and we			nust be	:
Woody Vine Stratum (Plot s	size: <u>)</u>					p.coont, un				•		
1. Rubus armeniacu	•	20		Υ	FACU							
2.							nytic Veg		Yes	∇	No	
		20	= Total (Cover		"	Present?		169		INU	Ш
% Bare Ground in Herb Strat	um:					<u> </u>						
Remarks:												

SOIL Sampling Point - DP-27 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix (inches) Color (moist) Color (moist) Type¹ Texture Remarks 10YR 2/2 100 Silt loam 0-8 8-16 5YR 2.5/1 85 5YR 3/4 15 С M, PL Silt loam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) □ Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Hydric soil present? X Yes No Depth (inches): Remarks:

HYDROLOGY

Wetland Hydrology Indicators:					
Primary Indicators (minimum of one requir	ed: c		,	Seco	ndary Indicators (2 or more required):
☐ Surface water (A1)		Sparsely Vegetated Concave Surface (B8)			Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
☐ High Water Table (A2)		Water-Stained Leaves (except MLRA 1, 2,	4A & 4B) (B9)		Drainage Patterns (B10)
☐ Saturation (A3)		Salt Crust (B11)			Dry-Season Water Table (C2)
☐ Water Marks (B1)		Aquatic Invertebrates (B13)			Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		\boxtimes	Geomorphic Position (D2)
☐ Drift Deposits (B3)	\boxtimes	Oxidized Rhizospheres along Living Roots ((C3)		Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		\boxtimes	FAC-Neutral Test (D5)
☐ Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (LRR A)			Frost-Heave Hummocks
☐ Inundation Visible on Aerial Imagery (B7)		Other (explain in remarks)			
Field Observations					
Surface Water Present? Yes □	No	□ Depth (in):			
Water Table Present? Yes □	No	□ Depth (in):	Wetland Hydrol	oav	Present? Yes X No
Saturation Present? Yes □	No	_ 5	,	- 37	.00 🔼
(includes capillary fringe)					
Describe Recorded Data (stream gauge, m	onitor	ring well, aerial photos, previous inspections),	if available:		
Remarks: Damp, not saturated.					



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 28

D :			00405000		0 : 0 :	0/4=/0045		
Project Site:	Segment E – par		024059089		Sampling Date:			
Applicant/Owner:	Puget Sound En				Sampling Point			
Investigator:	K. Crandall, R. W				City/County:	Bellevue		
Sect., Township, Range:	S 10 T	24N R 0)5E	,	State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 5	Local relief (conca	ave, convex, none): I	None	
Subregion (LRR): A				Lat:	Long:		Datum:	
	Dannan Indianal	-t	4		1		2 4.44	
Soil Map Unit Name: RdE				<u> </u>	NWI classification			
Are climatic/hydrologic cond	litions on the site typica	al for this time of	year?	☐ Yes	(If no, explain in r	emarks.)		
Are "Normal Circumstances"	•			⊠ Yes □ No				
Are Vegetation□, Soil □, or	r Hydrology 🗆 significa	antly disturbed?						
Are Vegetation□, Soil □, or	r Hydrology \square naturall	ly problematic			(If needed, explai	n any answers in Rem	narks.)	
SUMMARY OF FINDING	3S – Attach site m	ap snowing s	ampling po	oint locations, tran	sects, important	teatures, etc.		
Hydrophytic Vegetation Pres	sent?	Yes	No 🗵					
						\Box		
Hydric Soils Present?	_	_		Is the Sampling Po	int within a Wetland	I? Yes	No	\boxtimes
Wetland Hydrology Present	?	Yes	No 🗵					
Remarks: Out-pit n	ear wetland EB20.							
		_						
VEGETATION – Use sc	ientific names of p	olants.						
Tree Stratum (Plot size: 5m	ı diam.)	Absolute 9			Dominance Te	est Worksheet		
		Cover	Specie	s? Status				
1.					Number of Domi		2	
2.					that are OBL, FA			(A)
3.					Total Number of		4	
4.					Species Across A	All Strata:		(B)
			= Total (Cover	Percent of Domir		50	
					that are OBL, FA	CW, or FAC:	30	(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)							
	ot size: 3m diam.)				Prevalence in	dex Worksheet		
1.	ot size: 3m diam.)					dex Worksheet	Multiply	, bv
1. 2.	ot size: 3m diam.)				Total 9	dex Worksheet 6 Cover of	Multiply	<u>, by</u>
1. 2. 3.	ot size: 3m diam.)				OBL species		x 1 =	<u>ı by</u>
1. 2. 3. 4.	ot size: 3m diam.)				OBL species FACW species		x 1 = x 2 =	<u>r by</u>
1. 2. 3.	ot size: 3m diam.)		= Total (Cover	OBL species FACW species FAC species		x 1 = x 2 = x 3 =	<u>' by</u>
1. 2. 3. 4.	ot size: 3m diam.)		= Total (Cover	OBL species FACW species FAC species FACU species		x 1 = x 2 = x 3 = x 4 =	<u>' by</u>
1. 2. 3. 4. 5.			= Total (Cover	OBL species FACW species FAC species FACU species UPL species	6 Cover of	x 1 = x 2 = x 3 = x 4 = x 5 =	' by
1. 2. 3. 4. 5. Herb Stratum (Plot size: 1m	n diam.)				OBL species FACW species FAC species FACU species		x 1 = x 2 = x 3 = x 4 =	' by
1. 2. 3. 4. 5. Herb Stratum (Plot size: 1m 1. Dactylis glomera:	n diam.)	15		Y FACU	Total 9 OBL species FACW species FAC species FACU species UPL species Column totals	6 Cover of (A)	x 1 = x 2 = x 3 = x 4 = x 5 =	<u>' by</u>
1. 2. 3. 4. 5. Herb Stratum (Plot size: 1m 1. Dactylis glomera: 2. Holcus lanatus	n diam.)	15		Y FACU Y FAC	Total 9 OBL species FACW species FAC species FACU species UPL species Column totals	6 Cover of	x 1 = x 2 = x 3 = x 4 = x 5 =	<u>' by</u>
1. 2. 3. 4. 5. Herb Stratum (Plot size: 1m 1. Dactylis glomera: 2. Holcus lanatus 3. Convolvulus sp.	n diam.) ta (bindweed)	15 15		Y FACU Y FAC Y FACU*	Total 9 OBL species FACW species FAC species FACU species UPL species Column totals Prevalence	(A) Index = B / A =	x 1 = x 2 = x 3 = x 4 = x 5 = (B)	/ by
1. 2. 3. 4. 5. Herb Stratum (Plot size: 1m 1. Dactylis glomera: 2. Holcus lanatus 3. Convolvulus sp. 4. Phalaris arundina	n diam.) ta (bindweed)	15 15 15		Y FACU Y FAC Y FACU* Y FACW	OBL species FACW species FAC species FACU species UPL species Column totals Prevalence Hydrophytic \	(A) Index = B / A =	x 1 = x 2 = x 3 = x 4 = x 5 = (B)	y by
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SOIL Sampling Point - DP-28 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Type¹ Remarks (inches) Color (moist) Texture 100 0-10 10YR 2/2 Gravelly sandy loam With cobbles ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: __Fill material_ \boxtimes Hydric soil present? Yes No Depth (inches): 10" BGS Remarks: Compact fill layer at 10 inches below ground surface **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): ☐ Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Surface water (A1) Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) ☐ High Water Table (A2) Drainage Patterns (B10) ☐ Saturation (A3) Salt Crust (B11) П Dry-Season Water Table (C2) □ Water Marks (B1) Aquatic Invertebrates (B13) П Saturation Visible on Aerial Imagery (C9) ☐ Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) ☐ Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aguitard (D3) ☐ Algal Mat or Crust (B4) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) П (B7)Field Observations Surface Water Present? Depth (in): Yes \square \boxtimes No Water Table Present? Depth (in): Yes \square \boxtimes No Wetland Hydrology Present? \boxtimes Saturation Present? Depth (in): Yes □ No 🗵 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



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DP- 29

Project Site:	Segment E – parcel n	umbor 03240500	:e	Sampling	Data:	6/19/201	5		
Applicant/Owner:	Puget Sound Energy		00	Sampling		DP- 29	<u> </u>		
Investigator:	K. Crandall, R. Kahlo			City/Cour		Bellevue			
Sect., Township, Range:	S 03 T 24N	R 05E		State:	ity.	WA	•		
Landform (hillslope, terrace,			Slope (%): 10		(concav	e, convex, noi	ne): Cond	ave	
Subregion (LRR): A			Lat:		Long:		Datur	n:	
Soil Map Unit Name: AgD	- Alderwood gravelly s	sandy loam, 8-15		NWI classi		NΔ			
Are climatic/hydrologic cond			☐ Yes ⊠ No	(If no, expla					
Are "Normal Circumstances"	• • • • • • • • • • • • • • • • • • • •	ino unic or year:	⊠ Yes □ No	(II 110, expir	JIII III ICI	nano.,			
Are Vegetation□, Soil □, or	•	listurbed?	⊿ 100 □ 110						
Are Vegetation□, Soil □, or				(If needed,	explain	any answers i	n Remarks.)	
SUMMARY OF FINDING	SS – Attach site map sh	nowing sampling	point locations, tra	nsects, impo	rtant fe	eatures, etc.	9		
Hydrophytic Vegetation Pres	sent? Yes	⊠ _{No} □							
Hydric Soils Present?	Yes		Late Construction					NI.	
Wetland Hydrology Present?			Is the Sampling P	oint within a w	etiand?	Yes	\triangle	No	Ш
Welland Hydrology Present	1 185								
Remarks: Wetland	EB15 inpit								
VEGETATION – Use sc	ientific names of plants	S							
Tree Stratum (Plot size: 5m	diam \	Absolute % Dom	inant Indicator	Domino	T	st Workshee	.4		
Tree Stratum (Flot Size, 5m		Cover Spec		Dominai	ice res	st worksnee	ŧ		
1.						ant Species		1	
2.					·	W, or FAC:		1	(A)
3.				Total Num				1	
4.		Tot	al Cover	Species A					_ (B)
	_	= 101	ai Cover			nt Species W, or FAC:	10	00	
Sapling/Shrub Stratum (Pl	ot size: 3m diam)				22, 1710	,			_ (A/B)
1.	ot size. Sin diam.)			Brovolor	oo Ind	ex Workshe	of		
2.				Frevalei		Cover of	EL	Multiply	by
3.				OBL speci			x -	1 =	
4.				FACW spe	ecies		x 2	2 =	
5.				FAC speci			x 3	3 =	
		= Tot	al Cover	FACU spe				4 =	
				UPL speci				5 =	
Herb Stratum (Plot size: 1m		400	V 540W	Column to	tals	(A)	(B	<u>) </u>	
 Phalaris arundina Scirpus microcar 		100 25	Y FACW N OBL	Brove	longo li	ndex = B / A	_		
 Scirpus microcar Galium sp. 	pus	25	N FAC*		ience n	idex = D / A	_		
4.				Hydroph	vtic Ve	getation Inc	dicators		
5.						test is > 50%			
6.				☐ Pre	valence	test is ≤ 3.0 *			
7.				Mor	phologic	al Adaptations	s * (provide	supporting	
8.				☐ data	a in rema	arks or on a se	parate she	et)	
9.				☐ We	tland No	n-Vascular Pla	ants *		
10.				☐ Pro	blematic	Hydrophytic \	egetation *	(explain)	
11.									
	_	150 = Tot	al Cover			ric soil and we sturbed or prob		ogy must b	ре
Woody Vine Stratum (Plot	size:			present, u	incoo ulo	rained of high	nomalic		
1.									
2.				Hydron	hytic Ve	egetation	V 5		
		= Tot	al Cover		Present		Yes [X No	Ш
	_								
% Bare Ground in Herb Stra	tum:								
Remarks: *Presumed									

SOIL Sampling Point - DP-29 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix (inches) Color (moist) Color (moist) Type¹ Texture Remarks 10YR 3/2 100 Sandy loam 0-8 8-16 5GY 3/1 90 7.5YR 4/4 10 С M, PL Loamy coarse sand ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) □ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3)* ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present):

Hydric soil present?

X

Yes

No

HYDROLOGY

Depth (inches): Remarks:

Wetland Hydrology Indicat	ors:								
Primary Indicators (minimu	m of o	ne requir	red: cl	heck all	that apply):			Seco	ndary Indicators (2 or more required):
☐ Surface water (A1)				Spars	ely Vegetated C	oncave Surface (B	3)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
☐ High Water Table (A2)				Water	r-Stained Leaves	(except MLRA 1,	2, 4A & 4B) (B9)		Drainage Patterns (B10)
⊠ Saturation (A3)				Salt C	Crust (B11)			\boxtimes	Dry-Season Water Table (C2)
☐ Water Marks (B1)				Aquat	tic Invertebrates	(B13)			Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)				Hydro	ogen Sulfide Odo	r (C1)		\boxtimes	Geomorphic Position (D2)
☐ Drift Deposits (B3)			\boxtimes	Oxidiz	zed Rhizosphere	s along Living Root	ts (C3)		Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)				Prese	ence of Reduced	Iron (C4)		\boxtimes	FAC-Neutral Test (D5)
☐ Iron Deposits (B5)				Recer	nt Iron Reduction	in Tilled Soils (C6))		Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)			Stunte	ed or Stressed P	lants (D1) (LRR A)			Frost-Heave Hummocks
☐ Inundation Visible on Ae	rial In	nagery		Other	(explain in rema	rks)			
(B7)									
Field Observations									
Surface Water Present?	Yes		No	\boxtimes	Depth (in):				
Water Table Present?	Yes	\boxtimes	No		Depth (in):	14 BGS	Wetland Hydro	logy l	Present? Yes No
Saturation Present?	Yes	\boxtimes	No	П	Depth (in):	throughout	Wolland Hyan	ology .	163 📈 146
(includes capillary fringe)									
Describe Recorded Data (str		TOLIGO M	onitor	ing wol	L parial photon r	rovious inspection	a) if available:		
Describe Recorded Data (Sti	eam g	Jauge, III	Officor	ing weii	i, aeriai priotos, p	nevious inspection	s), ii avallable.		
Remarks: BGS = belo	w gro	ound si	urfac	е					



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DP-30

COMMIN												
Project Site:	Segment E – parce	el number 032	4050066			Sampling [Jate:	6/19/201	15			
Applicant/Owner:	Puget Sound Ener		+033000			Sampling F		DP- 30				
Investigator:	K. Crandall, R. Kal					City/Count		Bellevu	Δ			
Sect., Township, Range:		24N R 05E	•			State:	у.	WA				
Landform (hillslope, terrace,			_	Slope (%):	0	Local relief (concave		ne): C	oncave		
Subregion (LRR): A	,			Lat:		· '	ong:	, , .		atum:		
Soil Map Unit Name: AgD	– Alderwood gravel	lly sandy loam	8-15%			NWI classific		JΔ				
Are climatic/hydrologic condi		• •	•	•	No	(If no, explai						
Are "Normal Circumstances"	= = =	ioi tilis tilile oi ye	air _			(II IIO, explai	iii iii ieiii	aiks.)				
Are Vegetation □, Soil □, or	•	tly disturbed?		163 _	140							
Are Vegetation□, Soil □, or		•				(If needed, e	explain a	ny answers	in Rema	arks.)		
SUMMARY OF FINDING		•	npling po	int location	s, trans	sects, impor	tant fea	atures, etc	:.			
Hydrophytic Vegetation Pres	ent?	Yes 🗵 N	o 🗆									
Hydric Soils Present?		Yes 🗵 N	o 🗆	la tha Cami	lina Bair	nt within a We	stland?	Voc			No	
Wetland Hydrology Present?		Yes ⊠ N	_	is the Sain	Jilly Foli	iii wiliiii a vve	euanu r	Yes	\boxtimes		No	Ш
Wolland Trydrology Trocont.			·									
Remarks: Wetland B	EB16 in-pit											
VEGETATION – Use sci	entific names of pla	ants.										
-						l						
Tree Stratum (Plot size: 5m	diam.)	Absolute % Cover	Domina Species		dicator atus	Dominan	ce Test	Workshe	et			
1.		OOVCI	Орсско	. 0	atus	Number of I	Dominan	t Species				
2.						that are OB	L, FACV	, or FAC:		3		(A)
3.						Total Numb	er of Do	minant				()
4.						Species Ac	ross All S	Strata:		4		(B)
			= Total C	over		Percent of I				75		
						that are OB	L, FACW	/, or FAC:		7.5		(A/B)
Sapling/Shrub Stratum (Plo												
1. Rubus spectabilis	i	25			FAC	Prevalence			eet			
2. Ribes lacustre		15	١		FAC	_	「otal % C	Cover of			ıltiply by	<u>Y</u>
3.						OBL specie FACW species				x 1 =		
4. 5.						FAC v specie				x 3 =		
3.		40	= Total C	over		FACU specie				x 4 =		
			_			UPL specie				x 5 =		
Herb Stratum (Plot size: 1m	diam.)					Column tota	als ((A)		(B)		
1. Phalaris arundina	cea	80	١	<i>'</i>	FACW							
2. Pteridium aquilinu		10	N	l	FACU	Prevale	ence Ind	dex = B / A	. =			
3.												
4.						Hydrophy			dicato	rs		
5.								est is > 50%				
6.								est is ≤ 3.0 *				
7.						┥	-	I Adaptation	**		orting	
8.								ks or on a s		sneet)		
9.								-Vascular Pl				
10.						☐ Probl	lematic F	Hydrophytic '	Vegetat	ion * (expl	ain)	
11.			- Total C	over		4						
		90	= Total C	ovei				soil and we urbed or pro			nust be	
Woody Vine Stratum (Plot s	size:)					, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		p.o				
1. Rubus armeniacu		20	١	<u> </u>	FACU							
2.						Hydroph			Yes	abla	No	
		20	= Total C	over		P	resent?	1	168		INU	Ш
% Bare Ground in Herb Strat												
	um:											
Remarks:	um:											

SOIL Sampling Point - DP-30 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) Type¹ Texture Remarks (inches) Color (moist) Sandy loam 100 0-8 10YR 2/2 8-16 5Y 4/1 100 Gravelly loamy sand ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3 ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): X Hydric soil present? Yes No Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) Sparsely Vegetated Concave Surface (B8) ☐ Surface water (A1) П П Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) Drainage Patterns (B10) High Water Table (A2) \boxtimes Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2) \boxtimes Hydrogen Sulfide Odor (C1) \boxtimes Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3)

Wetland Hydrology Present?

FAC-Neutral Test (D5)

Frost-Heave Hummocks

Raised Ant Mounds (D6) (LRR A)

No

No ⊠

Nο

No \square

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Presence of Reduced Iron (C4)

Other (explain in remarks)

Depth (in):

Depth (in):

Depth (in):

Recent Iron Reduction in Tilled Soils (C6)

Stunted or Stressed Plants (D1) (LRR A)

12 BGS

throughout

Algal Mat or Crust (B4) Iron Deposits (B5)

Surface Soil Cracks (B6)

(B7)

Field Observations

Surface Water Present?

Water Table Present?

(includes capillary fringe)

Saturation Present?

Inundation Visible on Aerial Imagery

Yes \square

Yes 🗵

Yes 🗵

BGS = below ground surface



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DP- 31

								-		
Project Site:	Segment E – par	rool number	0224050	066			Sampling Date:	6/19/2015		
			0324039	000			1 0	DP- 31		
Applicant/Owner:	Puget Sound En						Sampling Point:			
Investigator:	K. Crandall, R. K						City/County:	Bellevue		
Sect., Township, Range:		24N R	05E				State:	WA		
Landform (hillslope, terrace,	etc): Hillslope				Slope (%	%): 10	Local relief (concave	e, convex, none):	Concave	
Subregion (LRR): A					Lat:		Long:	I	Datum:	
	Alderwood grov	elly candy i	00m 0 1	E0/ C	longe		NWI classification:			
Soil Map Unit Name: AgD					_					
Are climatic/hydrologic condi	tions on the site typica	al for this time	of year?			⊠ No	(If no, explain in rem	arks.)		
Are "Normal Circumstances"	present on the site?			\boxtimes	Yes	☐ No				
Are Vegetation□, Soil □, or	Hydrology ☐ significa	antly disturbed	?							
Are Vegetation□, Soil □, or	Hydrology □ naturall	y problematic					(If needed, explain a	ny answers in Rem	arks.)	
SUMMARY OF FINDING	S – Attach site ma	ap showing	sampling	g poi	nt loca	tions, trans	ects, important fe	atures, etc.		
I budaaa budia Waaatatiaa Daaa	40	Yes 🛛	NI- I							
Hydrophytic Vegetation Pres	ent?	. 00								
Hydric Soils Present?		Yes 🗵	No L		Is the S	Sampling Poir	nt within a Wetland?	Yes 🔀	No	
Wetland Hydrology Present?		Yes 🗵	No [
Remarks: Wetland I	EB17 in-pit.									
	· · · · · · · · · · · · · ·									
VEGETATION – Use sci	ontific names of r	alante								
VEGETATION - USE SCI	entine names of p	nants.					1			
			_							
Tree Stratum (Plot size: 5m	diam.)	Absolute		minar		Indicator	Dominance Test	Worksheet		
		Cover	Sp	ecies	?	Status				
1.							Number of Dominar that are OBL, FACV		1	
2.							,	<u> </u>		(A)
3.							Total Number of Do		1	
4.							Species Across All	Strata:	•	(B)
			= T	otal Co	over		Percent of Dominar	nt Species	400	_
							that are OBL, FACV	V, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)									_ (/ (/ 2)
1.							Prevalence Inde	y Workshoot		
							Total % (Multiple	, h
2.							-	<u>Jover or</u>	Multiply	<u> by</u>
3.							OBL species		x 1 =	
4.							FACW species		x 2 =	
5.							FAC species		x 3 =	
			= T	otal Co	over		FACU species		x 4 =	
							UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)						Column totals	(A)	(B)	
1. Phalaris arundina	cea	95		Υ		FACW				
2. Galium sp.		15		N		FAC*	Prevalence In	dex = B / A =		
3. Scirpus microcar	pus	15		N		OBL				
4. Typha latifolia		10		N		OBL	Hydrophytic Veg	getation Indicate	ors	
5. Juncus effusus		5		N		FACW				
						.,,,,,,,,,	☐ Prevalence to			
6.										_
7.							1	al Adaptations * (pro	,	3
8.							data in remai	ks or on a separate	e sneet)	
							_			
9.							_	-Vascular Plants *		
9.							☐ Wetland Non	-Vascular Plants * Hydrophytic Vegeta	tion * (explain)	
10.							☐ Wetland Non		tion * (explain)	
		140) =T	otal Co	over		☐ Wetland Non ☐ Problematic I	Hydrophytic Vegeta		he
10.		140) = T	otal Co	over		☐ Wetland Non ☐ Problematic I * Indicators of hydri	Hydrophytic Vegeta	nydrology must	be
10. 11.	size:)	140) = T	otal Co	over		☐ Wetland Non ☐ Problematic I	Hydrophytic Vegeta	nydrology must	be
10. 11. Woody Vine Stratum (Plot s	size:)	140)=T	otal Co	over		☐ Wetland Non ☐ Problematic I * Indicators of hydri	Hydrophytic Vegeta	nydrology must	be
10. 11. Woody Vine Stratum (Plot s	size:)	140) = T	otal Co	over		☐ Wetland Non ☐ Problematic I * Indicators of hydri- present, unless dist	Hydrophytic Vegeta c soil and wetland h urbed or problemat	nydrology must	be
10. 11. Woody Vine Stratum (Plot s	size:)	140					☐ Wetland Non ☐ Problematic I * Indicators of hydripresent, unless dist Hydrophytic Ve	Hydrophytic Vegeta c soil and wetland h urbed or problemat	nydrology must	
10. 11. Woody Vine Stratum (Plot s	size:)	140		otal Co			☐ Wetland Non ☐ Problematic I * Indicators of hydri- present, unless dist	Hydrophytic Vegeta c soil and wetland h urbed or problemat	nydrology must	
10. 11. Woody Vine Stratum (Plot s 1. 2.		140					☐ Wetland Non ☐ Problematic I * Indicators of hydripresent, unless dist Hydrophytic Ve	Hydrophytic Vegeta c soil and wetland h urbed or problemat	nydrology must	
10. 11. Woody Vine Stratum (Plot s		140					☐ Wetland Non ☐ Problematic I * Indicators of hydripresent, unless dist Hydrophytic Ve	Hydrophytic Vegeta c soil and wetland h urbed or problemat	nydrology must	
10. 11. Woody Vine Stratum (Plot s 1. 2. % Bare Ground in Herb Strat	tum:	140					☐ Wetland Non ☐ Problematic I * Indicators of hydripresent, unless dist Hydrophytic Ve	Hydrophytic Vegeta c soil and wetland h urbed or problemat	nydrology must	
10. 11. Woody Vine Stratum (Plot s 1. 2. % Bare Ground in Herb Strat	tum:	140					☐ Wetland Non ☐ Problematic I * Indicators of hydripresent, unless dist Hydrophytic Ve	Hydrophytic Vegeta c soil and wetland h urbed or problemat	nydrology must	

SOIL Sampling Point - DP-31

Profile Descri	ption: (Describe to	he depth need	ed to document the indicat	or or confi	m the absence o	f indicators	s.)	
Depth	Matr	x		Redox Feat	ıres			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-9	10YR 2/2	100					Loam	
9+	10Y 4/1	93	10YR 4/3	7	С	М	Gravelly loamy sand	
¹ Type: C=Cond	centration, D=Depleti	on, RM=Reduce	d Matrix, CS=Covered or Co	ated Sand	Grains ² Loc: Pl	_=Pore Linin	g, M=Matrix	1
Hydric Soil In	dicators: (Annlicah	a to all I PPs u	nless otherwise noted.)		Indicato	rs for Probl	lematic Hydric Soils ³	
☐ Histosol (A			andy Redox (S5)			n Muck (A10	-	
☐ Histic Epip	,		tripped Matrix (S6)			Parent Mat	·	
☐ Black Histi			oamy Mucky Mineral (F1) (e	xcent MLR		er (explain ir	` '	
			oamy Gleyed Matrix (F2)	xoopt iiiLit	, <u> </u>	or (oxpiairi ii	i romano,	
	Below Dark Surface (epleted Matrix (F3)					
•	Surface (A12)	*	ledox Dark Surface (F6)		³ Indicate	ors of hydror	ohytic vegetation and wetland	d hydrology must
	cky Mineral (S1)		epleted Dark Surface (F7)				isturbed or problematic	a nyarology mast
=	yed Matrix (S4)		ledox Depressions (F8)		•		·	
-			cuox Depressions (1 0)					
-	er (if present):							
Type:Fill n	naterial				Hydric soil	present?	Yes 🔀	No
Depth (inches)	:9 inches							
Remarks:								
HYDROLOGY								
Wetland Hydr	ology Indicators:							
	ators (minimum of or			0 ((D)			Indicators (2 or more require	*
☐ Surface w	` '		parsely Vegetated Concave	•	•		er-Stained Leaves (B9) (MLI	RA 1, 2, 4A & 4B)
_	er Table (A2)		/ater-Stained Leaves (excer	ot MLRA 1,	2, 4A & 4B) (B9)		nage Patterns (B10)	
			alt Crust (B11)			=	Season Water Table (C2)	
☐ Water Ma	` '		quatic Invertebrates (B13)				uration Visible on Aerial Imag	jery (C9)
	Deposits (B2)		ydrogen Sulfide Odor (C1)				morphic Position (D2)	
☐ Drift Depo	, ,		xidized Rhizospheres along		s (C3)		llow Aquitard (D3)	
_	or Crust (B4)		resence of Reduced Iron (C	*			C-Neutral Test (D5)	
☐ Iron Depo			ecent Iron Reduction in Tille	` '			sed Ant Mounds (D6) (LRR A	()
	oil Cracks (B6)		tunted or Stressed Plants (D	01) (LRR A)		☐ Fros	st-Heave Hummocks	
Inundation (B7)	n Visible on Aerial Im	agery 🗌 C	ther (explain in remarks)					
Field Observa	tions							
Surface Water		□ No ⊠	Depth (in):					
Water Table P				GS	Wetland Hydro	ology Droco	ent? Yes 🔀	No.
Saturation Pre-	sent? Yes		·	oughout	Welland Hydro	Diogy Frese	nt? Yes ⊠	No
Describe Reco	rded Data (stream o	uge, monitoring	well, aerial photos, previous	s inspections	l s), if available:			
			, p. 10100, p. 041000		,,			
Remarks:	BGS = below gro	und surface						
	gro							



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DP- 32

	*											
Project Site:	Segment E – parcel	number 0324	กรจกลล			Sampling	Date.	6/19/2015				
Applicant/Owner:	Puget Sound Energy		00000			Sampling		DP- 32				
Investigator:	K. Crandall	<u></u>				City/Coun		Bellevue				
Sect., Township, Range:	S 03 T 24N	N R 05E				State:	·y·	WA				
Landform (hillslope, terrace,				Slope (%	%): 5		(concave	, convex, non	e): C (onvex		
Subregion (LRR): A	, .			Lat:		l .	ong:	, , .		atum:		
Soil Map Unit Name: AgD	- Alderwood gravelly	sandy loam	8-15%	l .		NWI classif		JΔ				
Are climatic/hydrologic condit				Yes	⊠ No	(If no, expla						
Are "Normal Circumstances"		uns ume or yea		⊥ res ⊠ Yes	□ No	(II IIO, expia	ani ni rem	aiks.)				
Are Vegetation□, Soil □, or	•	disturbed?	L	∆ 163								
Are Vegetation□, Soil □, or	, ,, ,					(If needed,	explain a	ny answers in	Rema	rks.)		
SUMMARY OF FINDING	, ,,		pling po	oint loca	tions, trans	sects, impo	rtant fe	atures, etc.				
Hydrophytic Vegetation Pres	ent? Ye	s 🗆 No	\boxtimes									
Hydric Soils Present?	Ye	s 🗆 No	\boxtimes	la tha S	ampling Dai	nt within a M	lation d2	Voo			No	\square
Wetland Hydrology Present?	Ye	_	_	is the 3	ampling Poir	iii wiliiiii a vv	elianur	Yes	Ш		No	
Welland Trydrology Tresent:	10	3 <u> </u>										
Remarks: Out-pit ne	ear EB17											
VEGETATION – Use sci	ontific names of plan	te.										
VEGETATION - OSE SCI	entine names of plan											
Tree Stratum (Plot size: 5m	diam.)	Absolute % Cover	Domina Specie		Indicator Status			Worksheet	t			
1.						Number of that are Of				1		
2.						Total Num		•				(A)
3. 4.						Species A				2		(D)
7.			= Total (Cover		Percent of						(B)
	-					that are Of				50		(A /D)
Sapling/Shrub Stratum (Plo	t size: 3m diam.)							_				(A/B)
1.	,					Prevalen	ce Inde	x Workshee	at .			
2.							Total % C		,,	Mu	ultiply by	v
3.						OBL speci			ĺ	x 1 =		-
4.						FACW spe	cies			x 2 =		
5.						FAC speci	es			x 3 =		
	_		= Total (Cover		FACU spe				x 4 =		
						UPL specie				x 5 =		
Herb Stratum (Plot size: 1m	,					Column to	tals	(A)		(B)		
 Unknown field gra Holcus lanatus Plantago lanceola 	•	80 20 5		Y N N	FAC* FAC FACU	Preva	lence In	dex = B / A =	=			
4.					17.00	Hydroph	vtic Ved	getation Ind	icator	'S		
5.								est is > 50%				
6.						_ ☐ Pre\	alence te	est is ≤ 3.0 *				
7.						Mor	phologica	I Adaptations	* (prov	ide supp	orting	
8.						☐ data	in remar	ks or on a sep	arate s	sheet)		
9.						☐ Wet	land Non	-Vascular Plar	nts *			
10.						_	olematic H	Hydrophytic Ve	egetatio	on * (expl	lain)	
11.						 		<u> </u>				
W . 1 W . 0	. ,	105	= Total (Cover				c soil and wetl urbed or probl			nust be	!
Woody Vine Stratum (Plot s 1. Rubus armeniacu		50		Y	FACU	1						
2. Rubus armemacu	3	JU			IACU	U,,,,,,,	hutio Ve	notation		_		
<u></u>		50	= Total (Cover			hytic Veg Present?		Yes		No	\boxtimes
	-											
% Bare Ground in Herb Strat	um:											
Remarks: *Presumed												

SOIL Sampling Point - DP-32 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) Type¹ Remarks (inches) Color (moist) Texture 100 0-10 2.5Y 3/2 **Gravelly sandy loam** Very compact ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: \boxtimes Hydric soil present? Yes No Depth (inches): Remarks: Compact; could not dig below 10 inches **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Surface water (A1) Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) ☐ High Water Table (A2) Drainage Patterns (B10) ☐ Saturation (A3) Salt Crust (B11) П Dry-Season Water Table (C2) □ Water Marks (B1) Aquatic Invertebrates (B13) П Saturation Visible on Aerial Imagery (C9) ☐ Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) ☐ Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aguitard (D3) ☐ Algal Mat or Crust (B4) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Other (explain in remarks) Inundation Visible on Aerial Imagery П (B7)Field Observations Surface Water Present? Depth (in): Yes \square \boxtimes No Water Table Present? Depth (in): Yes \square \boxtimes No Wetland Hydrology Present? \boxtimes Saturation Present? Depth (in): Yes □ No 🗵 (includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Dry



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CONTIN	1									
Project Site:	Segment E, parce		Comn	ling Date:	6/24/20	15				
Applicant/Owner:	Puget Sound Ener		009000			ling Paie.	DP- 33			
Investigator:	K. Crandall, R. Ka					ounty:	Bellevu			
Sect., Township, Range:		4N R 05E	=		State:	•	WA	E		
Landform (hillslope, terrace,		414 IX 03L		Slope (%): 10			ve, convex, no	one). Co	ncave	
Subregion (LRR): A	roto). Timoropo			Lat:	Locari	Long:	vo, convex, ne		tum:	
Soil Map Unit Name: AgD	Alderwood grave	lly condy loom		Lat.	NIVA/I ol	assification:	NI A	Dai	uiii.	
					_					
Are climatic/hydrologic cond Are "Normal Circumstances"	• • • • • • • • • • • • • • • • • • • •	for this time of ye		Yes No	(If no, e	explain in re	marks.)			
Are Vegetation□, Soil □, or	•	Alverdicate unbood O		Yes 🗌 No						
Are Vegetation□, Soil □, or	, 0, 0	,			(If need	ded, explain	any answers	in Remark	(s.)	
SUMMARY OF FINDING		-	nplina poi	nt locations, tran	sects. ir	nportant f	eatures, etc			
				,						
Hydrophytic Vegetation Pres			_							
Hydric Soils Present?		Yes 🗵 N		Is the Sampling Po	int within	a Wetland	? Yes	\boxtimes	No	
Wetland Hydrology Present	?	Yes 🗵 N	lo 🗌							
Remarks: Wetland	EB18 in-pit									
riomano. Victiana	LB to iii-pit									
VEGETATION – Use sc	ientific names of pla	ints.								
T	P \	AL 1 . 0/								
Tree Stratum (Plot size: 5m	i diam.)	Absolute % Cover	Dominar Species?		Dom	inance Te	st Workshe	et		
1. Alnus rubra		75	Y		Numb	er of Domina	ant Species		_	
2.							W, or FAC:		5	(A)
3.					Total I	Number of D	ominant			_ ('')
4.					Specie	es Across Al	l Strata:		6	(B)
		75	= Total Co	ver	Perce	nt of Domina	ant Species		00	_ ` '
			_		that a	e OBL, FAC	CW, or FAC:		83	(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)									_ (' '
1. Populus balsamin	fera (sapling)	15	Υ	FAC	Preva	alence Ind	ex Worksh	eet		
2. Alnus rubra (sapl		10	Υ	FAC		Total %	Cover of		Multiply	y by
3.	<u> </u>				OBL s	pecies			x 1 =	
4.					FACW	/ species			x 2 =	
5.						pecies			x 3 =	
		25	= Total Co	ver		species			x 4 =	
11. 1. 044 (17.1	P \					pecies	(4)		x 5 =	
Herb Stratum (Plot size: 1m			V	FAC	Colum	in totals	(A)		(B)	
1. Athyrium cycloso	orum	5	Y	FAC	- Б	ovolopoo I	ndex = B / A	١ _		
2. 3.					' '	evalence i	nuex = b / F	\ =		
4.					Hydr	onhytic V	egetation Ir	ndicators		
5.		-			□ Ilyun		test is > 50%		-	
6.						Prevalence	test is ≤ 3.0 *			
7.					\dashv	Morphologic	cal Adaptation	ns * (provid	de supportin	a
8.		-			\dashv		arks or on a s			3
9.					$\dashv \exists$		n-Vascular P	•	,	
10.					$\exists \bar{\Box}$		Hydrophytic		n * (explain)	
11.					\perp		.,,	-33.001	(
		5	= Total Co	ver	* India	ators of hvd	ric soil and w	etland hvd	rology must	be
			_				sturbed or pro		. 37	
Woody Vine Stratum (Plot										
1. Rubus armeniaci					1					
		50	Y		_					
2. Solanum dulcam	us	50 80	Υ	FAC	Hyd	drophytic V		Yes	N/	. \Box
2. Solanum dulcam	us			FAC	Hyd	drophytic V Presen		Yes	No.	0 🗌
	us ara	80	Υ	FAC	Hyd			Yes	No.	0 🗌
% Bare Ground in Herb Stra	us ara	80	Υ	FAC	Hyd			Yes	No.	o 🗌
	us ara	80	Υ	FAC	Hye			Yes	No.	o 🗌

SOIL							Sampling Point - D	P-33
Profile Descr	iption: (Describe to the	depth neede	ed to document the in	ndicator or conf	irm the absence	e of indicator		
Depth	Matrix		1	Redox Fea			1	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-7	7.5YR 2/1	100	Color (molet)	,,,	1,750		Loam	rtomanto
7-11	2.5Y 3/2	95	10YR 4/6	5	С	М	Gravelly sandy clay	
11-16	2.5Y 3/2	80	7.5YR3/4	20	С	M	Gravelly sandy clay loam	With more gravel than previous layer
¹ Type: C=Con	centration, D=Depletion,	RM=Reduce	d Matrix, CS=Covered	or Coated Sand	Grains ² Loc:	PL=Pore Lini	ng, M=Matrix	
Histosol (/	pedon (A2) ic (A3)	S S L L D K C	nless otherwise note andy Redox (S5) stripped Matrix (S6) oamy Mucky Mineral (oamy Gleyed Matrix (F3) dedox Dark Surface (F depleted Dark Surface dedox Depressions (F8	(F1) (except MLi F2) 6) (F7)	2 F RA 1)	cm Muck (A1) Red Parent Ma Other (explain eators of hydro	aterial (TF2)	d hydrology must
_	yer (if present):						N-7	
					Hydric s	oil present?	Yes 🔀	No
Depth (inches):							
HYDROLOGY	,							
	rology Indicators:		d. = 11 (b = 1 = = = b d)			0	. Indiana (O annuan annuan	0-
Surface v	cators (minimum of one re		ek <i>all that apply):</i> parsely Vegetated Col	ncave Surface (F	88)	-	y Indicators (2 or more require ater-Stained Leaves (B9) (ML I	·
	er Table (A2)		/ater-Stained Leaves (-	•		ainage Patterns (B10)	(A 1, 2, 4A & 4B)
				(except wilks i	, z , 4A & 4D) (D:	•	= : :	
Saturation Saturation			alt Crust (B11)	242)			y-Season Water Table (C2) turation Visible on Aerial Imac	· · · · · · · · · · · · · · · · · · ·
☐ Water Ma		_	quatic Invertebrates (E			_		jery (C9)
	Deposits (B2)		ydrogen Sulfide Odor		-4- (00)		eomorphic Position (D2)	
☐ Drift Depo		_	xidized Rhizospheres		ots (C3)		allow Aquitard (D3)	
_	or Crust (B4)		resence of Reduced Ir	, ,			C-Neutral Test (D5)	
☐ Iron Depo	` '		ecent Iron Reduction i	•	•		ised Ant Mounds (D6) (LRR A	()
	Soil Cracks (B6)		tunted or Stressed Pla		.)	∐ Fro	ost-Heave Hummocks	
☐ Inundatio (B7)	n Visible on Aerial Image	ery 🗌 C	ther (explain in remarl	KS)				
Field Observa	ations							
Surface Water	Present? Yes 🖂	No 🗆	Depth (in):	0.5 AGS*				
Water Table F		No 🗵			Wetland Hv	drology Pres	ent? Yes 🔀	No \square
Saturation Pre (includes capi	esent? Yes 🗵	No 🗆		throughout	Wettand Hy	urology i res	ient: Tes 🔀	140
Describe Reco	orded Data (stream gaug	e, monitoring	well, aerial photos, pr	revious inspection	ns), if available:			
Remarks:	AGS = Above grour	nd surface						
	*Appears to be com	ning from s	hallow groundwat	er seeps.				
ĺ								



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0								
Desired Oites	0				0	0/04/0045		
Project Site:	Segment E, parcel		159066		Sampling Date:	6/24/2015		
Applicant/Owner:	Puget Sound Ener				Sampling Point:			
Investigator:	K. Crandall, R. Kal				City/County:	Bellevue		
Sect., Township, Range:	S 03 T 2	4N R 05E			State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 5	Local relief (concar	ve, convex, none):	Concave	
Subregion (LRR): A				Lat:	Long:		Datum:	
							Datum.	
Soil Map Unit Name: AgD	 Alderwood gravel 	ly sandy loam,	, 15-30%	6	NWI classification:	NA		
Are climatic/hydrologic cond	itions on the site typical f	or this time of year	ar? [⊠ Yes □ No	(If no, explain in re	marks.)		
Are "Normal Circumstances"	present on the site?		[⊠ Yes □ No				
Are Vegetation□, Soil □, or	•	ly disturbed?						
Are Vegetation□, Soil □, or		•			(If needed, explain	any answers in Rer	marks.)	
Are vegetation□, Soil □, of	Hydrology — Haturally p	noblematic			(
SUMMARY OF FINDING	S – Attach site man	showing sam	plina p	oint locations, trans	sects, important f	eatures, etc.		
				,				
Hydrophytic Vegetation Pres	sent?	res 🗵 No	, \square					
Hydric Soils Present?	,	res ⊠ No		la tha Camadhaa Dai		o v 🔽	7	
'				Is the Sampling Poi	nt within a wetiand	? Yes 🔀] No	Ш
Wetland Hydrology Present	?	res ⊠ No) <u> </u>					
Remarks: Wetland	EB19 in-pit.							
VEGETATION - Use sc	ientific names of pla	nts.						
Tree Stretum (Diet size: Fre	diam \	Absolute 0/	Damin	ant Indicator	Daminana Ta	at Maulaahaat		
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domin		Dominance Te	st worksneet		
		Cover	Specie	s? Status	Number of Demin	ant Chasins		
1.					Number of Domin that are OBL, FAC		1	
2.								(A)
3.					Total Number of D		1	
4.					Species Across A	Il Strata:	•	(B)
			= Total	Cover	Percent of Domina	ant Species		
			-		that are OBL, FAC	CW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam)							(A/b)
<u> </u>	ot 3120. 3111 diai11.)				 			
1.					Prevalence Inc			
2.					_	Cover of	Multiply	<u>y by</u>
3.					OBL species		x 1 =	
4.					FACW species		x 2 =	
5.					FAC species		x 3 =	
			= Total	Cover	FACU species		x 4 =	
		-	-		UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam)				Column totals	(A)	(B)	
		100		Y FACW	Column totals	(^)	(D)	
	acea	100		T FACTV		to do D / A		
2.					Prevalence i	Index = B / A =		
3.								
4.						egetation Indicat	tors	
5.						e test is > 50%		
6.					☐ Prevalence	test is ≤ 3.0 *		
7.					-	cal Adaptations * (pr	rovide supportin	ıa
8.						arks or on a separat		9
					-	•	*	
9.						on-Vascular Plants *		
10.					☐ Problemation	c Hydrophytic Vegeta	ation * (explain)	
11.								
		100	= Total	Cover	* Indicators of hyd	dric soil and wetland	hydrology must	be
			-			sturbed or problema		
Woody Vine Stratum (Plot	size:)							
1.	,							
2.					Hudranbudi- M	/ogotation		
<u></u>			_ T2+-1	Cover	Hydrophytic V Presen		s 🔀 No	o 🗍
			= Total	COVE	riesen	JE 5	_	_
% Bare Ground in Herb Stra	tum:							
Remarks:								
ľ								

OIL							Sampling Point – DP	-34
Profile Descri	ption: (Describe to the	depth need	ed to document the indi	cator or conf	irm the absence o	of indicators	s.)	
Depth	Matrix		T	Redox Fea			,	Ī
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
)-4	10YR 2/2	100	Color (molet)	70	1,700	200	Gravelly sandy loam	rtomanto
4-9	2.5Y 3/2	85	7.5YR 3/3	15	С	М	Loam	
9-14	2.5Y 3/2	75	5YR 3/4	25	С	М	Gravelly sandy loam	
¹Type: C=Cond	centration, D=Depletion	, RM=Reduce	ed Matrix, CS=Covered or	Coated Sand	Grains ² Loc: P	L=Pore Linir	ng, M=Matrix	•
Hydric Soil In	dicators: (Applicable t	o all LRRs, ι	ınless otherwise noted.))	Indicate	ors for Prob	elematic Hydric Soils ³	
☐ Histosol (A	\1)		Sandy Redox (S5)		□ 2cr	n Muck (A10	0)	
☐ Histic Epip	edon (A2)		Stripped Matrix (S6)		☐ Red	d Parent Ma	terial (TF2)	
□ Black Histi	c (A3)		oamy Mucky Mineral (F1)) (except MLF	RA 1) 🗌 Oth	er (explain i	n remarks)	
☐ Hydrogen	Sulfide (A4)	□ L	oamy Gleyed Matrix (F2)					
☐ Depleted E	Below Dark Surface (A1	1) 🗆 🗆	Depleted Matrix (F3)					
☐ Thick Dark	Surface (A12)	⊠ F	Redox Dark Surface (F6)		³ Indicat	ors of hydro	phytic vegetation and wetland	hydrology must
☐ Sandy Mu	cky Mineral (S1)		Depleted Dark Surface (F7	7)	be prese	ent, unless d	disturbed or problematic	
=	yed Matrix (S4)		Redox Depressions (F8)	,				
	ver (if present):		. , , ,					
-					Uvdria sai	nrocont?	Yes 🔀	No.
					Hydric soil	present	Yes 🔀	No
Depth (inches)	:							
Primary Indic	ology Indicators: ators (minimum of one						Indicators (2 or more required	•
☐ Surface w	` '		Sparsely Vegetated Conca	•	*		ter-Stained Leaves (B9) (MLR	A 1, 2, 4A & 4B)
•	er Table (A2)		Vater-Stained Leaves (ex	cept MLRA 1,	2, 4A & 4B) (B9)		inage Patterns (B10)	
	n (A3)		Salt Crust (B11)			☐ Dry	-Season Water Table (C2)	
☐ Water Ma	rks (B1)		quatic Invertebrates (B13	3)		☐ Sati	uration Visible on Aerial Image	ry (C9)
☐ Sediment	Deposits (B2)		lydrogen Sulfide Odor (C	1)		⊠ Geo	omorphic Position (D2)	
☐ Drift Depo	osits (B3)		Oxidized Rhizospheres ald	ong Living Roc	ts (C3)	☐ Sha	allow Aquitard (D3)	
☐ Algal Mat	or Crust (B4)		resence of Reduced Iron	(C4)		⊠ FAC	C-Neutral Test (D5)	
☐ Iron Depo	sits (B5)		Recent Iron Reduction in T	filled Soils (C6	5)	☐ Rais	sed Ant Mounds (D6) (LRR A)	
☐ Surface S	oil Cracks (B6)	□ S	Stunted or Stressed Plants	(D1) (LRR A)	☐ Fro	st-Heave Hummocks	
☐ Inundation (B7)	n Visible on Aerial Imag	ery 🗌 C	Other (explain in remarks)					
Field Observa	itions							
Surface Water	Present? Yes	No 🛭	Depth (in):					
Water Table P	resent? Yes		5 (1.)		Wetland Hydr	ology Press	ent? Yes 🔀	No \square
Saturation Pre	sent? Yes ⊠)-9 BGS				
(includes capil	lary fringe)		_ , , ,					
Describe Reco	orded Data (stream gauç	ge, monitoring	well, aerial photos, previ	ous inspectior	s), if available:			
Remarks:								



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

750 Sixth Street South Kirkland, Washington 98033 (425) 822-5242 watershedco.com

DP-35

Project Site: Applicant/Owner: Investigator:	Segment J, parce Puget Sound Ene R. Kahlo, A. Hoel	ergy nig	300320			Sampling Date: Sampling Point: City/County:	7/1/2015 DP- 35 Bellevue			
Sect., Township, Range: Landform (hillslope, terrace,		24 R 05		Slope (ο _{/-}). 	State: Local relief (conca	MA	Concave		-
Subregion (LRR): A	cio). Timolope			Lat:	70). U	Long:	ve, convex, none).	Datum:		-
Soil Map Unit Name: EvD ,	Everett gravelly s	andy loam 15	20% slor			NWI classification:	NΑ	Datum.		_
Are climatic/hydrologic condi		-		Yes	□ No	(If no, explain in re				_
Are "Normal Circumstances" Are Vegetation□, Soil □, or Are Vegetation□, Soil □, or	present on the site? Hydrology □ significa	intly disturbed?		⊻ Yes	□ No	(If needed, explain	,	emarks.)		
SUMMARY OF FINDING	<u>, , , , , , , , , , , , , , , , , , , </u>		npling po	oint loca	tions, trans	ects, important f	eatures, etc.			_
Hydrophytic Vegetation Pres	ent?	Yes 🗵 N	lo 🗆							
Hydric Soils Present?	ent:		lo 🗆				- v	7 .	. \Box	
Wetland Hydrology Present?		_	lo 🗆	is the S	Sampling Poli	nt within a Wetland	? Yes [>	<u>√</u>	/o	
wettand Trydrology i Tesent:		163 🔼 1								
Remarks: Wetland	JB01 inpit.									
VEGETATION – Use sci	entific names of p	lants.				T				_
Tree Stratum (Plot size: 5m	diam.)	Absolute % Cover	Domina Specie		Indicator Status	Dominance Te	st Worksheet			
1.						Number of Domin that are OBL, FAC		2	(4)	
3.						Total Number of D	Dominant		(A)	
4.						Species Across A	II Strata:	4	(B)	
			= Total (Cover		Percent of Domina that are OBL, FAC		50		
Continue/Charris Ctratum (Dia	at size. 2m diam \					triat are OBL, 1 AC			(A/B))
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)					Prevalence Inc	lass Wantsahaat			_
1. 2.							Cover of	Mult	tiply by	
3.						OBL species	<u> </u>	x 1 =	<u>apiy by</u>	
4.						FACW species		x 2 =		
5.				_		FAC species		x 3 =		
			= Total (Cover		FACU species UPL species		x 4 = x 5 =		_
Herb Stratum (Plot size: 1m	diam)					Column totals	(A)	(B)		_
Carex rostrata		80		Y	OBL		()	(5)		\neg
2. Lotus corniculatu		60		Y	FAC	Prevalence I	ndex = B / A =			
3. Scirpus microcar		10		N	OBL	11 1 1 1 1				_
4. Phalaris arundina5.	cea	5		N	FACW		egetation Indicates test is > 50%	ators		_
6.							test is ≤ 3.0 *			
7.							cal Adaptations * (provide suppor	rting	
8.						☐ data in rem	arks or on a separ	ate sheet)	· ·	
9.							on-Vascular Plants			
10.						☐ Problemation	Hydrophytic Vege	etation * (expla	in)	
11.			T . I	_						
		155	= Total (Cover			lric soil and wetlane sturbed or problem		ust be	
Woody Vine Stratum (Plot s	size:)					procent, unloce an	otarboa or problem	idilo		
1.	·									
2.						Hydrophytic V		es 🔀	No \square	ا ر
			= Total (Cover		Presen	t?		Ш	1
% Bare Ground in Herb Strat	um:									
Remarks:	um.									٦

								_	
Profile Descri	iption: (Describ	e to the d	epth nee	ded to document the	indicator or confir	m the absence o	f indicators	i.)	
Depth		Matrix		1	Redox Featu			, 	
(inches)	Color (mo		%	Color (moist)		Type ¹	Loc ²	Texture	Remar
0-4	10YR 2/1	1131)	100	Color (moist)	70	туре	LOC	Sandy clay loam	Remai
								, ,	
4-12	2.5Y 3/1		100					Loamy sand	
Type: C=Con	centration, D=De	epletion, R	M=Redu	ced Matrix, CS=Covere	d or Coated Sand C	Grains ² Loc: PL	=Pore Linin	g, M=Matrix	
-		icable to	-	unless otherwise not	ed.)			ematic Hydric Soils ³	
☐ Histosol (A	,		Ш	Sandy Redox (S5)			Muck (A10)		
☐ Histic Epip				Stripped Matrix (S6)			Parent Mat	, ,	
☐ Black Hist	ic (A3)			Loamy Mucky Mineral	(F1) (except MLRA	=	er (explain ir	n remarks)	
	Sulfide (A4)			Loamy Gleyed Matrix ((F2)				
 Depleted I 	Below Dark Surfa	ace (A11)		Depleted Matrix (F3)					
☐ Thick Darl	k Surface (A12)			Redox Dark Surface (F	F6)			phytic vegetation and wetla	nd hydrology m
	cky Mineral (S1)			Depleted Dark Surface	∍ (F7)	be prese	nt, unless di	isturbed or problematic	
☐ Sandy Gle	eyed Matrix (S4)			Redox Depressions (F	(8)				
_	yer (if present):								
Туре:						Hydric soil	present?	Yes 🔀	No
Depth (inches)):								
HYDROLOG									
	rology Indicator		wired: ch	eck all that anniv):			Secondary	Indicators (2 or more requi	ired):
Wetland Hydr Primary Indic	rology Indicator cators (minimum			eck all that apply): Sparsely Vegetated Cc	oncave Surface (B8)		Indicators (2 or more requi er-Stained Leaves (B9) (M I	
Wetland Hydr Primary Indic ☐ Surface w	rology Indicator cators (minimum vater (A1)			Sparsely Vegetated Co			☐ Wate	er-Stained Leaves (B9) (MI	
Wetland Hydr Primary Indic □ Surface w ⊠ High Wate	rology Indicator cators (minimum vater (A1) er Table (A2)			Sparsely Vegetated Co Water-Stained Leaves			☐ Wate	er-Stained Leaves (B9) (MI nage Patterns (B10)	
Wetland Hydr Primary Indic □ Surface w □ High Wate	rology Indicator cators (minimum vater (A1) er Table (A2) n (A3)			Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11)	(except MLRA 1, 2		☐ Wate	er-Stained Leaves (B9) (MI nage Patterns (B10) Season Water Table (C2)	LRA 1, 2, 4A &
Wetland Hydr Primary Indic □ Surface w □ High Wate □ Saturation □ Water Ma	rology Indicator cators (minimum vater (A1) er Table (A2) n (A3) urks (B1)			Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates ((except MLRA 1, 2		☐ Wate	er-Stained Leaves (B9) (MI nage Patterns (B10) Season Water Table (C2) rration Visible on Aerial Ima	LRA 1, 2, 4A &
Wetland Hydr Primary Indic □ Surface w ⊠ High Wate ⊠ Saturation □ Water Ma □ Sediment	rology Indicator nators (minimum vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2)			Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor	(except MLRA 1, 2 (B13) r (C1)	2, 4A & 4B) (B9)	☐ Wate ☐ Drain ☐ Dry- ☐ Satu ☐ Geo	er-Stained Leaves (B9) (MI nage Patterns (B10) Season Water Table (C2) Iration Visible on Aerial Ima morphic Position (D2)	LRA 1, 2, 4A &
Wetland Hydr Primary Indic □ Surface w □ High Wate □ Saturatior □ Water Ma □ Sediment □ Drift Depo	rology Indicator cators (minimum vater (A1) er Table (A2) in (A3) arks (B1) Deposits (B2) posits (B3)			Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres	(except MLRA 1, 2 (B13) r (C1) s along Living Roots	2, 4A & 4B) (B9)	 □ Wate □ Drain □ Dry- □ Satu □ Geo □ Shale 	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Ima morphic Position (D2) llow Aquitard (D3)	LRA 1, 2, 4A &
Wetland Hydr Primary Indic □ Surface w □ High Wate □ Saturatior □ Water Ma □ Sediment □ Drift Depo □ Algal Mat	rology Indicator rators (minimum vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) or Crust (B4)			Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4)	2, 4A & 4B) (B9)	 □ Wate □ Drain □ Dry- □ Sate □ Geo □ Shal ⋈ FAC 	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) Irration Visible on Aerial Ima morphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5)	LRÅ 1, 2, 4A & agery (C9)
Wetland Hydr Primary Indic □ Surface w □ High Wate □ Saturatior □ Water Ma □ Sediment □ Drift Depo □ Algal Mat □ Iron Depo	rology Indicator nators (minimum vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5)			Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced I Recent Iron Reduction	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6)	2, 4A & 4B) (B9)	 □ Watt □ Drail □ Dry- □ Satu □ Geo □ Shal ⋈ FAC □ Rais 	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) Irration Visible on Aerial Ima morphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5) Ired Ant Mounds (D6) (LRR	LRÅ 1, 2, 4A & agery (C9)
Wetland Hydr Primary Indic □ Surface w □ High Wate □ Saturatior □ Water Ma □ Sediment □ Drift Depo □ Algal Mat □ Iron Depo □ Surface S	rology Indicator rators (minimum vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) or Crust (B4)	of one rec		Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A)	2, 4A & 4B) (B9)	 □ Watt □ Drain □ Dry- □ Satu □ Geo □ Shal ⋈ FAC □ Rais 	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) Irration Visible on Aerial Ima morphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5)	LRÅ 1, 2, 4A & agery (C9)
Wetland Hydr Primary Indic Surface w High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation (B7)	rology Indicator cators (minimum vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aeria	of one rec		Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced I Recent Iron Reduction Stunted or Stressed Pl	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A)	2, 4A & 4B) (B9)	 □ Watt □ Drail □ Dry- □ Satu □ Geo □ Shal ⋈ FAC □ Rais 	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) Irration Visible on Aerial Ima morphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5) Ired Ant Mounds (D6) (LRR	LRÅ 1, 2, 4A & agery (C9)
Wetland Hydr Primary Indic Surface w High Wate Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation	rology Indicator cators (minimum vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) or Crust (B4) or Crust (B4) Soil Cracks (B6) n Visible on Aeric	of one rec		Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced I Recent Iron Reduction Stunted or Stressed Pl Other (explain in remai	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A)	2, 4A & 4B) (B9)	 □ Watt □ Drail □ Dry- □ Satu □ Geo □ Shal ⋈ FAC □ Rais 	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) Irration Visible on Aerial Ima morphic Position (D2) Illow Aquitard (D3) I-Neutral Test (D5) Ired Ant Mounds (D6) (LRR	LRÅ 1, 2, 4A & agery (C9)
Wetland Hydr Primary Indic Surface w High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation (B7) Wetland Hydr Primary Indicator (B7)	rology Indicator cators (minimum vater (A1) er Table (A2) n (A3) rrks (B1) r Deposits (B2) or Crust (B4) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aeric	ial Imagery		Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced I Recent Iron Reduction Stunted or Stressed Pl Other (explain in remai	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A)	e, 4A & 4B) (B9)	☐ Wate	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Ima morphic Position (D2) allow Aquitard (D3) -Neutral Test (D5) aed Ant Mounds (D6) (LRR at-Heave Hummocks	LRA 1, 2, 4A &
Wetland Hydr Primary Indic Surface w High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation (B7) Field Observa Surface Water Water Table P Saturation Pre	rology Indicator cators (minimum vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aeric ations Present?	of one rec		Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced I Recent Iron Reduction Stunted or Stressed PI Other (explain in remai	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6) ants (D1) (LRR A) rks)	2, 4A & 4B) (B9)	☐ Wate	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Ima morphic Position (D2) allow Aquitard (D3) -Neutral Test (D5) aed Ant Mounds (D6) (LRR at-Heave Hummocks	LRÅ 1, 2, 4A & agery (C9)
Wetland Hydr Primary Indic □ Surface w □ High Wate □ Saturatior □ Water Ma □ Sediment □ Drift Depo □ Algal Mat □ Iron Depo □ Surface S □ Inundation (B7) Field Observa Surface Water Water Table P Saturation Pre (includes capil	rology Indicator rators (minimum vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) Goil Cracks (B6) n Visible on Aeria ations r Present?	ial Imagery Yes □ Yes ⊠ Yes ⊠	No No No	Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced I Recent Iron Reduction Stunted or Stressed PI Other (explain in remain	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A) rks) 4 BGS Throughout	(C3) Wetland Hydro	☐ Wate	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Ima morphic Position (D2) allow Aquitard (D3) -Neutral Test (D5) aed Ant Mounds (D6) (LRR at-Heave Hummocks	LRA 1, 2, 4A &
Wetland Hydr Primary Indic □ Surface w □ High Wate □ Saturatior □ Water Ma □ Sediment □ Drift Depo □ Algal Mat □ Iron Depo □ Surface S □ Inundation (B7) Field Observa Surface Water Water Table P Saturation Pre (includes capil	rology Indicator rators (minimum vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) Goil Cracks (B6) n Visible on Aeria ations r Present?	ial Imagery Yes □ Yes ⊠ Yes ⊠	No No No	Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced I Recent Iron Reduction Stunted or Stressed PI Other (explain in remai	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A) rks) 4 BGS Throughout	(C3) Wetland Hydro	☐ Wate	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Ima morphic Position (D2) allow Aquitard (D3) -Neutral Test (D5) aed Ant Mounds (D6) (LRR at-Heave Hummocks	LRA 1, 2, 4A &
Wetland Hydr Primary Indic □ Surface w □ High Wate □ Saturatior □ Water Ma □ Sediment □ Drift Depo □ Algal Mat □ Iron Depo □ Surface S □ Inundation (B7) Field Observa Surface Water Water Table P Saturation Pre (includes capil	rology Indicator rators (minimum vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) Goil Cracks (B6) n Visible on Aeria ations r Present?	ial Imagery Yes □ Yes ⊠ Yes ⊠ am gauge,	No No No monitorin	Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced I Recent Iron Reduction Stunted or Stressed Pl Other (explain in remai	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A) rks) 4 BGS Throughout	(C3) Wetland Hydro	☐ Wate	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Ima morphic Position (D2) allow Aquitard (D3) -Neutral Test (D5) aed Ant Mounds (D6) (LRR at-Heave Hummocks	LRA 1, 2, 4A &
Wetland Hydr Primary Indic Surface w High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation (B7) Field Observa Surface Water Water Table P Saturation Pre (includes capil	rology Indicator cators (minimum vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aeria ations r Present?	ial Imagery Yes □ Yes ⊠ Yes ⊠ am gauge,	No No No monitorin	Sparsely Vegetated Co Water-Stained Leaves Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced I Recent Iron Reduction Stunted or Stressed Pl Other (explain in remai	(except MLRA 1, 2 (B13) r (C1) s along Living Roots Iron (C4) in Tilled Soils (C6) lants (D1) (LRR A) rks) 4 BGS Throughout	(C3) Wetland Hydro	☐ Wate	er-Stained Leaves (B9) (MI) nage Patterns (B10) Season Water Table (C2) aration Visible on Aerial Ima morphic Position (D2) allow Aquitard (D3) -Neutral Test (D5) aed Ant Mounds (D6) (LRR at-Heave Hummocks	LRA 1, 2, 4A &



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 36

Project Site:	Segment J Parce	1 545330032	n		Sampling Date:	6/15/2015			
Applicant/Owner:	Puget Sound Ene				Sampling Point:	DP- 36			
Investigator:	R. Kahlo, A. Hoer				City/County:	Bellevue			
Sect., Township, Range:		24 R (05		State:	WA			
Landform (hillslope, terrace, e		= -		Slope (%): 25	Local relief (concave		: Concave		
Subregion (LRR): A	30)			Lat:	Long:	5, 601170,	Datum:		
	=		15 000/ alas				Datuiii.		
Soil Map Unit Name: EvD ,		-			NWI classification:				
Are climatic/hydrologic condit	• • • • • • • • • • • • • • • • • • • •	I for this time of	•	⊠ Yes □ No	(If no, explain in rem	narks.)			
Are "Normal Circumstances"	•			⊠ Yes □ No					
Are Vegetation □, Soil □, or		•			(If needed, explain a	ony onewere in P	Iomarke \		
Are Vegetation□, Soil □, or	Hydrology ⊔ naturally	problematic			(II Heeded, explain a	ally allowers in it	eliiaiks. _j		
SUMMARY OF FINDING	S – Attach site ma	n showing s	sampling po	oint locations, tran	sects. important fe	atures, etc.			
						, , , , ,			
Hydrophytic Vegetation Prese	ent?	Yes 🗵	No \square						
Hydric Soils Present?		Yes	No 🗵	Is the Sampling Po	int within a Wetland?	Yes	\neg	No	\boxtimes
Wetland Hydrology Present?		Yes	No 🗵			_			ت ا
Remarks: Wetland J	JB01 outpit								
								_	
VEGETATION – Use scie	ontific names of n	lante		_	_	_		 '	<u> </u>
VEGETATION - USE SUR	Billine names or pr	dins.			T				
Tree Stratum (Plot size: 5m	diam)	Absolute 9	% Domina	ant Indicator	Dominance Tes	4 Workshoot			
Tree Stratum (FIOL SIZE. Jim	ulanı.)	Cover	% Domina Species		DOMINIANCE 165	t Worksneer			
1.				<u> </u>	Number of Domina				
2.					that are OBL, FACV	W, or FAC:	2		(A)
3.					Total Number of Do		2		` ′
4.					Species Across All	Strata:	3		(B)
			= Total (Cover	Percent of Dominar		67		` ′
					that are OBL, FAC	N, or FAC:	67		(A/B)
Sapling/Shrub Stratum (Plo	t size: 3m diam.)					_			` .
1. Salix spp. (hybrid))	15	,	Y FACW*	Prevalence Inde	ex Worksheet			
2.					Total % 0	Cover of	<u>Mu</u>	ultiply b	<u>y</u>
3.					OBL species		x 1 =		
4.					FACW species		x 2 =		
5.					FAC species		x 3 =		
		15	= Total (Cover	FACU species		x 4 =		
-,					UPL species		x 5 =		
Herb Stratum (Plot size: 1m					Column totals	(A)	(B)		
Equisetum telmate	eia	60		Y FACW		. 5/4			
2.					Prevalence In	idex = B / A =			
3.					Hardman kyrtin Vo	-1-tion India	4		
4.					Hydrophytic Ve	getation indic test is > 50%	ators		
5.									
6.					☐ Prevalence t		/!da aupp		
7.						al Adaptations * (irks or on a sepai		orting	
8.									
9.						n-Vascular Plants			
10.					☐ Problematic	Hydrophytic Veg	etation ^ (expi	laın)	
11.			Total		⅃ ▗▗▗▗▗				
		60	= Total (Jover	 * Indicators of hydri present, unless dist 			nust be	1
Woody Vine Stratum (Plot s	·i79·)				pieseni, unicas dia	turbed or problem	Hauc		
1. Rubus armeniacu		90	-	Y FACU	\dashv				
2.	<u>s</u>			1 1700	- Usadanhutin Va				_
Ζ.			= Total (Cover	Hydrophytic Ve Present		res 🔀	No	
		90		20Vei	1.000	•	_		_
% Bare Ground in Herb Strati	um.								
5 /	um.								
*Presumed									

SOIL Sampling Point – DP-36

SOIL								Sampling Poin	it - DP-36	
Profile Descri	iption: (Describe	to the dep	th need	ded to document the indi	cator or confirm	the absence o	findicators	i.)		
Depth		Matrix			Redox Features			, I		
(inches)	Color (mois		%	Color (moist)	%	Type ¹	Loc ²	Texture	R	temarks
0-10	2.5Y 3/2		00	None	,,	. , , , ,	200	Sandy loam		·omanio
								,		
10-14	2.5Y 4/3	1	00	None				Loamy sand		
¹Type: C=Con	centration, D=Dep	oletion, RM	=Reduc	ed Matrix, CS=Covered or	Coated Sand Gra	ins ² Loc: PL	=Pore Linin	g, M=Matrix	•	
	P					1				
Hydric Soil In		cable to all		unless otherwise noted.)				lematic Hydric Soils ³		
,	,			Sandy Redox (S5)			Muck (A10)			
	pedon (A2)			Stripped Matrix (S6)	Versent MLDA 1		Parent Mat	, ,		
☐ Black Hist	` '			Loamy Mucky Mineral (F1)	(except wilka i	•	er (explain ir	i remarks)		
	Sulfide (A4)	(0.4.4)		Loamy Gleyed Matrix (F2)						
	Below Dark Surfac	ce (A11)		Depleted Matrix (F3)		31 11 1				
	k Surface (A12)			Redox Dark Surface (F6)	~ \			phytic vegetation and we sturbed or problematic	etiana nyaroi	ogy must
-	cky Mineral (S1)			Depleted Dark Surface (F7	()	be piese	iit, uiiless ui	isturbed of problematic		
☐ Sandy Gle	eyed Matrix (S4)			Redox Depressions (F8)						
	yer (if present):									
Type:						Hydric soil	present?	Yes	No	\boxtimes
Depth (inches)):									
Remarks:										
HYDROLOG	SY									
Wetland Hydi	ology Indicators	::								
	ators (minimum o		red: che	eck all that apply):			Secondary	Indicators (2 or more re	quired):	
☐ Surface w	vater (A1)			Sparsely Vegetated Conca	ve Surface (B8)		☐ Wate	er-Stained Leaves (B9)	(MLRA 1, 2,	4A & 4B)
☐ High Wat	er Table (A2)			Water-Stained Leaves (exc	cept MLRA 1, 2, 4	A & 4B) (B9)	□ Drain	nage Patterns (B10)		
☐ Saturation	n (A3)			Salt Crust (B11)			☐ Dry-	Season Water Table (C	2)	
☐ Water Ma	ırks (B1)			Aquatic Invertebrates (B13)		□ Satu	ration Visible on Aerial	Imagery (C9)
☐ Sediment	Deposits (B2)			Hydrogen Sulfide Odor (C1	1)		☐ Geo	morphic Position (D2)		
□ Drift Depo	osits (B3)			Oxidized Rhizospheres alo	ng Living Roots (C	23)	☐ Shal	llow Aquitard (D3)		
Algal Mat	or Crust (B4)			Presence of Reduced Iron	(C4)		☐ FAC	-Neutral Test (D5)		
☐ Iron Depo	sits (B5)			Recent Iron Reduction in T	illed Soils (C6)		Rais	ed Ant Mounds (D6) (LI	RR A)	
☐ Surface S	Soil Cracks (B6)			Stunted or Stressed Plants	(D1) (LRR A)		☐ Fros	t-Heave Hummocks		
	n Visible on Aerial	I Imagery		Other (explain in remarks)						
(B7)										
Field Observa	ations									
Surface Water	Present? Ye	es 🗆	No							
Water Table P	resent? Ye	es 🗆	No	□ Depth (in):		Vetland Hydro	logy Prese	nt? Yes	No	
Saturation Pre	_	es 🗆		Depth (in):	·	volidila ilyai o	.ogy 1 1000	103	140	<i>,</i> [2]
(includes capil		JO	110							
Describe Reco	orded Data (stream	m daude m	onitorin	g well, aerial photos, previo	ous inspections) it	f available:				
2000112011001	3.404	gaago,		g tron, donal priotos, proti		a valiabio.				
Remarks:										



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 37

.					=/22/22/=	
Project Site:	Segment J, parcel n			Sampling Date:	7/20/2015	
Applicant/Owner:	Puget Sound Energy			Sampling Point:	DP- 37	
Investigator:	K. Crandall, M. Foste	er		City/County:	Bellevue	
Sect., Township, Range:	S 15 T 24N	N R 05E		State:	WA	
Landform (hillslope, terrace,	etc): Hillslope		Slope (%): 20	Local relief (concar	ve, convex, none): I	None
Subregion (LRR): A			Lat:	Long:		Datum:
	Decusite manually as					Datam.
Soil Map Unit Name: BeD		-	-	NWI classification:		
Are climatic/hydrologic cond	itions on the site typical for	this time of year?	\square Yes $oxtimes$ No	(If no, explain in re	marks.)	
Are "Normal Circumstances	" present on the site?		oxtimes Yes $oxtimes$ No			
Are Vegetation□, Soil □, o	r Hydrology □ significantly	disturbed?				
Are Vegetation□, Soil □, o	r Hydrology naturally pro	oblematic		(If needed, explain	any answers in Rem	narks.)
SUMMARY OF FINDING	3S – Attach site map s	howing sampling pe	oint locations, trans	sects, important t	eatures, etc.	
Hydrophytic Vegetation Pres	sent? Ye	s 🛛 No 🗆				
Hydric Soils Present?	Ye		Is the Sampling Poin	nt within a Wetland'	? Yes 🔀	No
Wetland Hydrology Present	? Ye	s 🛛 No 🗌			<u>—</u>	
Remarks: Wetland	JB02 in-pit; wetland J	B03 very similar in o	character. Located	adjacent to Some	erset PI SE.	
VEGETATION - Use so	ientific names of plant	ts.				
Tree Stratum (Plot size: 5m	ı diam.)	Absolute % Domin	ant Indicator	Dominance Te	st Worksheet	
(::::::::::::::::::::::::::::::::::::		Cover Specie		Dominance re-	ot Workshoot	
1.				Number of Domina	ant Species	_
2.				that are OBL, FAC		2 (A)
3.				Total Number of D	Ominant	(A)
4.				Species Across Al		2 (D)
4.		= Total	Cover	Percent of Domina		(B)
			Cover	that are OBL, FAC		100
				triat are OBL, I AC		(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)					
1.				Prevalence Ind	ex Worksheet	
2.				Total %	Cover of	Multiply by
3.				OBL species		x 1 =
4.				FACW species		x 2 =
5.						
-						
		= Total	Cover	FAC species		x 3 =
		= Total	Cover	FAC species FACU species		x 3 = x 4 =
Herh Stratum (Plot size: 1n	. diam)	= Total	Cover	FAC species FACU species UPL species	(Δ)	x 3 = x 4 = x 5 =
Herb Stratum (Plot size: 1n	n diam.)			FAC species FACU species	(A)	x 3 = x 4 =
1 Carex obnupta		20	Y OBL	FAC species FACU species UPL species Column totals		x 3 = x 4 = x 5 =
Carex obnupta Equisetum telma				FAC species FACU species UPL species Column totals	(A) ndex = B / A =	x 3 = x 4 = x 5 =
1. Carex obnupta 2. Equisetum telma 3.		20	Y OBL	FAC species FACU species UPL species Column totals Prevalence I	ndex = B / A =	x 3 = x 4 = x 5 = (B)
1. Carex obnupta 2. Equisetum telma 3. 4.		20	Y OBL	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Ve	ndex = B / A =	x 3 = x 4 = x 5 = (B)
1. Carex obnupta 2. Equisetum telma 3.		20	Y OBL	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Vo	ndex = B / A = egetation Indicate test is > 50%	x 3 = x 4 = x 5 = (B)
1. Carex obnupta 2. Equisetum telma 3. 4.		20	Y OBL	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Vo	ndex = B / A =	x 3 = x 4 = x 5 = (B)
1. Carex obnupta 2. Equisetum telma 3. 4. 5.		20	Y OBL	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Vo Dominance Prevalence	ndex = B / A = egetation Indicate test is > 50%	x 3 = x 4 = x 5 = (B)
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6.		20	Y OBL	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Verical Morphologie	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 *	x 3 = x 4 = x 5 = (B) ors
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7.		20	Y OBL	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Vericon Prevalence Morphologie data in rem	ndex = B / A = egetation Indicate test is $> 50\%$ test is ≤ 3.0 * cal Adaptations * (properties)	x 3 = x 4 = x 5 = (B) ors
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8.		20	Y OBL	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Verico Dominance Description Prevalence Morphologie data in rem. Wetland No	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (pro arks or on a separate on-Vascular Plants *	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet)
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9.		20	Y OBL	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Verico Dominance Description Prevalence Morphologic data in rem. Wetland No.	ndex = B / A = egetation Indicate test is $> 50\%$ test is ≤ 3.0 * cal Adaptations * (properties)	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet)
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8.		20 15	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Vo Dominance Prevalence Morphologic data in rem. Wetland No	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (pre arks or on a separate on-Vascular Plants * c Hydrophytic Vegeta	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain)
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9.		20	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Vo Dominance Prevalence Morphologic data in remains Wetland No Problematic * Indicators of hydroses	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (prearks or on a separate on-Vascular Plants * e Hydrophytic Vegeta ric soil and wetland h	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain)
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9. 10.	teia	20 15	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Vo Dominance Prevalence Morphologic data in remains Wetland No Problematic * Indicators of hydroses	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (pre arks or on a separate on-Vascular Plants * c Hydrophytic Vegeta	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain)
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot	teia	20 15	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Vo Dominance Prevalence Morphologic data in remains Wetland No Problematic * Indicators of hydroses	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (prearks or on a separate on-Vascular Plants * e Hydrophytic Vegeta ric soil and wetland h	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain)
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1.	teia	20 15	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Vo Dominance Prevalence Morphologic data in remains Wetland No Problematic * Indicators of hydroses	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (prearks or on a separate on-Vascular Plants * e Hydrophytic Vegeta ric soil and wetland h	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain)
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot	teia	20 15	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem. Wetland Nc Problematic * Indicators of hyd present, unless dis	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (prearks or on a separate on-Vascular Plants * c. Hydrophytic Vegeta ric soil and wetland is sturbed or problemate	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain) nydrology must be iic
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1.	teia	20 15	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic Vo Dominance Prevalence Morphologic data in rem Wetland No Problematic * Indicators of hydrosent, unless dis	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (prearks or on a separate on-Vascular Plants * c. Hydrophytic Vegeta ric soil and wetland is sturbed or problemate	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain) nydrology must be iic
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1.	teia	20 15 35 = Total	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem. Wetland Nc Problematic * Indicators of hyd present, unless dis	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (prearks or on a separate on-Vascular Plants * c. Hydrophytic Vegeta ric soil and wetland is sturbed or problemate	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain) nydrology must be iic
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1.	teia - size:)	20 15 35 = Total	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem. Wetland Nc Problematic * Indicators of hyd present, unless dis	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (prearks or on a separate on-Vascular Plants * c. Hydrophytic Vegeta ric soil and wetland is sturbed or problemate	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain) nydrology must be iic
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1. 2.	teia - size:)	20 15 35 = Total	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem. Wetland Nc Problematic * Indicators of hyd present, unless dis	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (prearks or on a separate on-Vascular Plants * c. Hydrophytic Vegeta ric soil and wetland is sturbed or problemate	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain) nydrology must be iic
1. Carex obnupta 2. Equisetum telma 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1. 2.	teia - size:)	20 15 35 = Total	Y OBL Y FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem. Wetland Nc Problematic * Indicators of hyd present, unless dis	ndex = B / A = egetation Indicate test is > 50% test is ≤ 3.0 * cal Adaptations * (prearks or on a separate on-Vascular Plants * c. Hydrophytic Vegeta ric soil and wetland is sturbed or problemate	x 3 = x 4 = x 5 = (B) ors ovide supporting e sheet) ation * (explain) nydrology must be iic

SOIL							Sampling Point – D	P-37
Profile Descri	ption: (Describe to the	e depth neede	ed to document the i	ndicator or confi	m the absence o	f indicators	s.)	
Depth	Matrix			Redox Feat			1	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	10YR 2/2	100	Color (molet)	,,,	Туро	200	Loam	rtomanto
								_
12-16	10YR 2/2	35					Gravelly sandy loam	Mixed matrix
	10Y 4/1	60	10YR 4/6	5	С	M, PL	Gravelly sandy loam	Mixed matrix
¹Type: C=Con	centration, D=Depletion	, RM=Reduce	d Matrix, CS=Covered	d or Coated Sand	Grains ² Loc: PL	_=Pore Linin	g, M=Matrix	
Hydric Soil In	dicators: (Applicable t		nless otherwise note andy Redox (S5)	ed.)		rs for Probl Muck (A10	lematic Hydric Soils³	
☐ Histic Epip	•		tripped Matrix (S6)		_	Parent Mat	•	
☐ Black Hist	` '		oamy Mucky Mineral	(F1) (except MI R		er (explain ir		
☐ Hydrogen	` '		oamy Gleyed Matrix (, <u> </u>	ci (cxpiaiii ii	Tromanoj	
	Below Dark Surface (A1		epleted Matrix (F3)	1 2)				
	Surface (A12)	<i>'</i>	ledox Dark Surface (F	-c)	3 Indicate	are of hydror	ohytic vegetation and wetlan	d bydrology must
	, ,		,	•			isturbed or problematic	u nyurology musi
	cky Mineral (S1)		epleted Dark Surface		bo proce	in, amous a	iotarboa or problematio	
□ Sandy Gie	yed Matrix (S4)	□R	edox Depressions (F	8)				
Restrictive Lay	er (if present):							
Туре:					Hydric soil	present?	Yes 🔀	No 🗌
Depth (inches)	ı:					•		
Remarks:								
Primary India ☐ Surface w	ology Indicators: ators (minimum of one rater (A1) er Table (A2)	□ S □ W	k all that apply): parsely Vegetated Co /ater-Stained Leaves alt Crust (B11)	,	*	☐ Wat	Indicators (2 or more require er-Stained Leaves (B9) (ML I nage Patterns (B10) Season Water Table (C2)	*
☐ Water Ma	` '		quatic Invertebrates (l	R13)		•	ration Visible on Aerial Imag	aery (C0)
	Deposits (B2)		ydrogen Sulfide Odor				morphic Position (D2)	,o.y (OO)
☐ Drift Depo			xidized Rhizospheres		s (C3)		llow Aquitard (D3)	
-			=		3 (03)		:-Neutral Test (D5)	
_	or Crust (B4)		resence of Reduced I ecent Iron Reduction	, ,			` '	
☐ Iron Depo				` '			sed Ant Mounds (D6) (LRR A	A)
	oil Cracks (B6) n Visible on Aerial Imag		tunted or Stressed Pla ther (explain in remar	, , , ,		☐ Fros	st-Heave Hummocks	
Field Observa	ations							
Surface Water	Present? Yes	l No ⊠	Depth (in):					
Water Table P			•	7 BGS	Wetland Hydro	Nogy Broce	nt2 Voc 🔽	No \square
Saturation Pre	103 🗠			throughout	welland Hydro	nogy Prese	nt? Yes 🔀	No
(includes capil		I INO L	j Bopai (iii).	ougout				
Describe Reco	orded Data (stream gau	ge, monitoring	well, aerial photos, p	revious inspections	s), if available:			
				_				
Remarks:	Visually saturated	at surface.	Groundwater see	ping at 7 inche	s below ground	d surface ((BGS).	



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DP- 38

Project Site:	Cogmont I porcel	number 2269/	00270			Sampling	Doto:	8/11/20 ⁻	15			
Applicant/Owner:	Segment J, parcel Puget Sound Energ		00270			Sampling		DP- 38				
Investigator:	Katy Crandall, Mike					City/Count		Bellevu				
Sect., Township, Range:	S 21 T 24					State:	.у.	WA				
Landform (hillslope, terrace,				Slope (9	%): 10		(concav	e, convex, no	one): C	oncave		
Subregion (LRR): A				Lat:	,		ong:	, ,		atum:		
Soil Map Unit Name: AgC	- Alderwood gravell	v sandy loam	8-15%	l .		NWI classifi		NΔ				
Are climatic/hydrologic cond				Yes	⊠ No	(If no, expla						
Are "Normal Circumstances"	• • • • • • • • • • • • • • • • • • • •	or tries time or yea		⊴ res ⊠ Yes	□ No	(II IIO, expla		iaiks.)				
Are Vegetation □, Soil □, or	•	ly disturbed?	L	∆ 163	1NO							
Are Vegetation□, Soil □, or						(If needed, e	explain a	any answers	in Rema	ırks.)		
SUMMARY OF FINDING			pling po	oint loca	tions, trans	ects, impo	rtant fe	atures, etc).			
Hydrophytic Vegetation Pres	ent? V	′es ⊠ No										
Hydric Soils Present?												
				Is the S	Sampling Poir	nt within a W	etland?	Yes	\boxtimes		No	Ш
Wetland Hydrology Present?	? Y	′es ⊠ No) [
Remarks: Wetland	JB04 in-pit.											
VEGETATION – Use sc	ientific names of pla	nts.										
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina		Indicator	Dominan	ce Tes	t Workshe	et			
		Cover	Specie	s?	Status	Number of	Domino	nt Cassics				
1.						that are OE				3		(4)
3.						Total Numb						(A)
4.						Species Ac				4		(B)
			= Total (Cover		Percent of	Domina	nt Species				(D)
			=			that are OE	BL, FAC	W, or FAC:		75		(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)											. ,
1. Cornus alba		10		Y	FAC	Prevalen	ce Inde	ex Worksh	eet			
2.] =	Γotal %	Cover of		Mı	<u>ultiply b</u>	<u>y</u>
3.						OBL specie				x 1 =		
4.						FACW spe				x 2 =		
5.		40	= Total (Cover		FAC specie				x 3 =		
		10	- 10tai v	Jovei		UPL specie				x 4 =		
Herb Stratum (Plot size: 1m	diam)					Column tot		(A)		(B)		
1. Typha latifolia	r diam.)	50		Υ	OBL	Columnitor	aio	(1)		(D)		
2. Juncus effusus		30		Y	FACW	Preval	ence Ir	ndex = B / A	۱ =			
3. Athyrium cycloso	orum	15		N	FAC							
4. Scirpus microcar	pus	10		N	OBL			getation In		rs		
5.								est is > 50%				
6.						☐ Prev	alence t	est is ≤ 3.0 *				
7.							-	al Adaptatior			orting	
8.						_		rks or on a s		sheet)		
9.								n-Vascular Pl				
10.						☐ Prob	lematic	Hydrophytic	Vegetati	on * (exp	lain)	
11.			T-1-1			<u> </u>						
		105	= Total (Jover				ic soil and we turbed or pro			nust be)
Woody Vine Stratum (Plot	size:)							•				
1. Rubus armeniaci	ıs	15		Υ	FACU	_						
2.								getation	Yes	\boxtimes	No	
		15	= Total (Cover			Present	1	. 50			Ш
N. D. O												
% Bare Ground in Herb Stra	ium:					I						
Remarks:												

								Sampli		
Profile Descr	ription: (Descri	ibe to the dep	th nee	ded to document the in	dicator or confirm	n the absence o	f indicators	i.)		
Depth	1	Matrix		1	Redox Featur			1		1
(inches)	Color (m		%	Color (moist)	%	Type ¹	Loc ²	 	exture	Remarks
0-8	7.5YR 2/2		00	Color (moist)	70	туре	LOC	Loam	exture	Some
	1.0.1.1	-	••							organic
										content
8-16	5G 4/1	7	0					Gravelly	sandy loam	Mixed
								1	•	matrix
	10 YR 3/2	3	0					Gravelly	sandy loam	Mixed
									-	matrix
Hydric Soil II Histosol (Histic Epi Black His Hydroger Depleted Thick Dar Sandy Mo	ndicators: (App A1) pedon (A2) tic (A3) s Sulfide (A4) Below Dark Su k Surface (A12 ucky Mineral (S eyed Matrix (S4	rface (A11)) 1)	LRRs,	ced Matrix, CS=Covered unless otherwise notes Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F Loamy Gleyed Matrix (F3) Redox Dark Surface (F6 Depleted Dark Surface (Redox Depressions (F8)	d.) F1) (except MLRA (22) S) (F7)	Indicato 2 cm Red 1) Oth	n Muck (A10 I Parent Mat er (explain ir ors of hydrop ent, unless di	lematic Hydr) erial (TF2) n remarks)	tion and wetland	hydrology must
Wetland Hyd Primary Indi Surface of High Wa Saturatio Water Ma Sediment Drift Dep Algal Ma Iron Dep	rology Indicate cators (minimur water (A1) ter Table (A2) in (A3)	m of one requin		eck all that apply): Sparsely Vegetated Con Water-Stained Leaves (6 Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction ir Stunted or Stressed Plar Other (explain in remark	13) (C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	, 4A & 4B) (B9)	□ Wate□ Drai□ Dry-□ Sate□ Shate□ FAC□ Rais	er-Stained Le nage Pattern Season Wate Iration Visible morphic Posi Ilow Aquitard I-Neutral Tes	as (B10) er Table (C2) e on Aerial Image ition (D2) (D3) t (D5) nds (D6) (LRR A	A 1, 2, 4A & 4B) ery (C9)
Wetland Hyd Primary Indi Surface of High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface of Inundation (B7)	rology Indicate cators (minimul water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6 on Visible on Ae	m of one requin		Sparsely Vegetated Con Water-Stained Leaves (6 Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Inc Recent Iron Reduction in Stunted or Stressed Plan	13) (C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	, 4A & 4B) (B9)	□ Wate□ Drai□ Dry-□ Sate□ Shate□ FAC□ Rais	er-Stained Le nage Pattern Season Wate uration Visible morphic Posi llow Aquitard -Neutral Tes sed Ant Moun	eaves (B9) (MLR as (B10) er Table (C2) e on Aerial Image ition (D2) (D3) t (D5) nds (D6) (LRR A	A 1, 2, 4A & 4B) ery (C9)
Wetland Hyd Primary Indi Surface of High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface of Inundation (B7)	rology Indicate cators (minimul water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6 on Visible on Ae	m of one requir		Sparsely Vegetated Con Water-Stained Leaves (6 Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced In Recent Iron Reduction in Stunted or Stressed Plan Other (explain in remark	13) (C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	, 4A & 4B) (B9)	□ Wate□ Drai□ Dry-□ Sate□ Shate□ FAC□ Rais	er-Stained Le nage Pattern Season Wate uration Visible morphic Posi llow Aquitard -Neutral Tes sed Ant Moun	eaves (B9) (MLR as (B10) er Table (C2) e on Aerial Image ition (D2) (D3) t (D5) nds (D6) (LRR A	A 1, 2, 4A & 4B) ery (C9)
Wetland Hyd Primary Indi Surface v High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatio (B7) Field Observ Surface Water	rology Indicate cators (minimul water (A1) ter Table (A2) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6 on Visible on Ae ations	n of one requir		Sparsely Vegetated Con Water-Stained Leaves (6 Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction ir Stunted or Stressed Plar Other (explain in remark	13) (C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	(C3)	Wate Wate Drai Dry- Satu Geo Shal FAC Rais Fros	er-Stained Le nage Pattern Season Wate gration Visible morphic Posi llow Aquitard r-Neutral Tes sed Ant Moun at-Heave Hun	eaves (B9) (MLR as (B10) er Table (C2) e on Aerial Image ition (D2) (D3) t (D5) ads (D6) (LRR A	A 1, 2, 4A & 4B) ery (C9)
Wetland Hyd Primary Indi Surface of High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface of Inundation (B7)	rology Indicate cators (minimul water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6 on Visible on Ae ations ir Present?	m of one requir		Sparsely Vegetated Con Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction ir Stunted or Stressed Plar Other (explain in remark	13) (C1) along Living Roots on (C4) n Tilled Soils (C6) nts (D1) (LRR A)	, 4A & 4B) (B9)	Wate Wate Drai Dry- Satu Geo Shal FAC Rais Fros	er-Stained Le nage Pattern Season Wate gration Visible morphic Posi llow Aquitard r-Neutral Tes sed Ant Moun at-Heave Hun	eaves (B9) (MLR as (B10) er Table (C2) e on Aerial Image ition (D2) (D3) t (D5) nds (D6) (LRR A	A 1, 2, 4A & 4B) ery (C9)
Primary Indi Surface of High Wa Saturation Water Mater Ma	rology Indicate cators (minimus water (A1) ter Table (A2) on (A3) carks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6 on Visible on Ae attions or Present? Present? Present?	n of one requir		Sparsely Vegetated Con Water-Stained Leaves (e Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction ir Stunted or Stressed Plar Other (explain in remark	except MLRA 1, 2 13) (C1) along Living Roots on (C4) in Tilled Soils (C6) ints (D1) (LRR A) s) Throughout	(C3) Wetland Hydro	Wate Wate Drai Dry- Satu Geo Shal FAC Rais Fros	er-Stained Le nage Pattern Season Wate gration Visible morphic Posi llow Aquitard r-Neutral Tes sed Ant Moun at-Heave Hun	eaves (B9) (MLR as (B10) er Table (C2) e on Aerial Image ition (D2) (D3) t (D5) nds (D6) (LRR A	A 1, 2, 4A & 4B) ery (C9)
Wetland Hyd Primary Indi Surface v High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatio (B7) Field Observ Surface Water Water Table B Saturation Pro	rology Indicate cators (minimus water (A1) ter Table (A2) on (A3) carks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6 on Visible on Ae attions or Present? Present? Present?	n of one requir		Sparsely Vegetated Con Water-Stained Leaves (6 Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plar Other (explain in remark Depth (in): Depth (in):	except MLRA 1, 2 13) (C1) along Living Roots on (C4) in Tilled Soils (C6) ints (D1) (LRR A) s) Throughout	(C3) Wetland Hydro	Wate Wate Drai Dry- Satu Geo Shal FAC Rais Fros	er-Stained Le nage Pattern Season Wate gration Visible morphic Posi llow Aquitard r-Neutral Tes sed Ant Moun at-Heave Hun	eaves (B9) (MLR as (B10) er Table (C2) e on Aerial Image ition (D2) (D3) t (D5) nds (D6) (LRR A	A 1, 2, 4A & 4B) ery (C9)
Wetland Hyd Primary Indi Surface of High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface of Inundation (B7) Field Observ Surface Water Water Table if Saturation Profincludes capi	rology Indicate cators (minimus water (A1) ter Table (A2) on (A3) carks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6 on Visible on Ae attions or Present? Present? Present?	n of one requir		Sparsely Vegetated Con Water-Stained Leaves (6 Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plar Other (explain in remark Depth (in): Depth (in):	except MLRA 1, 2 13) (C1) along Living Roots on (C4) in Tilled Soils (C6) ints (D1) (LRR A) s) Throughout	(C3) Wetland Hydro	Wate Wate Drai Dry- Satu Geo Shal FAC Rais Fros	er-Stained Le nage Pattern Season Wate gration Visible morphic Posi llow Aquitard r-Neutral Tes sed Ant Moun at-Heave Hun	eaves (B9) (MLR as (B10) er Table (C2) e on Aerial Image ition (D2) (D3) t (D5) nds (D6) (LRR A	A 1, 2, 4A & 4B) ery (C9)
Wetland Hyd Primary Indi Surface of High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface of Inundation (B7) Field Observ Surface Water Water Table if Saturation Profincludes capi	rology Indicate cators (minimus water (A1) ter Table (A2) on (A3) carks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6 on Visible on Ae attions or Present? Present? Present?	n of one requir		Sparsely Vegetated Con Water-Stained Leaves (6 Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plar Other (explain in remark Depth (in): Depth (in):	except MLRA 1, 2 13) (C1) along Living Roots on (C4) in Tilled Soils (C6) ints (D1) (LRR A) s) Throughout	(C3) Wetland Hydro	Wate Wate Drai Dry- Satu Geo Shal FAC Rais Fros	er-Stained Le nage Pattern Season Wate gration Visible morphic Posi llow Aquitard r-Neutral Tes sed Ant Moun at-Heave Hun	eaves (B9) (MLR as (B10) er Table (C2) e on Aerial Image ition (D2) (D3) t (D5) nds (D6) (LRR A	A 1, 2, 4A & 4B) ery (C9)
Wetland Hyd Primary Indi Surface of High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Surface of Inundation (B7) Field Observ Surface Water Water Table if Saturation Profincludes capi	rology Indicate cators (minimus water (A1) ter Table (A2) on (A3) carks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6 on Visible on Ae attions or Present? Present? Present?	n of one requir		Sparsely Vegetated Con Water-Stained Leaves (6 Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stressed Plar Other (explain in remark Depth (in): Depth (in):	except MLRA 1, 2 13) (C1) along Living Roots on (C4) in Tilled Soils (C6) ints (D1) (LRR A) s) Throughout	(C3) Wetland Hydro	Wate Wate Drai Dry- Satu Geo Shal FAC Rais Fros	er-Stained Le nage Pattern Season Wate gration Visible morphic Posi llow Aquitard r-Neutral Tes sed Ant Moun at-Heave Hun	eaves (B9) (MLR as (B10) er Table (C2) e on Aerial Image ition (D2) (D3) t (D5) nds (D6) (LRR A	A 1, 2, 4A & 4B) ery (C9)



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 39

Design at City	Commont I managin		0400070			Committee Date	0/44/0045		
Project Site:	Segment J, parcel n		8400270			Sampling Date:	8/11/2015 DP- 39		
Applicant/Owner:	Puget Sound Energy					Sampling Point: City/County:			
Investigator:	S 21 T 24N					, ,	Bellevue WA		
Sect., Township, Range:		N R US) <u>C</u>	01 (01)	45	State:		Nama.	
Landform (hillslope, terrace,	etc): milisiope			Slope (%):	45	Local relief (concave	, , ,	None	
Subregion (LRR): A				Lat:		Long:		Datum:	
Soil Map Unit Name: AgC	- Alderwood gravelly	sandy loar	m, 8-15%	slopes		NWI classification:	NA		
Are climatic/hydrologic condi	itions on the site typical for	r this time of y	/ear?	☐ Yes 🗵	No	(If no, explain in rem	arks.)		
Are "Normal Circumstances"	' present on the site?			⊠ Yes □	No				
Are Vegetation□, Soil □, or	Hydrology ☐ significantly	disturbed?							
Are Vegetation \square , Soil \square , or	Hydrology naturally pro	oblematic				(If needed, explain a	any answers in Rem	narks.)	
SUMMARY OF FINDING	S – Attach site man s	showing sa	mpling pe	nint location	s trans	ects important fe	atures etc		
COMMITTED TO THE DIRECT	70 Attaon Site map o			Jiiit ioodiioi	io, traire	coto, important re	atares, etc.		
Hydrophytic Vegetation Pres	sent? Ye	es 🗵	No \square						
Hydric Soils Present?	Ye	es \square	No 🗵	Is the Sam	oling Poir	nt within a Wetland?	Yes	No	\boxtimes
Wetland Hydrology Present?	? Ye	es 🗌	No 🗵						
Remarks: Out-pit no	ear Wetland JB04								
VEGETATION - Use sci	ientific names of plan	ts.							
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant In	dicator	Dominance Tes	t Worksheet		
		Cover	Specie	s? St	atus				
1.						Number of Dominal		2	
2.						that are OBL, FACV	•		(A)
3.						Total Number of Do		3	
4.			Tatal	20100		Species Across All			(B)
			= Total (over		Percent of Dominar that are OBL, FACV		67	
						that are OBL, I ACK	w, or rac.		(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)								
1.						Prevalence Inde			
2.						Total % (Cover of	Multiply b	<u>y</u>
3.						OBL species		x 1 =	
4. 5.						FACW species FAC species		x 2 = x 3 =	
5.			= Total (Cover		FACU species		x 4 =	
	•	-		2010.		UPL species		x 5 =	
Herb Stratum (Plot size: 1m	ı diam.)					Column totals	(A)	(B)	
1. Phalaris arundina		40		Υ	FACW		()	1 (2)	
2. Juncus effusus		20				4			
		20		ΥI	FACW	Prevalence In	dex = B / A =		
3. Dipsacus fullonui	m	5		<u>Y 1</u> N	FACW FAC	Prevalence In	dex = B / A =		
3. Dipsacus fullonui 4. Equisetum telmat				N				ors	
		5		N	FAC	Prevalence In Hydrophytic Ve	getation Indicat	ors	
4. Equisetum telmat		5		N	FAC	Hydrophytic Ve	getation Indicate	ors	
 Equisetum telmat . 		5		N	FAC	Hydrophytic Ve	getation Indicate		
4. Equisetum telmat5.6.		5		N	FAC	Hydrophytic Ve	getation Indicate est is > 50% est is ≤ 3.0 *	ovide supporting	
4. Equisetum telmat 5. 6. 7.		5		N	FAC	Hydrophytic Ve	getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (pre	ovide supporting	
4. Equisetum telmat 5. 6. 7.		5		N	FAC	Hydrophytic Ve	getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (procks or on a separate	ovide supporting e sheet)	
4. Equisetum telmat 5. 6. 7. 8.		5		N	FAC	Hydrophytic Ve	getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (processes or on a separate of the separate of	ovide supporting e sheet)	
4. Equisetum telmat 5. 6. 7. 8. 9.		5		N N I	FAC	Hydrophytic Ve	getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (processor on a separate revascular Plants * Hydrophytic Vegetact	ovide supporting e sheet) ation * (explain) hydrology must be	
4. Equisetum telmat 5. 6. 7. 8. 9. 10.	teia	5 5		N N I	FAC	Hydrophytic Ve	getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (processor on a separate revascular Plants * Hydrophytic Vegetact	ovide supporting e sheet) ation * (explain) hydrology must be	
4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot s	size:	70	= Total (N I	FAC	Hydrophytic Ve	getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (processor on a separate revascular Plants * Hydrophytic Vegetact	ovide supporting e sheet) ation * (explain) hydrology must be	
4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot st. 1. Rubus armeniacu	size:	5 5	= Total (N I	FAC	Hydrophytic Ve	getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (processor on a separate to a separate	ovide supporting e sheet) ation * (explain) hydrology must be	,
4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot s	size:	70 70	= Total (N I	FAC	Hydrophytic Ve	getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (processor on a separate and a s	ovide supporting e sheet) ation * (explain) hydrology must be tic	·
4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot st. 1. Rubus armeniacu	size:	70	= Total (N I	FAC	Hydrophytic Ve	getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (processor on a separate and a s	ovide supporting e sheet) ation * (explain) hydrology must be tic	
4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot st. 1. Rubus armeniacu. 2.	size:)	70 70	= Total (N I	FAC	Hydrophytic Ve	getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (processor on a separate and a s	ovide supporting e sheet) ation * (explain) hydrology must be tic	
4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot s 1. Rubus armeniacu 2.	size:)	70 70	= Total (N I	FAC	Hydrophytic Ve	getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (processor on a separate and a s	ovide supporting e sheet) ation * (explain) hydrology must be tic	
4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot st. 1. Rubus armeniacu. 2.	size:)	70 70	= Total (N I	FAC	Hydrophytic Ve	getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (processor on a separate and a s	ovide supporting e sheet) ation * (explain) hydrology must be tic	

SOIL Sampling Point - DP-39 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Type¹ Texture Remarks (inches) Color (moist) 100 0-6 10YR 4/3 **Gravelly sandy loam** Very compact ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: \boxtimes Hydric soil present? Yes No Depth (inches): Remarks: Soils very compact; difficult to dig beyond six inches. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): ☐ Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Surface water (A1) Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) ☐ High Water Table (A2) Drainage Patterns (B10) ☐ Saturation (A3) Salt Crust (B11) П Dry-Season Water Table (C2) □ Water Marks (B1) Aquatic Invertebrates (B13) П Saturation Visible on Aerial Imagery (C9) ☐ Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) ☐ Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aguitard (D3) ☐ Algal Mat or Crust (B4) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) П (B7)Field Observations Surface Water Present? Depth (in): Yes \square \boxtimes No Water Table Present? Depth (in): Yes \square \boxtimes No Wetland Hydrology Present? \boxtimes Saturation Present? Depth (in): Yes □ No 🗵 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 40

COMITTIN	1									water	ionioae	, o. o o i i i
Project Site:	Segment J, parce	el number 212/	150001			Sampling	Date:	8/11/201	5			
Applicant/Owner:	Puget Sound En		JJ3001			Sampling		DP- 40	<u> </u>			
Investigator:	Katy Crandall, M					City/Count		Bellevu	e			
Sect., Township, Range:	•	24N R 05E				State:	,	WA				
Landform (hillslope, terrace,	etc): Hillslope			Slope	(%): 10-20	Local relief	(concave	e, convex, no	ne): C	oncave		
Subregion (LRR): A				Lat:		L	ong:		D	atum:		
Soil Map Unit Name: AkF -	- Alderwood and I	kitsap soils, ver	v steep	1		NWI classifi	cation:	Click here	e to er	nter tex	t.	
Are climatic/hydrologic condi				⊠ Yes	□ No	(If no, expla						
Are "Normal Circumstances"				⊠ Yes	□ No	(,		,				
Are Vegetation□, Soil □, or	•	antly disturbed?										
Are Vegetation□, Soil □, or	Hydrology naturally	y problematic				(If needed, e	explain a	any answers i	in Rema	arks.)		
SUMMARY OF FINDING	S – Attach site ma	ap showing sam	pling po	oint loc	ations, trans	ects, impo	tant fe	atures, etc	:			
Hydrophytic Vegetation Pres	ent?	Yes ⊠ N	o 🗆									
Hydric Soils Present?		Yes ⊠ N	o 🗆	le the	Sampling Poir	nt within a W	atland?	Yes	\boxtimes		No	
Wetland Hydrology Present?		Yes ⊠ N	_	15 1116	Sampling Fon	it within a w	etianu :	169			INO	ш
Remarks: Wetland	JB05 in-pit											
VEGETATION – Use sci	entific names of p	lants.				T						
Tree Stratum (Plot size: 5m	diam)	Absolute %	Domina	ant	Indicator	Dominan	ce Tes	t Workshe	et			
Troo Guatam (Frot oleon om		Cover	Specie		Status	Dominan	00 100	· · · · · · · · · · · · · · · · · · ·				
1.						Number of				4		
2.						that are OE		•				(A)
3.						Total Numb				5		(5)
4.			= Total	Cover		Percent of						(B)
		-		0010.		that are OE				80		(A /D)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)											(A/B)
1. Alnus rubra		20		Υ	FAC	Prevalen	ce Inde	x Workshe	oet .			
2. Salix sitchensis		15		· Y	FACW			Cover of		Mu	ultiply b	V
3.		-				OBL specie	es			x 1 =		-
4.						FACW spe				x 2 =		
5.						FAC specie				x 3 =		
		35	= Total	Cover		FACU spec				x 4 =		
Herb Stratum (Plot size: 1m	diam)					UPL specie		(A)		x 5 = (B)		
1. Phalaris arundina	,	65		Υ	FACW	Column tot	ais	(^)		(D)		
2. Athyrium cycloso		40		· Y	FAC	Preval	ence In	idex = B / A	=			
3. Equisetum telmat		15		N	FACW							
4. Juncus effusus		5		N	FACW			getation In	dicato	rs		
5.								est is > 50%				
6.						1 -		est is ≤ 3.0 *				
7.						-	_	al Adaptation			orting	
8.						↓		rks or on a se	•	sheet)		
9.								n-Vascular Pla		: * /	1-:>	
10.						☐ Prob	iematic	Hydrophytic \	vegetati	on * (exp	iain)	
11.		125	= Total	Cover		* Indicators	of hydri	ic soil and we	stland by	udrology r	nuct bo	
		120		-0.01				turbed or pro			nust De	,
Woody Vine Stratum (Plot s	size:)											
1. Rubus armeniacu	s	50	-	Υ	FAC							
2.								getation	Yes	\boxtimes	No	
		50	= Total	Cover		"	Present	?	1 00		110	Ш
W.D. O												
% Bare Ground in Herb Strat	um:					<u> </u>						
Remarks:												
li de la companya de												

SOII Sampling Point - DP-40

pepth Matrix nches) Color (moist)			0 1 (: 1)		atures	T 1	1 2	4 .		
ncnes))-10	10YR 3/2	90	Color (moist) 7.5YR 3/4	10	С	Type ¹	Loc ²		rexture sandy loam	Remarks Roots
10-16	10G 5/1	85	10YR 5/8	15	С		PL, M	Silty loa	-	High silt
										content
Type: C=Conce	entration, D=Depletio	n, RM=Reduce		Coated San	d Grain	ns ² Loc: PL	L =Pore Linir	ng, M=Matrix		
lydric Soil Ind	icators: (Applicable	to all LRRs,	unless otherwise noted.))		Indicato	rs for Prob	lematic Hyd	Iric Soils³	
☐ Histosol (A1	•		Sandy Redox (S5)			□ 2cm	Muck (A10	0)		
☐ Histic Epipe	` '		Stripped Matrix (S6)				Parent Ma	, ,		
Black Histic	` '		_oamy Mucky Mineral (F1)		.RA 1)		er (explain i	in remarks)		
☐ Hydrogen S			_oamy Gleyed Matrix (F2)							
•	elow Dark Surface (A	•	Depleted Matrix (F3)			a				
☐ Thick Dark	, ,		Redox Dark Surface (F6)						ation and wetland	hydrology mus
•	ky Mineral (S1)		Depleted Dark Surface (F7	7)		be prese	int, uniess d	disturbed or p	orobiematic	
	red Matrix (S4)		Redox Depressions (F8)							
estrictive Laye	er (if present):					Hydric soil	procent?	Yes	\boxtimes	No \square
						riyuric son	present	163		140
emarks:										
≺emarks:										
Remarks:										
/DROLOGY										
'DROLOGY Vetland Hydro	ology Indicators:									
'DROLOGY Vetland Hydro Primary Indica	tors (minimum of one	•						•	2 or more require	,
'DROLOGY Vetland Hydro Primary Indica □ Surface wa	tors (minimum of one ater (A1)	. D 8	Sparsely Vegetated Conca	,	. ,		☐ Wat	ter-Stained L	eaves (B9) (MLR	,
TDROLOGY Wetland Hydro Primary Indica □ Surface wa □ High Water	tors (minimum of one ater (A1) r Table (A2)	\	Sparsely Vegetated Conca Vater-Stained Leaves (ex	,	. ,	A & 4B) (B9)	☐ Wat	ter-Stained L inage Patterr	eaves (B9) (MLR ns (B10)	,
Vetland Hydro Primary Indica Surface wa High Water Saturation	ntors (minimum of one nter (A1) r Table (A2) (A3)		Sparsely Vegetated Conca Vater-Stained Leaves (exc Salt Crust (B11)	cept MLRA	. ,	A & 4B) (B9)	☐ Wat	ter-Stained L inage Patterr -Season Wat	eaves (B9) (MLR ns (B10) ter Table (C2)	Å 1, 2, 4A & 4
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark	ntors (minimum of one ater (A1) Table (A2) (A3) ks (B1)		Sparsely Vegetated Conca Vater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B13	cept MLRA	. ,	A & 4B) (B9)	☐ Wat	ter-Stained L inage Patterr -Season Wat uration Visibl	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image	Å 1, 2, 4A & 4
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D	tors (minimum of one tter (A1) r Table (A2) (A3) ks (B1) Deposits (B2)		Sparsely Vegetated Conca Vater-Stained Leaves (ex Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C	cept MLRA 3) 1)	1, 2, 4 <i>A</i>	, , ,	☐ Wai ☐ Dra ☐ Dry ☐ Sati	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2)	Å 1, 2, 4A & 4
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos	tors (minimum of one tter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)		Sparsely Vegetated Conca Vater-Stained Leaves (exc Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C' Oxidized Rhizospheres alc	cept MLRA ? B) 1) ong Living Ro	1, 2, 4 <i>A</i>	, , ,	☐ Wari ☐ Dra ☐ Dry ☐ Sate ☐ Gec ☐ Sha	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitaro	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3)	Å 1, 2, 4A & 4
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos	tors (minimum of one ter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)		Sparsely Vegetated Conca Vater-Stained Leaves (exc Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C' Oxidized Rhizospheres alc Presence of Reduced Iron	cept MLRA 2 3) 1) ong Living Ro (C4)	1, 2, 4A	, , ,	☐ War ☐ Dra ☐ Dry ☐ Sati ☒ Gec ☐ Sha	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitarc C-Neutral Tes	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3) st (D5)	Á 1, 2, 4A & 4 ery (C9)
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o	tors (minimum of one ter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5)		Sparsely Vegetated Conca Vater-Stained Leaves (exc Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C' Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in T	cept MLRA 3) 1) ong Living Ro (C4) Filled Soils (C	1, 2, 4A pots (C3	, , ,	☐ Wai	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitaro C-Neutral Tes sed Ant Mou	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3) st (D5) nds (D6) (LRR A)	Á 1, 2, 4A & 4 ery (C9)
Wetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation	tors (minimum of one ter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)		Sparsely Vegetated Conca Vater-Stained Leaves (exc Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C' Oxidized Rhizospheres alc Presence of Reduced Iron	cept MLRA 3) 1) ong Living Ro (C4) Filled Soils (C	1, 2, 4A pots (C3	, , ,	☐ Wai	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitarc C-Neutral Tes	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3) st (D5) nds (D6) (LRR A)	Á 1, 2, 4A & 4 ery (C9)
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation (B7)	tors (minimum of one ter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) vil Cracks (B6) Visible on Aerial Ima		Sparsely Vegetated Conca Vater-Stained Leaves (exc Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C' Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in T Stunted or Stressed Plants	cept MLRA 3) 1) ong Living Ro (C4) Filled Soils (C	1, 2, 4A pots (C3	, , ,	☐ Wai	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitaro C-Neutral Tes sed Ant Mou	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3) st (D5) nds (D6) (LRR A)	Á 1, 2, 4A & 4 ery (C9)
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation (B7)	itors (minimum of one ter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) bil Cracks (B6) Visible on Aerial Ima		Sparsely Vegetated Conca Vater-Stained Leaves (exc Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C' Dxidized Rhizospheres ald Presence of Reduced Iron Recent Iron Reduction in T Stunted or Stressed Plants Other (explain in remarks)	cept MLRA 3) 1) ong Living Ro (C4) Filled Soils (C	1, 2, 4A pots (C3	, , ,	☐ Wai	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitaro C-Neutral Tes sed Ant Mou	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3) st (D5) nds (D6) (LRR A)	Á 1, 2, 4A & 4 ery (C9)
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation (B7)	itors (minimum of one ter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) Visible on Aerial Ima		Sparsely Vegetated Conca Vater-Stained Leaves (except leaves)	cept MLRA 3) 1) ong Living Ro (C4) Filled Soils (C	1, 2, 4A poots (C3 C6) A)	3)	☐ Wai ☐ Dra ☐ Dry ☐ Satu ☐ Sha ☐ FAC ☐ Rais ☐ Fros	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitarc C-Neutral Tes sed Ant Mou st-Heave Hur	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3) st (D5) nds (D6) (LRR A)	A 1, 2, 4A & 4
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation (B7) Vield Observat Surface Water F	itors (minimum of one otter (A1) r Table (A2) (A3) s (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) sil Cracks (B6) Visible on Aerial Ima ions Present? Yes [esent? Yes [Sparsely Vegetated Conca Vater-Stained Leaves (except the concave of the concave	cept MLRA 3) 1) ong Living Ro (C4) Filled Soils (C	1, 2, 4A poots (C3 C6) A)	, , ,	☐ Wai ☐ Dra ☐ Dry ☐ Satu ☐ Sha ☐ FAC ☐ Rais ☐ Fros	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitarc C-Neutral Tes sed Ant Mou st-Heave Hur	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3) st (D5) nds (D6) (LRR A)	Á 1, 2, 4A & 4 ery (C9)
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation (B7) ield Observat surface Water F Vater Table Presentation Presentation	itors (minimum of one otter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) vil Cracks (B6) Visible on Aerial Ima ions Present? Yes [ent? Yes [Sparsely Vegetated Conca Vater-Stained Leaves (except the concave of the concave	cept MLRA 3) 1) ong Living Ro (C4) Filled Soils (C	1, 2, 4A poots (C3 C6) A)	3)	☐ Wai ☐ Dra ☐ Dry ☐ Satu ☐ Sha ☐ FAC ☐ Rais ☐ Fros	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitarc C-Neutral Tes sed Ant Mou st-Heave Hur	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3) st (D5) nds (D6) (LRR A)	A 1, 2, 4A & 4
Vetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation (B7) Veter Table Presenctudes capilla	itors (minimum of one otter (A1) r Table (A2) (A3) cs (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) oil Cracks (B6) Visible on Aerial Ima ions Present? Yes [ent? Yes [ary fringe)	S S S S S S S S S S	Sparsely Vegetated Conca Vater-Stained Leaves (except the concave of the concave	cept MLRA 2 3) 1) 1) ong Living Ro (C4) Filled Soils (C s (D1) (LRR A	(C3)	3) /etland Hydro	☐ Wai ☐ Dra ☐ Dry ☐ Satu ☐ Sha ☐ FAC ☐ Rais ☐ Fros	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitarc C-Neutral Tes sed Ant Mou st-Heave Hur	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3) st (D5) nds (D6) (LRR A)	A 1, 2, 4A & 4
Wetland Hydro Primary Indica Surface wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Surface So Inundation (B7) ield Observat surface Water F Water Table Presenctudes capilla	itors (minimum of one otter (A1) r Table (A2) (A3) cs (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) oil Cracks (B6) Visible on Aerial Ima ions Present? Yes [ent? Yes [ary fringe)	S S S S S S S S S S	Sparsely Vegetated Concavater-Stained Leaves (except the concavater of the concavate	cept MLRA 2 3) 1) 1) ong Living Ro (C4) Filled Soils (C s (D1) (LRR A	(C3)	3) /etland Hydro	☐ Wai ☐ Dra ☐ Dry ☐ Satu ☐ Sha ☐ FAC ☐ Rais ☐ Fros	ter-Stained L inage Patterr -Season Wat uration Visibl omorphic Pos allow Aquitarc C-Neutral Tes sed Ant Mou st-Heave Hur	eaves (B9) (MLR ns (B10) ter Table (C2) e on Aerial Image sition (D2) d (D3) st (D5) nds (D6) (LRR A)	A 1, 2, 4A & 4



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 41

							<u> </u>					
Davis at City	0		050074			0	D	0/0/004/	-			
Project Site:	Segment J, parcel		059071				oling Date:	9/9/2015	•			
Applicant/Owner:	Puget Sound Energ						oling Point:	DP- 41				
Investigator:	K. Crandall, A. Hoe					- 1	County:	Bellevu WA	e			
Sect., Township, Range:	_	HN K USI		01 (01)	40	State			· · ·			
Landform (hillslope, terrace,	etc): Hillslope			Slope (%):	10	Local	,	ve, convex, no		concave		
Subregion (LRR): A				Lat:			Long:			Datum:		
Soil Map Unit Name: AkF	 Alderwood and kits 	sap soils, vei	ry steep			NWI c	lassification:	NA				
Are climatic/hydrologic condi	tions on the site typical fo	or this time of ye	ear?	Yes [No	(If no,	explain in re	marks.)				
Are "Normal Circumstances"	present on the site?			☑ Yes □	No							
Are Vegetation□, Soil □, or	Hydrology \square significantl	y disturbed?										
Are Vegetation \square , Soil \square , or	Hydrology ☐ naturally p	roblematic				(If nee	ded, explain	any answers	in Rem	arks.)		
SUMMARY OF FINDING	S _ Attach site man	showing sar	nnlina na	int locatio	ne tranc	socte ii	mnortant f	osturos oto				
OOMMAKT OF THEBING	o - Attach Site map			int locatio	iis, traiis	30013, 11	inportant i	catares, etc	<i>,</i> ,			
Hydrophytic Vegetation Pres	ent? Y	es 🗵 N	10 L									
Hydric Soils Present?	Υ	es 🗵 N	lo 🗆	Is the Sam	pling Poi	nt withir	n a Wetland	? Yes	\boxtimes		No	
Wetland Hydrology Present?	Υ	es 🗵 N	lo 🗌									ш
Remarks: Wetland	JB06 in-pit											
VEGETATION – Use sci	entific names of plan	nts.										
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant Ir	ndicator	Dom	inance Te	st Workshe	et			
,	<u>, </u>	Cover	Specie	s? S	tatus							
1.							per of Domin			2		
2.							re OBL, FAC	-				(A)
3.							Number of E			2		
4.							ies Across A					(B)
			= Total (Cover			ent of Domina			100		
						llial a	re OBL, FAC	JW, OI FAC.				(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)											
1.						Prev		lex Worksh	eet			
2.						-		Cover of		1	ultiply b	Ŋ
3.							species			x 1 =		
4.							V species			x 2 =		
5.			= Total (over			species J species			x 3 =		
				JOVEI			species			x 4 =		
Herb Stratum (Plot size: 1m	diam)						nn totals	(A)		(B)		
Phalaris arundina		80		Y	FACW	Colui	iii totalo	(1)		(0)		
2. Juncus effusus	ocu	30			FACW	⊢ P	revalence l	ndex = B / A	۱ =			
3. Circium arvense		10		N	FAC	1			-			
4. Equisetum telmat	eia	2		N	FACW	Hydr	ophytic V	egetation In	dicato	rs		
5.						\boxtimes		test is > 50%				
6.							Prevalence	test is ≤ 3.0 *				
7.							Morphologi	cal Adaptation	s * (pro	vide supp	orting	
8.							data in rem	arks or on a s	eparate	sheet)		
9.							Wetland No	on-Vascular Pl	ants *			
10.							Problemation	Hydrophytic	Vegetat	ion * (exp	lain)	
11.						+=-		<u> </u>				
		122	= Total (Cover		* Indi	cators of hyd	Iric soil and we	etland h	ydrology i	must be	Э
			_					sturbed or pro				
Woody Vine Stratum (Plot s	size:)											
1.						4						
2.						Ну	drophytic V		Yes	\square	No	
			= Total (Cover			Presen	t?	. 00		. 10	Ш
% Bare Ground in Herb Stra						1						
Remarks: Recently mo	owed.											

SOIL								Sampling Point – Di	2-4 1
Profile Descri	ption: (Describe t	o the depth	neede	d to document the indica	tor or confi	m the absenc	e of indicators	s.)	
Depth	• •	atrix			Redox Feat			<u>,</u> 	
(inches)	Color (moist		%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8	7.5YR 3/2	10		Color (molecy	,,,	. ,,,,		Loam	romano
8-12	10YR 3/2	96		7.5YR 4/6	4	С	M	Gravelly sandy loam	Coarse rock and cobble
Hydric Soil In Histosol (A Histic Epip Black Histi Hydrogen Depleted E Thick Dark Sandy Mu Sandy Gle Restrictive Lay Type:	dicators: (Applica 11) bedon (A2) c (A3) Sulfide (A4) Below Dark Surface c Surface (A12) cky Mineral (S1) yed Matrix (S4)	able to all L	RRs, ur Si Si Si Control Control			Indic 2 F A 1) 3 Indic be pro	ecm Muck (A10 Red Parent Mat Other (explain in cators of hydrop	lematic Hydric Soils ³) erial (TF2)	d hydrology must
Primary Indic Surface w High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation (B7)	ology Indicators: ators (minimum of rater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial		 □ Sp □ W □ Se □ Ac □ Hy □ Ox □ Pr □ Re □ St 	k all that apply): carsely Vegetated Concave ater-Stained Leaves (exce) alt Crust (B11) quatic Invertebrates (B13) ydrogen Sulfide Odor (C1) xidized Rhizospheres along esence of Reduced Iron (C ecent Iron Reduction in Tille unted or Stressed Plants (E ther (explain in remarks)	pt MLRA 1, g Living Root (4) ed Soils (C6)	2, 4A & 4B) (B		Indicators (2 or more require er-Stained Leaves (B9) (MLF nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imag morphic Position (D2) Illow Aquitard (D3) S-Neutral Test (D5) sed Ant Mounds (D6) (LRR Ast-Heave Hummocks	AÁ 1, 2, 4A & 4B) ery (C9)
Field Observa Surface Water Water Table P Saturation Pre (includes capil Describe Reco	Present? Yes resent? Yes sent? Yes lary fringe)	s □ s □ gauge, mor	No 🗵 No 🗵 No 🗵	Depth (in):	s inspections		drology Prese	nt? Yes ⊠	No 🗌
Remarks:	Damp, not satu	rated.							



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DP- 42

Data in a 1 Cita	0		4050074		0	0/0/0045		
Project Site:	Segment J, parc		4059071		Sampling Date:	9/9/2015		
Applicant/Owner:	Puget Sound En				Sampling Point:	DP- 42		
Investigator:	K. Crandall, A. H				City/County:	Bellevue		
Sect., Township, Range:	S 21 T	24N R 0	5E	1	State:	WA		
Landform (hillslope, terrace,	etc): hillslope			Slope (%): 10	Local relief (concav	/e, convex, none):	slightly cor	ncave
Subregion (LRR): A				Lat:	Long:		Datum:	
	Aldemuse ed en d	litaan aaila		2011		NIA		
Soil Map Unit Name: AkF		-			NWI classification:	NA		
Are climatic/hydrologic condi	tions on the site typic	al for this time of	year?	🛮 Yes 🗌 No	(If no, explain in rei	marks.)		
Are "Normal Circumstances"	present on the site?			🛚 Yes 🗌 No				
Are Vegetation□, Soil □, or	Hydrology ☐ signific:	antly disturbed?						
Are Vegetation□, Soil □, or	Hydrology ☐ natural	ly problematic			(If needed, explain	any answers in Rei	marks.)	
					•			
SUMMARY OF FINDING	S – Attach site m	ap showing sa	mpling po	oint locations, trans	sects, important for	eatures, etc.		
		Yes 🗵	No 🗆					
Hydrophytic Vegetation Pres	ent?							
Hydric Soils Present?		Yes 🗵	No \square	Is the Sampling Poi	nt within a Wetland?	? Yes ∑	N []	ю
Wetland Hydrology Present?		Yes 🗵	No 🗌			<u> </u>	ח	
Remarks: Wetland	JB07 in-pit.							
	, 201 III più							
VECETATION LINE OF	antifia namaa af .	nlanta						
VEGETATION – Use sci	entific names of p	Jiants.			T			
Tree Stratum (Plot size: 5m	diam.)	Absolute %			Dominance Tes	st Worksheet		
		Cover	Specie	s? Status				
1.					Number of Domina		2	
2.					that are OBL, FAC	, W, OF FAC:		(A)
3.					Total Number of D		2	
4.					Species Across Al	l Strata:	2	(B)
			= Total (Cover	Percent of Domina	ant Species		` ` ′
					that are OBL, FAC	W, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam)							(A/D)
					Daniel Lands In al	\\\/ 1		
1.					Prevalence Ind			
2.					_	Cover of		i <u>ply by</u>
3.					OBL species		x 1 =	
4.					FACW species		x 2 =	
5.					FAC species		x 3 =	
			= Total (Cover	FACU species		x 4 =	
			<u>.</u>		UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)				Column totals	(A)	(B)	
1. Phalaris arundina	cea	70		Y FACW				
2. Scirpus microcar	pus	40		Y OBL	Prevalence I	ndex = B / A =		
3. Juncus effusus		10		N FACW	1			
4. Athyrium cycloso	rum	5		N FAC	Hydrophytic Ve	egetation Indica	tors	
5.	<u>rum</u>					test is > 50%	10.0	
						test is ≤ 3.0 *		
6.								
7.					. · ·	cal Adaptations * (p		ling
8.					data in rema	arks or on a separa	te sheet)	
9.					☐ Wetland No.	n-Vascular Plants *	r	
10.					☐ Problemation	: Hydrophytic Veget	tation * (explai	n)
11.					 			
		125	= Total (Cover	* Indicators of hyd	ric soil and wetland	hydrology mu	ist he
		123				sturbed or problema		31 00
Woody Vine Stratum (Plot s	size:				,,,			
1.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				1			
					┨			
2.				•	Hydrophytic V		es 🔀	No \square
			= Total (Jover	Present	ıı	<u>~ \</u>	Ш
% Bare Ground in Herb Strat	tum:							
Remarks: Recently mo	owed.							
1.000may me								

Profile Descri Depth (inches) 0-6	Ma Color (moist) 10YR 2/2	trix 10	%	Color (moist)	Redox Feat		f indicators	Texture	Remarks
Depth (inches) 0-6	Ma Color (moist) 10YR 2/2	trix 10	%		Redox Feat	ures		Texture	Remarks
(inches) 0-6	Color (moist) 10YR 2/2	10		Color (moist)			Loc ²		Remarks
0-6	10YR 2/2	10		Color (moist)	70	Type	LOC		Remarks
			U					l l nam	Roots
6-12	10YR 3/1	00						Loam	Roois
		98	1	10YR 5/6	2	С	М	Gravelly sandy loam	Large cobbles
									present
	•			ed Matrix, CS=Covered or C	Coated Sand	Grains ² Loc: PL	=Pore Linin	g, M=Matrix	
		ble to all L		unless otherwise noted.)				lematic Hydric Soils ³	
☐ Histosol (<i>F</i>	·			Sandy Redox (S5)			Muck (A10		
Histic Epip				Stripped Matrix (S6)			Parent Mat	,	
☐ Black Hist	ic (A3)			Loamy Mucky Mineral (F1)	(except MLR	(A 1)	er (explain ir	n remarks)	
☐ Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)					
 Depleted ! 	Below Dark Surface	(A11)		Depleted Matrix (F3)					
☐ Thick Darl	Surface (A12)		\boxtimes	Redox Dark Surface (F6)		³ Indicate	ors of hydror	ohytic vegetation and wetland	l hydrology mus
☐ Sandy Mu	cky Mineral (S1)			Depleted Dark Surface (F7)		be prese	nt, unless d	isturbed or problematic	
=	eyed Matrix (S4)			Redox Depressions (F8)					
	<u> </u>								
Restrictive Lay	er (if present):								
Туре:						Hydric soil	present?	Yes 🔀	No 🗌
Depth (inches)	١٠						•	2	
Primary India □ Surface w □ High Wate □ Saturation □ Water Ma	rology Indicators: nators (minimum of orater (A1) er Table (A2) in (A3) rrks (B1) Deposits (B2)	one require		eck all that apply): Sparsely Vegetated Concav Water-Stained Leaves (excessalt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alon	ept MLRA 1,	2, 4A & 4B) (B9)	□ Wat□ Drai□ Dry-□ Satu⋈ Geo	Indicators (2 or more require er-Stained Leaves (B9) (MLF nage Patterns (B10) Season Water Table (C2) uration Visible on Aerial Imag morphic Position (D2)	RA 1, 2, 4A & 4E
	or Crust (B4)			Presence of Reduced Iron (10 (00)		C-Neutral Test (D5)	
☐ Iron Depo	` ,			Recent Iron Reduction in Til	*	١		sed Ant Mounds (D6) (LRR A	١
•	Soil Cracks (B6)			Stunted or Stressed Plants	•	•		st-Heave Hummocks)
	n Visible on Aerial II	magery		Other (explain in remarks)	(DT) (ERR A)			n-neave nummocks	
Field Observa	ations								
Surface Water	Present? Yes	. 🗆	No						
Water Table P	_	. 🗆		∑ Depth (in):		Wetles diller	James Beer	V \	N- 🗀
Saturation Pre (includes capil	sent? Yes		No			Wetland Hydro	ology Prese	nt? Yes ⊠	No
Doscribo Poc	orded Data (stream	gauge, mo	nitorin	g well, aerial photos, previo	us inspection	s), if available:			
Describe Reco									
Remarks:	Damp, not satu	rated							



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 43

D : 10"						0 " 0 '	0/0/0045		
Project Site:	Segment J, parcel nu	mber 21240)590/1			Sampling Date:	9/9/2015		
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 43		
Investigator:	K. Crandall, A. Hoenig					City/County:	Bellevue		
Sect., Township, Range:	S 21 T 24N	R 05E				State:	WA		
Landform (hillslope, terrace,	etc): hillslope			Slope (%): 10		Local relief (concave	e, convex, none): I	none	
Subregion (LRR): A				Lat:	•	Long:		Datum:	
	Aldemused and litees	!!	4	24					
Soil Map Unit Name: AkF						NWI classification:			
Are climatic/hydrologic condi	tions on the site typical for the	nis time of yea	ar? [⊠ Yes □	No	(If no, explain in ren	narks.)		
Are "Normal Circumstances"	present on the site?		[⊠ Yes □	No				
Are Vegetation□, Soil □, or	Hydrology ☐ significantly d	isturbed?							
Are Vegetation□, Soil □, or	Hydrology \square naturally prob	lematic				(If needed, explain a	any answers in Rem	narks.)	
					_				
SUMMARY OF FINDING	S – Attach site map sh	owing sam	pling p	oint locations,	transe	cts, important fe	atures, etc.		
Hydrophytic Vegetation Pres	ent? Yes		, X						
· · · · · -									
Hydric Soils Present?	Yes	□ No		Is the Samplin	g Point	within a Wetland?	Yes	No	\boxtimes
Wetland Hydrology Present?	Yes	☐ No	${f lack}$						
Remarks: Out-pit be	etween JB06 and JB07								
VEGETATION – Use sci	entific names of plants	<u>i.</u>							
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domin	ant Indica	ator	Dominance Tes	t Worksheet		
`		Cover	Specie	s? Statu	s				
1.						Number of Domina		1	
2.						that are OBL, FAC	W, or FAC:	1	(A)
3.						Total Number of Do	ominant		_ ` ′
4.						Species Across All	Strata:	2	(B)
	_		= Total	Cover		Percent of Domina	nt Species		_ (_)
	_		-			that are OBL, FAC		50	(A /D)
Sapling/Shrub Stratum (Plo	ot sizo: 3m diam)						· —		(A/B)
	A SIZE. SITI GIGITI.)						14/ 1 1 /		
1.						Prevalence Inde		NA. dela la	
2.							Cover of	Multiply	by
3.						OBL species		x 1 =	
4.						FACW species		x 2 =	
5.						FAC species		x 3 =	
	<u> </u>		= Total	Cover		FACU species		x 4 =	
						UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)						(A)	(B)	
1. Phalaris arundina						Column totals	()	1 (0)	
	cea	90		Y FA	cw	Column totals	(-)	1 (5)	
2.	ncea	90		Y FA	CW	Prevalence In			
2. 3.	cea	90		Y FA	CW				
	ncea	90		Y FA	CW		ndex = B / A =		
3.	ncea	90		Y FA	CW	Prevalence In	ndex = B / A =		
3. 4.	ncea	90		Y FA	CW	Prevalence Ir Hydrophytic Ve	ndex = B / A = getation Indicate		
3. 4. 5. 6.	ncea	90		Y FA	CW	Prevalence Ir Hydrophytic Ve Dominance to Prevalence to	ndex = B / A = getation Indicate test is > 50% test is \le 3.0 *	ors	1
3. 4. 5. 6. 7.	ncea	90		Y FA	CW	Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic	ndex = B / A = getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (pro	ors ovide supporting	1
3. 4. 5. 6. 7.	ncea	90		Y FA	CW	Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic data in rema	ndex = B / A = getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (pro	ors ovide supporting]
3. 4. 5. 6. 7. 8. 9.	ocea	90		Y FA	CW	Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic data in rema Wetland Nor	getation Indicatest is > 50% est is < 3.0 * al Adaptations * (prorks or on a separate on-Vascular Plants *	ors ovide supporting e sheet)	}
3. 4. 5. 6. 7.	ncea	90		Y FA	CW	Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic data in rema Wetland Nor	ndex = B / A = getation Indicate est is > 50% est is ≤ 3.0 * al Adaptations * (pro	ors ovide supporting e sheet)	}
3. 4. 5. 6. 7. 8. 9.	ncea	90			CW	Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic data in rema Wetland Nor	getation Indicatest is > 50% est is < 3.0 * al Adaptations * (prorks or on a separate on-Vascular Plants *	ors ovide supporting e sheet)	}
3. 4. 5. 6. 7. 8. 9.	ncea	90	= Total		CW	Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologico data in rema Wetland Nor Problematic	getation Indicates is > 50% est is < 3.0 * al Adaptations * (processor on a separate n-Vascular Plants * Hydrophytic Vegetatic soil and wetland leading to the soil and the	ovide supporting e sheet) ation * (explain) hydrology must I	
3. 4. 5. 6. 7. 8. 9. 10.					CW	Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologico data in rema Wetland Nor Problematic	ndex = B / A = getation Indicate test is > 50% test is ≤ 3.0 * al Adaptations * (processor on a separate n-Vascular Plants * Hydrophytic Vegeta	ovide supporting e sheet) ation * (explain) hydrology must I	
3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot s	size:)	90	= Total	Cover		Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologico data in rema Wetland Nor Problematic	getation Indicates is > 50% est is < 3.0 * al Adaptations * (processor on a separate n-Vascular Plants * Hydrophytic Vegetatic soil and wetland leading to the soil and the	ovide supporting e sheet) ation * (explain) hydrology must I	
3. 4. 5. 6. 7. 8. 9. 10.	size:)		= Total			Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologico data in rema Wetland Nor Problematic	getation Indicates is > 50% est is < 3.0 * al Adaptations * (processor on a separate n-Vascular Plants * Hydrophytic Vegetatic soil and wetland leading to the soil and the	ovide supporting e sheet) ation * (explain) hydrology must I	
3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot s	size:)	90	= Total	Cover		Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic data in rema Wetland Nor Problematic * Indicators of hydr present, unless dis	ndex = B / A = getation Indicate lest is > 50% lest is ≤ 3.0 * late Adaptations * (processor on a separate late Adaptation on a separate late Adaptation of the Adaptation o	ovide supporting e sheet) ation * (explain) hydrology must I	be
3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plots 1. Rubus armeniacu	size:)	90	= Total	Cover Y FA		Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic data in rema Wetland Nor Problematic * Indicators of hydr	ndex = B / A = getation Indicate lest is > 50% lest is ≤ 3.0 * late Adaptations * (processor on a separate late Adaptation on a separate late Adaptation of the Adaptation o	ovide supporting e sheet) ation * (explain) hydrology must I	be
3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plots 1. Rubus armeniacu	size:)	90	= Total	Cover Y FA		Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic data in rema Wetland Nor Problematic * Indicators of hydr present, unless dis	ndex = B / A = getation Indicate lest is > 50% lest is ≤ 3.0 * late Adaptations * (processor on a separate late Adaptation on a separate late Adaptation of the Adaptation o	ovide supporting e sheet) ation * (explain) hydrology must I	be
3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plots 1. Rubus armeniacu	size:)	90	= Total	Cover Y FA		Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic data in rema Wetland Nor Problematic * Indicators of hydr present, unless dis	ndex = B / A = getation Indicate lest is > 50% lest is ≤ 3.0 * late Adaptations * (processor on a separate late Adaptation on a separate late Adaptation of the Adaptation o	ovide supporting e sheet) ation * (explain) hydrology must I	be
3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot s. 1. Rubus armeniacu. 2.	size:)tum:	90	= Total	Cover Y FA		Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic data in rema Wetland Nor Problematic * Indicators of hydr present, unless dis	ndex = B / A = getation Indicate lest is > 50% lest is ≤ 3.0 * late Adaptations * (processor on a separate late Adaptation on a separate late Adaptation of the Adaptation o	ovide supporting e sheet) ation * (explain) hydrology must I	be
3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plots 1. Rubus armeniacu 2.	size:)tum:	90	= Total	Cover Y FA		Prevalence Ir Hydrophytic Ve Dominance to Prevalence to Morphologic data in rema Wetland Nor Problematic * Indicators of hydr present, unless dis	ndex = B / A = getation Indicate lest is > 50% lest is ≤ 3.0 * late Adaptations * (processor on a separate late Adaptation on a separate late Adaptation of the Adaptation o	ovide supporting e sheet) ation * (explain) hydrology must I	be

SOIL							Sampling Point – I	DP-43
Profile Descr	ption: (Describe to the o	lepth neede	d to document the indic	ator or confirm	n the absence o	f indicators		
Depth	Matrix	•	1	Redox Featur			<u>,</u> 	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-5	10YR 2/2	100	Color (molect)	,,,	. , , , ,		Loam	romano
5-12	10YR 2/1	99	10YR 4/6	<1			Sandy loam	Large cobbles and gravel present
Hydric Soil In Histosol (A Histic Epip Black Hist Hydrogen	oedon (A2) ic (A3) Sulfide (A4)	all LRRs, ui	nless otherwise noted.) andy Redox (S5) tripped Matrix (S6) pamy Mucky Mineral (F1) pamy Gleyed Matrix (F2)		Indicato ☐ 2cm ☐ Red	=Pore Lining rs for Probl Muck (A10) Parent Mate er (explain ir	ematic Hydric Soils ³) erial (TF2)	
☐ Thick Dark	Below Dark Surface (A11)	□ R □ D	epleted Matrix (F3) edox Dark Surface (F6) epleted Dark Surface (F7 edox Depressions (F8))			ohytic vegetation and wetla sturbed or problematic	and hydrology must
_	er (if present):							
Туре:					Hydric soil	present?	Yes	No 🔀
Depth (inches):							
HYDROLOGY	,							
	rology Indicators: eators (minimum of one re	quired: checi	k all that apply):			Secondary	Indicators (2 or more requ	ired):
☐ Surface w	ater (A1)	☐ Sp	parsely Vegetated Concav	ve Surface (B8)		☐ Wate	er-Stained Leaves (B9) (M	LRA 1, 2, 4A & 4B)
☐ High Wat	er Table (A2)	□ W	ater-Stained Leaves (exc	ept MLRA 1, 2	, 4A & 4B) (B9)	☐ Drair	nage Patterns (B10)	
☐ Saturation	n (A3)	☐ Sa	alt Crust (B11)			☐ Dry-	Season Water Table (C2)	
☐ Water Ma	rks (B1)	□ Ac	quatic Invertebrates (B13)			□ Satu	ration Visible on Aerial Ima	agery (C9)
Sediment	Deposits (B2)	□ H	ydrogen Sulfide Odor (C1)		☐ Geo	morphic Position (D2)	
☐ Drift Depo	osits (B3)	□ O:	xidized Rhizospheres alor	ng Living Roots	(C3)	☐ Shal	low Aquitard (D3)	
☐ Algal Mat	or Crust (B4)	☐ Pi	esence of Reduced Iron ((C4)		☐ FAC	-Neutral Test (D5)	
☐ Iron Depo	osits (B5)	□ R	ecent Iron Reduction in Ti	lled Soils (C6)		☐ Rais	ed Ant Mounds (D6) (LRR	A)
☐ Surface S	oil Cracks (B6)	☐ St	unted or Stressed Plants	(D1) (LRR A)		☐ Fros	t-Heave Hummocks	
☐ Inundation (B7)	n Visible on Aerial Imager	y 🗌 O	ther (explain in remarks)					
Field Observa	ations							
Surface Water	Present? Yes	No ⊠	Depth (in):					
Water Table P	resent? Yes	No ⊠	Depth (in):		Wetland Hydro	ology Prese	nt? Yes	No 🔀
Saturation Pre (includes capil	100 🗀	No 🗵	Depth (in):			3, 1130	Ц	- K7
Describe Reco	orded Data (stream gauge	, monitoring	well, aerial photos, previo	us inspections)	, if available:			
Remarks:								
1								
İ								



WETLAND DETERMINATION DATA FORM Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 44

Duning t City	Commont M. nov		24240	50004			Camarilla a Data	0/0/2045		
Project Site:	Segment M, pard		21240	9001			Sampling Date:	9/9/2015		
Applicant/Owner:	Puget Sound En						Sampling Point:	DP- 44		
Investigator:	K. Crandall, A. H						City/County:	Bellevue		
Sect., Township, Range:	S 21 T	24N R	05E				State:	WA		
Landform (hillslope, terrace,	etc): hillslope				Slope	(%): 30	Local relief (concave	. convex. none):	convex	
					Lat:	· /	Long:	-	Datum:	
Subregion (LRR): A					Lat.				Datum.	
Soil Map Unit Name: AkF	 Alderwood and 	kitsap soils	, very	steep			NWI classification: N	NA		
Are climatic/hydrologic condi	tions on the site typic:	al for this time	of year	? [⊠ Yes	☐ No	(If no, explain in rema	arks.)		
Are "Normal Circumstances"			,		✓ Yes	□ No		,		
Are Vegetation□, Soil □, or	•	antly diaturbas	12	2	3 100	_ 110				
		•	1 !				(If needed, explain a	ny answers in Rem	arks)	
Are Vegetation□, Soil □, or	Hydrology 🗆 naturali	y problematic					(II Tioodod, oxpidiii d			
SUMMARY OF FINDING	S _ Attach site m	an showing	camn	lina na	int loc	ations trans	sacts important for	aturas atc		
COMMAN OF THE	O - Attach Site in	ap snowing	Jamp	iiig pe)IIIC 10C	ations, trans	scots, important rec	itures, etc.		
Hydrophytic Vegetation Pres	ent?	Yes 🗵	No							
Hydric Soils Present?		Yes	No	\boxtimes						
		_			Is the	Sampling Poil	nt within a Wetland?	Yes	No	X
Wetland Hydrology Present?		Yes \square	No	\boxtimes						
Remarks: Out-pit no	ear wetland MB04									
VEGETATION - Use sci	entific names of r	olants.								
	<u></u>									
T (Di-t-i 5	-U \		0/				l <u> </u>			
Tree Stratum (Plot size: 5m	diam.)	Absolute	e %	Domina Specie		Indicator	Dominance Test	Worksheet		
4		Cover		Specie	5!	Status	Number of Dominar	t Chaoina		
1.							that are OBL, FACV		2	
2.							, , ,			(A)
3.							Total Number of Do		2	
4.							Species Across All S	Strata:	_	(B)
				= Total (Cover		Percent of Dominan		400	
							that are OBL, FACV	/, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam)									(,,,,,,
							Prevalence Inde	· Maulaalaaat		
1.									NA. dela l	
2.							Total % C	over or	Multipl	<u>y by</u>
3.							OBL species		x 1 =	
4.							FACW species		x 2 =	
5.							FAC species		x 3 =	
				= Total (Cover		FACU species		x 4 =	
							UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)						Column totals	(A)	(B)	
1. Grass 1		50			Υ	FAC*		. ,	(-)	
2. Phalaris arundina	1003	30			· Y	FACW	Prevalence Inc	dov - B / A -		
3. Grass 2	Cea	20			N .	FAC*	1 Tevalence in			
	-1-						Hardward at a Mar			
4. Taraxicum officin	aie	5			N	FACU	Hydrophytic Veg		ors	
5.										
6.							☐ Prevalence te	est is ≤ 3.0 *		
7.							Morphologica	I Adaptations * (pro	ovide supportin	g
8.							☐ data in remar	ks or on a separate	sheet)	
								-Vascular Plants *	•	
0										
9.										
9.								Hydrophytic Vegeta	tion * (explain)	
									tion * (explain)	
10.		105	<u> </u>	= Total (Cover		Problematic F	Hydrophytic Vegeta	nydrology must	be
10.		105	.	= Total (Cover		☐ Problematic F	Hydrophytic Vegeta	nydrology must	be
10.	ize:)	105	i	= Total (Cover		Problematic F	Hydrophytic Vegeta	nydrology must	be
10.		105	i		Cover	FACU	Problematic F	Hydrophytic Vegeta	nydrology must	be
10. 11. Woody Vine Stratum (Plot st. 1. Rubus armeniacu			3			FACU	Problematic F	Hydrophytic Vegeta	nydrology must ic	
10. 11. Woody Vine Stratum (Plot s		3	i		N	FACU	Problematic F * Indicators of hydric present, unless distriction Hydrophytic Veg	Hydrophytic Vegeta c soil and wetland hurbed or problemat getation	nydrology must	
10. 11. Woody Vine Stratum (Plot st. 1. Rubus armeniacu					N	FACU	Problematic F	Hydrophytic Vegeta c soil and wetland hurbed or problemat getation	nydrology must ic	
10. 11. Woody Vine Stratum (Plot st. Rubus armeniacu. 2.	IS.	3	i		N	FACU	Problematic F * Indicators of hydric present, unless distriction Hydrophytic Veg	Hydrophytic Vegeta c soil and wetland hurbed or problemat getation	nydrology must ic	
10. 11. Woody Vine Stratum (Plot st. Rubus armeniacu. 2. % Bare Ground in Herb Stratum	IS.	3	3		N	FACU	Problematic F * Indicators of hydric present, unless distriction Hydrophytic Veg	Hydrophytic Vegeta c soil and wetland hurbed or problemat getation	nydrology must ic	
10. 11. Woody Vine Stratum (Plot st. Rubus armeniacu. 2.	IS.	3	3		N	FACU	Problematic F * Indicators of hydric present, unless distriction Hydrophytic Veg	Hydrophytic Vegeta c soil and wetland hurbed or problemat getation	nydrology must ic	
10. 11. Woody Vine Stratum (Plot st. Rubus armeniacu. 2. % Bare Ground in Herb Stratum	IS.	3	5		N	FACU	Problematic F * Indicators of hydric present, unless distriction Hydrophytic Veg	Hydrophytic Vegeta c soil and wetland hurbed or problemat getation	nydrology must ic	

SOIL Sampling Point - DP-44 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) Type¹ Texture Remarks (inches) Color (moist) Sandy loam 0-5 2.5Y 3/3 100 7.5YR 4/6 5-8 2.5Y 4/3 97 3 CS М Loamy sand (coarse) 8-12 7.5YR 3/2 100 Loamy sand ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) ☐ Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): XHydric soil present? Yes No Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Surface water (A1) П П Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) Drainage Patterns (B10) ☐ High Water Table (A2) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9)

Wetland Hydrology Present?

Geomorphic Position (D2)

Raised Ant Mounds (D6) (LRR A)

 \boxtimes

Shallow Aquitard (D3)

FAC-Neutral Test (D5)

Frost-Heave Hummocks

US Army Corps of Engineers

(B7)

Field Observations

Surface Water Present?

Remarks:

Water Table Present?

(includes capillary fringe)

Saturation Present?

Sediment Deposits (B2)

Algal Mat or Crust (B4) Iron Deposits (B5)

Surface Soil Cracks (B6)

Inundation Visible on Aerial Imagery

Yes \square

Yes

Yes \square

Drift Deposits (B3)

No ⊠

Nο

No ⊠

 \boxtimes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Hydrogen Sulfide Odor (C1)

Other (explain in remarks)

Depth (in):

Depth (in):

Depth (in):

Presence of Reduced Iron (C4)

Oxidized Rhizospheres along Living Roots (C3)

Recent Iron Reduction in Tilled Soils (C6)

Stunted or Stressed Plants (D1) (LRR A)



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DP- 45

Designat City	Commont M. monosl		1050004		Camalina Data	0/0/0045		
Project Site:	Segment M, parcel		1009001		Sampling Date:	9/9/2015		
Applicant/Owner:	Puget Sound Energ				Sampling Point:	DP- 45		
Investigator:	K. Crandall, A. Hoe		_		City/County:	Bellevue		
Sect., Township, Range:		4N R 05E			State:	WA		
Landform (hillslope, terrace,	etc): hillslope			Slope (%): 30	Local relief (concar	ve, convex, none):	concave	
Subregion (LRR): A				Lat:	Long:		Datum:	
	Aldonus ad and Kit	loop oollo vo						
Soil Map Unit Name: AkF					NWI classification:			
Are climatic/hydrologic condi	tions on the site typical for	or this time of ye	ar?	⊠ Yes □ No	(If no, explain in re	marks.)		
Are "Normal Circumstances"	present on the site?		[oxtimes Yes $oxtimes$ No				
Are Vegetation⊠, Soil ⊠, or	Hydrology ☐ significant	ly disturbed?						
Are Vegetation□, Soil □, or	Hydrology ☐ naturally p	roblematic			(If needed, explain	any answers in Rem	narks.)	
SUMMARY OF FINDING	S – Attach site map	showing san	npling p	oint locations, trans	sects, important f	eatures, etc.		
		∕es ⊠ N	0 🗆					
Hydrophytic Vegetation Pres	ent? Y		•					
Hydric Soils Present?	Y	∕es ⊠ N	o 🗆	Is the Sampling Poi	nt within a Wetland	? Yes 🔀	No	, \square
Wetland Hydrology Present?	, Y	′es ⊠ N	o 🗌				,	ш
Remarks: Wetland I	MB04 in-pit; area rec	ently disturb	ed by co	nstruction activitie	ıs.			
		,	,					
VEGETATION – Use sci	iontific names of nla	nte						
VEGETATION - 636 3CI	entine names of pla	iito.						
T	r. \	A1 1 0/	. .					
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domin		Dominance Te	st Worksheet		
		Cover	Specie	s? Status	Number of Domin	ant Chasins		
1.					Number of Dominithat are OBL, FAC		3	
2.								(A)
3.					Total Number of D		3	
4.					Species Across A	il Strata:		(B)
			= Total	Cover	Percent of Domina		100	
			_		that are OBL, FAC	CW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)							_ ` ' '
1.					Prevalence Inc	lov Workshoot		
2.						Cover of	Multipl	ly by
					OBL species	l	x 1 =	<u>iy Dy</u>
3.					FACW species		x 2 =	
4.								
5.			T-1-1	0	FAC species		x 3 =	
			= Total	Cover	FACU species	L	x 4 =	
					UPL species		x 5 =	
Herb Stratum (Plot size: 1m					Column totals	(A)	(B)	
 Phalaris arundina 	dea	60		Y FACW				
Equisetum telmat	eia	30		Y FACW	Prevalence I	Index = B / A =		
3. Galium sp.		40		Y FAC*				
4.					Hydrophytic V	egetation Indicate	ors	
5.						test is > 50%		
6.					 ☐ Prevalence	test is ≤ 3.0 *		
7.						cal Adaptations * (pro	rovido cupportir	oa
					⊢ ` . ~	arks or on a separate		ig
8.					→	•	e sneet)	
9.					☐ Wetland No	on-Vascular Plants *		
10.					☐ Problemation	c Hydrophytic Vegeta	ation * (explain))
11.								
		130	= Total	Cover	* Indicators of hyd	Iric soil and wetland I	hvdrology mus	t be
			_			sturbed or problemat		
Woody Vine Stratum (Plot s	size:)							
1.	·							
2.					Hudrophytic V	onetation		_
			= Total	Cover	Hydrophytic V Presen		s 🔀 N	ا ol
			_ rotar				-	·
% Bare Ground in Herb Stra	tum:							
Remarks: *Presumed	FAC							

SOIL							Sampling Point -	DP-45
Profile Descri	ption: (Describe to the	depth neede	ed to document the in	dicator or confi	rm the absence o	of indicators	s.)	
Depth	Matrix	-		Redox Feat	ures		İ	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-5	10YR 2/2	100			31		Sandy loam	
5-10	10GY 3/1	80	7.5YR 5/8	20	CS	M, PL	Loamy sand	
10-14	5B 5/1 5G_/1 3/1	45 45	7.5YR 5/8 7.5YR 3/6	5 5	CS CS	M M	Loamy sand	Mixed matrix
¹Type: C=Cond	centration, D=Depletion,	RM=Reduce	d Matrix, CS=Covered	or Coated Sand	Grains ² Loc: Pl	_=Pore Linin	ng, M=Matrix	
Hydric Soil In	dicators: (Applicable to	-	nless otherwise noted andy Redox (S5)	d.)	_	ors for Prob	lematic Hydric Soils ³	
☐ Histosor (/	•		tripped Matrix (S6)			d Parent Mat		
☐ Black Histi	, ,		oamy Mucky Mineral (F	E1) (aveant MLD		er (explain i	, ,	
					-	ei (expiaiii i	ii ieiliaiks)	
	, ,		oamy Gleyed Matrix (F	2)				
	Below Dark Surface (A11)		epleted Matrix (F3)		31			
	Surface (A12)		edox Dark Surface (F6	,			phytic vegetation and wetla listurbed or problematic	and nydrology must
	cky Mineral (S1)		epleted Dark Surface (,	be prese	ont, unicoo u	isturbed of problematic	
☐ Sandy Gle	eyed Matrix (S4)	☐ R	edox Depressions (F8))				
Restrictive Lay	er (if present):							
Туре:					Hydric soil	present?	Yes 🔀	No 🗌
Depth (inches)	:							_
Remarks:					l .			
	,							
HYDROLOGY								
	ology Indicators:							
	ators (minimum of one re	•				-	r Indicators (2 or more requ	,
☐ Surface w	` '		parsely Vegetated Con	•	,		ter-Stained Leaves (B9) (M	ILRA 1, 2, 4A & 4B)
_	er Table (A2)	□ W	/ater-Stained Leaves (e	except MLRA 1,	2, 4A & 4B) (B9)	☐ Drai	inage Patterns (B10)	
	n (A3)	□ S	alt Crust (B11)			☐ Dry-	-Season Water Table (C2)	
☐ Water Ma	rks (B1)	□ A	quatic Invertebrates (B	13)		☐ Sati	uration Visible on Aerial Im	agery (C9)
☐ Sediment	Deposits (B2)	\boxtimes H	ydrogen Sulfide Odor (C1)		⊠ Geo	omorphic Position (D2)	
☐ Drift Depo	osits (B3)	⊠ O	xidized Rhizospheres a	along Living Roo	ts (C3)	☐ Sha	allow Aquitard (D3)	
☐ Algal Mat	or Crust (B4)	□ P	resence of Reduced Iro	on (C4)		⊠ FAC	C-Neutral Test (D5)	
☐ Iron Depo	sits (B5)	□R	ecent Iron Reduction in	Tilled Soils (C6)	☐ Rais	sed Ant Mounds (D6) (LRR	R A)
☐ Surface S	oil Cracks (B6)	□ S	tunted or Stressed Plar	nts (D1) (LRR A)		☐ Fros	st-Heave Hummocks	
☐ Inundation (B7)	n Visible on Aerial Image	ту 🗆 О	ther (explain in remark	s)				
Field Observa	ations							
Surface Water		No ⊠	Depth (in):					
Water Table P	103 🗀							\Box
Saturation Pre		No ⊠		throughout	Wetland Hydro	ology Prese	ent? Yes 🔀	No
(includes capil	103 🖂	No 🗆	j Depth (in):	throughout				
Describe Reco	orded Data (stream gauge	monitoring	well aerial photos pre	vious inspection	s) if available:			
Describe Necc	nded Data (Stream gauge	s, monitoring	well, aeriai priotos, pre	wious inspection	s), ii avallable.			
Remarks:								



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DP- 46

Project Site:	Sogment I nore	al number 2124	050001		Sampling Date:	9/9/2015		
Applicant/Owner:	Segment J, parc Puget Sound En		039001		Sampling Date.	DP- 46		
Investigator:	K. Crandall, A. H				City/County:	Bellevue		
Sect., Township, Range:	S 21 T	24N R 05E	•		State:	WA		
Landform (hillslope, terrad			_	Slope (%): 5	Local relief (conca		: Concave	
Subregion (LRR): A	,,-			Lat:	Long:	10, 000,	Datum:	
Soil Map Unit Name: Ak	E _ Aldorwood and	kitean eaile var	v stoon	Lat.	NWI classification:	NΑ	Datam.	
·				7 V				
Are climatic/hydrologic co	= = =	al for this time of ye		☑ Yes □ No	(If no, explain in re	marks.)		
Are "Normal Circumstanc Are Vegetation□, Soil □.	•	antly disturbed?	L	☑ Yes □ No				
Are Vegetation□, Soil □,		•			(If needed, explain	any answers in F	Remarks.)	
SUMMARY OF FINDI		-	npling po	oint locations, tran	sects, important f	eatures, etc.		
Hydrophytic Vegetation P	resent?	Yes 🗵 N	。					
Hydric Soils Present?		Yes ⊠ N	o 🗆	la tha Camplina Da	int within a Watland	a Vaa F	✓ No.	
Wetland Hydrology Prese	ent?	Yes ⊠ N	_	is the Sampling Po	int within a Wetland	? Yes [∑ No	
Welland Hydrology 1 1636		103 🖂 10	<u> </u>					
Remarks: Wetlan	nd JB08 in-pit							
\/								
VEGETATION – Use	scientific names of p	olants.			1			
Tree Stratum (Plot size:	5m diam \	Absolute %	Domina	ant Indicator	Dominance Te	et Workshoot		
Tree Stratum (Flot Size.	om diam.)	Cover	Species		Dominance re	St Worksneet		
1.			•		Number of Domin		6	
2.					that are OBL, FAC			(A)
3.					Total Number of D		6	
4.			= Total C	Nava a	Species Across A			(B)
		-	= 10tar C	Jover	Percent of Domina that are OBL, FAC		100	
Sapling/Shrub Stratum	(Plot size: 3m diam)				inat are obe, 17to			(A/B)
	mifera (seedlings)	20		Y FAC	Prevalence Inc	lev Worksheet		
2 Rubus spectab		10		Y FAC		Cover of	Multiply	/ bv
3. Salix sitchensis		10		Y FACW	OBL species		x 1 =	
4.	-						x 2 =	
5.					FACW species			
					FAC species		x 3 =	
		40	= Total C	Cover	FAC species FACU species		x 4 =	
		40	= Total 0	Cover	FAC species FACU species UPL species		x 4 = x 5 =	
Herb Stratum (Plot size:	1m diam.)	-	_		FAC species FACU species	(A)	x 4 =	
1. Grass 1	1m diam.)	10		Y FAC*	FAC species FACU species UPL species Column totals		x 4 = x 5 =	
1. Grass 1 2. Grass 2	1m diam.)	10 10		Y FAC* Y FAC*	FAC species FACU species UPL species Column totals	(A) ndex = B / A =	x 4 = x 5 =	
 Grass 1 Grass 2 Epilobium sp. 	,	10 10 10		Y FAC* Y FAC* Y FAC*	FAC species FACU species UPL species Column totals Prevalence I	ndex = B / A =	x 4 = x 5 = (B)	
 Grass 1 Grass 2 Epilobium sp. Equisetum teln 	,	10 10		Y FAC* Y FAC*	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V	ndex = B / A =	x 4 = x 5 = (B)	
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5.	,	10 10 10		Y FAC* Y FAC* Y FAC*	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance	ndex = B / A = egetation Indic test is > 50%	x 4 = x 5 = (B)	
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5.	,	10 10 10		Y FAC* Y FAC* Y FAC*	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence	ndex = B / A = egetation Indic test is > 50% test is \leq 3.0 *	x 4 = x 5 = (B)	
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5. 6.	,	10 10 10		Y FAC* Y FAC* Y FAC*	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi	ndex = B / A = egetation Indic test is > 50% test is \leq 3.0 *	x 4 = x 5 = (B)	9
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5. 6. 7.	,	10 10 10		Y FAC* Y FAC* Y FAC*	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem	ndex = B / A = egetation Indicates is $> 50\%$ test is ≤ 3.0 * cal Adaptations * arks or on a sepa	x 4 = x 5 = (B)	9
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5. 6. 7. 8. 9.	,	10 10 10		Y FAC* Y FAC* Y FAC*	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plant	x 4 = x 5 = (B) cators (provide supporting rate sheet) s *	9
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5. 6. 7. 8. 9.	,	10 10 10		Y FAC* Y FAC* Y FAC*	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plant	x 4 = x 5 = (B)	g
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5. 6. 7. 8. 9.	,	10 10 10		Y FAC* Y FAC* Y FAC* N FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problematic * Indicators of hydroges	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plants c Hydrophytic Veg dric soil and wetlan	x 4 = x 5 = (B) cators (provide supporting rate sheet) s * getation * (explain)	
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5. 6. 7. 8. 9.	nateia	10 10 10 Trace	- · · · · · · · · · · · · · · · · · · ·	Y FAC* Y FAC* Y FAC* N FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plants c Hydrophytic Veg dric soil and wetlan	x 4 = x 5 = (B) cators (provide supporting rate sheet) s * getation * (explain)	
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5. 6. 7. 8. 9. 10.	nateia lot size:	10 10 10 Trace	= Total C	Y FAC* Y FAC* Y FAC* N FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problematic * Indicators of hydroges	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plants c Hydrophytic Veg dric soil and wetlan	x 4 = x 5 = (B) cators (provide supporting rate sheet) s * getation * (explain)	
1.	nateia lot size:	10 10 10 Trace	= Total C	Y FAC* Y FAC* Y FAC* N FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problematic * Indicators of hydresent, unless di	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plants c Hydrophytic Veg tric soil and wetlar sturbed or probler	x 4 = x 5 = (B) cators (provide supporting rate sheet) s * getation * (explain) and hydrology must matic	be
1.	nateia lot size:	10 10 10 Trace	= Total C	Y FAC* Y FAC* Y FAC* N FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problematic * Indicators of hydroges	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plants c Hydrophytic Veg tric soil and wetlar sturbed or probler	x 4 = x 5 = (B) cators (provide supporting rate sheet) s * getation * (explain)	be
1.	nateia lot size:	10 10 10 Trace	= Total C	Y FAC* Y FAC* Y FAC* N FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problematic * Indicators of hydresent, unless di	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plants c Hydrophytic Veg tric soil and wetlar sturbed or probler	x 4 = x 5 = (B) cators (provide supporting rate sheet) s * getation * (explain) and hydrology must matic	be
1.	nateia lot size:)	10 10 10 Trace	= Total C	Y FAC* Y FAC* Y FAC* N FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problematic * Indicators of hydresent, unless di	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plants c Hydrophytic Veg tric soil and wetlar sturbed or probler	x 4 = x 5 = (B) cators (provide supporting rate sheet) s * getation * (explain) and hydrology must matic	be
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (PI 1. Rubus armenia 2.	nateia lot size:) acus Stratum: 50 (mulch)	10 10 10 Trace	= Total C	Y FAC* Y FAC* Y FAC* N FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problematic * Indicators of hydresent, unless di	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plants c Hydrophytic Veg tric soil and wetlar sturbed or probler	x 4 = x 5 = (B) cators (provide supporting rate sheet) s * getation * (explain) and hydrology must matic	be
1. Grass 1 2. Grass 2 3. Epilobium sp. 4. Equisetum teln 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Pl 1. Rubus armenia 2.	nateia lot size:) acus Stratum: 50 (mulch)	10 10 10 Trace	= Total C	Y FAC* Y FAC* Y FAC* N FACW	FAC species FACU species UPL species Column totals Prevalence I Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problematic * Indicators of hydresent, unless di	ndex = B / A = egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * arks or on a sepa on-Vascular Plants c Hydrophytic Veg tric soil and wetlar sturbed or probler	x 4 = x 5 = (B) cators (provide supporting rate sheet) s * getation * (explain) and hydrology must matic	be

SOIL Sampling Point - DP-46 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Color (moist) Remarks (inches) Color (moist) Type¹ Texture Loc2 С 0-12 2.5Y 3/1 7.5YR 4/6 50 М Loamy sand ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3 ☐ Histosol (A1) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: X Hydric soil present? Yes No Depth (inches): Remarks: 4 inches of mulch on surface **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Surface water (A1) П Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) ☐ High Water Table (A2) Drainage Patterns (B10) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) \boxtimes Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) \boxtimes Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) \boxtimes Algal Mat or Crust (B4) FAC-Neutral Test (D5) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) (B7)

Depth (in):

Depth (in):

Depth (in):

10-12 BGS

Field Observations
Surface Water Present?

Water Table Present?

(includes capillary fringe)

Saturation Present?

Yes \square

Yes

Yes 🗵

No ⊠

Nο

No \square

 \boxtimes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

BGS = below ground surface. Saturation visible at soil surface nearby.

No

Wetland Hydrology Present?



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DP- 47

B : (0)					0 " 0 "	0/00/0045		
Project Site:	Segment G2; Pa	ircel # 545330)0244		Sampling Date:	9/30/2015		
Applicant/Owner:	PSE				Sampling Point:	DP- 47		
Investigator:	R. Whitson, M. I	Foster			City/County:	Bellevue		
Sect., Township, Range:	S 09 T	24N R	05E		State:	WA		
Landform (hillslope, terrace,	etc): terrace			Slope (%): ~1	Local relief (conca	ve, convex, none):	none	
	0.0). 10.1100				,	vo, convex, none).		
Subregion (LRR): A				Lat:	Long:		Datum:	
Soil Map Unit Name: Ever	ett-Alderwood gr	avelly sandy	oam, 6-15%	√ slopes	NWI classification:	NA		
Are climatic/hydrologic cond				⊠ Yes □ No	(If no, explain in re	marks)		
Are "Normal Circumstances"	• • • • • • • • • • • • • • • • • • • •		•		(II 110, explain in re	marks.)		
	•			⊠ Yes □ No				
Are Vegetation□, Soil □, or		-						
Are Vegetation□, Soil □, or	r Hydrology 🗆 natura	lly problematic			(If needed, explain	any answers in Re	marks.)	
SUMMARY OF FINDING	3S – Attach site m	ap showing s	sampling po	oint locations, trai	nsects, important i	eatures, etc.		
Lludranhutia Varatatian Dras	nam#0	Yes 🛛	No 🗆					
Hydrophytic Vegetation Pres	sent?							
Hydric Soils Present?		Yes 🗵	No \square	Is the Sampling Po	oint within a Wetland	?Yes 🔀	no No	
Wetland Hydrology Present?	?	Yes 🖂	No 🗆			<u> </u>	Ŋ	ш
Remarks: Wetland	COROL in nit							
Remarks. Wetland	G2B01 in-pit							
VEGETATION – Use sc	ientific names of	plants.						
Tree Stratum (Plot size: 5m	diam)	Absolute	% Domina	ant Indicator	Dominance Te	et Workshoot		
Tree Stratum (Flot size. 5iii	ulaili.)	Cover	Specie		Dominance re	St Worksheet		
1.		Cover	Оресіе	is: Olalus	Number of Domin	ant Species		
					that are OBL, FA		2	(4)
2.								(A)
3.					Total Number of I		2	
4.					Species Across A	II Strata:	_	(B)
			= Total (Cover	Percent of Domin	ant Species	400	
					that are OBL, FA	CW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Pl	ot cize: 3m diam)							(A/D)
· · · · · · · · · · · · · · · · · · ·	ot size. om diam.)							
1.					Prevalence Inc			
2.					Total %	Cover of	<u>Multipl</u>	y by
3.					OBL species		x 1 =	
4.					FACW species		x 2 =	
5.		-			FAC species		x 3 =	-
			= Total (Cover				
					FACII species		V 4 -	
Herb Stratum (Plot size: 1m					FACU species		x 4 =	
	, diam \				UPL species	(4)	x 5 =	
						(A)		
1 Phalaris arundina		80		Y FACW	UPL species Column totals		x 5 =	
		80		Y FACW Y OBL	UPL species Column totals	(A)	x 5 =	
1 Phalaris arundina					UPL species Column totals		x 5 =	
1. Phalaris arundina 2. Typha latifolia					UPL species Column totals Prevalence	Index = B / A =	x 5 = (B)	
1. Phalaris arundina 2. Typha latifolia 3.					UPL species Column totals Prevalence Hydrophytic V	index = B / A =	x 5 = (B)	
1. Phalaris arundina 2. Typha latifolia 3. 4. 5.					UPL species Column totals Prevalence Hydrophytic V Dominance	ndex = B / A = egetation Indica test is > 50%	x 5 = (B)	
1. Phalaris arundina 2. Typha latifolia 3. 4. 5.					UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence	ndex = B / A = egetation Indica test is > 50% test is ≤ 3.0 *	x 5 = (B)	
1. Phalaris arundina 2. Typha latifolia 3. 4. 5.					UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (p	x 5 = (B)	ıg
1. Phalaris arundina 2. Typha latifolia 3. 4. 5.					UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi	ndex = B / A = egetation Indica test is > 50% test is ≤ 3.0 *	x 5 = (B)	ıg
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7.					UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (p	x 5 = (B) tors rovide supporting te sheet)	ng
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8.					UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morpholog data in rem Wetland No	egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (p arks or on a separa on-Vascular Plants *	x 5 = (B) tors rovide supporting te sheet)	
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9.					UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morpholog data in rem Wetland No	egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (p arks or on a separa	x 5 = (B) tors rovide supporting te sheet)	
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8.		30		Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morpholog data in rem Wetland No	egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (p arks or on a separa on-Vascular Plants * c Hydrophytic Veget	x 5 = (B) tors rovide supporting the sheet) tation * (explain))
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9.				Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland Ne Problemati * Indicators of hydrogeness	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separa on-Vascular Plants * c Hydrophytic Veget liric soil and wetland	x 5 = (B) tors rovide supporting te sheet) tation * (explain))
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9. 10.	acea	30		Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland Ne Problemati * Indicators of hydrogeness	egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (p arks or on a separa on-Vascular Plants * c Hydrophytic Veget	x 5 = (B) tors rovide supporting te sheet) tation * (explain))
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9.	acea	30		Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland Ne Problemati * Indicators of hydrogeness	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separa on-Vascular Plants * c Hydrophytic Veget liric soil and wetland	x 5 = (B) tors rovide supporting te sheet) tation * (explain))
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9. 10.	acea	30		Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland Ne Problemati * Indicators of hydrogeness	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separa on-Vascular Plants * c Hydrophytic Veget liric soil and wetland	x 5 = (B) tors rovide supporting te sheet) tation * (explain))
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot	acea	30		Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morpholog data in rem Wetland N Problemati * Indicators of hydrogent, unless d	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separa on-Vascular Plants * c Hydrophytic Veget liric soil and wetland sturbed or problema	x 5 = (B) tors rovide supporting the sheet) tation * (explain) hydrology must attic	t be
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1.	acea	30	= Total (Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland Ne Problemati * Indicators of hydrogeness	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separa on-Vascular Plants * c Hydrophytic Veget dric soil and wetland sturbed or problema egetation	x 5 = (B) tors rovide supporting the sheet) tation * (explain) hydrology must attic)
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1.	acea	30		Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problemati * Indicators of hydresent, unless december 19 december 20 december	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separa on-Vascular Plants * c Hydrophytic Veget dric soil and wetland sturbed or problema egetation	x 5 = (B) tors rovide supporting the sheet) tation * (explain) hydrology must attic	t be
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1. 2.	size:)	30	= Total (Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problemati * Indicators of hydresent, unless december 19 december 20 december	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separa on-Vascular Plants * c Hydrophytic Veget dric soil and wetland sturbed or problema egetation	x 5 = (B) tors rovide supporting the sheet) tation * (explain) hydrology must attic	t be
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1. 2.	size:)	30	= Total (Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problemati * Indicators of hydresent, unless december 19 december 20 december	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separa on-Vascular Plants * c Hydrophytic Veget dric soil and wetland sturbed or problema egetation	x 5 = (B) tors rovide supporting the sheet) tation * (explain) hydrology must attic	t be
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1. 2.	size:)	30	= Total (Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problemati * Indicators of hydresent, unless december 19 december 20 december	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separa on-Vascular Plants * c Hydrophytic Veget dric soil and wetland sturbed or problema egetation	x 5 = (B) tors rovide supporting the sheet) tation * (explain) hydrology must attic	t be
1. Phalaris arundina 2. Typha latifolia 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot 1. 2.	size:)	30	= Total (Y OBL	UPL species Column totals Prevalence Hydrophytic V Dominance Prevalence Morphologi data in rem Wetland No Problemati * Indicators of hydresent, unless december 19 december 20 december	Index = B / A = egetation Indica test is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separa on-Vascular Plants * c Hydrophytic Veget dric soil and wetland sturbed or problema egetation	x 5 = (B) tors rovide supporting the sheet) tation * (explain) hydrology must attic	t be

SOIL Sampling Point – DP-47

Depth	iption: (Describe to the of Matrix	•	1	Redox Fea			<u>·</u>	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 3/1	90	10YR 3/6	10	С	PL	Loam with org matter	Org root matter; greasy
4-14	10YR 3/1	80	7.5YR 4/6	20	С	PL	Silty loam	Slight H₂S odor
Hydric Soil In Histosol (/ Histic Epip Black Hist Hydrogen Depleted I Thick Darl Sandy Mu Sandy Gle Restrictive Lat	pedon (A2) ic (A3)	all LRRs, u	nless otherwise noted, andy Redox (S5) btripped Matrix (S6) oamy Mucky Mineral (F1 oamy Gleyed Matrix (F2) depleted Matrix (F3) dedox Dark Surface (F6) depleted Dark Surface (F6) depleted Dark Surface (F8))) (except MLI	Indicat 2c Re Re 1) Ot 3 Indicate be pres	m Muck (A10 ed Parent Ma her (explain i utors of hydro	olematic Hydric Soils ³ b) terial (TF2)	nd hydrology mus
Primary India □ Surface w ⊠ High Wat ⊠ Saturation □ Water Ma □ Sediment □ Drift Depo	rology Indicators: cators (minimum of one revater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) or Crust (B4)	S S V S S S S S S S S S S S S S S S S S	ck all that apply): parsely Vegetated Conce /ater-Stained Leaves (ex alt Crust (B11) quatic Invertebrates (B13 ydrogen Sulfide Odor (C ixidized Rhizospheres ald resence of Reduced Iron ecent Iron Reduction in 1 tunted or Stressed Plants	cept MLRA 1 3) 1) ong Living Roc (C4) Filled Soils (C6	ots (C3)	☐ Wai	r Indicators (2 or more requirer-Stained Leaves (B9) (Minage Patterns (B10) -Season Water Table (C2) uration Visible on Aerial Imagement (D2) allow Aquitard (D3) C-Neutral Test (D5) seed Ant Mounds (D6) (LRR	LRÅ 1, 2, 4A & 4l agery (C9)
	n Visible on Aerial Imager		other (explain in remarks)	` ' ')	☐ Fros	st-Heave Hummocks	,
Surface S Inundatio (B7) Field Observa Surface Water Water Table P Saturation Pre (includes capil	ations r Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present?	No E	Ther (explain in remarks) Depth (in): Depth (in): Depth (in):	10" BGS surface	Wetland Hyd			No



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DP- 48

5						2/22/22/2			
Project Site:	Segment G2; Pa	rcel # 54533	00244		Sampling Date:	9/30/2015			
Applicant/Owner:	PSE				Sampling Point:	DP- 48			
Investigator:	R. Whitson, M. F	oster			City/County:	Bellevue			
Sect., Township, Range:	S 09 T	24N R	05E		State:	WA			
Landform (hillslope, terrace	e, etc): terrace			Slope (%): <1	Local relief (concar	ve, convex, none	e): none		
Subregion (LRR): A	•			Lat:	Long:		Datum:		
				Lat.			Datum.		
Soil Map Unit Name: urb					NWI classification:	NA			
Are climatic/hydrologic con-	ditions on the site typic	al for this time	of year?	⊠ Yes □ No	(If no, explain in re	marks.)			
Are "Normal Circumstances	s" present on the site?			⊠ Yes □ No					
Are Vegetation□, Soil □, o	r Hydrology □ signific:	antly disturbed	?						
Are Vegetation□, Soil □, o	, 0, 0	,			(If needed, explain	any answers in I	Remarks.)		
7110 Vogetation E, Coll E, C	7 Trydrology - Hataran	y problemate			1 '				
SUMMARY OF FINDIN	GS - Attach site m	ap showing	sampling po	oint locations, tran	sects, important f	eatures, etc.			
					•	•			
Hydrophytic Vegetation Pre	esent?	Yes 🗵	No □						
Hydric Soils Present?		Yes 🗌	No 🗵	Is the Sampling Po	int within a Wetland	? Yes		No	∇
Wetland Hydrology Present	1?	Yes	No 🖂	io ino campinig i c				110	
Trouding Tryanology Troop.	••	. 55							
Remarks: G2B01 C	Out-pit; adjacent to	aidowalk an	d atreat						
Remarks. G2B01 C	Jui-pii, aujaceiii io	Sidewalk all	u sireet						
		_							
VEGETATION – Use so	cientific names of p	olants.							
Tree Stratum (Plot size: 5r	n diam.)	Absolute	% Domina	ant Indicator	Dominance Te	st Worksheet			
-		Cover	Specie	s? Status					
1. Alnus rubra		30		Y FAC	Number of Domin		2		
2.					that are OBL, FAC	CW, or FAC:	2		(A)
3.					Total Number of D	Oominant	_		()
4.					Species Across A	l Strata:	3		(B)
		30	= Total	Cover	Percent of Domina	ant Species			(D)
				0010.	that are OBL, FAC		67		
					1.101 0.10 0.22, 1.710	—			(A/B)
Sapling/Shrub Stratum (P	riot size: 3m diam.)								
1.					Prevalence Inc	lex Worksheet	t		
2.					Total %	Cover of	<u>M</u>	ultiply b	<u>y</u>
3.					OBL species		x 1 =		
4.					FACW species		x 2 =		
5.					FAC species		x 3 =		
			= Total	Cover	FACU species		x 4 =		
					UPL species		x 5 =		
Herb Stratum (Plot size: 1)	m diam)				Column totals	(A)	(B)		
		100		Y FACW	Columnitotals	(^)	(6)		
	acea	100		T FACVV	- Duarralamaa I	malau D / A			
2.					Prevalence i	ndex = B / A =			
3.					11 1 1 1 1				
4.					Hydrophytic Vo		cators		
5.						test is > 50%			
6.		· <u></u>			☐ Prevalence	test is ≤ 3.0 *			
7.					Morphologi	cal Adaptations *	(provide supp	orting	
8.					☐ data in rem	arks or on a sepa	arate sheet)	-	
9.						n-Vascular Plan	•		
						: Hydrophytic Ve		alais)	
10.					☐ Problemation	nyuropriyuc ve	getation (exp	лапт)	
11.									
		100	= Total	Cover	* Indicators of hyd			must be	•
					present, unless di	sturbed or proble	ematic		
Woody Vine Stratum (Plot									
Rubus armeniac	eus	5		Y FACU					
2.					Hydrophytic V	egetation	V 🖂		
		5	= Total	Cover	Presen		Yes X	No	Ш
% Bare Ground in Herb Str	atum:								
	atuill.				ı				
Remarks:									
li .									

SOIL Sampling Point - DP-48 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) Type¹ Remarks (inches) Color (moist) Texture Sandy loam 100 0-10 10YR 3/2 Cobbles 10-14 10YR 4/2 100 **Gravelly sandy loam** Cobbles ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3 ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) ☐ Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): XHydric soil present? Yes No Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) Sparsely Vegetated Concave Surface (B8) ☐ Surface water (A1) П П Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) Drainage Patterns (B10) ☐ High Water Table (A2) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) (B7)Field Observations Surface Water Present? Depth (in): Yes \square No \boxtimes Water Table Present? Yes \boxtimes Depth (in): Nο \boxtimes Wetland Hydrology Present? Saturation Present? Depth (in): Yes \square No ⊠ (includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 49

Data : 1 O:1	O	705050000			0 D-1	40/44/005		
Project Site:	Segment I, Parcel #:	7856590000			Sampling Date:	10/14/205		
Applicant/Owner:	PSE				Sampling Point:	DP- 49		
Investigator:	R. Whitson, J. Palme				City/County:	Bellevue		
Sect., Township, Range:	S 16 T 24N	R 05E			State:	WA		
Landform (hillslope, terrace	, etc): Hillslope			Slope (%): 15	Local relief (concar	/e, convex, none):	none	
Subregion (LRR): A				Lat:	Long:		Datum:	
Soil Map Unit Name: Alde	erwood gravelly sandy l	loam, 8 to 1	5 perce	nt slopes	NWI classification:	NA		
Are climatic/hydrologic cond	ditions on the site typical for t	this time of vea	ar?	⊠ Yes □ No	(If no, explain in re	marks.)		
Are "Normal Circumstances	• • • • • • • • • • • • • • • • • • • •	, , , , , , , , , , , , , , , , , , , ,		⊠ Yes □ No		,		
	r Hydrology ☐ significantly o	disturbed?						
, ,	r Hydrology ☐ naturally prob				(If needed, explain	any answers in Re	marks.)	
SUMMARY OF FINDING	GS – Attach site map sh	nowing sam	pling po	oint locations, trans	sects, important f	eatures, etc.		
Hydrophytic Vegetation Pre	sent? Yes	⊠ No	. 🗆					
, , , ,			_			_	_	<u> </u>
Hydric Soils Present?	Yes			Is the Sampling Poi	nt within a Wetland	? Yes _	No	\boxtimes
Wetland Hydrology Present	? Yes	□ No						
5 /								
Remarks: Wetland	IB02. Out-pit. Some ga	rbage in the	vicinity	/.				
VEGETATION - Use so	eientific names of plants	s.						
Tree Stratum (Plot size: 5n	n diam.)	Absolute %	Domina	ant Indicator	Dominance Te	st Worksheet		
(e. e.ze. e	· diaiii)	Cover	Specie			ot Workshoot		
1. Betula pendula		40		Y FAC	Number of Domina		2	
2.					that are OBL, FAC	CW, or FAC:	2	(A)
3.					Total Number of D	ominant		_ ` '
4.					Species Across Al	l Strata:	2	(B)
		40	= Total (Cover	Percent of Domina	ant Species	400	_ ` ′
	_		-		that are OBL, FAC	CW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (P	lot size: 3m diam.)							_ ` ' '
1.					Prevalence Ind	ex Worksheet		
2.						Cover of	Multiply	√ by
3.					OBL species		x 1 =	<u>-</u> _
4.					FACW species		x 2 =	
5.					FAC species		x 3 =	
			= Total (Cover	FACU species		x 4 =	
	_		=		UPL species		x 5 =	
Herb Stratum (Plot size: 1r	n diam.)				Column totals	(A)	(B)	
1. Ranunculus repe	ens	95		Y FAC				
Unknown mowed	d grass	5		N FAC*	Prevalence I	ndex = B / A =		
3. Polygonum cusp	oidatum	Trace		N NL				
4.						egetation Indica	itors	
5.						test is > 50%		
6.					☐ Prevalence	test is ≤ 3.0 *		
7.					Morphologi	cal Adaptations * (p	provide supporting	g
8.					☐ data in remains.	arks or on a separa	ate sheet)	
9.					☐ Wetland No	n-Vascular Plants	*	
10.					☐ Problemation	: Hydrophytic Vege	tation * (explain)	
11.						<u> </u>		
		100	= Total (Cover	* Indicators of hyd	ric soil and wetland	d hydrology must	be
	_		=			sturbed or problem		
Woody Vine Stratum (Plot	size:)				4			
1.					1			
2.					Hydrophytic V		es 🕅 No	. \Box
	_		= Total (Cover	Presen	t? '	~ 🖂 🚾	- Ш
	_							
% Bare Ground in Herb Stra	atum:							
6 ,								
6 ,	FAC; NL = not listed				<u> </u>			

SOIL Sampling Point - DP-49 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix (inches) Color (moist) Color (moist) Type¹ Loc² Texture Remarks 10YR 3/2 100 Loam 0-6 6-14 10YR 4/2 97 10YR 4/6 3 С М Sandy loam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Other (explain in remarks) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Hydric soil present? X Yes No Depth (inches): Remarks: **HYDROLOGY**

Wetland Hydrology Indicators:				_	
Primary Indicators (minimum of one requir	ed: c	11 37	9		ndary Indicators (2 or more required):
☐ Surface water (A1)	Ш	Sparsely Vegetated Concave Surface (B8)			Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
☐ High Water Table (A2)		Water-Stained Leaves (except MLRA 1, 2,	4A & 4B) (B9)		Drainage Patterns (B10)
☐ Saturation (A3)		Salt Crust (B11)			Dry-Season Water Table (C2)
☐ Water Marks (B1)		Aquatic Invertebrates (B13)			Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		\boxtimes	Geomorphic Position (D2)
☐ Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots ((C3)		Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)			FAC-Neutral Test (D5)
☐ Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)			Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)	П	Stunted or Stressed Plants (D1) (LRR A)			Frost-Heave Hummocks
☐ Inundation Visible on Aerial Imagery (B7)		Other (explain in remarks)			
Field Observations					
Surface Water Present? Yes	No	□ Depth (in):			
Water Table Present? Yes □	No	□ Depth (in):	Wetland Hydrold	oav I	Present? Yes No 🔀
Saturation Present? Yes (includes capillary fringe)	No	□ Depth (in):		- 57	
Describe Recorded Data (stream gauge, m	onitor	ing well, aerial photos, previous inspections),	if available:		
Remarks:					



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DP- 50

			<u> </u>	
D : .0"			0 " 0 "	40/44/005
Project Site: Segment I, Parcel #: 78	356590000		Sampling Date:	10/14/205
Applicant/Owner: PSE			Sampling Point:	DP- 50
Investigator: R. Whitson, J. Palmer			City/County:	Bellevue
Sect., Township, Range: S 16 T 24N	R 05E		State:	WA
Landform (hillslope, terrace, etc): Depression		Slope (%): 3	Local relief (concave	e, convex, none): concave
Subregion (LRR): A		Lat:	Long:	Datum:
Soil Map Unit Name: Alderwood gravelly sandy lo	am 8 to 15 percer	nt slones	NWI classification: I	าล
Are climatic/hydrologic conditions on the site typical for thi		Yes \(\sigma\) No		
	•		(If no, explain in rem	aiks.)
Are "Normal Circumstances" present on the site?		☑ Yes □ No		
Are Vegetation□, Soil □, or Hydrology □ significantly dis			(If needed, explain a	ny answers in Remarks.)
Are Vegetation□, Soil □, or Hydrology □ naturally proble	matic		(II riccaca, explain a	any answers in Remarks.
SUMMARY OF FINDINGS - Attach site map sho	wing sampling po	int locations, trans	sects, important fe	atures, etc.
		,	, p	
Hydrophytic Vegetation Present? Yes	\boxtimes No \square			
Hydric Soils Present? Yes	$oxed{\boxtimes}$ No $oxed{\square}$	Is the Sampling Poi	nt within a Wetland?	Yes 🕅 No 🗍
Wetland Hydrology Present? Yes	⊠ No □			
, 0,				
Remarks: Wetland IB02. inpit.				
VEGETATION – Use scientific names of plants.				
Tree Stratum (Plot size: 5m diam.)	bsolute % Domina	ant Indicator	Dominance Test	Workshoot
	over Species		Dominance resi	Worksheet
1.			Number of Dominar	nt Species
2.			that are OBL, FACV	V, or FAC: 3
3.			Total Number of Do	minant
4.			Species Across All	Strata: 3
	= Total C	Cover	Percent of Dominan	nt Species
			that are OBL, FACV	
Sapling/Shrub Stratum (Plot size: 3m diam.)				(A/b
, , , , , , , , , , , , , , , , , , , ,			Duamalanaa luula	v Mantala a s
1.			Prevalence Inde	
2.			Total % C	
3.			OBL species FACW species	x 1 = x 2 =
4.			·	
5.	= Total C	ovor	FACIL anguing	x 3 =
		50461	FACU species UPL species	x 4 = x 5 =
Harb Stratum (Diet size: 1m diem.)				
Herb Stratum (Plot size: 1m diam.)		Y 540	Column totals	(A) (B)
1. Ranunculus repens		Y FAC Y FACW	Dan Jalaman In	day D / A
2. Unknown mowed grass			Prevalence In	dex = B / A =
3. Phalaris arundinacea	40	Y FAC	Hardward atta Mar	notetten keilenten
4.				getation Indicators
5.				
6.			☐ Prevalence te	
7.			Morphologica	al Adaptations * (provide supporting
8.				ks or on a separate sheet)
0.			☐ data in remar	no or a separate sricery
9.				-Vascular Plants *
			☐ Wetland Non	' '
9.			☐ Wetland Non	-Vascular Plants *
9. 10.	150 = Total C	Cover	☐ Wetland Non ☐ Problematic I	-Vascular Plants *
9. 10.	150 = Total C	Cover	☐ Wetland Non ☐ Problematic I * Indicators of hydric	-Vascular Plants *
9. 10.	150 = Total C	Cover	☐ Wetland Non ☐ Problematic I * Indicators of hydric	-Vascular Plants * Hydrophytic Vegetation * (explain)
9. 10. 11.	150 = Total C	Cover	☐ Wetland Non ☐ Problematic I * Indicators of hydric	-Vascular Plants * Hydrophytic Vegetation * (explain)
9. 10. 11. Woody Vine Stratum (Plot size:)	150 = Total C	Cover	☐ Wetland Non ☐ Problematic I * Indicators of hydric present, unless dist	-Vascular Plants * -Hydrophytic Vegetation * (explain) c soil and wetland hydrology must be urbed or problematic
9. 10. 11. Woody Vine Stratum (Plot size:) 1.	150 = Total C		☐ Wetland Non ☐ Problematic I * Indicators of hydric	-Vascular Plants * Hydrophytic Vegetation * (explain) c soil and wetland hydrology must be urbed or problematic
9. 10. 11. Woody Vine Stratum (Plot size:) 1.			☐ Wetland Non ☐ Problematic I * Indicators of hydric present, unless districted. Hydrophytic Vet	-Vascular Plants * Hydrophytic Vegetation * (explain) c soil and wetland hydrology must be urbed or problematic
9. 10. 11. Woody Vine Stratum (Plot size:) 1.			☐ Wetland Non ☐ Problematic I * Indicators of hydric present, unless districted. Hydrophytic Vet	-Vascular Plants * Hydrophytic Vegetation * (explain) c soil and wetland hydrology must be urbed or problematic
9. 10. 11. Woody Vine Stratum (Plot size:) 1. 2. % Bare Ground in Herb Stratum:	= Total C		☐ Wetland Non ☐ Problematic I * Indicators of hydric present, unless districted. Hydrophytic Vet	-Vascular Plants * Hydrophytic Vegetation * (explain) c soil and wetland hydrology must be urbed or problematic
9. 10. 11. Woody Vine Stratum (Plot size:) 1. 2.	= Total C		☐ Wetland Non ☐ Problematic I * Indicators of hydric present, unless districted. Hydrophytic Vet	-Vascular Plants * Hydrophytic Vegetation * (explain) c soil and wetland hydrology must be urbed or problematic

SOIL Sampling Point - DP-50 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features (inches) Color (moist) Color (moist) Type¹ Texture Remarks 10YR 2/1 100 Silty loam 0-6 Sandy loam with 6-12 10YR 3/1 95 10YR 4/6 5 С М large gravel ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Black Histic (A3) Other (explain in remarks) ☐ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) \boxtimes Redox Dark Surface (F6) be present, unless disturbed or problematic Depleted Dark Surface (F7) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8)

Soil is so saturated that some of the redox may be obscured. Top layer very dark and also saturated. It may also have redox.

Hydric soil present?

 \boxtimes

No

Yes

HYDROLOGY

Type:

Depth (inches):

Remarks:

Restrictive Layer (if present):

Wetland Hydrology Indicat													
Primary Indicators (minimus	m of o	ne requi	red: ch	neck all	that apply):			Seco	ndary Indicators (2			,	
☐ Surface water (A1)				Spars	ely Vegetated C	oncave Surface	(B8)		Water-Stained L	.eav	es (B9) (MLR A	1, 2, 4	A & 4B)
☐ High Water Table (A2)				Water	r-Stained Leaves	(except MLRA	1, 2, 4A & 4B) (B9)		Drainage Patter	ns (E	B10)		
☐ Saturation (A3)				Salt C	Crust (B11)				Dry-Season Wa	ter T	Table (C2)		
☐ Water Marks (B1)				Aquat	tic Invertebrates	(B13)			Saturation Visib	le or	n Aerial Imagei	ry (C9)	
☐ Sediment Deposits (B2)				Hydro	gen Sulfide Odo	r (C1)			Geomorphic Pos	sitio	n (D2)		
☐ Drift Deposits (B3)				Oxidiz	zed Rhizosphere	s along Living R	Roots (C3)		Shallow Aquitare	d (D	3)		
☐ Algal Mat or Crust (B4)				Prese	nce of Reduced	Iron (C4)			FAC-Neutral Te	st (D	05)		
☐ Iron Deposits (B5)				Recer	nt Iron Reduction	in Tilled Soils (C6)		Raised Ant Mou	nds	(D6) (LRR A)		
☐ Surface Soil Cracks (B6	5)			Stunte	ed or Stressed P	lants (D1) (LRR	A)		Frost-Heave Hu	mmo	ocks		
Inundation Visible on Ae (B7)	erial In	nagery		Other	(explain in rema	rks)	,						
Field Observations													
Surface Water Present?	Yes		No	\boxtimes	Depth (in):								
Water Table Present?	Yes	\boxtimes	No		Depth (in):	5	Wetland Hydro	ology	Present?	'es	\boxtimes	No	
Saturation Present? (includes capillary fringe)	Yes		No		Depth (in):	surface					, , ,		_
Describe Recorded Data (str	ream g	jauge, m	onitori	ing well	l, aerial photos, p	orevious inspect	ions), if available:						
Remarks:													



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DP- 51

						<u> </u>			
Danis at Oite	O	" 40040F0000				0 D-1	40/00/0045		
Project Site:	Segment I, Parcel #	#: 1624U59U23				Sampling Date:	10/23/2015		
Applicant/Owner:	PSE					Sampling Point:	DP- 51		
Investigator:	R. Whitson, J. Palm					City/County:	Bellevue		
Sect., Township, Range:		4N R 05E				State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): >20	Local relief (concar	ve, convex, none): I	none	
Subregion (LRR): A				Lat:		Long:		Datum:	
			0 / 15					Datam.	
Soil Map Unit Name: AgC		-			siopes	NWI classification:	NA		
Are climatic/hydrologic condi	tions on the site typical for	or this time of yea	ar? [⊠ Yes	☐ No	(If no, explain in re	marks.)		
Are "Normal Circumstances"	present on the site?			⊠ Yes	☐ No				
Are Vegetation□, Soil □, or	Hydrology ☐ significantl	ly disturbed?							
Are Vegetation□, Soil □, or						(If needed, explain	any answers in Rem	narks.)	
, , , , , , , , , , , , , , , , , , , ,	7**************************************								
SUMMARY OF FINDING	S - Attach site map	showing sam	pling po	oint loca	ations, trans	ects, important f	eatures, etc.		
		. 🖂							
Hydrophytic Vegetation Pres	ent? Y	∕es 🏻 No							
Hydric Soils Present?	Y	′es ⊠ No) [Is the S	Sampling Poir	nt within a Wetland	? Yes □	N.	
Wetland Hydrology Present?	Υ	res □ No			,				
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									
Remarks: IB03 Out	nit								
nomano. IBOS Out	<i>,</i> ,,,								
V505TATION II									•
VEGETATION – Use sci	entific names of plai	nts.							
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant	Indicator	Dominance Te	st Worksheet		
		Cover	Specie	s?	Status				
1.						Number of Domin		2	
2.						that are OBL, FAC	CW, or FAC:	2	(A)
3.						Total Number of D	Dominant		` ′
4.						Species Across A	Il Strata:	3	(B)
			= Total	Cover		Percent of Domina	ant Species		(5)
			-			that are OBL, FAC		67	(4.5)
6	. t -!					,			(A/B)
Sapling/Shrub Stratum (Plo	it size: 3m diam.)								
1. Salix lasiandra		30		Υ	FAC	Prevalence Inc	lex Worksheet		
2.						Total %	Cover of	<u>Multi</u>	ply by
3.						OBL species		x 1 =	
4.						FACW species		x 2 =	
5.						FAC species		x 3 =	
		30	= Total	Cover		FACU species		x 4 =	
			-			UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam)					Column totals	(A)	(B)	
1. Unknown meadow	,	95		Υ	FAC	Column totalo	(71)	(D)	
				N .	UPL	Dravalanca	ndov D / A		
		Trace				Prevalence	ndex = B / A =		
3. Ranunculus repe	15	Trace		N	FAC				
4.							egetation Indicate	ors	
5.							test is > 50%		
6.						☐ Prevalence	test is ≤ 3.0 *		
7.						Morphologi	cal Adaptations * (pro	ovide support	ting
8.							arks or on a separate		3
						┪	on-Vascular Plants *		
9.						┨ <u>╏</u>			`
10.						☐ Problemation	Hydrophytic Vegeta	ition ^ (explail	n)
11.									
	·	95	= Total	Cover			Iric soil and wetland I		st be
		_	_			present, unless di	sturbed or problemat	ic	
Woody Vine Stratum (Plot s	size: 3m diam.)								·
1. Rubus armeniacu	is	40		Υ	FACU				
2.						Hydrophytic V	egetation		—
		40	= Total	Cover		Presen		; <u>×</u>	No
			-						
0/ Dave Creus die Hert Cr	bi ima i								
% Bare Ground in Herb Strat	.um:					<u>I</u>			
Remarks: *presumed	FAC								
_									

10-12 10-12 17ype: C=Concentration, Description of the property of the prop	Matrix (moist)	% 100	Color (moist)	Redox Feat		f indicators Loc ²	Texture	Remarks
(inches) Color (0-4 10YR 3/2 10YR 3/2 10YR 3/2 10YR 3/2 10YR 3/2 10-12 2.5Y 5/2 10-12 2.5Y 4/2 10-12 10-12 2.5Y 4/2 10-1	moist)	100	Color (moist)			Loc ²		Remarks
10YR 3/2 4-10 2.5Y 5/3 4-10 2.5Y 5/2 10-12 2.5Y 4/2 1Type: C=Concentration, Day Hydric Soil Indicators: (Application (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark S Thick Dark Surface (A1) Sandy Mucky Mineral (Sandy Mucky Mineral (Sandy Gleyed Matrix (Sandy Gley		100	Color (moist)	%	Type ¹	Loc ²		Remarks
4-10 2.5Y 5/3 4-10 2.5Y 5/2 10-12 2.5Y 4/2 1Type: C=Concentration, Daylor of the process o								
4-10 2.5Y 5/2 10-12 2.5Y 4/2 1Type: C=Concentration, Delegation of the present of the presen			I				Gravelly sandy loam	Moist, not saturated
10-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-13		49	10YR 4/4	2	С	М	Gravely sandy loam	Redox diffuse, moist not saturated
¹Type: C=Concentration, Date Hydric Soil Indicators: (A		49					Gravely sandy loam	
Hydric Soil Indicators: (A) Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark S Thick Dark Surface (A1 Sandy Mucky Mineral (Sandy Gleyed Matrix (Sandy G		99	10YR 4/6	1	С	М	Cemented silty sand	Moist, not saturated
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark S Thick Dark Surface (A1) Sandy Mucky Mineral (i) Sandy Gleyed Matrix (S Restrictive Layer (if present Type: Depth (inches): Remarks: YDROLOGY	=Depletion, R	M=Reduce	d Matrix, CS=Covered or	Coated Sand	Grains ² Loc: PL	=Pore Linin	g, M=Matrix	
Type:	surface (A11) 2) S1)	□ S □ L □ L □ D □ R	nless otherwise noted.) andy Redox (S5) tripped Matrix (S6) oamy Mucky Mineral (F1) oamy Gleyed Matrix (F2) epleted Matrix (F3) edox Dark Surface (F6) epleted Dark Surface (F7) edox Depressions (F8)	(except MLR	☐ 2cm ☐ Red ☐ A 1) ☐ Othe ☐	Muck (A10) Parent Mater (explain in	erial (TF2)	d hydrology must
Wetland Hydrology Indica Primary Indicators (minima Surface water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B Inundation Visible on A (B7) Field Observations Surface Water Present? Water Table Present?):				Hydric soil	present?	Yes 🔀	No
□ Surface water (A1) □ High Water Table (A2) □ Saturation (A3) □ Water Marks (B1) □ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B Inundation Visible on A (B7) Field Observations Surface Water Present? Water Table Present?	ators:							
☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B Inundation Visible on A (B7) Field Observations Surface Water Present? Water Table Present?	um of one req						Indicators (2 or more require	*
□ Saturation (A3) □ Water Marks (B1) □ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B Inundation Visible on A (B7) Field Observations Surface Water Present? Water Table Present?			parsely Vegetated Conca	•	*		er-Stained Leaves (B9) (ML	RA 1, 2, 4A & 4B
□ Water Marks (B1) □ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B Inundation Visible on A (B7) Field Observations Surface Water Present? Water Table Present?		□ W	ater-Stained Leaves (exc	cept MLRA 1,	2, 4A & 4B) (B9)	☐ Draii	nage Patterns (B10)	
□ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B Inundation Visible on A (B7) Field Observations Surface Water Present? Water Table Present?		☐ Sa	alt Crust (B11)			☐ Dry-	Season Water Table (C2)	
□ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B □ Inundation Visible on A (B7) Field Observations Surface Water Present? Water Table Present?		□ Ac	quatic Invertebrates (B13))		□ Satu	ıration Visible on Aerial Imaç	jery (C9)
☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B☐ Inundation Visible on A☐ (B7) Field Observations Surface Water Present? Water Table Present?	<u>?</u>)	□ H;	ydrogen Sulfide Odor (C1	1)		☐ Geo	morphic Position (D2)	
☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B☐ Inundation Visible on A☐ (B7) Field Observations Surface Water Present? Water Table Present?		□ 0	xidized Rhizospheres alo	ng Living Roo	ts (C3)	☐ Shal	llow Aquitard (D3)	
□ Surface Soil Cracks (B □ Inundation Visible on A (B7) Field Observations Surface Water Present? Water Table Present?)	☐ Pi	resence of Reduced Iron	(C4)		☐ FAC	-Neutral Test (D5)	
□ Surface Soil Cracks (B □ Inundation Visible on A (B7) Field Observations Surface Water Present? Water Table Present?		□ R	ecent Iron Reduction in T	illed Soils (C6)	☐ Rais	sed Ant Mounds (D6) (LRR A	A)
Inundation Visible on A (B7) Field Observations Surface Water Present? Water Table Present?	6)		tunted or Stressed Plants	`	,		t-Heave Hummocks	,
Surface Water Present? Water Table Present?	,	_	ther (explain in remarks)	,,,,,,				
Water Table Present?								
	Yes \square	No ⊠	Depth (in):					
O-4	Yes \square	No ⊠	Depth (in):		Wetland Hydro	logy Prese	nt? Yes	No 🔀
Saturation Present? (includes capillary fringe)	Yes \square	No 🗵	Depth (in):					[2]
Describe Recorded Data (s	tream gauge,	monitoring	well, aerial photos, previo	ous inspection	s), if available:			
Remarks: Steep slop						licators n	recent	
Groop siot	e with Ace	r macron	<i>hyllum</i> above. Well-d	irained no i	ivarologicai inc			



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DP- 52

li e					1			
Project Site:	Segment I, Parce	el #· 16240590:	23		Sampling Date:	10/23/2015		
Applicant/Owner:	PSE	CI W. 102-100502			Sampling Point:	DP- 52		
Investigator:	R. Whitson, J. P.	almor			City/County:	Bellevue		
Sect., Township, Range:	S 16 T	24N R 05	F		State:	WA		
Landform (hillslope, terrace,		2711 11 00	<u></u>	Slope (%): 10	Local relief (concav		nono	
	etc). Hillstope			,	,			
Subregion (LRR): A				Lat:	Long:		Datum:	
Soil Map Unit Name: Norr	na sandy loam				NWI classification:	NA		
Are climatic/hydrologic cond	litions on the site typic	al for this time of	/ear?	⊠ Yes □ No	(If no, explain in ren	narks.)		
Are "Normal Circumstances"	" present on the site?	·		⊠ Yes □ No		,		
Are Vegetation□, Soil □, or	•	antly disturbed?	•					
Are Vegetation□, Soil □, or	, 0, 0	,			(If needed, explain a	any answers in Ren	narks.)	
7tte vegetationi, con E, of	Trydrology - Hataran	y problematic			· · ·			
SUMMARY OF FINDING	3S – Attach site m	ap showing sa	mpling po	oint locations, trans	sects, important fe	eatures, etc.		
	10	Yes 🗵	No 🗆					
Hydrophytic Vegetation Pres	sent?		_					
Hydric Soils Present?		Yes 🗵	No 🗀	Is the Sampling Poi	nt within a Wetland?	Yes 🔀] No	
Wetland Hydrology Present	?	Yes 🗵	No 🗌	_			4	
Remarks: IB03 In-p	oit							
•								
VEGETATION - Use sc	ientific names of r	plants.						
Tree Stratum (Plot size: 5m	ı diam)	Absolute %	Domina	ant Indicator	Dominance Tes	t Workshoot		
Tree Stratum (Frot 3/26: 5/1)	r didiri.)	Cover	Specie		Dominance res	ot Worksheet		
1.			0,000.0		Number of Domina	nt Species		
2.					that are OBL, FAC	W, or FAC:	1	(A)
3.					Total Number of Do	ominant		(/ //
4.					Species Across All	Strata:	1	(B)
			= Total (Cover	Percent of Domina	nt Species		(D)
					that are OBL, FAC		100	(A /D)
Sapling/Shrub Stratum (PI	(ot cizo: 2m diam)					· —		(A/B)
<u>-</u>	ot size. om diam.)				 	14/ 1 1 /		
1.					Prevalence Inde			
2.					_	Cover of	<u>Multip</u>	DIV DV
3.					OBL species		x 1 =	
4.					FACW species		x 2 =	
5.			T-1-1	2	FAC species		x 3 =	
			= Total (over	FACU species		x 4 =	
					UPL species	(1)	x 5 =	
Herb Stratum (Plot size: 1n					Column totals	(A)	(B)	
Ranunculus repe	ns	90		Y FAC				
2. Juncus effusus		20		N FACW	Prevalence Ir	ndex = B / A =		
3. Convolvulus arve		Trace		N UPL				
4. Lotus corniculatu		Trace		N FAC	Hydrophytic Ve		ors	
Equisetum telma	teia	3		N FACW		test is > 50%		
6.					☐ Prevalence t	test is ≤ 3.0 *		
7.					Morphologic	al Adaptations * (pr	rovide supporti	ng
8.					☐ data in rema	irks or on a separat	e sheet)	-
9.					4	n-Vascular Plants *	•	
						Hydrophytic Vegeta	ation * (evolain	,)
10.					i iobiematic	Trydropriytic vegeta	ation (explain	')
11.		440	= Total (Cover	4			
		113	= 101a11	Jovei		ic soil and wetland turbed or problema		st be
Woody Vine Stratum (Plot	sizo: 2m diam \				present, unless dis	turbed or problema	illo	
,	Size. Sili diam.)				1			
1.					-			
2.					Hydrophytic Ve		s 🕅 ı	No \square
			= Total (Cover	Present			• Ш
% Bare Ground in Herb Stra	atum:							
Remarks:								

SOIL Sampling Point - DP-52 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix (inches) Color (moist) Color (moist) Type¹ Texture Remarks 10YR 3/2 100 Sandy loam 0-6 6-14 2.5Y 5/2 93 10YR 4/6 7 С M, PL Sandy loam With some clay ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³ ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Stripped Matrix (S6) ☐ Histic Epipedon (A2) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) ☐ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) ☐ Depleted Below Dark Surface (A11) \boxtimes Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic Depleted Dark Surface (F7) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Hydric soil present? \boxtimes П Yes No

Remarks: Large cobble in bottom layer. DP is near a French drain. Soils moist and not saturated.

HYDROLOGY

Depth (inches):

Wetland Hydrology Indicators: Primary Indicators (minimum of one require	ed: c	neck all that apply):	Secondary Indicators (2 or more required):
☐ Surface water (A1)		Sparsely Vegetated Concave Surface (B8)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)
☐ High Water Table (A2)	П	Water-Stained Leaves (except MLRA 1, 2, 4A 8	, , , , , , , , , , , , , , , , , , , ,
☐ Saturation (A3)		Salt Crust (B11)	□ Dry-Season Water Table (C2)
☐ Water Marks (B1)		Aquatic Invertebrates (B13)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)	☐ Geomorphic Position (D2)
☐ Drift Deposits (B3)	\boxtimes	Oxidized Rhizospheres along Living Roots (C3)	☐ Shallow Aquitard (D3)
☐ Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	FAC-Neutral Test (D5)
☐ Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)	Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)	П	Stunted or Stressed Plants (D1) (LRR A)	☐ Frost-Heave Hummocks
Inundation Visible on Aerial Imagery (B7)		Other (explain in remarks)	
Field Observations			
Surface Water Present? Yes □	No	□ Depth (in):	
Water Table Present? Yes □	No	□ Depth (in): Wet	land Hydrology Present? Yes X No
Saturation Present? Yes □	No	□ Depth (in):	and Tryal clogy (Toocht: Too 🔀 Tho
(includes capillary fringe)			
Describe Recorded Data (stream gauge, m	onitor	ing well, aerial photos, previous inspections), if av	ailable:



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DP- 53

							1			
Project Site:	Segment I, Parc	al #: 162	4050022	/Nown	ort UC)		Sampling Date:	10/23/2015		
Applicant/Owner:	PSE	CI π. 102	4033023	(14ewpc	Jit 113)		Sampling Point:			
	R. Whitson									
Investigator:		0.41	D 055				City/County:	Bellevue		
Sect., Township, Range:	S 16 T	24N	R 05E		1		State:	WA		
Landform (hillslope, terrace,	etc): Hillslope/ter	race			Slope	(%): 10	Local relief (conca	ve, convex, none): (Concave	
Subregion (LRR): A					Lat:		Long:	ı	Datum:	
Soil Map Unit Name: Urba	n land				I		NWI classification:	NA		
				_	<u> </u>					
Are climatic/hydrologic condi		al for this	time of yea		⊠ Yes	☐ No	(If no, explain in re	emarks.)		
Are "Normal Circumstances"	present on the site?				⊠ Yes	☐ No				
Are Vegetation□, Soil □, or	Hydrology ☐ signific	antly distu	ırbed?							
Are Vegetation□, Soil □, or	Hydrology \square natural	ly problem	natic				(If needed, explain	any answers in Rem	ıarks.)	
						_	_	_		
SUMMARY OF FINDING	S – Attach site m	ap show	∕ing sam	oling po	oint loc	ations, trans	sects, important f	eatures, etc.		
Lludraphytic Vacatation Drag	ant?	Vas	⊠ No							
Hydrophytic Vegetation Pres	ent?									
Hydric Soils Present?		Yes	⊠ No		Is the	Sampling Poi	nt within a Wetland	? Yes 🔀	No	
Wetland Hydrology Present?		Yes	No							
Remarks: Wetland	B04									
VECETATION LINE OF	antific names of	nlanta								
VEGETATION – Use sci	entific names of	Jiants.					T			
Tree Stratum (Plot size: 5m	diam.)		solute %	Domina		Indicator	Dominance Te	st Worksheet		
		Cov	/er	Specie	s?	Status	.			
1.							Number of Domin		1	
2.							that are OBL, FAC	*	-	(A)
3.							Total Number of [1	
4.							Species Across A	II Strata:	•	(B)
				= Total	Cover		Percent of Domina	ant Species		_ ` ′
		-					that are OBL, FAC	CW, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam)									_ (٨/٥)
	A GIZO: GITI diditi.)						Daniel I and a land	I \		
1.								dex Worksheet		
2.							_	Cover of	Multiply	<u>y by</u>
3.							OBL species		x 1 =	
4.							FACW species		x 2 =	
5.							FAC species		x 3 =	
				= Total	Cover		FACU species		x 4 =	
							UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)						Column totals	(A)	(B)	
1. Convolvulus arve	nsis	7	Trace		N	UPL				
2. Phalaris arundina			100		Υ	FACW	Prevalence	Index = B / A =		
3.							1			
4.							Hydronhytic V	egetation Indicate	ore	
5.								test is > 50%	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	
6.								e test is ≤ 3.0 *		
7.								cal Adaptations * (pro		g
8.							☐ data in rem	arks or on a separate	sheet)	
9.							☐ Wetland No	on-Vascular Plants *		
10.							☐ Problemation	c Hydrophytic Vegeta	tion * (explain)	
11.								,	(
11.			400	= Total	Covor		*			
			100	- Total	COVE			dric soil and wetland histurbed or problemat		be
Woods Vine Stretum (Diet	·i=•.						present, unless di	sturbed or problemat	10	
Woody Vine Stratum (Plot s							4			
1. Rubus armeniacu	<u>is</u>		3		N	FACU				
2.							Hydrophytic V		N N	
			3	= Total	Cover		Presen	nt?		۰ Ц
		-					1			
% Bare Ground in Herb Stra	tum:						1			
		utialler c		o off			•			
Rubus arme	eniacus rooted pa	rtially ot	at. Juncu	s errus	us nea	ruy.				
ii ee										

SOIL Sampling Point - DP-53 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) Texture (inches) Color (moist) Type¹ Remarks 100 With cobble 0-8 2.5Y 4/1 Gravelly silt ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3 ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) ☐ Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Hydric soil present? Yes Depth (inches): Remarks: Too wet to see redox. Swale feature densely vegetated with Phalaris arundinacea, Juncus effusus, and Typha spp. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply): Secondary Indicators (2 or more required): ☐ Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) ☐ Surface water (A1) П Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) High Water Table (A2) Drainage Patterns (B10) \boxtimes Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) \boxtimes FAC-Neutral Test (D5) Algal Mat or Crust (B4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) (B7)Field Observations Surface Water Present? Depth (in): Yes \square No \boxtimes Water Table Present? Yes 🗵 Depth (in): 1" BGS Nο Wetland Hydrology Present? No Saturation Present? Depth (in): Surface

(includes capillary fringe)

Yes 🗵

No \square

Seeping in at 1 inch. BGS = below ground surface

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

APPENDIX C

Wetland Rating Forms

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

				Date of	
Name of wetland (if known):	Wetland CB01			site visit:	6/1/2015
Rated by: Mike Foster	Trained by Ecology? Yes	s 🗵	No □ Date o	of Training	09/2014
SEC: 27 TWNSHP: 25N	RNGE: Is S/T	T/R in	Appendix D?	Yes [□ No ⊠
Category based on FUNC I □ II □ III ⊠	SUMMARY OF I				
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30	Sc	core for Score	Vater Quality Fure Hydrologic Fure for Habitat Fure for fure fure for fure fure for fure for fure fure for fure fure fure fure fure fure fure fur	inctions inctions	6 10 15 31
Category based on SPEC		STIC	S of wetlan	d	
$\mathbf{I} \square \mathbf{II} \square \mathbf{Does} \ \mathbf{n}$	ot Apply ⊠				
	y (choose the "highes	st" ca	tegory fron	n above)	III
Final Categor	ite type and class of wetland		g rated.		III
Final Categor Check the appropria	ate type and class of wetland	d being	g rated. Wetland Cla	ass	III
Final Categor Check the appropria We Estuarine	etland Type	d being Depres	g rated. Wetland Classional	ass	III
Final Categor Check the appropria We Estuarine Natural Heritag	etland Type	d being Depres	g rated. Wetland Classional ne	ass	III
Final Categor Check the appropria We Estuarine Natural Heritag Bog	etland Type	d being Depres Riveri Lake-f	g rated. Wetland Classional ne	ass	III
Final Categor Check the appropria We Estuarine Natural Heritag Bog Mature Forest	etland Type Be Wetland Be Wetland Be Wetland Be Wetland	d being Depres Riveri Lake-f Slope	g rated. Wetland Classional ne	ass	III
Final Categor Check the appropria We Estuarine Natural Heritag Bog	etland Type By Wetland By Service Wetland By Service Servic	d being Depres Riveri Lake-f Slope Flats	g rated. Wetland Classional ne	ass	III

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 □ YES − The wetland class is Slope

Wetland name or number: Wetland CB01

5.	Does the entire wetland unit meet an of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number: Wetland CB01

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland area	3
S	Total for S 1 Add the points in the boxes above	3
S	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland	(see p. 67)
	 □ Tilled fields, logging or orchards within 150 ft of wetland □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☑ Residential, urban areas, or golf courses are within 150 ft upslope of wetland □ Other	<u>2</u>
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	6

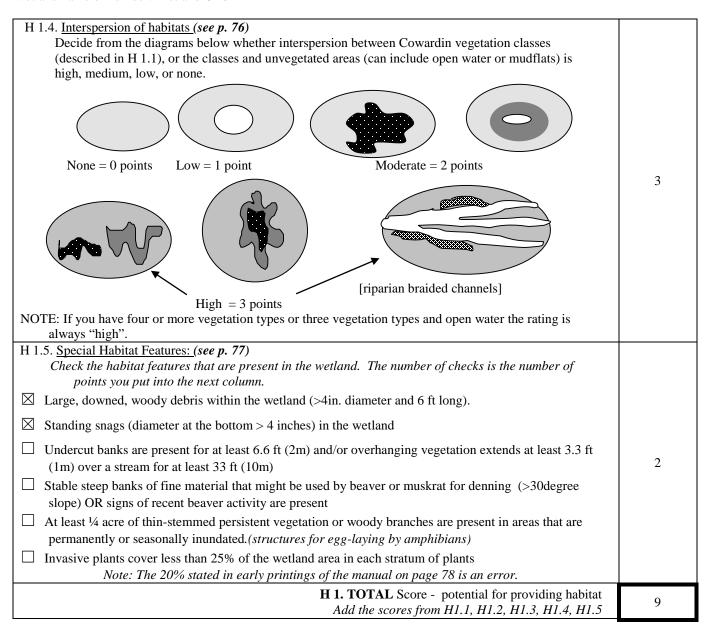
S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosic		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows)	3	
	Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0		
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2	
S	Total for S 3 Add the points in the boxes above	5	
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply.		
	Wetland has surface runoff that drains to a river or stream that has flooding problems*	multiplier	
	Other(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is	2	
	tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1		
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	10	

Comments

S 4 – *Presumably wetland drains to urban stream with flooding problems.

_	estions apply to wetlands of all HGM of FUNCTIONS - Indicators that wetland fun		
	he wetland have the <u>potential</u> to provide hal		
	tation structure (see p. 72)	oration many species.	
		d by Cowardin) if the class is ¼ acre or covers	
more t	han 10% of the area of the wetland if unit sma	iller than 2.5 acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30%	cover)	
\boxtimes	Forested (areas where trees have >30% cove	er)	2
	Forested areas have 3 out of 5 strata (canopy	y, sub-canopy, shrubs, herbaceous, moss/ground-	
	cover) that each cover 20% within the forest	ed polygon	
Add the n	umber of vegetation types that qualify. If you		
		4 structures or morepoints = 4	
		3 structurespoints = 2 2 structurespoints = 1	
		1 structurepoints = 0	
H 1.2. Hydr	operiods (see p. 73)	Y	
		nt within the wetland. The water regime has to	
cover moi	re than 10% of the wetland or $^{1}\!\!/\!\!4$ acre to count	. (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or ac	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)	nat cover at least 10 ft ² . (different patches of the	
	species can be combined to meet the size thre		
	ou do not have to name the species.		
D	o not include Eurasian milfoil, reed canarygro		
List and		> 19 speciespoints = 2	
List spec	cies below if you want to:	5 - 19 speciespoints = 1 < 5 speciespoints = 0	
		3 speciespoints = 0	1

Note: Only a portion of Wetland CB01 was investigated for this study. Aerial photographs and various online mapping applications were used to characterize off-site portions of the wetlands.



H 1.5 – Large downed wood and standing snags are presumed to exist in off-site portions of the wetlands.

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference	
☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference	2
☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference	2
If buffer does not meet any of the criteria above	
No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	0

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)	1
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	1
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points	
	ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
wetland within $\frac{1}{2}$ mile points = 3 There is at least 1 wetland within $\frac{1}{2}$ mile points = 2 There are no wetlands within $\frac{1}{2}$ mile points = 0	
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	6
TOTAL for H1 from page 14	9
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	15

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II Dual rating I/II
the size threshold of 1 acre. \[\subseteq \text{At least } \frac{3}{4} of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. \[\subseteq \text{The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the	
 "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
or, resp frequency, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon	Cat. I
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species 	Cat. II
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, 	
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. 	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
Name of wet	land (if known):	Wetland EB01			site visit:	5/29/2015
	. Crandall,			_		
Rated by: R	. Whitson	Trained by Ecology? You	es 🗵	No □ Date	of Training	09/2014
SEC: <u>27</u>	TWNSHP: 25N	RNGE: <u>05E</u> Is S/	T/R in	Appendix D?	Yes □	No 🗵
		SUMMARY OF	RAT	ING		
		TIONS provided by	wetla	and		
Ι□	$\Pi \square \Pi \boxtimes$	\mathbf{IV}				
	I C > 70					
1 -	$I = Score \ge 70$ $II = Score 51-69$			Vater Quality F		6
1 .	III = Score 30-50			or Hydrologic F		10
	IV = Score < 30		Sco	re for Habitat F	Gunctions	15
			TOT	AL score for f	unctions	31
Category ba I □		IAL CHARACTER ot Apply ⊠	ISTIC	CS of wetlar	nd	
	Final Categor	y (choose the "highe	est" ca	ntegory from	m above)	III
Ch	eck the appropria	te type and class of wetla	nd bein	g rated.		
		etland Type		Wetland C		
	Estuarine			essional		
	Natural Heritage	e Wetland	Riveri			
	Bog		Lake-	tringe		
	Mature Forest	<u></u>	Slope			
	Old Growth For	est \Box	Flats	, , , , , , , , , , , , , , , , , , , ,		
	Coastal Lagoon		F'resh'	water Tidal		
	Interdunal					I

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 □ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
	\square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)		
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0		
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0		
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland area	3		
S	Total for S 1 Add the points in the boxes above	3		
S	*			
	Untreated stormwater discharges to wetland	multiplier		
	Tilled fields, logging or orchards within 150 ft of wetland			
	 □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, or golf courses are within 150 ft upslope of wetland □ Other	2		
S	<u>TOTAL</u> - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	6		

S	Slope Wetlands	Points			
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream ero				
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)			
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms.				
	Choose the points appropriate for the description that best fit conditions in the wetland. (stems				
	of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during				
	surface flows)	3			
	Dense, uncut, rigid vegetation covers $> 90\%$ of the area of the wetlandpoints = 6				
	Dense, uncut, rigid vegetation $> 1/2$ area of wetlandpoints = 3				
	Dense, uncut, rigid vegetation > 1/4 areapoints = 1				
C	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0				
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of				
	its area.	2			
	YES points = 2	2			
	NO points = 0				
S	Total for S 3 Add the points in the boxes above	5			
S	S 4. Does the wetland have the opportunity to reduce flooding and erosion? (see p. 70)				
b	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect				
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i>				
	which of the following conditions apply.				
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier			
	☐ Other	2			
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is				
	tidal fringe along the sides of a dike)				
	YES multiplier is 2 NO multiplier is 1				
\mathbf{S}	S TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4				
	Add score to table on p. 1	10			

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	ne wetland have the <u>potential</u> to provide hab	pitat for many species?	
Check the	ation structure (see p. 72) types of vegetation classes present (as defined han 10% of the area of the wetland if unit sma Aquatic bed	d by Cowardin) if the class is ¼ acre or covers ller than 2.5 acres.	
	•		
	Emergent plants		
	Scrub/shrub (areas where shrubs have >30% Forested (areas where trees have >30% cove		2
	`	,	2
Add the n	cover) that each cover 20% within the forestoumber of vegetation types that qualify. If you	1 10	
	3 3 31 1 32 32	4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1 1 structurepoints = 0	
Check the	operiods (see p. 73) types of water regimes (hydroperiods) presen re than 10% of the wetland or ½ acre to count.	t within the wetland. The water regime has to (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or ac	ljacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same Yo D	species can be combined to meet the size thresou do not have to name the species. o not include Eurasian milfoil, reed canarygra		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	3
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	7

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	2
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wl	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
⊠ N	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	2
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	8
TOTAL for H1 from page 14	7
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	15

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of	
shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	
depressions with open water, or configuous freshwater wettands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)					
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.					
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I				
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes					
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$					
SC 3.0 Bogs (see p. 87)					
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.					
 Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 					
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 					
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I				
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I				

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)		
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of		
Upland Ownership or WBUO)?		
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating		
If you answer yes you will still need to rate the wetland based on its functions.		
In practical terms that means the following geographic areas:		
 Long Beach Peninsula – lands west of SR 103 		
 Grayland-Westport – lands west of SR 105 		
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 		
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre		
or larger?	Cat. II	
YES = Category II $NO - go to SC 6.2$		
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is		
between 0.1 and 1 acre?		
YES = Category III	Cat. III	
Category of wetland based on Special Characteristics		
Choose the "highest" rating if wetland falls into several categorie, and record on	NA	
p. 1 .		
If you answered NO for all types enter "Not Applicable" on p.1.		

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
Name of wet	aland (if known):	Wetland EB02			site visit:	6/3/2015
	. Crandall,		6 —3			
Rated by: N	I. Foster	Trained by Ecology? Y	es 🗵	No □ Date	of Training	09/2014
SEC: 34 TWNSHP: 25N RNGE: 05E Is S/T/R in Appendix D?				Yes [] No ⊠	
		SUMMARY OF	RAT	ING		
Category b	ased on FUNC	TIONS provided by	y wetl	and		
Ι□	II □ III ⊠	IV 🗆				
1 0 0	$I = Score \ge 70$	Sec	ore for V	Vater Quality F	unctions	6
1 .	II = Score 51-69		Score fo	or Hydrologic F	unctions	10
	III = Score 30-50 IV = Score < 30		Sco	re for Habitat F	unctions	16
Category	TV = Beole \ 30		TOT	AL score for f	unctions	32
Category b I □		IAL CHARACTER ot Apply ⊠	ISTI(CS of wetlar	nd	
	Final Category (choose the "highest" category from above)		III			
Ch		te type and class of wetla	nd beir			-
		etland Type	D	Wetland C		4
	Estuarine Natural Heritage	• Wotland		essional		
		e wettand	River			_
	Bog			fringe		
	Mature Forest				IXI	1
	014 C- 41 E		Slope			-
	Old Growth For	est \Box	Flats	4 TD* 1 1		
	Old Growth For Coastal Lagoon	est	Flats	water Tidal		- - -

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?
	\boxtimes NO – go to 4 \square YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 ■ YES − The wetland class is Slope

5.	5. Does the entire wetland unit meet all of the following criteria?	
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from	
	that stream or river.	
	☐ The overbank flooding occurs at least once every two years	
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not	
	flooding.	
	\square NO - go to 6 \square YES – The wetland class is Riverine	
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional	
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.	
	\square NO – go to 8 \square YES – The wetland class is Depressional	
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF	

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). $YES = 3$ points $NO = 0$ points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > ½ of areapoints = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of areapoints = 1 Does not meet any of the criteria above for vegetationpoints = 0	3
S	Total for S 1 Add the points in the boxes above	3
S	S 2. Does the wetland have the <u>opportunity</u> to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	(see p. 67)
	☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields, logging or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☐ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ☐ Other	multiplier 2
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	6

S	Slope Wetlands	Points			
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion				
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?				
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1	(see p. 68)			
	More than $1/4$ of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0				
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2			
S	Total for S 3 Add the points in the boxes above	5			
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i>	(see p. 70)			
	Wetland has surface runoff that drains to a river or stream that has flooding problems				
	Other: Golf course downslope (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)	2			
	YES multiplier is 2 NO multiplier is 1				
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	10			

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
H 1. Does the wetland have the potential to provide habitat for many species?			
	ation structure (see p. 72)		
	types of vegetation classes present (as defined nan 10% of the area of the wetland if unit smad	l by Cowardin) if the class is ½ acre or covers ller than 2.5 acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30%	cover)	
\boxtimes	Forested (areas where trees have >30% cover	r)	2
	Forested areas have 3 out of 5 strata (canopy,	, sub-canopy, shrubs, herbaceous, moss/ground-	
Add the ni	cover) that each cover 20% within the foresteen the cover of vegetation types that qualify. If you have		
raa me m	imber of regelation types that qualify. If your	4 structures or morepoints = 4	
		3 structurespoints = 2	
		2 structurespoints = 1	
H 1 2 Hydro	operiods (see p. 73)	1 structurepoints = 0	
Check the	types of water regimes (hydroperiods) present		
	the than 10% of the wetland or ¼ acre to count. Permanently flooded or inundated	4 or more types presentpoints = 3	
	•	3 types presentpoints = 2	
	Seasonally flooded or inundated	• • • • • • • • • • • • • • • • • • • •	
	Occasionally flooded or inundated	2 types presentpoints = 1	1
	Saturated only	1 types presentpoints = 0	
	Permanently flowing stream or river in, or ad		
	Seasonally flowing stream in, or adjacent to,	the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Count	the number of plant species in the wetland the species can be combined to meet the size thres	at cover at least 10 ft ² . (different patches of the	
	ou do not have to name the species.	mora)	
$D\epsilon$	o not include Eurasian milfoil, reed canarygra		
List spec		> 19 speciespoints = 2	
Lisi spec	cies below if you want to:	5 - 19 speciespoints = 1 < 5 speciespoints = 0	_
			2

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	3
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	1
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	9

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
\square 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
\square 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	1
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in bufferPoints = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby artends are addressed in question H2.4	
	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
wetland within ½ mile	
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	7
TOTAL for H1 from page 14	9
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	16

H 2.4 – No other wetlands mapped or observed.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to SC } 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)			
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.			
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □	Cat. I		
YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes			
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$			
SC 3.0 Bogs (see p. 87)			
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.			
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2			
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 			
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I		
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I		

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

			D	ate of	
Name of wetland (if known):	Wetland EB03		si	ite visit:	6/3/2015
K. Crandall, Rated by: M. Foster	Trained by Ecology? Y	es 🗵 N	No □ Date of	Training	09/2014
SEC: 34 TWNSHP: 25N	RNGE: <u>05E</u> Is S	T/R in A	appendix D?	Yes □	No 🗵
Category based on FUNC I □ II □ III ⋈	SUMMARY OF CTIONS provided by				
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30 Category IV = Score < 30 Category III = Score 30-50 Score for Hydrologic Functions Score for Habitat Functions TOTAL score for functions I □ II □ Does not Apply ⊠					
Final Categor	y (choose the "high	est" cat	egory from	above)	III
Check the appropriate type and class of wetland being rated.					
	etland Type	Donrocc	Wetland Clas		
Estuarine Natural Heritag	e Wetland	Depress Riverine			
Bog		Lake-fr			
Mature Forest		Slope			
Old Growth For	rest \Box	Flats			
			ater Tidal		
Interdunal		2.2.2.77			

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF

For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > ½ of area	6
S	Total for S 1 Add the points in the boxes above	6
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft	(see p. 67)
	 □ Untreated stormwater discharges to wetland □ Tilled fields, logging or orchards within 150 ft of wetland □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging 	multiplier 2
	Residential, urban areas, or golf courses are within 150 ft upslope of wetland Other YES multiplier is 2 NO multiplier is 1	
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	12

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream eros		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1	6	
	More than $1/4$ of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0		
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES Points = 2 NO points = 0	2	
S	Total for S 3 Add the points in the boxes above	8	
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i>	(see p. 70)	
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier	
	☐ Other:	2	
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1		
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	16	

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide hal	bitat for many species?	
Check the	han 10% of the area of the wetland if unit sma	d by Cowardin) if the class is ¼ acre or covers aller than 2.5 acres.	
	Aquatic bed		
	Emergent plants		
	Scrub/shrub (areas where shrubs have >30%		
	Forested (areas where trees have >30% cove		0
∟ Add the n	Forested areas have 3 out of 5 strata (canopy cover) that each cover 20% within the forest umber of vegetation types that qualify. If you		
		4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1 1 structurepoints = 0	
Check the	operiods (see p. 73) types of water regimes (hydroperiods) presen re than 10% of the wetland or ½ acre to count.	nt within the wetland. The water regime has to . (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or ac	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same Y D	species can be combined to meet the size thre ou do not have to name the species. To not include Eurasian milfoil, reed canarygra		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	
None = 0 points Low = 1 point Moderate = 2 points	
	0
[riparian braided channels]	
High $= 3$ points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is	
always "high".	
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.	
☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).	
☐ Standing snags (diameter at the bottom > 4 inches) in the wetland	
Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m)	0
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present	
At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants	
Note: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	2

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference	1
If buffer does not meet any of the criteria above	
 No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	0

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
XX71.	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Solve: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
W	etlands are addressed in question H2.4.	<u> </u>

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	3
lake-fringe wetlands within ½ milepoints = 5	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them	
are disturbedpoints = 3	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within $\frac{1}{2}$ milepoints = 3	
There is at least 1 wetland within $\frac{1}{2}$ milepoints = 2	
There are no wetlands within $\frac{1}{2}$ milepoints = 0	
H 2. TOTAL Score - opportunity for providing habitat	7
Add the scores from H2.1, H2.2, H2.3, H2.4	,
TOTAL for H1 from page 14	2
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	9

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a fSpartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of	
shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	
1,,	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
 Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	- 10 10 0 1 T
Name of wet	land (if known):	Wetland EB04			site visit:	6/3/2015
Rated by: K	. Crandall	Trained by Ecology? Y	es 🗵	No □ Date	of Training	09/2014
SEC: <u>34</u>	TWNSHP: 25N	RNGE: Is S	T/R in	Appendix D?	Yes □	No ⊠
		SUMMARY OF	RAT	ING		
Category ba I □	ased on FUNC II □ III ⊠	TIONS provided by IV □	wetl	and		
Category Category	I = Score ≥70 II = Score 51-69 III = Score 30-50 IV = Score < 30		Score fo Sco	Water Quality For Hydrologic For Habitat For Habitat For for for for for for for for for for f	Functions Functions	14 10 9 33
Category based on SPECIAL CHARACTERISTICS of wetland I □ II □ Does not Apply ⊠						
Final Category (choose the "highest" category from above)					III	
Check the appropriate type and class of wetland being rated.						
		etland Type		Wetland C		
	Estuarine			essional		_
	Natural Heritag	e Wetland \Box	River			 -
	Bog			fringe	<u>_</u>	-
	Mature Forest Old Growth For	uag t	Slope			1
		est \Box	Flats	water Tidal		_
	Coastal Lagoon		rresn	water Hual		
	Interdunal	П				1

None of the above

 \boxtimes

Check if unit has multiple

HGM classes present

 \times

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).
	\square NO – go to 5 \square YES – The wetland class is Slope

Wetland name or number: Wetland EB04

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\boxtimes NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i> NO – go to 7 YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \boxtimes NO – go to 8 \square YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
D	D 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 38)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet)	2
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES points = 4 NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed, vegetation $> = 95\%$ of area points $= 5$ Wetland has persistent, ungrazed, vegetation $> = 1/2$ of area points $= 3$ Wetland has persistent, ungrazed vegetation $> = 1/10$ of area points $= 1$ Wetland has persistent, ungrazed vegetation $< 1/10$ of area points $= 1$	5
D	D1.4 Characteristics of seasonal ponding or inundation. This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs. Area seasonally ponded is > ½ total area of wetland	0
D	Total for D 1 Add the points in the boxes above	7
D	D 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. □ Grazing in the wetland or within 150 ft □ Untreated stormwater discharges to wetland □ Tilled fields or orchards within 150 ft of wetland □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, golf courses are within 150 ft of wetland □ Wetland is fed by groundwater high in phosphorus or nitrogen □ Other YES multiply score in D 1. by 2 NO multiply score in D 1. by 1	multiplier
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	14

D	Depresssional and Flats Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream of	legradation
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)points = 4 Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditch	2
D	(If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 0 D 3.2 Depth of storage during wet periods	
	Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outletpoints = 7 The wetland is a "headwater" wetland"points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outletpoints = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outletpoints = 3 Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap waterpoints = 1 Marks of ponding less than 0.5 ftpoints = 0	0
D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit	3
D	1	(see p. 49)
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems	(see p. 49)
	_	multiplier
	Wetland drains to a river or stream that has flooding problems	
	Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems	<u>2</u>
	☐ Other	
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 **Add score to table on p. 1	10

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide h		
	tation structure (see p. 72)		
	e types of vegetation classes present (as defin than 10% of the area of the wetland if unit sn	the degree $\frac{1}{2}$ and $\frac{1}{2}$ and $\frac{1}{2}$ acre or covers and $\frac{1}{2}$ and $\frac{1}{2}$ acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
	Scrub/shrub (areas where shrubs have >30	% cover)	
	Forested (areas where trees have >30% co	ver)	0
	cover) that each cover 20% within the fore	1 10	
Add the n	number of vegetation types that qualify. If yo		
		4 structures or morepoints = 4 3 structurespoints = 2	
		2 structurespoints = 1	
		1 structurepoints = 0	
	roperiods (see p. 73)		
	re than 10% of the wetland or ½ acre to coul	ent within the wetland. The water regime has to nt. (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
\boxtimes	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent t	o, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)	that cover at least 10 ft ² . (different patches of the	
	e species can be combined to meet the size th		
	ou do not have to name the species.	,	
D	o not include Eurasian milfoil, reed canaryg		
List on a		> 19 speciespoints = 2	
List spe	ccies below if you want to:	5 - 19 speciespoints = 1 < 5 speciespoints = 0	
		S speciespoints = 0	1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	2

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
	1
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water for > 50% circumference	
_	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
\square Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
W	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
Δ	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
	vetlands are addressed in question H2.4.	

Wetland name or number: Wetland EB04

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
There are no wetlands within ½ milepoints = 0	
H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i>	7
TOTAL for H1 from page 14	2
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	9

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II Dual rating I/II
the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)	
S/T/R information from Appendix D ⊠ or accessed from WNHP/DNR web site □	Cat. I
YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?	
$YES = Category I \qquad \qquad NO \square \text{ Not a Heritage Wetland}$	
SC 3.0 Bogs (see p. 87) Does the westered (or any part of the unit) most both the criteria for sails and	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
\Box The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
YES = Category II $NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	NA
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Wetland EB05	Date of site visit: 6/3/2015		
Rated by: K. Crandall Trained by Ecology? Y	es ⊠ No □ Date of Training 09/2014		
SEC: <u>34</u> TWNSHP: <u>25N</u> RNGE: <u>05E</u> Is SA	T/R in Appendix D? Yes □ No ⊠		
SUMMARY OF	RATING		
Category based on FUNCTIONS provided by I \square II \square III \square IV \boxtimes	y wetland		
Cotogory II - Cooro 51 60	ore for Water Quality Functions Score for Hydrologic Functions Score for Habitat Functions 12 TOTAL score for functions 28		
Category based on SPECIAL CHARACTERISTICS of wetland I □ II □ Does not Apply ⊠			
Final Category (choose the "highe	est" category from above)		
Check the appropriate type and class of wetla	nd being rated.		
Wetland Type	Wetland Class		
	Depressional		
Natural Heritage Wetland	Riverine		
Bog	Lake-fringe		
Mature Forest	Slope 🖂		
Old Growth Forest	Flats		
Coastal Lagoon	Freshwater Tidal		
Interdunal			

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?
	\boxtimes NO – go to 4 \square YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 ■ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF

For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of areapoints = 1 Does not meet any of the criteria above for vegetationpoints = 0	3
S	Total for S 1 Add the points in the boxes above	3
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields, logging or orchards within 150 ft of wetland	(see p. 67) multiplier
	 A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☑ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ☐ Other	=
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	6

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream eros		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?		
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1	(see p. 68)	
S	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0 S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2	
S	Total for S 3 Add the points in the boxes above	5	
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply.		
	Wetland has surface runoff that drains to a river or stream that has flooding problems		
	☐ Other: (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1		
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	10	

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat				
	nd have the <u>potential</u> to provide hab	oitat for many species?		
more than 10% ☐ Aquati ☑ Emerg ☑ Scrub/	f vegetation classes present (as defined of the area of the wetland if unit small c bed ent plants shrub (areas where shrubs have >30%	cover)		
☐ Foresto cover)	ed (areas where trees have >30% covered areas have 3 out of 5 strata (canopy, that each cover 20% within the forestef vegetation types that qualify. If you h	, sub-canopy, shrubs, herbaceous, moss/ground- ed polygon	1	
cover more than I Perma Season Socasi Satura Perma Season Lake-j	f water regimes (hydroperiods) present		2	
Count the nui same species You do no Do not ind	can be combined to meet the size thres ot have to name the species. clude Eurasian milfoil, reed canarygra	at cover at least 10 ft ² . (different patches of the shold) ass, purple loosestrife, Canadian thistle > 19 speciespoints = 2 5 - 19 speciespoints = 1 < 5 speciespoints = 0	1	

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	5

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference	1
If buffer does not meet any of the criteria above	
No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	0

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
Wł	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species	
	of native fish and wildlife (full description in WDFW PHS report p. 152)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)	3
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	3
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
W	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	7
TOTAL for H1 from page 14	5
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	12

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC \text{ 1.1} \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □ YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO □ Not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87)	
 Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions. 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes - Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

	Date of		
Name of wetland (if known): Wetland EB06	site visit: 6/3/2015		
Rated by: K. Crandall Trained by Ecology?	Yes ⊠ No □ Date of Training 09/2014		
SEC: 34 TWNSHP: 25N RNGE: 05E I	As S/T/R in Appendix D? Yes \square No \boxtimes		
SUMMARY OF RATING Category based on FUNCTIONS provided by wetland I □ II □ III ⋈ IV □ Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30 Category IV = Score < 30 Category IV = Score < 30 Category IV = Score < 30 Category IV = Score < 30 Category IV = Score < 30 Category IV = Score < 30 Category IV = Score < 30 Category based on SPECIAL CHARACTERISTICS of wetland I □ II □ Does not Apply ⋈			
Final Category (choose the "high	ghest" category from above) III		
Check the appropriate type and class of w	etland being rated. Wetland Class		
Estuarine	□ Depressional □		
Natural Heritage Wetland	☐ Riverine ☐		
Bog	☐ Lake-fringe ☐		
Mature Forest			
Old Growth Forest	_		
	□ Flats □		
Coastal Lagoon	☐ Freshwater Tidal ☐		

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 □ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	\square The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high
	groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
	\square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points	
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
S	S 1. Does the wetland have the potential to improve water quality?	(see p. 64)	
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0	
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0	
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland area	6	
S	Total for S 1 Add the points in the boxes above	6	
S	1		
	 □ Untreated stormwater discharges to wetland □ Tilled fields, logging or orchards within 150 ft of wetland □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, or golf courses are within 150 ft upslope of wetland □ Other: YES multiplier is 2 NO multiplier is 1 	multiplier 2	
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	12	

S	Slope Wetlands	Points				
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosi					
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?					
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1					
S	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0 S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2				
S	Total for S 3 Add the points in the boxes above	8				
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. Wetland has surface runoff that drains to a river or stream that has flooding problems					
	Other: (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1					
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	16				

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat				
H 1. Does the wetland have the <u>potential</u> to provide habitat for many species?				
Check the	tation structure (see p. 72) It types of vegetation classes present (as defined han 10% of the area of the wetland if unit smatched) Aquatic bed Emergent plants	d by Cowardin) if the class is ¼ acre or covers aller than 2.5 acres.		
\boxtimes	Scrub/shrub (areas where shrubs have >30%	cover)		
	Forested (areas where trees have >30% cove	er)	1	
Add the n	Forested areas have 3 out of 5 strata (canopy cover) that each cover 20% within the forest umber of vegetation types that qualify. If you a	have: 4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1		
II 1 2 IIl.		1 structurepoints = 0		
Check the	operiods (see p. 73) types of water regimes (hydroperiods) presen re than 10% of the wetland or ¼ acre to count.	nt within the wetland. The water regime has to . (see text for descriptions of hydroperiods)		
	Permanently flooded or inundated	4 or more types presentpoints = 3		
	Seasonally flooded or inundated	3 types presentpoints = 2		
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1	
\boxtimes	Saturated only	1 types presentpoints = 0	1	
	Permanently flowing stream or river in, or ac	djacent to, the wetland		
	Seasonally flowing stream in, or adjacent to,	the wetland		
	Lake-fringe wetland = 2 points			
	Freshwater tidal wetland = 2 points			
Cour same Y D	species can be combined to meet the size thre ou do not have to name the species. o not include Eurasian milfoil, reed canarygra		1	

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	4

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
	1
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference	
open water for > 50% circumference	
<u> </u>	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
\square	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Yote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints =	5
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	_ 3
lake-fringe wetlands within ½ milepoints =	5
There are at least 3 other wetlands within ½ mile, BUT the connections between them	
are disturbedpoints =	3
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within ½ milepoints =	3
There is at least 1 wetland within ½ milepoints =	2
There are no wetlands within ½ milepoints =	0
H 2. TOTAL Score - opportunity for providing habita	at 7
Add the scores from H2.1, H2.2, H2.3, H2.	.4
TOTAL for H1 from page 1	4 4
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p.	1 11

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a fSpartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of	
shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	
1	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □ YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO □ Not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87)	
 Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions. 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes - Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES − Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	

SC 6.0 Interdunal Wetlands (see p. 93)			
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of			
Upland Ownership or WBUO)?			
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating			
If you answer yes you will still need to rate the wetland based on its functions.			
In practical terms that means the following geographic areas:			
 Long Beach Peninsula – lands west of SR 103 			
 Grayland-Westport – lands west of SR 105 			
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 			
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre			
or larger?			
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II		
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is			
between 0.1 and 1 acre?			
YES = Category III	Cat. III		
Category of wetland based on Special Characteristics			
Choose the "highest" rating if wetland falls into several categorie, and record on	NA		
p. 1 .			
If you answered NO for all types enter "Not Applicable" on p.1.			

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetl	land (if known):	Wetland EF	307			Date of site visit:	6/15/2015
K.	. Crandall, . Whitson			es 🗵	No □ Date	of Training	09/2014
SEC: 3	TWNSHP: 24N	RNGE: _	05E Is S/	Γ/R in	Appendix D?	Yes □	No ⊠
		SUMMA	ARY OF	RAT	ING		
Category ba I □	ased on FUNC	TIONS pr IV ⊠	ovided by	wetla	and		
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30 Category IV = Score < 30 Category IV = Score for Hydrologic Functions Score for Habitat Functions TOTAL score for functions 11 Category based on SPECIAL CHARACTERISTICS of wetland							4 8
Ι□	II □ Does n	ot Apply \boxtimes]				
	Final Categor	y (choose t	the "highe	st" ca	ategory fro	m above)	IV
Ch	eck the appropria	te type and c	lass of wetlar	nd bein	ng rated.		
		tland Type	_		Wetland C		
	Estuarine	XX7 41 3			essional		
	Natural Heritag	e Wetland		River			
	Bog Mature Forest			Slope	fringe	\square	
	Old Growth For	est		Flats			
	Coastal Lagoon	CSI			water Tidal		
	Interdunal			110311	muci Iluai		
							1

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?
	\boxtimes NO – go to 4 \square YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 ■ YES − The wetland class is Slope

Э.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \[\sum \text{NO} - \text{go to 8} \] \[\sum \text{YES} - \text{The wetland class is } \text{Depressional} \]
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points	
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)	
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0	
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0	
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of area	0	
S	Total for S 1 Add the points in the boxes above	0	
S			
	 □ Untreated stormwater discharges to wetland □ Tilled fields, logging or orchards within 150 ft of wetland □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, or golf courses are within 150 ft upslope of wetland □ Other: YES multiplier is 2 NO multiplier is 1 	multiplier 2	
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	0	

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms.		
	Choose the points appropriate for the description that best fit conditions in the wetland. (stems		
	of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during		
	surface flows)	0	
	Dense, uncut, rigid vegetation covers $> 90\%$ of the area of the wetlandpoints = 6	Ü	
	Dense, uncut, rigid vegetation $> 1/2$ area of wetlandpoints = 3		
	Dense, uncut, rigid vegetation > 1/4 areapoints = 1		
	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0		
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:		
	The slope wetland has small surface depressions that can retain water over at least 10% of	2	
	its area. YES points = 2	2	
	NO points = 0		
-	<u> </u>	2	
S	Total for S 3 Add the points in the boxes above	2	
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70)		
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect	(see p. 70)	
	downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i>		
	which of the following conditions apply.	1 1.	
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier	
	☐ Other:	2	
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is		
	tidal fringe along the sides of a dike)		
	YES multiplier is 2 NO multiplier is 1		
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4	4	
	Add score to table on p. 1	4	

Comments

S4-Surface water drains to a ditch down-slope.

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide h		
	tation structure (see p. 72)		
	e types of vegetation classes present (as defin than 10% of the area of the wetland if unit sn	ned by Cowardin) if the class is $\frac{1}{4}$ acre or covers maller than 2.5 acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
	Scrub/shrub (areas where shrubs have >30	% cover)	
	Forested (areas where trees have >30% cov	ver)	0
	Forested areas have 3 out of 5 strata (canop cover) that each cover 20% within the fore	py, sub-canopy, shrubs, herbaceous, moss/ground- ested polygon	
Add the n	number of vegetation types that qualify. If yo	1 10	
		4 structures or morepoints = 4	
		3 structurespoints = 2 2 structurespoints = 1	
		1 structurepoints = 1	
	roperiods (see p. 73)	•	
		ent within the wetland. The water regime has to nt. (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	0
\boxtimes	Saturated only	1 types presentpoints = 0	U
	Permanently flowing stream or river in, or	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent t	to, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)	that cover at least 10 ft ² . (different patches of the	
	e species can be combined to meet the size th		
Y	ou do not have to name the species.		
D	Oo not include Eurasian milfoil, reed canaryg		
List sne	rcies below if you want to:	> 19 speciespoints = 2 5 - 19 speciespoints = 1	
Zist spe	etes seton y you want to.	< 5 speciespoints = 0	1
			1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	1

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
\square 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
\square 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	1
☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	_
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
<u> </u>	
H 2.2 <u>Corridors and Connections</u> (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to $H 2.3$) NO = go to $H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	0
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	1

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
XX71.	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby vetlands are addressed in question H2.4.	
· · · · · · · · · · · · · · · · · · ·	сишим иге иши совей иг упевион 112.7.	<u> </u>

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
There is at least 1 wetland within ½ mile. There are no wetlands within ½ mile. points = 2 There are no wetlands within ½ mile.	
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	7
TOTAL for H1 from page 14	1
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	8

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to SC } 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a fSpartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. \[\sum \text{At least } \frac{3}{4} \text{ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.} \[\sum \text{The wetland has at least 2 or the following features: tidal channels,} \]	Dual rating I/II
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
 Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

		Date of	
Name of wetland (if known):	Wetland EB08	site visit:	6/8/2015
K. Crandall, Rated by: N. Lund	Trained by Ecology? Yes ⊠	No □ Date of Training	09/2014
SEC: 34 TWNSHP: 25N	RNGE: Is S/T/R in	Appendix D? Yes □	No 🗵
Category based on FUNC I □ II □ III ⋈	SUMMARY OF RAT		
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30	Score for Score	Water Quality Functions or Hydrologic Functions ore for Habitat Functions CAL score for functions	12 10 10 32
Category based on SPEC I \Box II \Box Does no	tal characteristic ot Apply ⊠	S of wedand	
	y (choose the "highest" ca	ategory from above)	III
Check the appropria	te type and class of wetland bei	ng rated.	
	tland Type	Wetland Class	
Estuarine Natural Heritage		essional ine	
Bog		-fringe	
Mature Forest			
Old Growth For			
Coastal Lagoon	List List		
Lagnon (Lagnon)	□ Fresh	water Tidal	

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?
	\boxtimes NO – go to 4 \square YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 ■ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \Box NO – go to 7 \Box YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
	\square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides, GO BACK AND IDENTIFY WHICH OF

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points	
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)	
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0	
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0	
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > ½ of areapoints = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of areapoints = 1 Does not meet any of the criteria above for vegetation	6	
S	Total for S 1 Add the points in the boxes above	6	
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields, logging or orchards within 150 ft of wetland A stream or culvert discharges into wetland that drains developed areas, residential	(see p. 67) multiplier 2	
	areas, farmed fields, roads, or clear-cut logging ☐ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ☐ Other: ☐ YES multiplier is 2 NO multiplier is 1		
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	12	

S	Slope Wetlands	Points
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream ero	
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1	3
S	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0 S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2
S	Total for S 3 Add the points in the boxes above	5
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply.	(see p. 70)
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier
	☐ Other: (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1	2
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	10

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide ha	bitat for many species?	
Check the	than 10% of the area of the wetland if unit sma	d by Cowardin) if the class is ¼ acre or covers aller than 2.5 acres.	
	Aquatic bed		
	C I		
	Scrub/shrub (areas where shrubs have >30%		
	Forested (areas where trees have >30% coverage)		0
∐ Add the n	Forested areas have 3 out of 5 strata (canopy cover) that each cover 20% within the forest number of vegetation types that qualify. If you		
		4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1 1 structurepoints = 0	
Check the	operiods (see p. 73) e types of water regimes (hydroperiods) presente re than 10% of the wetland or ½ acre to count	nt within the wetland. The water regime has to . (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
\boxtimes	Permanently flowing stream or river in, or ac	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Cour same Y D	e species can be combined to meet the size thre You do not have to name the species. Do not include Eurasian milfoil, reed canarygro		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	2

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." \[\begin{align*} 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	
open water > 25% circumference	1
If buffer does not meet any of the criteria above	
 No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	0

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
WI	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species	
	of native fish and wildlife (full description in WDFW PHS report p. 152)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average	
	diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is	
	generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)	
\boxtimes	Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both	
	aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a	
_	dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
	Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
	composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings.	
	May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay	
	characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast	
	height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are >	
	30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points	
	If wetland has 2 priority habitats = 3 points	
	If wetland has 1 priority habitat = 1 point	
	No habitats = 0 points	
	ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby etlands are addressed in question H2.4.	
W	ениниз иге иштезьей т уневноп 112.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	8
TOTAL for H1 from page 14	2
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	10

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a fSpartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of	
shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	
1	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □ YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO □ Not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87)	
 Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions. 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes - Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

		Date	of
Name of wetland (if known):	Wetland EB09	site v	visit: 6/8/2015
Rated by: K. Crandall N. Lund	Trained by Ecology? Y	es ⊠ No □ Date of Tra	ining <u>09/2014</u>
SEC: 3 TWNSHP: 25N	RNGE: <u>05E</u> Is S	T/R in Appendix D?	Yes □ No ⊠
	SUMMARY OF	RATING	
Category based on FUNC I □ II □ III ⊠	CTIONS provided by IV □	y wetland	
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30		ore for Water Quality Function Score for Hydrologic Function Score for Habitat Function TOTAL score for function	ns 6 ns 15
Category based on SPEC I □ II □ Does no	IAL CHARACTER ot Apply ⊠	ISTICS of wetland	
Final Categor	y (choose the "high	est" category from abo	ove) III
Check the appropria	ate type and class of wetla	nd being rated.	
	etland Type	Wetland Class	
Estuarine		Depressional	
Natural Heritag	e Wetland	Riverine	
Bog Mature Forest		Lake-fringe Slope	
Old Growth For	est \Box	Flats	
Coastal Lagoon		Freshwater Tidal	

Check if unit has multiple

HGM classes present

Interdunal

None of the above

 \boxtimes

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)		NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 $\square \square YES$ – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). ☑ NO – go to 5 ☐ YES – The wetland class is Slope

Wetland	name	or	number:	EB0

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\boxtimes NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \boxtimes NO – go to 8 \square YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands					
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality					
D	D 1. Does the wetland have the potential to improve water quality?	(see p. 38)				
	D 1.1 Characteristics of surface water flows out of the wetland:					
D	Unit is a depression with no surface water leaving it (no outlet)points = 3					
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints $= 2$					
	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 1	1				
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and					
	no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1					
	(If ditch is not permanently flowing treat unit as "intermittently flowing")					
_	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions).					
D	YES points = 4	0				
	NO points = 0					
ъ	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):					
D	Wetland has persistent, ungrazed, vegetation $> = 95\%$ of areapoints $= 5$ Wetland has persistent, ungrazed, vegetation $> = 1/2$ of areapoints $= 3$	5				
	Wetland has persistent, ungrazed, vegetation $> = 1/2$ of area points $= 3$ Wetland has persistent, ungrazed vegetation $> = 1/10$ of area points $= 1$	3				
	Wetland has persistent, ungrazed vegetation <1/10 of area					
	D1.4 Characteristics of seasonal ponding or inundation.					
D	This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime					
	during the year. Do not count the area that is permanently ponded. Estimate area as the					
	average condition 5 out of 10 yrs.	4				
	Area seasonally ponded is $> \frac{1}{2}$ total area of wetland	4				
	Area seasonally ponded is $> \frac{1}{4}$ total area of wetland					
	Area seasonally ponded is $< \frac{1}{4}$ total area of wetlandpoints = 0					
	NOTE: See text for indicators of seasonal and permanent inundation.					
D	Total for D 1 Add the points in the boxes above	10				
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?					
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming					
	into the wetland that would otherwise reduce water quality in streams, lakes or groundwater					
	downgradient from the wetland? Note which of the following conditions provide the sources of					
	pollutants. A unit may have pollutants coming from several sources, but any single source would					
	qualify as opportunity.					
	Grazing in the wetland or within 150 ft					
	☐ Untreated stormwater discharges to wetland					
	☐ Tilled fields or orchards within 150 ft of wetland	multiplier				
	A stream or culvert discharges into wetland that drains developed areas, residential					
	areas, farmed fields, roads, or clear-cut logging					
	Residential, urban areas, golf courses are within 150 ft of wetland					
	☐ Wetland is fed by groundwater high in phosphorus or nitrogen					
	□ Other					
	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1					
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1					

D	Depresssional and Flats Wetlands			
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degra			
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)		
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)	0		
D	D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet	0		
D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit	3		
D	*	(see p. 49)		
D	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into			
	a river or stream that has flooding problems Other XES multiplier is 2 NO multiplier is 1			
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	6		

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	ne wetland have the <u>potential</u> to provide hab	<u> </u>	
	ation structure (see p. 72)	<u> </u>	
	types of vegetation classes present (as defined han 10% of the area of the wetland if unit smal	l by Cowardin) if the class is ¼ acre or covers ller than 2.5 acres.	
	Aquatic bed		
	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30%	cover)	
\boxtimes	Forested (areas where trees have >30% cover	r)	2
⊠ Add the ni	Forested areas have 3 out of 5 strata (canopy, cover) that each cover 20% within the forestermber of vegetation types that qualify. If you have	1 0	
		4 structures or more	
H 1.2. <u>Hydro</u>	operiods (see p. 73)	•	
	types of water regimes (hydroperiods) presente te than 10% of the wetland or ¼ acre to count.	t within the wetland. The water regime has to (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
\boxtimes	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	1
	Saturated only	1 types presentpoints = 0	•
\boxtimes	Permanently flowing stream or river in, or ad	ljacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same Yo Do	species can be combined to meet the size thres ou do not have to name the species. o not include Eurasian milfoil, reed canarygra		1
			-

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points High = 3 points	2
NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high". H 1.5. Special Habitat Features: (see p. 77)	
Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).	
☐ Standing snags (diameter at the bottom > 4 inches) in the wetland	
Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m)	1
Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present	
At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants	
Note: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	7

H.2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	H 2. Does the wetland have the opportunity to provide habitat for many species?	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference. Points = 4 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference. Points = 3 100 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference. Points = 3 100 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference. Points = 3 100 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference. Points = 3 100 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water of >50% circumference. Points = 3 100 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water of >50% circumference. Points = 3 100 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water of >50% circumference. Points = 2 100 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water of >50% circumference. Points = 2 100 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water of open water of open water of open water of open water of open water open wate		
circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
open water > 50% circumference. Points = 4 □ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. Points = 4 □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. Points = 3 □ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 ■ 1	circumference. No developed areas within undisturbed part of buffer.	
open water >95% circumference		
open water > 25% circumference	☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water for > 50% circumference	open water > 25% circumference	1
No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	open water for > 50% circumference	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK		
Light to moderate grazing, or lawns are OK	of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
Heavy grazing in buffer		
Usegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland		
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	\square Heavy grazing in bufferPoints = 1	
Buffer does not meet any of the criteria above	☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?	(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?	☐ Buffer does not meet any of the criteria above	
YES = 1 point NO = 0 points	H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?	0

WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland? (NOTE: the connections do not have to be relatively undisturbed)	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)	
Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
☐ Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a	
dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)	
Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
☐ Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
□ Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay	
characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point	
No habitats = 0 points	
Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	8
TOTAL for H1 from page 14	7
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	15

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
\square With a salinity greater than 0.5 ppt.	
YES = Go to SC 1.1 NO \boxtimes	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of	
shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	
depressions with open water, or configuous meshwater wettailus.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □ YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO □ Not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87)	
 Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions. 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes - Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle,	
or, less frequently, rocks.	
or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon	Cat. I
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species 	Cat. II
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. 	
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, 	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	~
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	NA
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
Name of wetl	land (if known):	Wetland EB10			site visit:	6/15/2015
	. Crandall,			_		
Rated by: N.	. Lund	Trained by Ecology? Y	'es ⊠	No □ Date	of Training	09/2014
SEC: 3	TWNSHP: 24N	I RNGE: <u>05E</u> Is S	/T/R in	Appendix D	Yes □	No 🗵
		SUMMARY OF	RAT	ING		
Category ba	ased on FUNC	CTIONS provided b	v wetl	and		
Ι□	II 🗆 III 🖂	IV 🗆	,			
"	$I = Score \ge 70$	Sc	ore for V	Water Quality F	Functions	12
1 .	II = Score 51-69			or Hydrologic F		16
	III = Score 30-50 IV = Score < 30		Sco	re for Habitat I	Functions	14
Category	1V = Score < 50		TOT	AL score for f	unctions	42
Category ha	ased on SPFC	IAL CHARACTER	ISTI	'S of wetla	nd	
•				of wella	IIU	
$\mathbf{I} \Box$	II \square Does no	ot Apply $oxtimes$				
	E'1 C-4	(-1 41 441 1.	499	. 4	1	1111
	Final Categor	y (choose the "high	est" ca	ategory fro	m above)	III
	Final Categor	y (choose the "high	est" ca	ategory fro	m above)	III
	Final Categor	ry (choose the "high	est" ca	ategory fro	m above)	III
		y (choose the "high ate type and class of wetla			m above)	III
	eck the appropria	nte type and class of wetla		ng rated.		III
	eck the appropria	nte type and class of wetla	and beir	ng rated. Wetland C	lass	III
	eck the appropria We Estuarine	ate type and class of wetla etland Type	nnd beir	ng rated. Wetland C essional		III
	eck the appropria	ate type and class of wetla etland Type	nnd beir Depro	ng rated. Wetland C essional	lass	III
	eck the appropria We Estuarine Natural Heritag	ate type and class of wetla etland Type	nnd beir Depro	ng rated. Wetland Cessional ine fringe	lass	III
	eck the appropria We Estuarine Natural Heritag Bog	etland Type Be Wetland	Depro	ng rated. Wetland Cessional ine fringe	lass	III
	eck the appropria We Estuarine Natural Heritag Bog Mature Forest	etland Type Be Wetland	Depro River Lake- Slope Flats	ng rated. Wetland Cessional ine fringe	lass	III

None of the above

Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?
	\boxtimes NO – go to 4 \square YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 ■ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	\square The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding. \square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)		
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	0		
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0		
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > ½ of area	6		
S	Total for S 1 Add the points in the boxes above	6		
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields, logging or orchards within 150 ft of wetland	(see p. 67) multiplier		
	 ✓ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ✓ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ✓ Other: YES multiplier is 2 NO multiplier is 1 	<u>2</u>		
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	12		

S	Slope Wetlands	Points			
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream eros				
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)			
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1	6			
S	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0 S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2			
S	Total for S 3 Add the points in the boxes above	8			
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply</i> . Wetland has surface runoff that drains to a river or stream that has flooding problems	(see p. 70)			
	 ✓ Wetland has surface runoff that drains to a river or stream that has flooding problems ✓ Other: (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1 	2			
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	16			

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide hal	bitat for many species?	
Check the	han 10% of the area of the wetland if unit small Aquatic bed Emergent plants Scrub/shrub (areas where shrubs have >30% Forested (areas where trees have >30% coverage)	cover)	1
A J J J	cover) that each cover 20% within the forest		
Ada the n	umber of vegetation types that qualify. If you	4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1 1 structurepoints = 0	
	operiods (see p. 73)		
	e types of water regimes (nyaroperioas) presen re than 10% of the wetland or ½ acre to count	nt within the wetland. The water regime has to . (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	2
\boxtimes	Saturated only	1 types presentpoints = 0	2
\boxtimes	Permanently flowing stream or river in, or ac	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Cour same Y D	species can be combined to meet the size thre ou do not have to name the species. o not include Eurasian milfoil, reed canarygro		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	2
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	6

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference	1
If buffer does not meet any of the criteria above	
 No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	0

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
XX/1	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby etlands are addressed in question H2.4.	
	······································	<u> </u>

Wetland name or number: EB10

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	8
TOTAL for H1 from page 14	6
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	14

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to SC } 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □ YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO □ Not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87)	
 Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions. 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes - Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
Name of wet	land (if known):	Wetland EB11			site visit:	6/5/2015
	. Crandall			_		
Rated by: R	. Whitson	Trained by Ecology? Y	es 🗵	No ☐ Date	of Training	09/2014
SEC: <u>3</u>	TWNSHP: 25N	RNGE: <u>05E</u> Is S	T/R in	Appendix D?	Yes □	l No ⊠
		SUMMARY OF	RAT	ING		
Category b	ased on FUNC	TIONS provided by	wetl	and		
• -						
Category	$I = Score \ge 70$	Sco	re for V	Vater Quality F	Junctions [12
1 .	II = Score 51-69			or Hydrologic F		0
1 -	III = Score 30-50			re for Habitat F		16
Category	IV = Score < 30			AL score for f	-	28
Category b		IAL CHARACTER ot Apply ⊠	ISTIC	CS of wetlan	nd	
	Final Categor	y (choose the "high	est" ca	ategory fro	m above)	IV
Ch	eck the appropria	te type and class of wetla	nd bein	ng rated.		
		etland Type		Wetland C		
	Estuarine			essional	\boxtimes	
	Natural Heritage	e Wetland	River			_
	Bog			fringe	<u> </u>	
	Mature Forest		Slope		<u> </u>	
	Old Growth For	est	Flats			
	Coastal Lagoon		Fresh	water Tidal		
	Interdunal					1

None of the above

Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter
	and less than a foot deep). \square NO – go to 5 \square YES – The wetland class is Slope

Wetland name or number: Wetland EB11

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\boxtimes NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i> NO – go to 7 YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \boxtimes NO – go to 8 \square YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
D	D 1. Does the wetland have the potential to improve water quality?	(see p. 38)
	D 1.1 Characteristics of surface water flows out of the wetland:	
D	Unit is a depression with no surface water leaving it (no outlet)points = 3	
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints $= 2$	
	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 1	1
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and	
	no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1	
	(If ditch is not permanently flowing treat unit as "intermittently flowing")	
_	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions).	
D	YES points = 4	0
	NO points = 0	
ъ	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	
D	Wetland has persistent, ungrazed, vegetation > = 95% of area	5
	Wetland has persistent, ungrazed, vegetation $> = 1/2$ of areapoints $= 3$ Wetland has persistent, ungrazed vegetation $> = 1/10$ of areapoints $= 1$	3
	Wetland has persistent, ungrazed vegetation < 1/10 of area	
	D1.4 Characteristics of seasonal ponding or inundation.	
D	This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime	
<i>D</i>	during the year. Do not count the area that is permanently ponded. Estimate area as the	
	average condition 5 out of 10 yrs.	
	Area seasonally ponded is $> \frac{1}{2}$ total area of wetlandpoints = 4	0
	Area seasonally ponded is $> \frac{1}{4}$ total area of wetland	
	Area seasonally ponded is $< \frac{1}{4}$ total area of wetlandpoints = 0	
	NOTE: See text for indicators of seasonal and permanent inundation.	
D	Total for D 1 Add the points in the boxes above	6
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming	
	into the wetland that would otherwise reduce water quality in streams, lakes or groundwater	
	downgradient from the wetland? <i>Note which of the following conditions provide the sources of</i>	
	pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	
	* ** **	
	Grazing in the wetland or within 150 ft	
	Untreated stormwater discharges to wetland	
	☐ Tilled fields or orchards within 150 ft of wetland	multiplier
	A stream or culvert discharges into wetland that drains developed areas, residential	2
	areas, farmed fields, roads, or clear-cut logging	<u>2</u>
	Residential, urban areas, golf courses are within 150 ft of wetland	
	☐ Wetland is fed by groundwater high in phosphorus or nitrogen	
	□ Other	
	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1	
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2	12
	Add score to table on p. 1	

HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degrad D 3. Does the wetland have the potential to reduce flooding and erosion?	D	Depresssional and Flats Wetlands	
D 3. Does the wetland have the potential to reduce flooding and erosion? D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)			degradation
D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)			(see p. 46)
Unit is a depression with no surface water leaving it (no outlet)	D		(see p. 10)
Unit has an intermittently flowing, or highly constricted permanently flowing outlet, points = 2 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditch	_		
Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditch			
no obvious natural outlet, and/or outlet is a man-made ditch			0
Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 0 D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet			
D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet		(If ditch is not permanently flowing treat unit as "intermittently flowing")	
Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet			
the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 f or more above the surface or bottom of outlet	D	D 3.2 Depth of storage during wet periods	
Marks of ponding are at least 3 ft or more above the surface or bottom of outlet			
The wetland is a "headwater" wetland"			
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet			
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet			0
Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water			U
trap water			
Marks of ponding less than 0.5 ft points = 0			
D D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit			
Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit			
area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit	D		
The area of the basin is less than 10 times the area of the unit			
The area of the basin is 10 to 100 times the area of the unit			Out
The area of the basin is more than 100 times the area of the unit			0*
Entire unit is in the FLATS class			
D Total for D 3 Add the points in the boxes above D 4. Does the wetland unit have the opportunity to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. □ Wetland is in a headwater of a river or stream that has flooding problems □ Wetland drains to a river or stream that has flooding problems □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ Other □ Oth			
D 4. Does the wetland unit have the opportunity to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. □ Wetland is in a headwater of a river or stream that has flooding problems □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ Other □ O	n		1
Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other		I.	(see p. 49)
water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. **Note which of the following conditions apply.** Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other	D		(see p. 49)
or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. **Note which of the following conditions apply.** Wetland is in a headwater of a river or stream that has flooding problems			
by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other			
90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other			
flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other			
Note which of the following conditions apply. □ Wetland is in a headwater of a river or stream that has flooding problems □ Wetland drains to a river or stream that has flooding problems □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ Other			
 □ Wetland is in a headwater of a river or stream that has flooding problems □ Wetland drains to a river or stream that has flooding problems □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ Other 			
Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other			
a river or stream that has flooding problems Other		Wetland drains to a river or stream that has flooding problems	multiplier
a river or stream that has flooding problems Other		Wetland has no outlet and impounds surface runoff water that might otherwise flow into	<u>2</u>
		1	
VEC multiplion is 2		☐ Other	
△ 1ES mulupher is 2		\boxtimes YES multiplier is 2 \square NO multiplier is 1	
D TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	D		0

^{*}D3.3 – Presumed based on the presence of two culverts that drain into wetland from adjacent areas.

_	estions apply to wetlands of all HGM FUNCTIONS - Indicators that wetland fu		
	he wetland have the <u>potential</u> to provide ha		
	tation structure (see p. 72)		
	types of vegetation classes present (as defination 10% of the area of the wetland if unit sm	ed by Cowardin) if the class is $\frac{1}{4}$ acre or covers aller than 2.5 acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30%	% cover)	
\boxtimes	Forested (areas where trees have >30% cov	ver)	2
\[\Bar{\rightarrow} \] Add the n	Forested areas have 3 out of 5 strata (canop cover) that each cover 20% within the foresumber of vegetation types that qualify. If you		
ria inc n	umber of vegetation types that qualify. If you	4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1	
		1 structure points = 0	
Check the	operiods (see p. 73) c types of water regimes (hydroperiods) prese re than 10% of the wetland or ½ acre to coun	ent within the wetland. The water regime has to nt. (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
\boxtimes	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	2
\boxtimes	Saturated only	1 types presentpoints = 0	
\boxtimes	Permanently flowing stream or river in, or	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent to	o, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same	ness of Plant Species (see p. 75) at the number of plant species in the wetland to a species can be combined to meet the size thr	that cover at least 10 ft ² . (different patches of the reshold)	
D	ou do not have to name the species. To not include Eurasian milfoil, reed canaryg. If you counted: cies below if you want to:	rass, purple loosestrife, Canadian thistle > 19 speciespoints = 2 5 - 19 speciespoints = 1	
·		< 5 speciespoints = 0	1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points Figarian braided channels NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	2
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	1
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	8

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	1
	1
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water for > 50% circumference	
_	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
\square Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
XX/1	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species	
	of native fish and wildlife (full description in WDFW PHS report p. 152)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average	
	diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be	
	less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is	
	generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both	
	aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	4
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
	Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of	
	relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
	composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings.	
	May be associated with cliffs.	
\boxtimes	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay	
	characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast	
	height of $>$ 51 cm (20 in) in western Washington and are $>$ 2 m (6.5 ft) in height. Priority logs are $>$	
	30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points	
	If wetland has 2 priority habitats = 3 points	
	If wetland has 1 priority habitat = 1 point	
	No habitats = 0 points	
	lote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
и	retlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
wetland within $\frac{1}{2}$ mile	
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	8
TOTAL for H1 from page 14	8
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	16

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II Dual rating I/II
the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □ YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO □ Not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87)	
 Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions. 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes - Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES − Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. II
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1.	NA
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Wetland EB12	Date of site visit: 6/5/2015		
Rated by: K. Crandall, R. Whitson Trained by Ecology	y? Yes ⊠ No □ Date of Training 09/2014		
SEC: 3 TWNSHP: 25N RNGE: 05E	Is S/T/R in Appendix D? Yes \square No \boxtimes		
SUMMARY	OF RATING		
Category based on FUNCTIONS provide I □ II □ III □ IV ⊠	d by wetland		
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30	Score for Water Quality Functions Score for Hydrologic Functions Score for Habitat Functions TOTAL score for functions 29		
Category based on SPECIAL CHARACTERISTICS of wetland I □ II □ Does not Apply ⊠			
Final Category (choose the "h	ighest" category from above)		
Check the appropriate type and class of wetland being rated.			
Wetland Type	Wetland Class		
Estuarine	□ Depressional □		
Natural Heritage Wetland	□ Riverine □		
Bog	□ Lake-fringe □		
Mature Forest	□ Slope ⊠		
Old Growth Forest	☐ Flats ☐		
Coastal Lagoon	☐ Freshwater Tidal ☐		
Interdunal	П		

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5

Wetland name or number: EB12

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points	
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)	
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0	
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0	
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland area	2*	
S	Total for S 1 Add the points in the boxes above	2	
S	1		
	 □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, or golf courses are within 150 ft upslope of wetland □ Other: YES multiplier is 2 NO multiplier is 1 	2	
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	4	

^{*}Including Himalayan blackberry as "woody."

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream er		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms.		
	Choose the points appropriate for the description that best fit conditions in the wetland. (stems		
	of plants should be thick enough (usually $> 1/8$ in), or dense enough, to remain erect during		
	surface flows)	3	
	Dense, uncut, rigid vegetation covers $> 90\%$ of the area of the wetlandpoints = 6	3	
	Dense, uncut, rigid vegetation $> 1/2$ area of wetlandpoints = 3		
	Dense, uncut, rigid vegetation $> 1/4$ areapoints = 1		
	More than $1/4$ of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0		
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:		
	The slope wetland has small surface depressions that can retain water over at least 10% of	2	
	its area.	2	
	YES points = 2		
	NO points = 0		
S	Total for S 3 Add the points in the boxes above	5	
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70)		
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect		
	downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i>		
	which of the following conditions apply.		
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier	
	Other:	2	
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is		
	tidal fringe along the sides of a dike)		
	YES multiplier is 2 NO multiplier is 1		
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4	10	
	Add score to table on p. 1	10	

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	ne wetland have the <u>potential</u> to provide hal	bitat for many species?	
Check the	ation structure (see p. 72) types of vegetation classes present (as defined han 10% of the area of the wetland if unit sma Aquatic bed	d by Cowardin) if the class is ¼ acre or covers ller than 2.5 acres.	
	•		
	Emergent plants		
	Scrub/shrub (areas where shrubs have >30% Forested (areas where trees have >30% cove		2
	`		2
Add the n	cover) that each cover 20% within the forestoumber of vegetation types that qualify. If you	1 10	
	3 0 01 1 30 30	4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1 1 structurepoints = 0	
Check the	operiods (see p. 73) types of water regimes (hydroperiods) presen re than 10% of the wetland or ½ acre to count.	at within the wetland. The water regime has to . (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or ac	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same Yo D	species can be combined to meet the size thre. ou do not have to name the species. o not include Eurasian milfoil, reed canarygro		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	2
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	1
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	7

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
	1
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference	
open water for > 50% circumference	
<u> </u>	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
XX 7	http://wdfw.wa.gov/hab/phslist.htm) hich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
ν	vetlands are addressed in question H2.4.	<u> </u>

Wetland name or number: EB12

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2 . TOTAL Score - opportunity for providing habitat <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i>	8
TOTAL for H1 from page 14	7
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	15

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC \text{ 1.1} \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
 Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES − Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. II
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	

SC 6.0 Interdunal Wetlands (see p. 93)		
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of		
Upland Ownership or WBUO)?		
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating		
If you answer yes you will still need to rate the wetland based on its functions.		
In practical terms that means the following geographic areas:		
 Long Beach Peninsula – lands west of SR 103 		
 Grayland-Westport – lands west of SR 105 		
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 		
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre		
or larger?		
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II	
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is		
between 0.1 and 1 acre?		
YES = Category III	Cat. III	
Category of wetland based on Special Characteristics		
Choose the "highest" rating if wetland falls into several categorie, and record on		
p. 1 .		
If you answered NO for all types enter "Not Applicable" on p.1.		

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
Name of wet	land (if known):	Wetland EB13			site visit:	6/15/2015
	. Crandall, . Whitson	Trained by Ecology? Y	es 🗵	No □ Date o	of Training	09/2014
SEC: <u>3</u>	TWNSHP: 24N	RNGE: Is S	/T/R in	Appendix D?	Yes \square	No 🗵
		SUMMARY OF	RAT	ING		
Category ba I □	ased on FUNC II □ III ⊠	TIONS provided by	y wetl	and		
Category Category	I = Score ≥70 II = Score 51-69 III = Score 30-50 IV = Score < 30		Score for Score	Vater Quality For or Hydrologic For re for Habitat For AL score for fu	unctions unctions	12 10 18 40
Category ba		IAL CHARACTER	ISTIC	CS of wetlan	ıd	
1 🗆	II 🗆 Does no	ot Apply ⊠				
	Final Categor	y (choose the "high	est" ca	ategory fron	n above)	III
Ch	eck the appropria	ate type and class of wetla	nd bein	ng rated.		
		etland Type		Wetland Cl		
	Estuarine			essional		
	Natural Heritage	e Wetland	River			
	Bog Mature Forest			fringe		
	Mature Forest		Slope			
	Old Growth For	est	Flats	watan Tidal		
	Coastal Lagoon Interdunal		rresn	water Tidal		
	mieraunai		1			

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 □ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)		
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	0		
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0		
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of area	6		
S	Total for S 1 Add the points in the boxes above	6		
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields, logging or orchards within 150 ft of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging	(see p. 67) multiplier 2		
	 ☐ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ☐ Other: YES multiplier is 2 NO multiplier is 1 			
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	12		

S	Slope Wetlands	Points		
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream er			
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)		
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms.			
	Choose the points appropriate for the description that best fit conditions in the wetland. (stems			
	of plants should be thick enough (usually $> 1/8$ in), or dense enough, to remain erect during			
	surface flows)	3		
	Dense, uncut, rigid vegetation covers $> 90\%$ of the area of the wetlandpoints = 6	3		
	Dense, uncut, rigid vegetation $> 1/2$ area of wetlandpoints = 3			
	Dense, uncut, rigid vegetation $> 1/4$ areapoints = 1			
	More than $1/4$ of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0			
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:			
	The slope wetland has small surface depressions that can retain water over at least 10% of	2		
	its area.	2		
	YES points = 2			
	NO points = 0			
S	Total for S 3 Add the points in the boxes above	5		
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70)			
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect			
	downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i>			
	which of the following conditions apply.			
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier		
	Other:	2		
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is			
	tidal fringe along the sides of a dike)			
	YES multiplier is 2 NO multiplier is 1			
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4	10		
	Add score to table on p. 1	10		

Comments

S 3.1 – Shaded reed canarygrass and water parsley not considered rigid.

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide hal	bitat for many species?	
Check the	tation structure (see p. 72) It types of vegetation classes present (as defined han 10% of the area of the wetland if unit smathan Aquatic bed	d by Cowardin) if the class is ½ acre or covers ller than 2.5 acres.	
	Emergent plants		
	• •		
	Scrub/shrub (areas where shrubs have >30% Forested (areas where trees have >30% cove		2
	`	,	2
Add the n	cover) that each cover 20% within the forested umber of vegetation types that qualify. If you is	1 10	
	3 0 01 1 30 30	4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1 1 structurepoints = 0	
Check the	operiods (see p. 73) types of water regimes (hydroperiods) presen re than 10% of the wetland or ½ acre to count.	at within the wetland. The water regime has to . (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or ac	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same Y D	species can be combined to meet the size thre. ou do not have to name the species. o not include Eurasian milfoil, reed canarygra		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	
None = 0 points Low = 1 point Moderate = 2 points [riparian braided channels] High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is	3
always "high". H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	7

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	2
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
XX/1	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby etlands are addressed in question H2.4.	
	······································	<u> </u>

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	5
There are no wetlands within $\frac{1}{2}$ mile	
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	11
TOTAL for H1 from page 14	7
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	18

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
\square With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II Dual rating I/II
the size threshold of 1 acre. At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)				
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.				
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I			
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes				
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$				
SC 3.0 Bogs (see p. 87)				
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.				
 Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 				
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 				
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I			
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I			

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES − Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. II
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	

SC 6.0 Interdunal Wetlands (see p. 93)		
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of		
Upland Ownership or WBUO)?		
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating		
If you answer yes you will still need to rate the wetland based on its functions.		
In practical terms that means the following geographic areas:		
 Long Beach Peninsula – lands west of SR 103 		
 Grayland-Westport – lands west of SR 105 		
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 		
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre		
or larger?	Cat. II	
YES = Category II $NO - go to SC 6.2$		
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is		
between 0.1 and 1 acre?		
YES = Category III	Cat. III	
Category of wetland based on Special Characteristics		
Choose the "highest" rating if wetland falls into several categorie, and record on	NA	
p. 1 .		
If you answered NO for all types enter "Not Applicable" on p.1.		

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known):	Wetland EB14			Date of site visit:	6/15/2015	
K. Crandall, Rated by: R. Whitson	Trained by Ecology? Ye	es 🗵 1	No 🗆 Date of	of Training	09/2014	
SEC: 3 TWNSHP: 24N	RNGE: <u>05E</u> Is S/	T/R in A	Appendix D?	Yes □	No ⊠	
	SUMMARY OF	RATI	NG			
Category based on FUNC I □ II □ III □	TIONS provided by IV ⊠	wetla	nd			
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30		core for Score	ater Quality For Hydrologic For for Habitat For L score for fu	unctions	2 10 15 27	
Category based on SPEC		STIC	S of wetlan	ıd		
Final Categor	y (choose the "highe	st" cat	egory fron	n above)	IV	
Check the appropria	te type and class of wetlar	nd being	rated.			•
We	tland Type		Wetland Cl	ass		
Estuarine		Depress				
Natural Heritage	e Wetland	Riverin				
Bog		Lake-fr	ringe			
Mature Forest		Slope		\boxtimes		
Old Growth For	est 🗆	Flats				
Coastal Lagoon		Freshw	ater Tidal			
Interdunal						

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \Box NO – go to 7 \Box YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points			
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality				
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?				
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0			
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0			
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > ½ of areapoints = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of areapoints = 1 Does not meet any of the criteria above for vegetationpoints = 0				
S	Total for S 1 Add the points in the boxes above	2			
S	S 2. Does the wetland have the <u>opportunity</u> to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft	(see p. 67)			
	Untreated stormwater discharges to wetland	multiplier			
	☐ Tilled fields, logging or orchards within 150 ft of wetland	1			
	 □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, or golf courses are within 150 ft upslope of wetland □ Other: YES multiplier is 2 NO multiplier is 1 	1			
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	2			

^{*}Including Himalayan blackberry as "woody."

S	Slope Wetlands	Points				
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream ero					
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?					
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms.					
	Choose the points appropriate for the description that best fit conditions in the wetland. (stems					
	of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during					
	surface flows)	3				
	Dense, uncut, rigid vegetation covers $> 90\%$ of the area of the wetlandpoints = 6	J				
	Dense, uncut, rigid vegetation $> 1/2$ area of wetlandpoints = 3					
	Dense, uncut, rigid vegetation > 1/4 areapoints = 1					
G	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0					
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:					
	The slope wetland has small surface depressions that can retain water over at least 10% of its area.	2				
	YES points = 2	2				
	NO points = 0					
S	<u> </u>	5				
	1	3				
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70)	(see p. 70)				
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect					
	downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i>					
	which of the following conditions apply.	multiplier				
	Wetland has surface runoff that drains to a river or stream that has flooding problems					
	☐ Other:	2				
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is					
	tidal fringe along the sides of a dike)					
	YES multiplier is 2 NO multiplier is 1					
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4	1.0				
_	Add score to table on p. 1	10				

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
H 1. Does the wetland have the <u>potential</u> to provide habitat for many species?			
H 1.1 <u>Vegetation structure</u> (see p. 72) Check the types of vegetation classes present (as defined by Cowardin) if the class is ½ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.			
	Aquatic bed		
	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30%	cover)	
\boxtimes	Forested (areas where trees have >30% cover		1
	· ·	, sub-canopy, shrubs, herbaceous, moss/ground-	•
	cover) that each cover 20% within the forester umber of vegetation types that qualify. If you?	ed polygon	
	,	4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1 1 structurepoints = 0	
Check the	operiods (see p. 73) types of water regimes (hydroperiods) presen te than 10% of the wetland or ½ acre to count.	t within the wetland. The water regime has to	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	0
\boxtimes	Saturated only	1 types presentpoints = 0	O
	Permanently flowing stream or river in, or ac	ljacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same Yo Do	species can be combined to meet the size thresou do not have to name the species. To not include Eurasian milfoil, reed canarygra		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	3

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
⊠ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	3
\square 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
Heavy grazing in bufferPoints = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to H 2.3) $NO = go to H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	
110 - 1 points	i

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of			
WDFW priority habitats, and the counties in which they can be found, in the PHS report				
http://wdfw.wa.gov/hab/phslist.htm) Which of the following priority habitats are within 330ft (100m) of the wetland?				
(NOTE: the connections do not have to be relatively undisturbed)				
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).			
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)			
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.			
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.			
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)			
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.			
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4		
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that			
	interact to provide functional life history requirements for instream fish and wildlife resources.			
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)			
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.			
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.			
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.			
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby etlands are addressed in question H2.4.			
	······································	<u> </u>		

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	5
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	12
TOTAL for H1 from page 14	3
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	15

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met. SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	Dual rating I/II
☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □ YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO □ Not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87)	
 Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions. 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes - Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)		
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>		
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.		
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth		
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I	
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?		
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.		
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)		
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I	
SC 5.1 Does the wetland meet all of the following three conditions?		
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).		
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.		
☐ The wetalnd is larger than 1/10 acre (4350 square feet)		
YES = Category I NO = Category II		

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
Name of wet	land (if known):	Wetland EB15			site visit:	6/19/2015
	. Crandall,			_		
Rated by: R	. Kahlo	Trained by Ecology? Y	es 🗵	No □ Date	of Training	09/2014
SEC: <u>3</u>	TWNSHP: 24N	RNGE: Is S	/T/R in	Appendix D?	Yes \square	No ⊠
		SUMMARY OF	RAT	ING		
Category b	ased on FUNC	TIONS provided by	y wetl	and		
Ι□	II 🗆 III 🖂	IV 🗆	,			
Category	$I = Score \ge 70$	C _a .	ora for V	Water Ouglity E	unctions =	4
-	II = Score 51-69		core for Water Quality Functions 4 Score for Hydrologic Functions 16			16
	III = Score 30-50		Score for Habitat Functions			17
Category	IV = Score < 30			AL score for f	_	37
			101	AL SCOLE IOI II	unctions	31
Category ba		IAL CHARACTER ot Apply ⊠	ISTI(CS of wetlar	nd	
Final Category (choose the "highest" category from above)					III	
Check the appropriate type and class of wetland being rated.						
		etland Type	_	Wetland Cl		
	Estuarine			essional		
	Natural Heritage	e Wetland	River			
	Bog			fringe		
	Mature Forest		Slope			
	Old Growth For	est \Box	Flats	4 750 3 3		
	Coastal Lagoon		Fresh	water Tidal		
	Interdunal					

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 □ YES − The wetland class is Slope

Wetland name or number: EB15

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding.
	The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
	\square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > ½ of areapoints = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of areapoints = 1 Does not meet any of the criteria above for vegetationpoints = 0	2
S	Total for S 1 Add the points in the boxes above	2
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields, logging or orchards within 150 ft of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging Residential, urban areas, or golf courses are within 150 ft upslope of wetland	(see p. 67) multiplier 2
	☐ Other: YES multiplier is 2 NO multiplier is 1	
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	4

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream er		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms.		
	Choose the points appropriate for the description that best fit conditions in the wetland. (stems		
	of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during		
	surface flows)	6	
	Dense, uncut, rigid vegetation covers $> 90\%$ of the area of the wetlandpoints = 6	o o	
	Dense, uncut, rigid vegetation $> 1/2$ area of wetlandpoints = 3		
	Dense, uncut, rigid vegetation > 1/4 areapoints = 1		
C	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0		
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:		
	The slope wetland has small surface depressions that can retain water over at least 10% of its area.	2	
	YES points = 2	2	
	NO points = 0		
S	•	8	
	1	0	
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70)	(see p. 70)	
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect		
	downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i>		
	which of the following conditions apply.	multiplier	
	Wetland has surface runoff that drains to a river or stream that has flooding problems	munipher	
	☐ Other:	2	
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is	_	
	tidal fringe along the sides of a dike)		
	YES multiplier is 2 NO multiplier is 1		
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4		
5	Add score to table on p. 1	16	

Comments

_	estions apply to wetlands of all HGM FUNCTIONS - Indicators that wetland fu		
	he wetland have the <u>potential</u> to provide h		
	tation structure (see p. 72)	Total 124 124 124 124 124 124 124 124 124 124	
	e types of vegetation classes present (as defin than 10% of the area of the wetland if unit sn	ned by Cowardin) if the class is ½ acre or covers naller than 2.5 acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30	% cover)	
	Forested (areas where trees have >30% co	ver)	1
	Forested areas have 3 out of 5 strata (cano	py, sub-canopy, shrubs, herbaceous, moss/ground-	
	cover) that each cover 20% within the fore		
Add the n	number of vegetation types that qualify. If yo		
		4 structures or morepoints = 4 3 structurespoints = 2	
		2 structurespoints = 1	
		1 structure points = 0	
	roperiods (see p. 73)		
		ent within the wetland. The water regime has to nt. (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
\boxtimes	Permanently flowing stream or river in, or	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent t	to, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)	that cover at least 10 ft ² . (different patches of the	
	e species can be combined to meet the size th		
	ou do not have to name the species.		
D	o not include Eurasian milfoil, reed canaryg		
T		> 19 speciespoints = 2	
List spe	cies below if you want to:	5 - 19 speciespoints = 1 < 5 speciespoints = 0	
		< 5 speciespoints = 0	1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	2
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	6

H.2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	H 2. Does the wetland have the opportunity to provide habitat for many species?	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)		
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)		
circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
(relatively undisturbed also means no-grazing). Points = 5 □ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference. Points = 4 □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. Points = 3 □ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 3 □ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 □ 100 m (30ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 □ 100 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 □ 100 m (330ft) of relatively undisturbed may of the criteria above Points = 3 □ 100 m (330ft) of relatively undisturbed and possible points = 3 □ 100 m (330ft) of relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). □ 100 m (330ft) of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? □ 100 m (30 m (30 m (30 m (30 m (30 m (30 m (30 m	□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference	circumference. No developed areas within undisturbed part of buffer.	
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within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?		
within 1 mi of a lake greater than 20 acres?		
TEO - I POINT IVO - V POINTS	YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
33 7	http://wdfw.wa.gov/hab/phslist.htm) Which of the following priority habitats are within 330ft (100m) of the wetland?	
	IOTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
V	wetlands are addressed in question H2.4.	

Wetland name or number: EB15

(see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development
boating, but connections should NOT be bisected by paved roads, fill, fields, or other development
other development
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile
lake-fringe wetlands within ½ milepoints = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them
There are at least 3 other wetlands within ½ mile, BUT the connections between them
are disturbedpoints = 3
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe
wetland within ½ milepoints = 3
There is at least 1 wetland within ½ milepoints = 2
There are no wetlands within $\frac{1}{2}$ milepoints = 0
H 2. TOTAL Score - opportunity for providing habitat
Add the scores from H2.1, H2.2, H2.3, H2.4
TOTAL for H1 from page 14 6
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a fSpartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of	Dual rating I/II
shrub, forest, or un-grazed or un-mowed wetland. □ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □ YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO □ Not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87)	
 Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions. 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes - Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
Name of wet	land (if known):	Wetland EB16			site visit:	6/19/2015
	. Crandall,			_		
Rated by: R	. Kahlo	Trained by Ecology?	les ⊠	No □ Date	of Training	09/2014
SEC: <u>03</u>	TWNSHP: 24N	RNGE: 05E Is S	S/T/R in	Appendix D	Yes 🗆	No ⊠
		SUMMARY OF	RAT	ING		
Category ba	ased on FUNC	TIONS provided b	y wetl	and		
Ι□	$\mathbf{II} \square \mathbf{III} \boxtimes$	$IV \square$				
	I G > 70					
-	$I = Score \ge 70$ $II = Score 51-69$	Sc		Water Quality F	<u> </u>	6
, ,	III = Score 30-50			or Hydrologic F		6
	IV = Score < 30			re for Habitat I		18
			TOT	AL score for f	unctions	30
Category ba I □	Category based on SPECIAL CHARACTERISTICS of wetland I □ II □ Does not Apply ⊠					
	Final Categor	y (choose the "high	est" ca	ategory fro	m above)	III
Check the appropriate type and class of wetland being rated.						
		etland Type	_	Wetland C		_
	Estuarine			essional		-
	Natural Heritage	e Wetland	River			_
	Bog			fringe		_
	Mature Forest		Slope			_
	Old Growth For	est	Flats			
	Coastal Lagoon		Fresh	water Tidal		
	Interdunal					

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).
	\square NO – go to 5 \square YES – The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	\square The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\boxtimes NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i> NO – go to 7 YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. NO – go to 8 YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
D	D 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 38)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet)	1
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (<i>use NRCS definitions</i>). YES points = 4 NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed, vegetation $>$ = 95% of area	5
D	D1.4 Characteristics of seasonal ponding or inundation. This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs. Area seasonally ponded is > ½ total area of wetland	0
D	Total for D 1 Add the points in the boxes above	6
D	D 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields or orchards within 150 ft of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging Residential, urban areas, golf courses are within 150 ft of wetland Wetland is fed by groundwater high in phosphorus or nitrogen Other YES multiply score in D 1. by 2 NO multiply score in D 1. by 1	multiplier
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	6

D	Depressional and Flats Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream of	legradation
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)	0
D	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 0 D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet	0
D D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit	3
D	D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?	(see p. 49)
ע	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems	multiplier
	Wetland drains to a river or stream that has flooding problems	1
	 □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ Other	2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	6

	estions apply to wetlands of all HGM FUNCTIONS - Indicators that wetland fu		
	he wetland have the <u>potential</u> to provide ha	abitat for many species?	
Check the	han 10% of the area of the wetland if unit sm	ed by Cowardin) if the class is ½ acre or covers caller than 2.5 acres.	
	Aquatic bed		
	Emergent plants		
	Scrub/shrub (areas where shrubs have >30%	% cover)	
	Forested (areas where trees have >30% cov	rer)	1
Add the n	Forested areas have 3 out of 5 strata (canop cover) that each cover 20% within the fores umber of vegetation types that qualify. If you	ı have:	
		4 structures or morepoints = 4 3 structurespoints = 2	
		2 structurespoints = 1	
		1 structure points = 0	
Check the	operiods (see p. 73) etypes of water regimes (hydroperiods) prese re than 10% of the wetland or ½ acre to coun Permanently flooded or inundated	ent within the wetland. The water regime has to at. (see text for descriptions of hydroperiods) 4 or more types presentpoints = 3	
\boxtimes	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	1
	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or a	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent to	o, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Cour same Y D	species can be combined to meet the size thr ou do not have to name the species. On not include Eurasian milfoil, reed canarygo		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	2
H 1. TOTAL Score - potential for providing habitat <i>Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</i>	6

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
•	
⊠ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	3
☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK Points = 2	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
Buffer does not meet any of the criteria above	
H 2.2 <u>Corridors and Connections</u> (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to H 2.3) $NO = go to H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
W/h	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species	
2-3	of native fish and wildlife (full description in WDFW PHS report p. 152)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average	
	diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be	
	less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is	
	generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both	
	aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a	
	dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. <i>(full descriptions of habitats and the definition of the description)</i>	
	relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
	composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings.	
	May be associated with cliffs.	
\boxtimes	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay	
	characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast	
	height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are >	
	30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.	
	If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points	
	If wetland has 1 priority habitat = 1 point	
	No habitats = 0 points	
	ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
W	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	5
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	12
TOTAL for H1 from page 14	6
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	18

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a	Cat. II Dual rating I/II
Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. The wetland has at least 2 or the following features: tidal channels,	1/11
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon	Cat. I
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species 	Cat. II
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, 	
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. 	

between 0.1 and 1 acre? YES = Category III Category of wetland based on Special Characteristics	Cat. III
or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	Cat. II
 Grayland-Westport – lands west of SR 105 Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre 	
In practical terms that means the following geographic areas: - Long Beach Peninsula – lands west of SR 103	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating If you answer yes you will still need to rate the wetland based on its functions.	
SC 6.0 Interdunal Wetlands (see p. 93) Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of Upland Ownership or WBUO)?	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

						Date of	
	land (if known):	Wetland E	EB17			site visit:	6/19/2015
Rated by: R	. Crandall, . Kahlo	Trained by	Ecology?	Yes ⊠	No □ Date	of Training	09/2014
SEC: <u>03</u>	TWNSHP: 24N	RNGE:	05E Is	S/T/R in	Appendix D'	? Yes [□ No ⊠
Category b I □	ased on FUNC II □ III ⊠	SUMM. TIONS p					
Category Category Category	I = Score ≥70 II = Score 51-69 III = Score 30-50 IV = Score < 30 ased on SPEC	IAL CHA	RACTE	Score for Score	Water Quality I or Hydrologic I ore for Habitat I SAL score for f	Functions Functions Cunctions	6 6 23 35
	Final Categor	y (choose	the "higl	nest" c	ategory fro	m above)	III
Ch	neck the appropria	te type and	class of wet	and bei	ng rated.		
		tland Type			Wetland C		
	Estuarine	*** 41 3			essional ·		_
	Natural Heritage	e Wetland	L	River			_
	Bog Mature Forest		L		-fringe		4
	Mature Forest		L	Slope			4
	Old Growth For	est	L	Flats			-
	Coastal Lagoon Interdunal			resi	water Tidal		4
	т инегиния		1	1 1			1

None of the above

Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☐NO – go to 4 ☐YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). ☐ NO - go to 5 ☐ YES - The wetland class is Slope
	•

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\boxtimes NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \boxtimes NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. NO – go to 8 YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points			
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality				
D	D 1. Does the wetland have the potential to improve water quality?	(see p. 38)			
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet)points = 3 Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2	1			
	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES points = 4				
D	YES points = 4 NO points = 0	0			
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed, vegetation >= 95% of area	5			
D	D1.4 Characteristics of seasonal ponding or inundation. This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs. Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ½ total area of wetland points = 2 Area seasonally ponded is < ½ total area of wetland points = 0	0			
n	NOTE: See text for indicators of seasonal and permanent inundation. Total for D 1 Add the points in the boxes above	6			
D D		(see p. 44)			
D	D 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields or orchards within 150 ft of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging Residential, urban areas, golf courses are within 150 ft of wetland Wetland is fed by groundwater high in phosphorus or nitrogen Other				
D	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1 TOTAL - Water Quality Functions Multiply the score from D1 by D2				
	Add score to table on p. 1	6			

D	Depressional and Flats Wetlands				
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream of	legradation			
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)			
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)	0			
D	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 0 D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet	0			
D D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit	3			
D	1	(see p. 49)			
ע	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems				
	Wetland drains to a river or stream that has flooding problems	multiplier			
	 □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ Other	2			
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	6			

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat				
	ne wetland have the <u>potential</u> to provide ha			
H 1.1 Vegeta	ation structure (see p. 72)			
Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.				
	Aquatic bed			
\boxtimes	Emergent plants			
\boxtimes	Scrub/shrub (areas where shrubs have >30%	% cover)		
\boxtimes	Forested (areas where trees have >30% cov		4	
\boxtimes	`	by, sub-canopy, shrubs, herbaceous, moss/ground-		
	cover) that each cover 20% within the forested polygon			
Add the ni	umber of vegetation types that qualify. If you			
		4 structures or morepoints = 4 3 structurespoints = 2		
		2 structurespoints = 2		
		1 structurepoints = 0		
•	operiods (see p. 73)	-		
		ent within the wetland. The water regime has to		
		nt. (see text for descriptions of hydroperiods)		
	Permanently flooded or inundated	4 or more types presentpoints = 3		
	Seasonally flooded or inundated	3 types presentpoints = 2		
	Occasionally flooded or inundated	2 types presentpoints = 1	2	
	Saturated only	1 types presentpoints = 0		
\boxtimes	Permanently flowing stream or river in, or a	adjacent to, the wetland		
	Seasonally flowing stream in, or adjacent to	o, the wetland		
	Lake-fringe wetland = 2 points			
	Freshwater tidal wetland = 2 points			
	H 1.3. Richness of Plant Species (see p. 75)			
		that cover at least 10 ft ² . (different patches of the		
	species can be combined to meet the size thr ou do not have to name the species.	esnota)		
	o not include Eurasian milfoil, reed canaryg	rass, purple loosestrife, Canadian thistle		
	If you counted:	> 19 speciespoints = 2		
List spec	cies below if you want to:	5 - 19 speciespoints = 1		
		< 5 speciespoints = 0	1	

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	3
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	12

H 2. Does the wetland have the opportunity to provide habitat for many species?		
H 2.1 <u>Buffers</u> (see p. 80)		
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that		
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."		
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of		
circumference. No developed areas within undisturbed part of buffer.		
(relatively undisturbed also means no-grazing)		
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or		
open water > 50% circumference		
☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or		
open water >95% circumference		
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or		
open water > 25% circumference	2	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	2	
open water for > 50% circumference		
If buffer does not meet any of the criteria above		
No paved areas (except paved trails) or buildings within 25 m (80ft)		
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2		
☐ No paved areas or buildings within 50m of wetland for >50% circumference.		
Light to moderate grazing, or lawns are OK		
☐ Heavy grazing in buffer		
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference		
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland		
☐ Buffer does not meet any of the criteria abovePoints = 1		
H 2.2 Corridors and Connections (see p. 81)		
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either		
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native		
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least		
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are		
considered breaks in the corridor).		
YES = 4 points (go to $H 2.3$) NO = go to $H 2.2.2$		
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	0	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe		
wetland, if it does not have an undisturbed corridor as in the question above?		
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$		
H 2.2.3 Is the wetland:		
within 5 mi (8km) of a brackish or salt water estuary OR		
within 3 mi of a large field or pasture (>40 acres) OR		
within 1 mi of a lake greater than 20 acres?		
YES = 1 point NO = 0 points		

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wl	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
⊠ N	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Yote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	5
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	11
TOTAL for H1 from page 14	12
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	23

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of	
shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1.	NA
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known)	: Wetland EB18			Date of site visit:	6/24/2015
K. Crandall, Rated by: R. Kahlo		es 🗵			
SEC: 3 TWNSHP: 24				Yes □	
	SUMMARY OF	RAT	TING		
Category based on FUN	·	y wetl	and		
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30	0	Score for Sco	Water Quality Fuor Hydrologic Fuor Habitat Fuor Habitat Fuor For fur	nctions	4 10 13 27
Category based on SPE I □ II □ Does	CIAL CHARACTER not Apply \boxtimes	ISTI	CS of wetland	d	
	ory (choose the "high	est" c	ategory from	above)	IV
Check the approp	riate type and class of wetla	nd bei	ng rated.		
	Wetland Type	_	Wetland Cla		
Estuarine N-4			essional		
Natural Herita Bog	age wettand \Box	River	rine -fringe		
Mature Forest	<u> </u>	Slope			
Old Growth F		Flats			
Coastal Lagoo			water Tidal		
Interdunal					

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 □ YES − The wetland class is Slope

5. Does the entire wetland unit meet all of the following criteria?			
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.		
	☐ The overbank flooding occurs at least once every two years		
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.		
	\square NO - go to 6 \square YES – The wetland class is Riverine		
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional		
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \square NO – go to 8 \square YES – The wetland class is Depressional		
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes.		

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points			
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality				
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)			
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0			
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). $YES = 3$ points $NO = 0$ points	0			
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland area				
S	Total for S 1 Add the points in the boxes above	2			
S	S 2. Does the wetland have the <u>opportunity</u> to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.				
	☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields, logging or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging	multiplier 2			
	Residential, urban areas, or golf courses are within 150 ft upslope of wetland Other: YES multiplier is 2 NO multiplier is 1				
S	<u>TOTAL</u> - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	4			

S	Slope Wetlands	Points					
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream er						
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?						
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms.						
	Choose the points appropriate for the description that best fit conditions in the wetland. (stems						
	of plants should be thick enough (usually $> 1/8$ in), or dense enough, to remain erect during						
	surface flows)	3					
	Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6						
	Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3						
	Dense, uncut, rigid vegetation > 1/4 areapoints = 1						
	More than $1/4$ of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0						
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:						
	The slope wetland has small surface depressions that can retain water over at least 10% of	2					
	its area.						
	YES points = 2						
	NO points = 0						
S	Total for S 3 Add the points in the boxes above	5					
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70)						
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect						
	downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i>						
	which of the following conditions apply.						
	Wetland has surface runoff that drains to a river or stream that has flooding problems						
	☐ Other:						
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is						
	tidal fringe along the sides of a dike)						
	YES multiplier is 2 NO multiplier is 1						
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4	10					
	Add score to table on p. 1	10					

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat						
H 1. Does the wetland have the <u>potential</u> to provide habitat for many species?						
H 1.1 Vegetation structure (see p. 72)						
Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.						
	☐ Aquatic bed					
	Emergent plants					
\boxtimes	Scrub/shrub (areas where shrubs have >30%	cover)				
	Forested (areas where trees have >30% cover	er)	0			
	Forested areas have 3 out of 5 strata (canopy	y, sub-canopy, shrubs, herbaceous, moss/ground-				
A 11 11	cover) that each cover 20% within the forest	1				
Aaa tne ni	umber of vegetation types that qualify. If you	4 structures or morepoints = 4				
		3 structurespoints = 2				
		2 structurespoints = 1				
U 1 2 Under	operiods (see p. 73)	1 structurepoints = 0				
•	- · · · · · · · · · · · · · · · · · · ·	nt within the wetland. The water regime has to				
	re than 10% of the wetland or ¼ acre to count					
	Permanently flooded or inundated	4 or more types presentpoints = 3				
	Seasonally flooded or inundated	3 types presentpoints = 2				
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1			
\boxtimes	Saturated only	1 types presentpoints = 0	1			
	Permanently flowing stream or river in, or a	djacent to, the wetland				
	Seasonally flowing stream in, or adjacent to	, the wetland				
	Lake-fringe wetland = 2 points					
	Freshwater tidal wetland = 2 points					
	ness of Plant Species (see p. 75) t the number of plant species in the wetland the	nat cover at least 10 ft ² . (different patches of the				
same	species can be combined to meet the size thre					
	ou do not have to name the species.					
De	o not include Eurasian milfoil, reed canarygro If you counted:	ass, purple loosestrije, Canadian thistie > 19 speciespoints = 2				
List spec	cies below if you want to:	5 - 19 speciespoints = 1				
		< 5 speciespoints = 0	1			

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	
None = 0 points Low = 1 point Moderate = 2 points	_
	0
[riparian braided channels]	
High $= 3$ points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is	
always "high".	
H 1.5. <u>Special Habitat Features:</u> (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.	
☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).	
☐ Standing snags (diameter at the bottom > 4 inches) in the wetland	
Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m)	1
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present	
At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants	
Note: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	3

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	2
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Solve: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby artered are addressed in question H2.4.	
	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	5
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	10
TOTAL for H1 from page 14	3
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	13

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC \text{ 1.1} \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)			
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.			
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I		
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes			
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$			
SC 3.0 Bogs (see p. 87)			
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.			
 Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 			
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 			
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I		
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I		

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)		
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of		
Upland Ownership or WBUO)?		
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating		
If you answer yes you will still need to rate the wetland based on its functions.		
In practical terms that means the following geographic areas:		
 Long Beach Peninsula – lands west of SR 103 		
 Grayland-Westport – lands west of SR 105 		
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 		
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre		
or larger?		
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II	
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is		
between 0.1 and 1 acre?		
YES = Category III	Cat. III	
Category of wetland based on Special Characteristics		
Choose the "highest" rating if wetland falls into several categorie, and record on	NA	
p. 1 .		
If you answered NO for all types enter "Not Applicable" on p.1.		

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

			I	Date of	
Name of wetland (if know	n): Wetland EB19		S	site visit:	6/24/2015
Rated by: K. Crandall, R. Kahlo	Trained by Ecology?	Yes ⊠	No □ Date of	f Training	09/2014
SEC: 3 TWNSHP: _	24N RNGE: 05E Is 3	S/T/R in	Appendix D?	Yes \square	No 🗵
Category based on FU I □ II □ III	SUMMARY OF NCTIONS provided b				
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30 Category IV = Score < 30 Category IV = Score Score for Hydrologic Functions Score for Habitat Functions TOTAL score for functions TOTAL score for water Quality Functions 12 16 17 18 19 19 10 10 10 11 11 11 11 12 15 16 11 11 11 12 12 15 16 17 18 19 19 10 10 10 10 10 10 10 10 10 10 10 10 10					
	s not Apply ⊠ gory (choose the "high	iest" c	ategory from	above)	III
Check the appropriate type and class of wetland being rated.					
Estuarine	Wetland Type	Donre	Wetland Clas		
	itage Wetland	River	essional ine		
Bog			-fringe		
Mature For	est	Slope			
Old Growth		Flats			
Coastal Lag			water Tidal		
Interdunal					

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5

5.	Does the entire wetland unit meet all of the following criteria?		
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from		
	that stream or river.		
	☐ The overbank flooding occurs at least once every two years		
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not		
	flooding.		
	\square NO - go to 6 \square YES – The wetland class is Riverine		
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional		
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.		
	\square NO – go to 8 \square YES – The wetland class is Depressional		
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF		

Tour wettaild unit seems to be difficult to classify and probably contains several different from classes.
For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a
depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF
THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS
IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the
appropriate class to use for the rating system if you have several HGM classes present within your
wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10%
or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less
than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > ½ of areapoints = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of areapoints = 1 Does not meet any of the criteria above for vegetation	6
S	Total for S 1 Add the points in the boxes above	6
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields, logging or orchards within 150 ft of wetland A stream or culvert discharges into wetland that drains developed areas, residential	(see p. 67) multiplier 2
	areas, farmed fields, roads, or clear-cut logging ☐ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ☐ Other: ☐ YES multiplier is 2 NO multiplier is 1	
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	12

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream eros		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms.		
	Choose the points appropriate for the description that best fit conditions in the wetland. (stems		
	of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during		
	surface flows)	6	
	Dense, uncut, rigid vegetation covers $> 90\%$ of the area of the wetlandpoints = 6	O	
	Dense, uncut, rigid vegetation $> 1/2$ area of wetlandpoints = 3		
	Dense, uncut, rigid vegetation > 1/4 areapoints = 1		
	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0		
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:		
	The slope wetland has small surface depressions that can retain water over at least 10% of	2	
	its area.	2	
	YES points = 2		
	NO points = 0		
S	Total for S 3 Add the points in the boxes above	8	
\mathbf{S}	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70)		
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect		
	downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i>		
	which of the following conditions apply.		
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier	
	☐ Other:	2	
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is		
	tidal fringe along the sides of a dike)		
	YES multiplier is 2 NO multiplier is 1		
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4	16	
	Add score to table on p. 1	16	

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide ha	bitat for many species?	
Check the	han 10% of the area of the wetland if unit sma	d by Cowardin) if the class is ¼ acre or covers aller than 2.5 acres.	
	Aquatic bed		
	Emergent plants		
	Scrub/shrub (areas where shrubs have >30%		
	Forested (areas where trees have >30% coverage)	er)	0
☐ Add the n	Forested areas have 3 out of 5 strata (canopy cover) that each cover 20% within the forest umber of vegetation types that qualify. If you	1 10	
		4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1 1 structurepoints = 0	
H 1.2. <u>Hydroperiods (see p. 73)</u> Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ½ acre to count. (see text for descriptions of hydroperiods)			
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	0
\boxtimes	Saturated only	1 types presentpoints = 0	
	Permanently flowing stream or river in, or ac	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Cour same Y D	species can be combined to meet the size thre ou do not have to name the species. On not include Eurasian milfoil, reed canarygro		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	1

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	2
\square 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
Heavy grazing in bufferPoints = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to H 2.3) $NO = go to H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR	
within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	
1 Lo - 1 point 10 - 0 points	l

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wl	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
⊠ N	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
	retlands are addressed in question H2.4.	

2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	5
lake-fringe wetlands within ½ milepoints = 5	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them	
are disturbedpoints = 3	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within $\frac{1}{2}$ milepoints = 3	
There is at least 1 wetland within $\frac{1}{2}$ mile. points = 2	
There are no wetlands within $\frac{1}{2}$ mile. points = 0	
H 2. TOTAL Score - opportunity for providing habitat	10
Add the scores from H2.1, H2.2, H2.3, H2.4	10
TOTAL for H1 from page 14	1
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	11

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to SC } 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a fSpartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. \[\sum \text{At least } \frac{3}{4} \text{ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.} \[\sum \text{The wetland has at least 2 or the following features: tidal channels,} \]	Dual rating I/II
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

						Date	of		
Name of wetland	d (if known):	Wetland E	EB20			site	visit:	6/17/2	2015
Rated by: K. Ci	randall, hitson	Trained by	Ecology?	Yes 🗵	No 🗆	Date of Tra	aining	09/20	14
SEC: <u>10</u> TW	/NSHP: <u>24N</u>	RNGE:	<u>05E</u> Is	S/T/R i	n Append	lix D?	Yes □	No	\boxtimes
		SUMM	ARY O	F RA	ΓING				
Category base I □ Il		TIONS p IV 🗆	rovided	by wet	land				
Category I = Category II = Category III = Category IV =	Score 51-69 = Score 30-50		S	Score i	for Hydrol ore for Ha	ality Function ogic Function bitat Function of the forfunction of the	ons ons	12 16 8 36	
Category base		IAL CHA		RISTI	CS of w	vetland			
	nal Categor			hest'' c	ategory	y from ab	ove)	II	I
Check	the appropria	ite type and	class of we	land bei	ng rated.				
	We	tland Type			Wetla	and Class			
	stuarine				essional				
	atural Heritag	e Wetland		Rive					
	og				e-fringe				
	lature Forest			Slop					
	ld Growth For	est		☐ Flats					
	oastal Lagoon			Fres	hwater Ti	idal			
In	terdunal		Γ	7					

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	 Does the entire wetland unit meet all of the following criteria? ☑ The wetland is on a slope (slope can be very gradual), ☑ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☑ The water leaves the wetland without being impounded? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).
	\square NO – go to 5 \square YES – The wetland class is Slope

Wetland name or number: EB20

5.	Does the entire wetland unit meet all of the following criteria?
	\square The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high
	groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
	\square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number: EB20

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > 1/2 of area	6
S	Total for S 1 Add the points in the boxes above	6
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields, logging or orchards within 150 ft of wetland	(see p. 67) multiplier
	 ✓ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ✓ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ✓ Other: YES multiplier is 2 NO multiplier is 1 	<u>2</u>
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	12

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream experience of the stream of		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
\mathbf{S}	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms.		
	Choose the points appropriate for the description that best fit conditions in the wetland. (stems		
	of plants should be thick enough (usually $> 1/8$ in), or dense enough, to remain erect during		
	surface flows)	6	
	Dense, uncut, rigid vegetation covers $> 90\%$ of the area of the wetlandpoints = 6	O	
	Dense, uncut, rigid vegetation $> 1/2$ area of wetlandpoints = 3		
	Dense, uncut, rigid vegetation > 1/4 areapoints = 1		
	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0		
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:		
	The slope wetland has small surface depressions that can retain water over at least 10% of	2	
	its area.	2	
	YES $points = 2$ NO $points = 0$		
	•	0	
S	Total for S 3 Add the points in the boxes above	8	
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70)		
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect	(see p. 70)	
	downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i>		
	which of the following conditions apply.	1.1.11	
	Wetland has surface runoff that drains to a river or stream that has flooding problems*	multiplier	
	☐ Other:	2	
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is		
	tidal fringe along the sides of a dike)		
	YES multiplier is 2 NO multiplier is 1		
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4	16	
	Add score to table on p. 1	16	

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	ne wetland have the <u>potential</u> to provide ha		
	ation structure (see p. 72)		
	types of vegetation classes present (as define han 10% of the area of the wetland if unit smo	d by Cowardin) if the class is ¼ acre or covers aller than 2.5 acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30%	cover)	
	Forested (areas where trees have >30% cover	er)	1
	Forested areas have 3 out of 5 strata (canopy	y, sub-canopy, shrubs, herbaceous, moss/ground-	
A 11.1	cover) that each cover 20% within the forest		
Add the ni	umber of vegetation types that qualify. If you	4 structures or morepoints = 4	
		3 structurespoints = 2	
		2 structurespoints = 1	
U 1 2 Uude	operiods (see p. 73)	1 structurepoints = 0	
•	-	nt within the wetland. The water regime has to	
	re than 10% of the wetland or ½ acre to count		
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	0
\boxtimes	Saturated only	1 types presentpoints = 0	O
	Permanently flowing stream or river in, or a	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to	, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75) t the number of plant species in the wetland the	hat cover at least 10 ft ² . (different patches of the	
same	species can be combined to meet the size three		
	ou do not have to name the species.	aga numla la agastuifa Canadian thiada	
D	o not include Eurasian milfoil, reed canarygr If you counted:	> 19 speciespoints = 2	
List spec	cies below if you want to:	5 - 19 speciespoints = 1	
		< 5 speciespoints = 0	1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	3

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	1
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2	
No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
Buffer does not meet any of the criteria abovePoints = 1	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to $H 2.3$) NO = go to $H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	U
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	1
	Instream: The combination of physical, biological, and chemical processes and conditions that	1
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby tetlands are addressed in question H2.4.	

Wetland name or number: EB20

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	5
TOTAL for H1 from page 14	3
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	8

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category	
Check off any criteria that apply to the wetland. Circle the Category when the		
appropriate criteria are met.		
SC 1.0 Estuarine wetlands (see p. 86)		
Does the wetland unit meet the following criteria for Estuarine wetlands?		
☐ The dominant water regime is tidal,		
\square Vegetated, and		
☐ With a salinity greater than 0.5 ppt.		
$YES = Go \text{ to } SC \text{ 1.1} \qquad NO \boxtimes$		
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I	
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?		
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II	
rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.		
☐ The wetland has at least 2 or the following features: tidal channels,		
depressions with open water, or contiguous freshwater wetlands.		

SC 2.0 Natural Heritage Wetlands (see p. 87)				
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.				
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I			
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes				
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$				
SC 3.0 Bogs (see p. 87)				
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.				
 Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 				
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 				
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I			
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I			

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)		
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of		
Upland Ownership or WBUO)?		
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating		
If you answer yes you will still need to rate the wetland based on its functions.		
In practical terms that means the following geographic areas:		
 Long Beach Peninsula – lands west of SR 103 		
 Grayland-Westport – lands west of SR 105 		
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 		
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre		
or larger?		
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II	
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is		
between 0.1 and 1 acre?		
YES = Category III	Cat. III	
Category of wetland based on Special Characteristics		
Choose the "highest" rating if wetland falls into several categorie, and record on		
p. 1 .		
If you answered NO for all types enter "Not Applicable" on p.1.		

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known)	: Wetland G2B01			Date of site visit:	9/30/2015
R. Whitson, M. Foster	_ Trained by Ecology? Y	es 🗵	No □ Date o	of Training	03/2015
SEC: <u>09</u> TWNSHP: <u>24</u>	N RNGE: 05E Is S	/T/R in	Appendix D?	Yes \square	No ⊠
	SUMMARY OF	RAT	ING		
Category based on FUN I □ II ⊠ III □	-	y wetl	and		
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30 Category based on SPE		Score fo Sco TOT	Water Quality For Hydrologic For For Habitat For AL score for fu	unctions unctions unctions	16 26 15 57
-	not Apply ⊠				
Final Catego	ory (choose the "high	est" c	ategory fron	n above)	II
Check the appropriate type and class of wetland being rated.					
	Vetland Type		Wetland Cl	ass	
Estuarine		Depr	essional		
Natural Herita	nge Wetland	River		\boxtimes	
Bog		1	fringe		
Mature Forest		Slope			
Old Growth F		Flats			
Coastal Lagoo	n \Box	Fresh	water Tidal		
Interdunal	П				

None of the above

Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?	X*	
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/). Coho salmonid use and breeding have been documented here.

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). ☐ YES – The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\square NO - go to 6 \boxtimes YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. NO – go to 8 YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

R	Riverine and Freshwater Tidal Fringe Wetlands	Points				
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality					
R	R 1. Does the wetland have the <u>potential</u> to improve water quality?					
R	R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a					
	flooding event:					
	Depressions cover >3/4 area of wetlandpoints = 8	2				
	Depressions cover > 1/2 area of wetlandpoints = 4	2				
	Depressions present but cover < 1/2 area of wetlandpoints = 2					
	No depressions presentpoints = 0					
R	R 1.2 Characteristics of the vegetation in the wetland (areas with > 90% cover at person height):					
	Forest or shrub $> 2/3$ the area of the wetlandpoints = 8					
	Forest or shrub $> 1/3$ area of the wetland	6				
	Ungrazed, emergent plants > 2/3 area of wetlandpoints = 6	Ü				
	Ungrazed emergent plants > 1/3 area of wetlandpoints = 3					
	Forest, shrub, and ungrazed emergent $< 1/3$ area of wetlandpoints = 0					
R	Total for R 1 Add the points in the boxes above	8				
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields or orchards within 150 ft of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging Residential, urban areas, golf courses are within 150 ft of wetland The river or stream linked to the wetland has a contributing basin where human activities have raised levels of sediment, toxic compounds or nutrients in the river water above standards for water quality Other YES multiplier is 2 NO multiplier is 1	2 multiplier				
R	TOTAL - Water Quality Functions Multiply the score from R 1 by R 2 Add score to table on p. 1	16				

Comments

R	Riverine and Freshwater Tidal Fringe Wetlands				
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion				
	R 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 54)			
R	R 3.1 Characteristics of the overbank storage the wetland provides:				
	Estimate the average width of the wetland perpendicular to the direction of the flow and the				
	width of the stream or river channel (distance between banks). Calculate the ratio: (width of				
	wetland)/(width of stream).				
	If the ratio is more than 20points = 9	6			
	If the ratio is between $10 - 20$ points = 6				
	If the ratio is $5 - < 10$ points = 4				
	If the ratio is $1-<5$ points = 2				
	If the ratio is < 1 points = 1				
R	R 3.2 Characteristics of vegetation that slow down water velocities during floods: <i>Treat large</i>				
	woody debris as "forest or shrub". Choose the points appropriate for the best description.				
	(polygons need to have >90% cover at person height NOT Cowardin classes)	7			
	Forest or shrub for $>1/3$ area OR Emergent plants $> 2/3$ areapoints = 7	,			
	Forest or shrub for $> 1/10$ area OR Emergent plants $> 1/3$ areapoints = 4				
	Vegetation does not meet above criteriapoints = 0				
R	Total for R 3 Add the points in the boxes above	13			
R	R 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 57)				
	Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in				
	water velocity, it provides helps protect downstream property and aquatic resources from flooding				
	or excessive and/or erosive flows. <i>Note which of the following conditions apply.</i>				
	There are human structures and activities downstream (roads, buildings, bridges, farms)				
	that can be damaged by flooding.				
	\square There are natural resources downstream (e.g. salmon redds) that can be damaged by				
	flooding				
	☐ Other	<u>2</u>			
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is				
	tidal fringe along the sides of a dike)				
	YES multiplier is 2 NO multiplier is 1				
R		26			
N.	TOTAL - Hydrologic Functions Multiply the score from R 3 by R 4				
	Add score to table on p. 1				

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat				
	H 1. Does the wetland have the potential to provide habitat for many species?			
	ation structure (see p. 72)			
	types of vegetation classes present (as defind han 10% of the area of the wetland if unit sm	ed by Cowardin) if the class is ½ acre or covers naller than 2.5 acres.		
	Aquatic bed			
\boxtimes	Emergent plants			
	Scrub/shrub (areas where shrubs have >30%	% cover)		
	Forested (areas where trees have >30% cov	ver)	0	
	Forested areas have 3 out of 5 strata (canop	by, sub-canopy, shrubs, herbaceous, moss/ground-		
Add the n	cover) that each cover 20% within the forest umber of vegetation types that qualify. If you			
11000 000 00	annoer of regeration types than quality). Ly you	4 structures or morepoints = 4		
		3 structurespoints = 2		
		2 structurespoints = 1 1 structurepoints = 0		
H 1.2. Hydr	operiods (see p. 73)	1 structurepoints – 0		
Check the	types of water regimes (hydroperiods) prese	ent within the wetland. The water regime has to		
cover moi		nt. (see text for descriptions of hydroperiods)		
	Permanently flooded or inundated	4 or more types presentpoints = 3		
	Seasonally flooded or inundated	3 types presentpoints = 2		
	Occasionally flooded or inundated	2 types presentpoints = 1	2	
\boxtimes	Saturated only	1 types presentpoints = 0		
	Permanently flowing stream or river in, or a			
	Seasonally flowing stream in, or adjacent to	o, the wetland		
	Lake-fringe wetland = 2 points Freshwater tidal wetland = 2 points			
H 1 2 D: 1				
Coun	ness of Plant Species (see p. 75) t the number of plant species in the wetland to species can be combined to meet the size thr	that cover at least 10 ft ² . (different patches of the reshold)		
	ou do not have to name the species.			
D	o not include Eurasian milfoil, reed canaryg. If you counted:	rass, purple loosestrife, Canadian thistle > 19 speciespoints = 2		
List spec	cies below if you want to:	5 - 19 speciespoints = 2		
1	, ,	< 5 speciespoints = 0	1	
			1	

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	2
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	3
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	8

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
\square 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	_
\square 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	1
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2	
No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK	
Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) $NO = go to H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	Ü
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
XX71.	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
W	etlands are addressed in question H2.4.	<u> </u>

Wetland G2B01

2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	2
lake-fringe wetlands within ½ milepoints = 5	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within ½ milepoints = 3	
There is at least 1 wetland within ½ milepoints = 2	
There are no wetlands within ½ milepoints = 0	
H 2. TOTAL Score - opportunity for providing habitat	7
Add the scores from H2.1, H2.2, H2.3, H2.4	7
TOTAL for H1 from page 14	8
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	15

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\square The dominant water regime is tidal,	
\square Vegetated, and	
\square With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II Dual rating I/II
the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
YES = Category II $NO - go \text{ to } SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wet	land (if known):	Wetland IB01			Date of site visit:	10/7/2015
Rated by: A	. Hoenig	Trained by Ecology? Y	es 🗵	No □ Date	of Training	10/2015
SEC: <u>09</u>	TWNSHP: 24N	RNGE: <u>05E</u> Is S	T/R in	Appendix D?	Yes \square	No 🗵
		SUMMARY OF	RAT	CING		
Category ba I □	ased on FUNC	TIONS provided by IV ⊠	wetl	and		
Category Category Category		IAL CHARACTER	Score fo Sco TOT	Water Quality For Hydrologic Fore for Habitat Fore for for for fore for fore fore fore	Functions Functions Functions	6 8 12 26
		ot Apply ⊠ y (choose the "high	est" c	ategory froi	n above)	IV
Ch	eck the appropria	ate type and class of wetla	nd beii	ng rated.		
		etland Type	_	Wetland C		
	Estuarine			essional		
	Natural Heritag	e wetland	River			
	Bog Mature Forest		Slope	-fringe		
	Old Growth For	ect \Box	Flats	:		
		<u> </u>		www.tan Tidal		
	('nastal Lagoon	1.1	HPACE	iwajer i mai	1 1 1	
	Coastal Lagoon Interdunal		Fresi	water Tidal		

None of the above

 \boxtimes

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).
	\boxtimes NO – go to 5 \square YES – The wetland class is Slope

5.	Does the entire wetland unit meet an of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \boxtimes YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \bowtie YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \[\sum \text{NO} - \text{go to 8} \] \[\sum \text{YES} - \text{The wetland class is } \text{Depressional} \]
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN OUESTIONS 1-7 APPLY TO DIFFERENT AREAS

IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your

wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
D	D 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 38)		
	D 1.1 Characteristics of surface water flows out of the wetland:			
D	Unit is a depression with no surface water leaving it (no outlet)points = 3			
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints $= 2$			
	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 1	<u>3</u>		
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and			
	no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1			
	(If ditch is not permanently flowing treat unit as "intermittently flowing")			
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions).	0		
ע	YES points = 4 NO points = 0	0		
	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):			
D	Wetland has persistent, ungrazed, vegetation > = 95% of areapoints = 5			
ע	Wetland has persistent, ungrazed, vegetation $> = 1/2$ of area points $= 3$ Wetland has persistent, ungrazed, vegetation $> = 1/2$ of area points $= 3$	0		
	Wetland has persistent, ungrazed vegetation $> 1/2$ of areapoints = 1 Wetland has persistent, ungrazed vegetation $> 1/2$ of areapoints = 1			
	Wetland has persistent, ungrazed vegetation <1/10 of areapoints = 0			
	D1.4 Characteristics of seasonal ponding or inundation.			
D	This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime			
	during the year. Do not count the area that is permanently ponded. Estimate area as the			
	average condition 5 out of 10 yrs.	0		
	Area seasonally ponded is > ½ total area of wetlandpoints = 4			
	Area seasonally ponded is > \(\frac{1}{4} \) total area of wetlandpoints = 2			
	Area seasonally ponded is < 1/4 total area of wetlandpoints = 0			
	NOTE: See text for indicators of seasonal and permanent inundation.			
D	Total for D 1 Add the points in the boxes above	(see p. 44)		
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?			
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming			
	into the wetland that would otherwise reduce water quality in streams, lakes or groundwater			
	downgradient from the wetland? Note which of the following conditions provide the sources of			
	pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.			
	Untreated stormwater discharges to wetland			
	☐ Tilled fields or orchards within 150 ft of wetland	multiplier		
	☐ A stream or culvert discharges into wetland that drains developed areas, residential			
	areas, farmed fields, roads, or clear-cut logging	<u>2</u>		
	Residential, urban areas, golf courses are within 150 ft of wetland			
	☐ Wetland is fed by groundwater high in phosphorus or nitrogen			
	☐ Other			
	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1			
D	<u>TOTAL</u> - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	6		

D	Depresssional and Flats Wetlands		
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream deg		
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)	
D D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)	4	
	Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outletpoints = 7 The wetland is a "headwater" wetland"points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outletpoints = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outletpoints = 3 Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap waterpoints = 1 Marks of ponding less than 0.5 ftpoints = 0	0	
D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit	0	
D	D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?	(see p. 49)	
J.	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. **Note which of the following conditions apply.** Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other Drainage complaints in adjacent property	multiplier $\frac{2}{2}$	
	Uther <u>Drainage complaints in adjacent property</u>		
	☐ YES multiplier is 2 ☐ NO multiplier is 1		
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 <i>Add score to table on p. 1</i>	8	

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide ha		
Check the	tation structure (see p. 72) e types of vegetation classes present (as define than 10% of the area of the wetland if unit sm	ed by Cowardin) if the class is ¼ acre or covers aller than 2.5 acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
	Scrub/shrub (areas where shrubs have >30%	6 cover)	
	Forested (areas where trees have >30% cov	er)	0
Add the n	Forested areas have 3 out of 5 strata (canop cover) that each cover 20% within the fores umber of vegetation types that qualify. If you	thave:	
		4 structures or morepoints = 4 3 structurespoints = 2	
		2 structurespoints = 2	
		1 structure points = 0	
Check the	coperiods (see p. 73) cypes of water regimes (hydroperiods) presence than 10% of the wetland or 1/4 acre to countermanently flooded or inundated	ant within the wetland. The water regime has to to tt. (see text for descriptions of hydroperiods) 4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types present	
	Occasionally flooded or inundated	2 types presentpoints = 1	
	Saturated only	1 types presentpoints = 0	2
\boxtimes	Permanently flowing stream or river in, or a		
	Seasonally flowing stream in, or adjacent to	o, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)		
same Y D	e species can be combined to meet the size thro You do not have to name the species. Oo not include Eurasian milfoil, reed canarygn		
Dist spec	eces below g you want to.	< 5 speciespoints = 0	1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	1
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	4

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference	
☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference	1
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference	
If buffer does not meet any of the criteria above	
 No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
☐ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in bufferPoints = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
\boxtimes Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	1

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
⊠ N	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Yote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
w	etlands are addressed in question H2.4.	

Wetland IB01

I 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints = :	5
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	_ 3
lake-fringe wetlands within ½ milepoints = :	5
There are at least 3 other wetlands within ½ mile, BUT the connections between them	
are disturbedpoints = 1	3
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within ½ milepoints = 3	3
There is at least 1 wetland within ½ milepoints = 1	2
There are no wetlands within ½ milepoints =	0
H 2. TOTAL Score - opportunity for providing habita	at 8
Add the scores from H2.1, H2.2, H2.3, H2.	.4
TOTAL for H1 from page 1	4 4
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p.	1 12

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
\square With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II Dual rating I/II
the size threshold of 1 acre. At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
 Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES − Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. II
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
YES = Category II $NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

	and (if known): Whitson,	Wetland IB02			Date of site visit:	10/14/2015
Rated by: J.		Trained by Ecology? Y	es 🗵	No □Date o	of Training	03/2015
SEC: <u>16</u>	TWNSHP: 24N	RNGE: Is S	T/R in	Appendix D?	Yes □	No 🗵
		SUMMARY OF	RAT	TING		
Category ba I □	ased on FUNC	TIONS provided by IV ⊠	wetl	and		
Category l	I = Score ≥70 II = Score 51-69 III = Score 30-50 IV = Score < 30		Score fo Sco	Water Quality For Hydrologic Fore for Habitat For for for for for for for for for for f	unctions	8 10 7 25
	ased on SPEC	IAL CHARACTER ot Apply ⊠	ISTIO	CS of wetlar	nd	
]	Final Categor	y (choose the "high	est" c	ategory froi	n above)	IV
Cho	eck the appropria	te type and class of wetla	nd beiı			
_		etland Type	_	Wetland Cl		4
<u> </u>	Estuarine			essional •		4
-	Natural Heritage	e Wetland	River			-
-	Bog Mature Forest			-fringe	<u> </u>	-
	Mature Forest	ogt -	Slope	!		4
-	Old Growth For	est \Box	Flats	aveten Tidel		-
	Coastal Lagoon		rresh	water Tidal		-
	Interdunal					

None of the above

Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep).
	\boxtimes NO – go to 5 \square YES – The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?		
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.		
	_		
	☐ The overbank flooding occurs at least once every two years		
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not		
	flooding.		
	\boxtimes NO - go to 6 \square YES – The wetland class is Riverine		
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>		
	El 125 – The wettaild class is Depressional		
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.		
	\boxtimes NO – go to 8 \square YES – The wetland class is Depressional		
o	Voya watland unit sooms to be difficult to clossify and muchably contains soveral different HCM closses		

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
D	D 1. Does the wetland have the potential to improve water quality?	(see p. 38)
	D 1.1 Characteristics of surface water flows out of the wetland:	_
D	Unit is a depression with no surface water leaving it (no outlet)points = 3	
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints $= 2$	
	Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>)points = 1	<u>2</u>
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and	
	no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1	
	(If ditch is not permanently flowing treat unit as "intermittently flowing")	
_	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions).	
D	YES points = 4	0
	NO points = 0	
ъ	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):	
D	Wetland has persistent, ungrazed, vegetation > = 95% of areapoints = 5	0
	Wetland has persistent, ungrazed, vegetation $> = 1/2$ of area	0
	Wetland has persistent, ungrazed vegetation > = 1/10 of area	
	Wetland has persistent, ungrazed vegetation <1/10 of area	
D	This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime	
D	during the year. Do not count the area that is permanently ponded. Estimate area as the	
	average condition 5 out of 10 yrs.	
	Area seasonally ponded is $> \frac{1}{2}$ total area of wetlandpoints = 4	2
	Area seasonally ponded is $> \frac{1}{4}$ total area of wetland	
	Area seasonally ponded is $< \frac{1}{4}$ total area of wetland	
	NOTE: See text for indicators of seasonal and permanent inundation.	
D	Total for D 1 Add the points in the boxes above	4
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?	(see p. 44)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming	
	<u>into the wetland</u> that would otherwise reduce water quality in streams, lakes or groundwater	
	downgradient from the wetland? Note which of the following conditions provide the sources of	
	pollutants. A unit may have pollutants coming from several sources, but any single source would	
	qualify as opportunity.	
	☐ Grazing in the wetland or within 150 ft	
	☐ Untreated stormwater discharges to wetland	
	☐ Tilled fields or orchards within 150 ft of wetland	multiplier
	A stream or culvert discharges into wetland that drains developed areas, residential	
	areas, farmed fields, roads, or clear-cut logging	<u>2</u>
	Residential, urban areas, golf courses are within 150 ft of wetland	
	☐ Wetland is fed by groundwater high in phosphorus or nitrogen	
	☐ Other	
	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1	
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2	Q
	Add score to table on p. 1	8

D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)		
D 3. Does the wetland have the potential to reduce flooding and erosion? D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)	degradat	tion
D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditch	(see p.	
Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditch		
Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditch		
no obvious natural outlet, and/or outlet is a man-made ditch		
Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 0 D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet	2	
Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 0 D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet		
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the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet		
Marks of ponding are at least 3 ft or more above the surface or bottom of outlet		
The wetland is a "headwater" wetland"		
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet		
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	0	!
Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water		
trap water		
Marks of ponding less than 0.5 ft		
D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit		
Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit	+	
area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit		
The area of the basin is less than 10 times the area of the unit		
The area of the basin is 10 to 100 times the area of the unit	3	
Entire unit is in the FLATS class		
D Total for D 3 Add the points in the boxes above D 4. Does the wetland unit have the opportunity to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. □ Wetland is in a headwater of a river or stream that has flooding problems □ Wetland drains to a river or stream that has flooding problems □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ Other drainage complaints in downstream properties □ YES multiplier is 2 □ NO multiplier is 1		
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water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. **Note which of the following conditions apply.** Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems 2 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 2 Wetland drainage complaints in downstream properties 2 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 2 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 2 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 2 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 2 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 2 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 2 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 3 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 3 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding p	(see p.	. 49)
or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. **Note which of the following conditions apply.** Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Wetland has flooding problem		
by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other drainage complaints in downstream properties YES multiplier is 2 NO multiplier is 1		
90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other drainage complaints in downstream properties YES multiplier is 2 NO multiplier is 1		
flooding does not occur. Note which of the following conditions apply. Wetland is in a headwater of a river or stream that has flooding problems Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other drainage complaints in downstream properties YES multiplier is 2 NO multiplier is 1	a	
Note which of the following conditions apply. □ Wetland is in a headwater of a river or stream that has flooding problems □ Wetland drains to a river or stream that has flooding problems □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ Other drainage complaints in downstream properties □ YES multiplier is 2 □ NO multiplier is 1		
 □ Wetland is in a headwater of a river or stream that has flooding problems □ Wetland drains to a river or stream that has flooding problems □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ Other <u>drainage complaints in downstream properties</u> □ YES multiplier is 2 □ NO multiplier is 1 		
 □ Wetland drains to a river or stream that has flooding problems □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ Other <u>drainage complaints in downstream properties</u> □ YES multiplier is 2 □ NO multiplier is 1 		
 Wetland drains to a river or stream that has flooding problems Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other <u>drainage complaints in downstream properties</u> YES multiplier is 2 □ NO multiplier is 1 	multip	plier
a river or stream that has flooding problems Other drainage complaints in downstream properties YES multiplier is 2 NO multiplier is 1		_
 ✓ Other <u>drainage complaints in downstream properties</u> ✓ YES multiplier is 2 □ NO multiplier is 1 	2	
Add score to table on p. 1	10)

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide ha	· • •	
H 1.1 Veget	tation structure (see p. 72)	• •	
	types of vegetation classes present (as define han 10% of the area of the wetland if unit sm	ed by Cowardin) if the class is ¼ acre or covers aller than 2.5 acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
	Scrub/shrub (areas where shrubs have >30%	6 cover)	
	Forested (areas where trees have >30% coverage)	er)	0
	Forested areas have 3 out of 5 strata (canop	y, sub-canopy, shrubs, herbaceous, moss/ground-	
	cover) that each cover 20% within the fores	1 10	
Add the n	umber of vegetation types that qualify. If you		
		4 structures or morepoints = 4 3 structurespoints = 2	
		2 structurespoints = 1	
		1 structurepoints = 0	
	operiods (see p. 73)		
	e types of water regimes (hydroperiods) prese re than 10% of the wetland or ¼ acre to coun	nt within the wetland. The water regime has to t. (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
\boxtimes	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or a	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent to	o, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)		
		hat cover at least 10 ft ² . (different patches of the	
	species can be combined to meet the size three so do not have to name the species.	esnoia)	
	ou ao not nave to name the species. To not include Eurasian milfoil, reed canarygr	rass, purple loosestrife, Canadian thistle	
	If you counted:	> 19 speciespoints = 2	
List spe	cies below if you want to:	5 - 19 speciespoints = 1	
		< 5 speciespoints = 0	1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). ⊠ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	1
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	3

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
•	1
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water for > 50% circumference	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
\square Heavy grazing in bufferPoints = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	O
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to H 2.3) $NO = H^2 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	0
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
w	etlands are addressed in question H2.4.	

Wetland IB02

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	2
lake-fringe wetlands within ½ milepoints = 5	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them	
are disturbedpoints = 3	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within ½ milepoints = 3	
There is at least 1 wetland within $\frac{1}{2}$ milepoints = 2	
There are no wetlands within $\frac{1}{2}$ milepoints = 0	
H 2. TOTAL Score - opportunity for providing habitat	4
Add the scores from H2.1, H2.2, H2.3, H2.4	4
TOTAL for H1 from page 14	3
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	7

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
\square With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II Dual rating I/II
the size threshold of 1 acre. At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the	
 "bog" plant species in Table 3 are present, the wetland is a bog. 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)		
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>		
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.		
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth		
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I	
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?		
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.		
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)		
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I	
SC 5.1 Does the wetland meet all of the following three conditions?		
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).		
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II	
\Box The wetalnd is larger than 1/10 acre (4350 square feet)		
YES = Category I NO = Category II		

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wet	land (if known):	Wetland IB03			Date of site visit:	10/23/2015
Rated by: J.	. Whitson, Palmer	Trained by Ecology? Y	es ⊠	No □Date o	of Training	03/2015
SEC: <u>16</u>	TWNSHP: 24N	I_ RNGE: <u>05E</u> Is S	/T/R in	Appendix D?	Yes □	No 🗵
Category b	ased on FUNC	SUMMARY OF				
Ϊ́	II 🗆 III 🗆	IV 🗵			_	
-	$I = Score \ge 70$ $II = Score 51-69$	Sc		Water Quality F	<u> </u>	6
Category	III = Score 30-50			or Hydrologic F ore for Habitat F		6
Category	IV = Score < 30			AL score for f	+	12
Ι□	II □ Does no	IAL CHARACTEF ot Apply ⊠ ry (choose the "high				IV
Check the appropriate type and class of wetland being rated. Wetland Type Wetland Class						
	Estuarine			essional		
	Natural Heritag	e Wetland	River			_
				4'		1
	Bog			-fringe		4
	Mature Forest	out \Box	Slope			_
	Mature Forest Old Growth For	est	Slope Flats	:		_ _ _
	Mature Forest	rest	Slope Flats			- - - -

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria?
	\Box The vegetated part of the wetland is on the shores of a body of open water (without
	any vegetation on the surface) at least 20 acres (8 ha) in size;
	☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?
	\boxtimes NO – go to 4 \square YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria?
	☐ The wetland is on a slope (slope can be very gradual),
	☐ The water flows through the wetland in one direction (unidirectional) and usually comes from
	seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. The water leaves the wetland without being impounded?
	NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter
	and less than a foot deep). \square NO – go to 5 \square YES – The wetland class is Slope
	110 go to 3

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\boxtimes NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i> NO – go to 7 YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. NO – go to 8 YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes.

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)		
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0		
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0		
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland area	3		
S	Total for S 1 Add the points in the boxes above	3		
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields, logging or orchards within 150 ft of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging	(see p. 67) multiplier 2		
	Residential, urban areas, or golf courses are within 150 ft upslope of wetland Other YES multiplier is 2 NO multiplier is 1			
S	<u>TOTAL</u> - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	6		

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosi		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows)		
	Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0		
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	0	
\mathbf{S}	Total for S 3 Add the points in the boxes above	0	
S	S 4. Does the wetland have the opportunity to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. Wetland has surface runoff that drains to a river or stream that has flooding problems	(see p. 70)	
	Other Wetland drains to a ditch where it might otherwise flood the road or school property (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1	2	
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	0	

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide h		
	ration structure (see p. 72)	<u> </u>	
		ned by Cowardin) if the class is ½ acre or covers	
more t	han 10% of the area of the wetland if unit sn	naller than 2.5 acres.	
	Aquatic bed		
	Emergent plants		
	Scrub/shrub (areas where shrubs have >30		
	Forested (areas where trees have >30% co	ver)	0
	-	py, sub-canopy, shrubs, herbaceous, moss/ground-	
Addthon	cover) that each cover 20% within the fore	1 00	
Aaa ine n	umber of vegetation types that qualify. If yo	4 structures or morepoints = 4	
		3 structurespoints = 2	
		2 structurespoints = 1	
II 1 O II 1		1 structurepoints = 0	
	operiods (see p. 73) c types of water regimes (hydroperiods) pres	ent within the wetland. The water regime has to	
		nt. (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	0
\boxtimes	Saturated only	1 types presentpoints = 0	U
	Permanently flowing stream or river in, or	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent t	to, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)		
	* *	that cover at least 10 ft ² . (different patches of the	
	species can be combined to meet the size the outlined to mot have to name the species.	reshold)	
	ou ao not nave to name the species. o not include Eurasian milfoil, reed canarys	grass, purple loosestrife. Canadian thistle	
		> 19 speciespoints = 2	
List spe	cies below if you want to:	5 - 19 speciespoints = 1	
		< 5 speciespoints = 0	1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	1

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." \[\begin{align*} 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	1
\square 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water for > 50% circumference	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in bufferPoints = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	1

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	e descriptions of		
WDFW priority habitats, and the counties in which they can be found, in the PL	HS report		
http://wdfw.wa.gov/hab/phslist.htm)			
Which of the following priority habitats are within 330ft (100m) of the wetland?			
(NOTE: the connections do not have to be relatively undisturbed)			
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).			
Biodiversity Areas and Corridors: Areas of habitat that are relatively importan	at to various species		
of native fish and wildlife (full description in WDFW PHS report p. 152)			
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over			
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at lea forming a multi-layered canopy with occasional small openings; with at least 20 t trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands we diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown less that 100%; decay, decadence, numbers of snags, and quantity of large downed generally less than that found in old-growth; 80 - 200 years old west of the Casca	trees/ha (8 with average wn cover may be ed material is		
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations vecoverage of the oak component is important (full descriptions in WDFW PHS rep	2.7		
Riparian: The area adjacent to aquatic systems with flowing water that contains aquatic and terrestrial ecosystems which mutually influence each other.	elements of both		
Westside Prairies: Herbaceous, non-forested plant communities that can either dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	take the form of a		
Instream: The combination of physical, biological, and chemical processes and interact to provide functional life history requirements for instream fish and wildle	conditions that		
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal N Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and a relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendi	the definition of		
 □ Caves: A naturally occurring cavity, recess, void, or system of interconnected pare earth in soils, rock, ice, or other geological formations and is large enough to cont □ Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft. 	_		
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0. composed of basalt, andesite, and/or sedimentary rock, including riprap slides and May be associated with cliffs.	· · · · · · · · · · · · · · · · · · ·		
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit characteristics to enable cavity excavation/use by wildlife. Priority snags have a cheight of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points	diameter at breast Priority logs are >		
Note: All vegetated wetland are by definition a priority habitat but are not included wetlands are addressed in question H2.4.	in this list. Nearby		

Wetland IB03

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	2
lake-fringe wetlands within ½ mile points = 5	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them	
are disturbed points = 3	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within ½ milepoints = 3	
There is at least 1 wetland within $\frac{1}{2}$ milepoints = 2	
There are no wetlands within ½ mile	
H 2. TOTAL Score - opportunity for providing habitat	5
Add the scores from H2.1, H2.2, H2.3, H2.4	
TOTAL for H1 from page 14	1
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	6

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II Dual rating I/II
the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)	
S/T/R information from Appendix D \boxtimes or accessed from WNHP/DNR web site \square	Cat. I
YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO \square Not a Heritage Wetland	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
Yes - go to Q.3 NO ☑ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes − Is a bog for purpose of rating NO − go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO ⋈ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
YES = Category II $NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

			Date of	
Name of wetland (if known): Wetland IB04			site visit:	10/23/2015
Rated by: R. Whitson Trained by Ecology? Y	'es ⊠	No □Date	of Training	03/2015
SEC: 16 TWNSHP: 24N RNGE: 05E Is S	/T/R in	Appendix D'	? Yes □	No ⊠
SUMMARY OF Category based on FUNCTIONS provided b				
	y Weele			
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30	Score for Score	Vater Quality In Hydrologic In Hydrologic In Habitat In Lacore for 1	Functions Functions	16 0 9 25
•		S of wetla		
Category based on SPECIAL CHARACTER I □ II □ Does not Apply ⊠		S of wetla		
•	RISTIC		nd	III
$egin{array}{cccc} \mathbf{I} & \square & \mathbf{II} & \square & \mathbf{Does} \ \mathbf{not} \ \mathbf{Apply} & \boxtimes \end{array}$	RISTIC est" ca	tegory fro	nd	III
I □ II □ Does not Apply ⊠ Final Category (choose the "high Check the appropriate type and class of wetls Wetland Type	est" ca	tegory fro g rated. Wetland C	nd m above)	
I □ II □ Does not Apply ⊠ Final Category (choose the "high Check the appropriate type and class of wetle Wetland Type Estuarine □	est" ca	tegory frograted. Wetland Cossional	nd m above)	
I □ II □ Does not Apply ⊠ Final Category (choose the "high Check the appropriate type and class of wetls Wetland Type Estuarine □ Natural Heritage Wetland □	est" ca	tegory frograted. Wetland Cossional ne	nd m above)	
I □ II □ Does not Apply ⊠ Final Category (choose the "high Check the appropriate type and class of wetland Type Estuarine □ Natural Heritage Wetland □ Bog □	est" ca	tegory frograted. Wetland Cossional ne	nd m above)	
Final Category (choose the "high Check the appropriate type and class of wetland Type Estuarine Natural Heritage Wetland Bog Mature Forest	est" ca and being Depres Riverin Lake-f Slope	tegory frograted. Wetland Cossional ne	nd m above)	
I □ II □ Does not Apply ⊠ Final Category (choose the "high Check the appropriate type and class of wetland Type Estuarine □ Natural Heritage Wetland □ Bog □	est" ca and being Depres Riverin Lake-f Slope Flats	tegory frograted. Wetland Cossional ne	nd m above)	

None of the above

Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 $\square \square YES$ – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☐ NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). ☐ YES – The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\boxtimes NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \bowtie YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
D	D 1. Does the wetland have the potential to improve water quality?	(see p. 38)		
	D 1.1 Characteristics of surface water flows out of the wetland:			
D	Unit is a depression with no surface water leaving it (no outlet)points = 3			
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2			
	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 1	<u>1</u>		
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and			
	no obvious natural outlet , and/or outlet is a man-made ditchpoints = 1			
	(If ditch is not permanently flowing treat unit as "intermittently flowing")			
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions).			
D	YES points = 4	0		
	NO points = 0			
	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):			
D	Wetland has persistent, ungrazed, vegetation $> = 95\%$ of areapoints $= 5$			
	Wetland has persistent, ungrazed, vegetation $> = 1/2$ of areapoints $= 3$	5		
	Wetland has persistent, ungrazed vegetation $> 1/10$ of areapoints = 1			
	Wetland has persistent, ungrazed vegetation <1/10 of area			
_	D1.4 Characteristics of seasonal ponding or inundation.			
D	This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime			
	during the year. Do not count the area that is permanently ponded. Estimate area as the			
	average condition 5 out of 10 yrs.	2		
	Area seasonally ponded is $> \frac{1}{2}$ total area of wetland			
	Area seasonally ponded is $< \frac{1}{4}$ total area of wetland points = 0			
	NOTE: See text for indicators of seasonal and permanent inundation.			
D	Total for D 1 Add the points in the boxes above	8		
D	D 2. Does the wetland unit have the opportunity to improve water quality?	(see p. 44)		
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming	•		
	into the wetland that would otherwise reduce water quality in streams, lakes or groundwater			
	downgradient from the wetland? Note which of the following conditions provide the sources of			
	pollutants. A unit may have pollutants coming from several sources, but any single source would			
	qualify as opportunity.			
	☐ Grazing in the wetland or within 150 ft			
	☐ Untreated stormwater discharges to wetland			
	☐ Tilled fields or orchards within 150 ft of wetland	multiplier		
	☐ A stream or culvert discharges into wetland that drains developed areas, residential			
	areas, farmed fields, roads, or clear-cut logging	<u>2</u>		
		_		
	Residential, urban areas, golf courses are within 150 ft of wetland			
	☐ Wetland is fed by groundwater high in phosphorus or nitrogen			
	Other			
_	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1			
D	<u>TOTAL</u> - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	16		

D	Depressional and Flats Wetlands			
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degr			
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)		
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)	0		
D	D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet	0		
D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit	0		
D	Total for D 3 Add the points in the boxes above	0		
D	 D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply. □ Wetland is in a headwater of a river or stream that has flooding problems □ Wetland drains to a river or stream that has flooding problems □ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems □ OtherSheet flowing into parking lot and drainage complaints in downstream properties(iMap) ■ YES multiplier is 2 □ NO multiplier is 1	multiplier $\frac{2}{}$		
n	1			
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 **Add score to table on p. 1	0		

	estions apply to wetlands of all HGM FUNCTIONS - Indicators that wetland fu		
	he wetland have the <u>potential</u> to provide h		
H 1.1 Veget	tation structure (see p. 72)	ned by Cowardin) if the class is ½ acre or covers	
	han 10% of the area of the wetland if unit sn		
	Aquatic bed		
\boxtimes	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30°	% cover)	
	Forested (areas where trees have >30% cov	ver)	1
	Forested areas have 3 out of 5 strata (canop	py, sub-canopy, shrubs, herbaceous, moss/ground-	
	cover) that each cover 20% within the fore	1 10	
Add the n	umber of vegetation types that qualify. If yo		
		4 structures or morepoints = 4 3 structurespoints = 2	
		2 structurespoints = 1	
		1 structurepoints = 0	
	operiods (see p. 73)		
cover moi		ent within the wetland. The water regime has to nt. (see text for descriptions of hydroperiods)	
\boxtimes	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent t	o, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)	that cover at least 10 ft ² . (different patches of the	
	species can be combined to meet the size thi		
	ou do not have to name the species.		
D	o not include Eurasian milfoil, reed canaryg		
I :		> 19 speciespoints = 2	
List spe	cies below if you want to:	5 - 19 speciespoints = 1 < 5 speciespoints = 0	
		V 5 speciespoints = 0	1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	4

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing)	1
☐ Heavy grazing in buffer	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	İ
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	1

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	e descriptions of			
WDFW priority habitats, and the counties in which they can be found, in the PHS report				
http://wdfw.wa.gov/hab/phslist.htm)				
Which of the following priority habitats are within 330ft (100m) of the wetland?				
(NOTE: the connections do not have to be relatively undisturbed)				
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).				
Biodiversity Areas and Corridors: Areas of habitat that are relatively importan	at to various species			
of native fish and wildlife (full description in WDFW PHS report p. 152)				
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over				
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at lea forming a multi-layered canopy with occasional small openings; with at least 20 t trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands we diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown less that 100%; decay, decadence, numbers of snags, and quantity of large downed generally less than that found in old-growth; 80 - 200 years old west of the Casca	trees/ha (8 with average wn cover may be ed material is			
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations vecoverage of the oak component is important (full descriptions in WDFW PHS rep	2.7			
Riparian: The area adjacent to aquatic systems with flowing water that contains aquatic and terrestrial ecosystems which mutually influence each other.	elements of both			
Westside Prairies: Herbaceous, non-forested plant communities that can either dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	take the form of a			
Instream: The combination of physical, biological, and chemical processes and interact to provide functional life history requirements for instream fish and wildle	conditions that			
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal N Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and a relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendi	the definition of			
 □ Caves: A naturally occurring cavity, recess, void, or system of interconnected pare earth in soils, rock, ice, or other geological formations and is large enough to cont □ Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft. 	_			
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0. composed of basalt, andesite, and/or sedimentary rock, including riprap slides and May be associated with cliffs.	· · · · · · · · · · · · · · · · · · ·			
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit characteristics to enable cavity excavation/use by wildlife. Priority snags have a cheight of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points	diameter at breast Priority logs are >			
Note: All vegetated wetland are by definition a priority habitat but are not included wetlands are addressed in question H2.4.	in this list. Nearby			

Wetland IB04

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	5
TOTAL for H1 from page 14	4
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	9

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type		
Check off any criteria that apply to the wetland. Circle the Category when the		
appropriate criteria are met.		
SC 1.0 Estuarine wetlands (see p. 86)		
Does the wetland unit meet the following criteria for Estuarine wetlands?		
\Box The dominant water regime is tidal,		
\square Vegetated, and		
\square With a salinity greater than 0.5 ppt.		
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$		
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I	
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?		
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are aof Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II Dual rating I/II	
the size threshold of 1 acre. At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.		

SC 2.0 Natural Heritage Wetlands (see p. 87)					
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.					
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D or accessed from WNHP/DNR web					
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes					
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$					
SC 3.0 Bogs (see p. 87)					
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.</i>					
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2					
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 					
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.					
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I				

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)		
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of		
Upland Ownership or WBUO)?		
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating		
If you answer yes you will still need to rate the wetland based on its functions.		
In practical terms that means the following geographic areas:		
 Long Beach Peninsula – lands west of SR 103 		
 Grayland-Westport – lands west of SR 105 		
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 		
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre		
or larger?	Cat. II	
YES = Category II $NO - go to SC 6.2$		
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is		
between 0.1 and 1 acre?		
YES = Category III	Cat. III	
Category of wetland based on Special Characteristics		
Choose the "highest" rating if wetland falls into several categorie, and record on		
p. 1 .		
If you answered NO for all types enter "Not Applicable" on p.1.		

/WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wet	land (if known):	Wetland J	B01			Date of site visit:	7/1/2015
	. Kahlo, . Hoenig	Trained by	Ecology? Y	es 🗵	No □ Date	e of Training	09/2014
SEC: <u>10</u>	TWNSHP: 24N	RNGE:	<u>05E</u> Is S	T/R in	Appendix D	? Yes \square	No ⊠
		SUMM	IARY OF	RA'	ΓING		
Category I I □	based on FUN(II □ III ⊠	CTIONS IV 🗆	provided b	y wet	land		
Categor Categor	Category I = Score \geq 70Score for Water Quality Functions6Category II = Score 51-69Score for Hydrologic Functions16Category III = Score 30-50Score for Habitat Functions19Category IV = Score $<$ 30TOTAL score for functions41					16 19	
Category based on SPECIAL CHARACTERISTICS of wetland							
Ι□	II □ Does n Final Catego	ot Apply		nest" o	category fr	om above)	III
C	Check the appropriate type and class of wetland being rated.						
		tland Type			Wetland (
	Estuarine	*** /1 *			essional		
	Natural Heritage	Wetland		River			
	Bog Mature Forest				fringe		
	Mature Forest Old Growth Fore	nat.		Slope			
		est		Flats	water Tidal		
	Coastal Lagoon Interdunal			rresn	water Hual		
	mici uullai			i			I

 \times

Check if unit has multiple

HGM classes present

None of the above

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5

Wetland name or number: JB01

5.	• Does the entire wetland unit meet all of the following criteria?		
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from		
	that stream or river.		
	☐ The overbank flooding occurs at least once every two years		
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not		
	flooding.		
	\square NO - go to 6 \square YES – The wetland class is Riverine		
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland.		
	\square NO – go to 7 \square YES – The wetland class is Depressional		
_			
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.		
	\square NO – go to 8 \square YES – The wetland class is Depressional		
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes.		

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points			
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality				
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)			
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	0			
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0			
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland area				
S	Total for S 1 Add the points in the boxes above	3			
S	S 2. Does the wetland have the <u>opportunity</u> to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft	(see p. 67)			
	Untreated stormwater discharges to wetland □ Tilled fields, logging or orchards within 150 ft of wetland □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, or golf courses are within 150 ft upslope of wetland □ Other: YES multiplier is 2 NO multiplier is 1	multiplier 2			
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	6			

S	Slope Wetlands	Points				
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream ero					
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)				
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms.					
	Choose the points appropriate for the description that best fit conditions in the wetland. (stems					
	of plants should be thick enough (usually $> 1/8$ in), or dense enough, to remain erect during					
	surface flows)	6				
	Dense, uncut, rigid vegetation covers $> 90\%$ of the area of the wetland points $= 6$					
	Dense, uncut, rigid vegetation $> 1/2$ area of wetland					
	Dense, uncut, rigid vegetation $> 1/4$ area					
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:					
	The slope wetland has small surface depressions that can retain water over at least 10% of					
	its area.	2				
	YES $points = 2$					
	NO points = 0					
S	Total for S 3 Add the points in the boxes above	8				
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70)					
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect					
	downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note</i>					
	which of the following conditions apply.					
	Wetland has surface runoff that drains to a river or stream that has flooding problems					
	☐ Other:					
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is					
	tidal fringe along the sides of a dike)					
	YES multiplier is 2 NO multiplier is 1					
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4	16				
	Add score to table on p. 1					

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat					
	H 1. Does the wetland have the potential to provide habitat for many species?				
H 1.1 Vegetation structure (see p. 72)					
Check the types of vegetation classes present (as defined by Cowardin) if the class is ¼ acre or covers more than 10% of the area of the wetland if unit smaller than 2.5 acres.					
☐ Aquatic bed					
\boxtimes	Emergent plants				
\boxtimes	Scrub/shrub (areas where shrubs have >30%	cover)			
\boxtimes	Forested (areas where trees have >30% cover	er)	2		
	Forested areas have 3 out of 5 strata (canopy	y, sub-canopy, shrubs, herbaceous, moss/ground-			
	cover) that each cover 20% within the forest	1			
Add the ni	umber of vegetation types that qualify. If you	have: 4 structures or more points = 4			
		3 structures			
		2 structures points = 1			
		1 structure points = 0			
•	operiods (see p. 73)				
	types of water regimes (hydroperiods) preseive than 10% of the wetland or ½ acre to count	nt within the wetland. The water regime has to t. (see text for descriptions of hydroperiods)			
	Permanently flooded or inundated	4 or more types presentpoints = 3			
	Seasonally flooded or inundated	3 types present points = 2			
\boxtimes	Occasionally flooded or inundated	2 types present points = 1	1		
\boxtimes	Saturated only	1 types presentpoints = 0	1		
	Permanently flowing stream or river in, or a	djacent to, the wetland			
	Seasonally flowing stream in, or adjacent to	, the wetland			
	Lake-fringe wetland = 2 points				
	Freshwater tidal wetland = 2 points				
	ness of Plant Species (see p. 75)	. 2			
	* *	nat cover at least 10 ft ² . (different patches of the			
	species can be combined to meet the size thre out to not have to name the species.	isnoia)			
	o not include Eurasian milfoil, reed canarygr	ass, purple loosestrife, Canadian thistle			
	If you counted:	> 19 species points = 2			
List spec	cies below if you want to:	5 - 19 species points = 1			
		< 5 species points = 0	2		

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point	3
always "high". H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	3
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	11

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
\square 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
	1
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2	
\square No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to $H 2.3$) NO = go to $H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	0
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?	
Wetfand, if it does not have an undisturbed corridor as in the question above? $YES = 2 \text{ points} (go \text{ to } H \text{ 2.3}) \qquad NO = H \text{ 2.2.3}$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.	3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
7	Which of the following priority habitats are within 330ft (100m) of the wetland?	
(.	NOTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	7
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points	
	Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other development	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile	
There is at least 1 wetland within $\frac{1}{2}$ mile	
There are no wetlands within ½ mile	
H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i>	8
TOTAL for H1 from page 14	11
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	19

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met. SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
YES = Go to SC 1.1 NO \boxtimes	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are a f Spartina would be rated a Category II while the	Cat. II
relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. \[\sum \text{At least } \frac{3}{4} of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. \[\sum \text{The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Dual rating I/II

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⊠ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	Cau 1
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)			
Does the wetland have at least 1 acre of forest that meet one of these criteria for			
the Department of Fish and Wildlife's forests as priority habitats? If you answer			
yes you will still need to rate the wetland based on its functions.			
yes you will still need to rate the wetland based on its functions. □ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter. □ Mature forests: (west of the Cascade crest) Stands where the largest trees are			
80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm);			
crown cover may be less than 100%; decay, decadence, numbers of snags, and			
quanitity of large downed material is generally less than that found in old-growth			
	Cat. I		
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics			
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)			
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?			
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.			
\Box The lagoon in which the wetland is located contains surgace water that is			
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)			
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon			
125 Co to be 5.1 100 E not a westand in a coastan lagoon	Cat. I		
SC 5.1 Does the wetland meet all of the following three conditions?			
SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).			
 □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, 	Cat. II		
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.			
 □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. □ The wetalnd is larger than 1/10 acre (4350 square feet) 			
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.			

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

/WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

				Date of		
Name of wetland (if kn	own): Wetland JB02			site visit:	7/20/2015	
Rated by: K. Crandall, M. Foster		ogy? Yes ⊠	No □ Date o	of Training	09/2014	
SEC: 15 TWNSHP	: <u>24N</u> RNGE: <u>05E</u>	Is S/T/R	in Appendix D?	Yes \square	No 🗵	
<u> </u>	SUMMARY FUNCTIONS provid					
$I \square II \square$ Category $I = Score \ge \square$		Score for	· Water Quality Fu	nctions	0	
Category II = Score : Category III = Score			Score for Hydrologic Functions 0			
Category IV = Score < 30			Score for Habitat Functions 7			
		ТО	TAL score for fu	nctions	7	
Category based on SPECIAL CHARACTERISTICS of wetland I □ II □ Does not Apply ⊠						
Final Ca	ntegory (choose the '	'highest''	category fron	above)	IV	
Check the appropriate type and class of wetland being rated.						
Estuarino	Wetland Type	☐ Dep	Wetland Claressional			
Natural Heritage Wetland			erine			
Bog			e-fringe			
Mature F	orest	□ Slop		\boxtimes		
Old Grov	vth Forest	☐ Flat				
Coastal I	agoon	☐ Free	shwater Tidal			
Interdun	al					

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 $\square \square YES$ – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 □ YES − The wetland class is Slope

5. Does the entire wetland unit meet all of the following criteria?		
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from	
	that stream or river.	
	☐ The overbank flooding occurs at least once every two years	
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not	
	flooding.	
	\square NO - go to 6 \square YES – The wetland class is Riverine	
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional	
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. □ NO – go to 8 □ YES – The wetland class is Depressional	
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides, GO BACK AND IDENTIFY WHICH OF	

depressional wettaild has a zone of flooding along its sides. GO BACK AND IDENTIFY WITHER OF
THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS
IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the
appropriate class to use for the rating system if you have several HGM classes present within your
wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10%
or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less
than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points	
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)	
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0	
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). $YES = 3$ points $NO = 0$ points	0	
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > ½ of area	0	
S	Total for S 1 Add the points in the boxes above	0	
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.		
	☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields, logging or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☐ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ☐ Other: ☐ YES multiplier is 2 NO multiplier is 1	multiplier 2	
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	0	

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1	0	
S	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0 S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	0	
S	Total for S 3 Add the points in the boxes above	0	
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply.	(see p. 70)	
	 ✓ Wetland has surface runoff that drains to a river or stream that has flooding problems ✓ Other: (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1 	2	
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	0	

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	ne wetland have the <u>potential</u> to provide ha		
H 1.1 Veget	ation structure (see p. 72)		
		ed by Cowardin) if the class is ¼ acre or covers	
	han 10% of the area of the wetland if unit sm	taller than 2.5 acres.	
	Aquatic bed		
	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30%		
	Forested (areas where trees have >30% cov	ver)	1
		by, sub-canopy, shrubs, herbaceous, moss/ground-	
A 11 (1	cover) that each cover 20% within the fores	1 00	
Aaa tne ni	umber of vegetation types that qualify. If you	4 structures or morepoints = 4	
		3 structurespoints = 2	
		2 structurespoints = 1	
II 1 0 II 1.	72)	1 structurepoints = 0	
•	operiods (see p. 73) types of water regimes (hydroperiods) prese	ent within the wetland. The water regime has to	
	e than 10% of the wetland or ½ acre to coun		
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
	Occasionally flooded or inundated	2 types presentpoints = 1	0
\boxtimes	Saturated only	1 types presentpoints = 0	U
	Permanently flowing stream or river in, or a	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent to	o, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)		
		that cover at least 10 ft ² . (different patches of the	
	species can be combined to meet the size throw ou do not have to name the species.	esnoia)	
	o not include Eurasian milfoil, reed canarygi	rass, purple loosestrife, Canadian thistle	
	If you counted:	> 19 speciespoints = 2	
List spec	cies below if you want to:	5 - 19 speciespoints = 1	
		< 5 speciespoints = 0	0

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points	1
High = 3 points [riparian braided channels]	1
NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.	
☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).	
☐ Standing snags (diameter at the bottom > 4 inches) in the wetland	
Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m)	1
Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present	
☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are	
permanently or seasonally inundated.(structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	3

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
	1
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference	
open water for > 50% circumference	
<u> </u>	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	0
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
□ N	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
W	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	4
TOTAL for H1 from page 14	3
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	7

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of	
shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □ YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO □ Not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87)	
 Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions. 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes - Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES − Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

/WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
Name of wet	land (if known):	Wetland JB03			site visit:	7/20/2015
	. Crandall, I. Foster	Trained by Ecology? Y	es 🗵	No □ Date	of Training	09/2014
SEC: <u>15</u>	TWNSHP: 24N	RNGE: <u>05E</u> Is S	/T/R in	Appendix D?	Yes \square	No 🗵
Category ba I □	ased on FUNC II □ III □	SUMMARY OF TIONS provided by IV 🖂				
Category Category Category	I = Score ≥70 II = Score 51-69 III = Score 30-50 IV = Score < 30 ased on SPEC		Score for Score TOT.	Vater Quality For Hydrologic For Habitat For Habitat For for for for for for for for for for f	unctions unctions unctions	0 0 7 7
Ι□	II □ Does no	ot Apply ⊠				
	Final Categor	y (choose the "high	est" ca	ntegory fron	n above)	IV
Ch		te type and class of wetla	nd bein			
		etland Type	D	Wetland C		
	Estuarine Natural Heritage	Welland		essional		
	Bog		River	ine fringe		
	Mature Forest		Slope	mige		
	Old Growth For	est \Box	Flats			
	Coastal Lagoon			water Tidal		
	Interdunal		110011	,, acci iluui		

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?
	\boxtimes NO – go to 4 \square YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 ■ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes.
	For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)		
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0		
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). $YES = 3$ points $NO = 0$ points	0		
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > ½ of area	0		
S	Total for S 1 Add the points in the boxes above	0		
S	S 2. Does the wetland have the <u>opportunity</u> to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.			
	☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields, logging or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☐ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ☐ Other: ☐ YES multiplier is 2 NO multiplier is 1	multiplier 2		
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	0		

S	Slope Wetlands	Points			
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream eros				
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)			
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0	0			
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	0			
S	Total for S 3 Add the points in the boxes above	0			
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i>	(see p. 70)			
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier			
	☐ Other: (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1	2			
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	0			

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide ha	abitat for many species?	
Check the	Aquatic bed Emergent plants Scrub/shrub (areas where shrubs have >30% Forested (areas where trees have >30% covered)	6 cover) er) y, sub-canopy, shrubs, herbaceous, moss/ground- sted polygon	1
		3 structurespoints = 2	
		2 structurespoints = 1 1 structurepoints = 0	
Check the cover mod	Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or a Seasonally flowing stream in, or adjacent to Lake-fringe wetland = 2 points Freshwater tidal wetland = 2 points	ant within the wetland. The water regime has to at. (see text for descriptions of hydroperiods) 4 or more types presentpoints = 3 3 types presentpoints = 2 2 types presentpoints = 1 1 types presentpoints = 0 adjacent to, the wetland	0
Cour same Y D	e species can be combined to meet the size thro You do not have to name the species. Oo not include Eurasian milfoil, reed canarygn		0

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	1
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	3

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
	1
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference	
open water for > 50% circumference	
<u> </u>	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	0
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
□ N	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
W	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	2
lake-fringe wetlands within ½ milepoints = 5	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them	
are disturbedpoints = 3	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within ½ milepoints = 3	
There is at least 1 wetland within $\frac{1}{2}$ milepoints = 2	
There are no wetlands within $\frac{1}{2}$ milepoints = 0	
H 2. TOTAL Score - opportunity for providing habitat	4
Add the scores from H2.1, H2.2, H2.3, H2.4	4
TOTAL for H1 from page 14	3
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	7

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to SC } 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)	
S/T/R information from Appendix D ⊠ or accessed from WNHP/DNR web site □	Cat. I
YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?	
YES = Category I NO \square Not a Heritage Wetland	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	- 33 2

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

/WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
Name of wetl	land (if known):	Wetland JB04			site visit:	8/11/2015
	. Crandall,			_		
Rated by: M	I. Foster	Trained by Ecology?	Yes ⊠	No □ Date	of Training	09/2014
SEC: 21	TWNSHP: 24N	RNGE: 05E Is	S/T/R in	Appendix D	? Yes □	No 🗵
		SUMMARY O	F RAT	TING		
Category ba	ased on FUNC	TIONS provided	oy wetl	and		
$\mathbf{I} \square$	II 🗆 III 🗆	$\mathbf{IV} \boxtimes$				
Category Category	I = Score ≥70 II = Score 51-69 III = Score 30-50 IV = Score < 30	S	Score for	Water Quality I or Hydrologic I re for Habitat I AL score for f	Functions Functions	2 6 9
			101	1111 50010 101 1		17
Category he	ased on SPFC	IAL CHARACTE	RISTI	S of wetla	nd	
•				ob of wella	IIU	
Ι□	II □ Does no	ot Apply ⊠				
	Final Categor	y (choose the "hig	nest'' ca	ategory fro	m above)	IV
Ch	eck the appropria	te type and class of wet	land beii	ng rated.		
		tland Type		Wetland C		
	Estuarine			essional		
	Natural Heritage	e Wetland	River			
	Bog			fringe		
	Mature Forest		Slope			
	Old Growth For	est	Flats	4 MO 1 1		
	Coastal Lagoon] Fresh	water Tidal		
	Interdunal	L				

None of the above

Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)?
	\boxtimes NO – go to 4 \square YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 ■ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
	\square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points			
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality				
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)			
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft				
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0			
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > 1/2 of areapoints = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of areapoints = 1 Does not meet any of the criteria above for vegetationpoints = 0				
S	Total for S 1 Add the points in the boxes above	1			
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft				
	☐ Untreated stormwater discharges to wetland	multiplier			
	☐ Tilled fields, logging or orchards within 150 ft of wetland				
	 □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, or golf courses are within 150 ft upslope of wetland □ Other: YES multiplier is 2 NO multiplier is 1 	<u>2</u>			
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	2			

S	Slope Wetlands	Points				
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion					
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)				
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1	1*				
S	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0 S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2				
S	Total for S 3 Add the points in the boxes above	3				
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply.	(see p. 70)				
	Wetland has surface runoff that drains to a river or stream that has flooding problems					
	☐ Other: (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1	2				
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	6				

Comments

^{*}Wetland in corridor recently mowed.

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat				
	he wetland have the <u>potential</u> to provide h			
	tation structure (see p. 72)			
	e types of vegetation classes present (as defir than 10% of the area of the wetland if unit sn	ned by Cowardin) if the class is ½ acre or covers naller than 2.5 acres.		
	Aquatic bed			
\boxtimes	Emergent plants			
\boxtimes	Scrub/shrub (areas where shrubs have >30	% cover)		
	Forested (areas where trees have >30% co	ver)	1	
	Forested areas have 3 out of 5 strata (cano	py, sub-canopy, shrubs, herbaceous, moss/ground-		
	cover) that each cover 20% within the fore			
Add the n	umber of vegetation types that qualify. If yo			
		4 structures or morepoints = 4 3 structurespoints = 2		
		2 structurespoints = 1		
		1 structure points = 0		
	operiods (see p. 73)			
		ent within the wetland. The water regime has to nt. (see text for descriptions of hydroperiods)		
	Permanently flooded or inundated	4 or more types presentpoints = 3		
	Seasonally flooded or inundated	3 types presentpoints = 2		
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1	
\boxtimes	Saturated only	1 types presentpoints = 0	1	
	Permanently flowing stream or river in, or	adjacent to, the wetland		
	Seasonally flowing stream in, or adjacent to	to, the wetland		
	Lake-fringe wetland = 2 points			
	Freshwater tidal wetland = 2 points			
	ness of Plant Species (see p. 75)	that cover at least 10 ft ² . (different patches of the		
	e species can be combined to meet the size th			
	ou do not have to name the species.			
D	o not include Eurasian milfoil, reed canarys			
T		> 19 speciespoints = 2		
List spe	cies below if you want to:	5 - 19 speciespoints = 1 < 5 speciespoints = 0		
		< 5 speciespoints = 0	1	

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	4

H 2. Does the wetland have the opportunity to provide habitat for many species?		
H 2.1 <u>Buffers</u> (see p. 80)		
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that		
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."		
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of		
circumference. No developed areas within undisturbed part of buffer.		
(relatively undisturbed also means no-grazing)		
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or		
open water > 50% circumference		
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or		
open water >95% circumference		
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or		
open water > 25% circumference		
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	1	
open water for > 50% circumference		
If buffer does not meet any of the criteria above		
□ No paved areas (except paved trails) or buildings within 25 m (80ft)		
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2		
No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK		
Heavy grazing in buffer		
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference		
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland		
☐ Buffer does not meet any of the criteria above		
H 2.2 Corridors and Connections (see p. 81)		
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either		
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native		
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least		
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are		
considered breaks in the corridor).		
YES = 4 points (go to $H 2.3$) NO = go to $H 2.2.2$		
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0	
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	0	
wetland, if it does not have an undisturbed corridor as in the question above?		
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$		
H 2.2.3 Is the wetland:		
within 5 mi (8km) of a brackish or salt water estuary OR		
within 3 mi of a large field or pasture (>40 acres) OR		
within 1 mi of a lake greater than 20 acres?		
YES = 1 point NO = 0 points		

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
	http://wdfw.wa.gov/hab/phslist.htm) sich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	1
	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby etlands are addressed in question H2.4.	
W	enanas are adaressea in question fiz.4.	<u> </u>

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	3
lake-fringe wetlands within ½ milepoints = 5	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them	
are disturbedpoints = 3	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within ½ milepoints = 3	
There is at least 1 wetland within $\frac{1}{2}$ milepoints = 2	
There are no wetlands within $\frac{1}{2}$ milepoints = 0	
H 2. TOTAL Score - opportunity for providing habitat	_
Add the scores from H2.1, H2.2, H2.3, H2.4	5
TOTAL for H1 from page 14	4
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	9

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to SC } 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a fSpartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	Dual rating I/II
☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)	
S/T/R information from Appendix D ⊠ or accessed from WNHP/DNR web site □	Cat. I
YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?	
$YES = Category I \qquad \qquad NO \square \text{ Not a Heritage Wetland}$	
SC 3.0 Bogs (see p. 87) Does the westland (or any part of the unit) most both the criteria for sails and	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
or, resp frequency, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon	Cat. I
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species 	Cat. II
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, 	
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. 	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

			Date	of	
Name of wetland (if know	wn): Wetland JB05		site v	visit:	9/9/2015
K. Crandall, Rated by: A. Hoenig	Trained by Ecology? Y	es ⊠	No □ Date of Tra	aining	09/2014
SEC: 21 TWNSHP:	<u>24N</u> RNGE: <u>05E</u> Is S	/T/R in	Appendix D?	Yes □	No 🗵
Category based on F	SUMMARY OF UNCTIONS provided by I IV				
Category I = Score ≥70 Category II = Score 51 Category III = Score 3 Category IV = Score <) -69 0-50	Score for Sco	Water Quality Function or Hydrologic Function or Habitat Function of AL score for function	ons ons	2 6 13 21
.	PECIAL CHARACTER ses not Apply $oxtimes$	ISTI	CS of wetland		
	es not Apply 🖂				
Final Cat	egory (choose the "high	est" c	ategory from ab	ove)	IV
Check the appr	copriate type and class of wetla	ınd beii			
Estrovino	Wetland Type	Donu	Wetland Class		
Estuarine Notural Ho	eritage Wetland	River	essional ine		
Bog	Triage Welland		-fringe		
Mature Fo	rest	Slope			
Old Growt		Flats			
Coastal La			water Tidal		
Interdunal	<u> </u>				

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 □ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?			
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft			
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0		
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland area			
S	Total for S 1 Add the points in the boxes above	1		
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft			
	 □ Untreated stormwater discharges to wetland □ Tilled fields, logging or orchards within 150 ft of wetland □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ○ Other <u>utility station within 130 ft upslope</u> YES multiplier is 2 NO multiplier is 1 	multiplier 2		
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	2		

S	Slope Wetlands	Points				
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosi					
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?					
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3	(see p. 68)				
	Dense, uncut, rigid vegetation $> 1/4$ areapoints = 1 More than $1/4$ of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0					
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2				
S	Total for S 3 Add the points in the boxes above	3				
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply.					
	Wetland has surface runoff that drains to a river or stream that has flooding problems					
	☐ Other					
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1					
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	6				

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat				
H 1. Does the wetland have the <u>potential</u> to provide habitat for many species?				
Check the	than 10% of the area of the wetland if unit sma Aquatic bed	d by Cowardin) if the class is ½ acre or covers aller than 2.5 acres.		
	Emergent plants			
	Scrub/shrub (areas where shrubs have >30%			
	Forested (areas where trees have >30% coverage)		1	
Add the n	Forested areas have 3 out of 5 strata (canopy cover) that each cover 20% within the forest umber of vegetation types that qualify. If you	have:		
		4 structures or morepoints = 4 3 structurespoints = 2 2 structurespoints = 1 1 structurepoints = 0		
Check the	operiods (see p. 73) e types of water regimes (hydroperiods) presen re than 10% of the wetland or ½ acre to count	nt within the wetland. The water regime has to . (see text for descriptions of hydroperiods)		
	Permanently flooded or inundated	4 or more types presentpoints = 3		
	Seasonally flooded or inundated	3 types presentpoints = 2		
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1	
\boxtimes	Saturated only	1 types presentpoints = 0	1	
	Permanently flowing stream or river in, or ac	djacent to, the wetland		
	Seasonally flowing stream in, or adjacent to,	the wetland		
	Lake-fringe wetland = 2 points			
	Freshwater tidal wetland = 2 points			
Cour same Y D	e species can be combined to meet the size thre You do not have to name the species. Do not include Eurasian milfoil, reed canarygro		1	

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	4

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	2
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
XX 7	http://wdfw.wa.gov/hab/phslist.htm) hich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	'
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
ν	vetlands are addressed in question H2.4.	<u> </u>

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	9
TOTAL for H1 from page 14	4
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	13

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to SC } 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a fSpartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	Dual rating I/II
☐ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
 Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	NA
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known):	Wetland JB06			Date of site visit:	9/9/2015
K. Crandall, Rated by: A. Hoenig	Trained by Ecology? Y	es 🗵	No □ Date o	of Training	09/2014
SEC: 21 TWNSHP: 24N	N RNGE:05E Is S	T/R in	Appendix D?	Yes 🗆	No ⊠
	SUMMARY OF	RAT	ING		
Category based on FUN(I □ II □ III □		wetl	and		
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30		Score for Sco	Vater Quality Fuor Hydrologic Fuor Habitat Fuor Habitat Fuor for fuor fuor fuor fuor fuor fuor fu	inctions inctions	0 4 9 13
Category based on SPEC I \Box II \Box Does n		ISTIC	CS of wetlan	d	
	ry (choose the "highe	est" ca	ntegory fron	1 above)	IV
Check the appropri	ate type and class of wetla	nd beir	ng rated.		
\mathbf{W}	etland Type		Wetland Cla	ass	
Estuarine			essional		_
Natural Heritag	e Wetland	River			_
Bog			fringe		_
Mature Forest		Slope		\boxtimes	_
Old Growth For		Flats			_
Coastal Lagoon		Fresh	water Tidal		_
Interdunal					

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 □ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of areapoints = 3 Dense, woody, vegetation > ½ of areapoints = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of areapoints = 1 Does not meet any of the criteria above for vegetationpoints = 0	0
S	Total for S 1 Add the points in the boxes above	0
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields, logging or orchards within 150 ft of wetland A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging Residential, urban areas, or golf courses are within 150 ft upslope of wetland Other: road	(see p. 67) multiplier 2
	YES multiplier is 2 NO multiplier is 1	
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	0

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion		
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3	0	
	Dense, uncut, rigid vegetation $> 1/4$ areapoints = 1 More than $1/4$ of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0		
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2	
S	Total for S 3 Add the points in the boxes above	2	
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply.	(see p. 70)	
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier	
	☐ Other	2	
	(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1		
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	4	

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	ne wetland have the <u>potential</u> to provide hal	bitat for many species?	
Check the	han 10% of the area of the wetland if unit sma	d by Cowardin) if the class is ½ acre or covers aller than 2.5 acres.	
	Aquatic bed		
	Emergent plants		
	Scrub/shrub (areas where shrubs have >30%		_
	Forested (areas where trees have >30% cove		0
∟ Add the n	Forested areas have 3 out of 5 strata (canopy cover) that each cover 20% within the forest number of vegetation types that qualify. If you		
		4 structures or more points = 4 3 structures points = 2 2 structures points = 1 1 structure points = 0	
Check the	operiods (see p. 73) types of water regimes (hydroperiods) presen re than 10% of the wetland or ½ acre to count.	nt within the wetland. The water regime has to . (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or ac	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same Yo D	species can be combined to meet the size thre ou do not have to name the species. o not include Eurasian milfoil, reed canarygra		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	2

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
	1
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference	
open water for > 50% circumference	
<u> </u>	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
□ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
W	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	3
lake-fringe wetlands within ½ milepoints = 5	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them	
are disturbedpoints = 3	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within $\frac{1}{2}$ milepoints = 3	
There is at least 1 wetland within $\frac{1}{2}$ milepoints = 2	
There are no wetlands within $\frac{1}{2}$ milepoints = 0	
H 2. TOTAL Score - opportunity for providing habitat	7
Add the scores from H2.1, H2.2, H2.3, H2.4	,
TOTAL for H1 from page 14	2
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	9

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are a f Spartina would be rated a Category II while the	Cat. II
relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of	Dual rating I/II
shrub, forest, or un-grazed or un-mowed wetland. □ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
 Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
\Box The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1.	NA
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known):	: Wetland JB07			Date of site visit:	9/9/2015
K. Crandall, Rated by: A. Hoenig		es 🗵	No □ Date o	f Training	09/2014
SEC: 21 TWNSHP: 24	N RNGE: <u>05E</u> Is S	T/R in	Appendix D?	Yes □	No ⊠
	SUMMARY OF	RAT	ING		
Category based on FUN I □ II □ III □		wetl	and		
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30		Score fo Sco	Water Quality Fu or Hydrologic Fu re for Habitat Fu AL score for fu	nctions	0 4 10 14
Category based on SPE	CIAL CHARACTER not Apply $oxtimes$	ISTIC	CS of wetlan	d	
	ory (choose the "high	est'' ca	ategory fron	above)	IV
Check the appropr	iate type and class of wetla	nd beiı	ng rated.		
V	Vetland Type		Wetland Cla	ISS]
Estuarine		Depre	essional		
Natural Herita	ge Wetland	River	ine		
Bog		Lake	fringe		
Mature Forest		Slope		\boxtimes	
Old Growth Fo	orest	Flats			
Coastal Lagoor	n \Box	Fresh	water Tidal		
Interdunal	П				1

None of the above

Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). ☐ NO - go to 5 ☐ YES - The wetland class is Slope

Wetland name or number: JB07

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
	\square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland area	0
S	Total for S 1 Add the points in the boxes above	0
S	S 2. Does the wetland have the opportunity to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Tilled fields, logging or orchards within 150 ft of wetland	(see p. 67)
	 □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, or golf courses are within 150 ft upslope of wetland □ Other: YES multiplier is 2 NO multiplier is 1 	1
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	0

S	Slope Wetlands	Points
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream of	erosion
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0	0
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2
\mathbf{S}	Total for S 3 Add the points in the boxes above	2
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply.	•
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier
	Other(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)	2
	YES multiplier is 2 NO multiplier is 1	
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	4

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide hal	bitat for many species?	
Check the	han 10% of the area of the wetland if unit sma	d by Cowardin) if the class is ¼ acre or covers ller than 2.5 acres.	
	Aquatic bed		
	Emergent plants		
	Scrub/shrub (areas where shrubs have >30%		_
	Forested (areas where trees have >30% cove		0
∟ Add the n	Forested areas have 3 out of 5 strata (canopy cover) that each cover 20% within the forest number of vegetation types that qualify. If you are	1 10	
		4 structures or more	
Check the	operiods (see p. 73) types of water regimes (hydroperiods) presen re than 10% of the wetland or ¼ acre to count.	at within the wetland. The water regime has to to (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or ac	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same Y D	species can be combined to meet the size thre. ou do not have to name the species. o not include Eurasian milfoil, reed canarygro		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	
None = 0 points Low = 1 point Moderate = 2 points	
[riparian braided channels]	0
High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is	
always "high".	
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.	
☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).	
☐ Standing snags (diameter at the bottom > 4 inches) in the wetland	
Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m)	0
Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present	
At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians)	
☐ Invasive plants cover less than 25% of the wetland area in each stratum of plants	
Note: The 20% stated in early printings of the manual on page 78 is an error.	
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	2

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	2
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
3371	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
W	retlands are addressed in question H2.4.	<u> </u>

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	8
TOTAL for H1 from page 14	2
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	10

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category	
Check off any criteria that apply to the wetland. Circle the Category when the		
appropriate criteria are met.		
SC 1.0 Estuarine wetlands (see p. 86)		
Does the wetland unit meet the following criteria for Estuarine wetlands?		
☐ The dominant water regime is tidal,		
\square Vegetated, and		
☐ With a salinity greater than 0.5 ppt.		
$YES = Go \text{ to } SC \text{ 1.1} \qquad NO \boxtimes$		
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I	
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?		
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II	
rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.		
☐ The wetland has at least 2 or the following features: tidal channels,		
depressions with open water, or contiguous freshwater wetlands.		

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □ YES □ − contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ⋈ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO □ Not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87)	
 Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions. 1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2 2. Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes - Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)		
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of		
Upland Ownership or WBUO)?		
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating		
If you answer yes you will still need to rate the wetland based on its functions.		
In practical terms that means the following geographic areas:		
 Long Beach Peninsula – lands west of SR 103 		
 Grayland-Westport – lands west of SR 105 		
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 		
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre		
or larger?	Cat. II	
$YES = Category II \qquad NO - go to SC 6.2$		
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is		
between 0.1 and 1 acre?		
YES = Category III	Cat. III	
Category of wetland based on Special Characteristics		
Choose the "highest" rating if wetland falls into several categorie, and record on		
p. 1 .	NA	
If you answered NO for all types enter "Not Applicable" on p.1.		

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

		Date of			
Name of wetland (if known):	Wetland JB08	site visit:	9/9/2015		
K. Crandall, Rated by: A. Hoenig	Trained by Ecology? Yes ⊠	No □ Date of Training	09/2014		
SEC: 21 TWNSHP: 24N	RNGE: <u>05E</u> Is S/T/R in A	Appendix D? Yes □	No 🗵		
SUMMARY OF RATING Category based on FUNCTIONS provided by wetland					
I □II □III \boxtimes IV □Category I = Score ≥ 70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30 Score for Water Quality Functions Score for Hydrologic Functions Score for Habitat FunctionsTOTAL score for functions21					
•	IAL CHARACTERISTICS	S of wetland			
$\mathbf{I} \square \mathbf{II} \square \mathbf{Does} \ \mathbf{n}$	ot Apply 🗵				
Final Categor	y (choose the "highest" cat	tegory from above)	III		
Check the appropria	ate type and class of wetland being	g rated.	III		
Check the appropria	ate type and class of wetland being	g rated. Wetland Class	III		
Check the appropria We Estuarine	etland Type Depres	g rated. Wetland Class sional	III		
Check the appropria We Estuarine Natural Heritage	etland Type Depresse Wetland Rivering	y rated. Wetland Class sional ne	III		
Check the appropria We Estuarine Natural Heritage Bog	etland Type Depress Wetland Lake-fr	y rated. Wetland Class sional Decringe	III		
Check the appropria We Estuarine Natural Heritage Bog Mature Forest	etland Type Depress Wetland Lake-fr	wetland Class sional e ringe	III		
Check the appropria We Estuarine Natural Heritage Bog	etland Type Depress Wetland	y rated. Wetland Class sional Decringe	III		

None of the above

Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (slope can be very gradual), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter
	and less than a foot deep). \boxtimes NO – go to 5 \square YES – The wetland class is Slope

Wetland name or number: JB08

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\boxtimes NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \boxtimes NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. NO – go to 8 YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points				
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality					
D	D 1. Does the wetland have the potential to improve water quality?	(see p. 38)				
	D 1.1 Characteristics of surface water flows out of the wetland:					
D	Unit is a depression with no surface water leaving it (no outlet)points = 3					
	Unit has an intermittently flowing, or highly constricted permanently flowing outlet points = 2					
	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 1	1				
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and					
	no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1					
	(If ditch is not permanently flowing treat unit as "intermittently flowing") D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions).					
n		0				
D	YES points = 4	0				
	NO points = 0 D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class):					
D	Wetland has persistent, ungrazed, vegetation = 95% of areapoints = 5					
ע	Wetland has persistent, ungrazed, vegetation > = 1/2 of areapoints = 3 Wetland has persistent, ungrazed, vegetation > = 1/2 of areapoints = 3	3				
	Wetland has persistent, ungrazed vegetation $> 1/2$ of area	3				
	Wetland has persistent, ungrazed vegetation <1/10 of area					
	D1.4 Characteristics of seasonal ponding or inundation.					
D	This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime					
	during the year. Do not count the area that is permanently ponded. Estimate area as the					
	average condition 5 out of 10 yrs.	0				
	Area seasonally ponded is $> \frac{1}{2}$ total area of wetlandpoints = 4	0				
	Area seasonally ponded is $> \frac{1}{4}$ total area of wetlandpoints = 2					
	Area seasonally ponded is $< \frac{1}{4}$ total area of wetlandpoints = 0					
	NOTE: See text for indicators of seasonal and permanent inundation.					
D	Total for D 1 Add the points in the boxes above	4				
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality?	(see p. 44)				
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming					
	into the wetland that would otherwise reduce water quality in streams, lakes or groundwater					
	downgradient from the wetland? Note which of the following conditions provide the sources of					
	pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.					
	☐ Untreated stormwater discharges to wetland					
	☐ Tilled fields or orchards within 150 ft of wetland					
	A stream or culvert discharges into wetland that drains developed areas, residential					
	areas, farmed fields, roads, or clear-cut logging					
	Residential, urban areas, golf courses are within 150 ft of wetland					
	☐ Wetland is fed by groundwater high in phosphorus or nitrogen					
	Other					
D	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1 TOTAL Water Quality Functions Multiply the score from D1 by D2					
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	8				

D	Depressional and Flats Wetlands				
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation				
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)			
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)	0			
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 0	0			
D	D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outletpoints = 7 The wetland is a "headwater" wetland"	3			
D Q	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit	3			
D	Total for D 3 Add the points in the boxes above	6 (see p. 49)			
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply.				
	Wetland is in a headwater of a river or stream that has flooding problems				
	Wetland drains to a river or stream that has flooding problems	multiplier			
	☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems	<u>2</u>			
	☐ Other				
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 **Add score to table on p. 1	12			

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide ha		
Check the	tation structure (see p. 72) It types of vegetation classes present (as define than 10% of the area of the wetland if unit small.	d by Cowardin) if the class is $\frac{1}{4}$ acre or covers aller than 2.5 acres.	
	Aquatic bed		
	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30%	cover)	
\boxtimes	Forested (areas where trees have >30% cover	er)	2
⊠ Add the n	Forested areas have 3 out of 5 strata (canopy cover) that each cover 20% within the forest umber of vegetation types that qualify. If you	have:	
		4 structures or morepoints = 4 3 structurespoints = 2	
		2 structurespoints = 1	
		1 structure points = 0	
Check the	operiods (see p. 73) types of water regimes (hydroperiods) present the than 10% of the wetland or ¼ acre to count Permanently flooded or inundated	nt within the wetland. The water regime has to t. (see text for descriptions of hydroperiods) 4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	2
\boxtimes	Saturated only	1 types presentpoints = 0	2
\boxtimes	Permanently flowing stream or river in, or a	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to	, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same Yo D	species can be combined to meet the size thre ou do not have to name the species. o not include Eurasian milfoil, reed canarygr		1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	2
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	2
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	9

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
open water > 25% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	3
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK	
1_	
☐ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).	
YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	2
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	
110 - v points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
X /1	http://wdfw.wa.gov/hab/phslist.htm) nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species	
	of native fish and wildlife (full description in WDFW PHS report p. 152)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species,	
	forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8	
	trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average	
	diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be	
	less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy	
	coverage of the oak component is important (full descriptions in WDFW PHS report p. 158.)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both	
	aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a	
	dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that	
	interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open	
	Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of	
	relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
	composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
\boxtimes	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay	
	characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast	
	height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are >	
	30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long.	
	If wetland has 3 or more priority habitats = 4 points	
	If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point	
	No habitats = 0 points	
N	ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
	etlands are addressed in question H2.4.	

Wetland name or number: JB08

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
There are no wetlands within ½ mile	12
Add the scores from H2.1, H2.2, H2.3, H2.4 TOTAL for H1 from page 14	9
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	21

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met. SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
YES = Go to SC 1.1 NO \boxtimes	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a fSpartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
 ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. ☐ The wetland has at least 2 or the following features: tidal channels, 	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web site □	Cat. I
YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

Does the wetland have at least 1 acre of forest that meet one of these criteria for	
the Department of Fish and Wildlife's forests as priority habitats? If you answer	
yes you will still need to rate the wetland based on its functions.	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm);	
crown cover may be less than 100%; decay, decadence, numbers of snags, and	
quantity of large downed material is generally less than that found in old-growth	
quantity of large do whod material is generally loss than that found in old grown	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
TES – Category 1 NO 🖾 not a forested wetland with special characteristics	
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or	
partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
or, less frequently, rocks. The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	
or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon	Cat. I
or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. I
or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	
or, less frequently, rocks. ☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	NA
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

			Ι	Date of	
Name of wetland (if known)	: Wetland MB01		S	ite visit:	4/6/2015
Rated by: K. Crandall, M. Foster	Trained by Ecology? Y	es 🗵	No □ Date of	Training	09/2014
SEC: 28 TWNSHP: 2	4N RNGE: <u>05E</u> Is S	/T/R in	Appendix D?	Yes \square	No 🗵
Category based on FUN I □ II □ III □	-				
Category I = Score ≥70 Category II = Score 51-69 Category III = Score 30-5 Category IV = Score < 30 Category based on SPE	0	Score fo Sco TOT	Water Quality Fur or Hydrologic Fur re for Habitat Fur AL score for fur CS of wetland	nctions nctions actions	16 20 12 48
I \square II \square Does	$\mathbf{not} \ \mathbf{Apply} \ \boxtimes$				
Final Categ	ory (choose the "high	est'' ca	ategory from	above)	III
	riate type and class of wetla	nd beir			
Estuarine	Wetland Type	Donre	Wetland Clas		
Natural Herit	age Wetland	River	essional ine		
Bog			fringe		
Mature Fores	t	Slope			
Old Growth F		Flats			
Coastal Lagoo	on \square	Fresh	water Tidal		
Interdunal	П				

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (<i>slope can be very gradual</i>), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter
	and less than a foot deep). \boxtimes NO – go to 5 \square YES – The wetland class is Slope

Wetland name or number: MB01

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\boxtimes NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \bowtie YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \boxtimes NO – go to 8 \square YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
D	D 1. Does the wetland have the potential to improve water quality?	(see p. 38)		
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet)points = 3			
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2 Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 1 Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing")	3		
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES points = 4 NO points = 0	0		
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed, vegetation > = 95% of area	5		
D	D1.4 Characteristics of seasonal ponding or inundation. This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs. Area seasonally ponded is > ½ total area of wetland	0		
D	Total for D 1 Add the points in the boxes above	8		
D	D 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. □ Grazing in the wetland or within 150 ft □ Untreated stormwater discharges to wetland □ Tilled fields or orchards within 150 ft of wetland □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, golf courses are within 150 ft of wetland □ Wetland is fed by groundwater high in phosphorus or nitrogen □ Other: walking trail with dogs	multiplier		
D	YES multiply score in D 1. by 2 NO multiply score in D 1. by 1 TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	16		

D	Depresssional and Flats Wetlands		
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degr		
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)	
D D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet)	4	
D	Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are at least 3 ft or more above the surface or bottom of outlet	3	
D	D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit	3	
D D	Total for D 3 Add the points in the boxes above	10	
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following conditions apply.	(see p. 49)	
	☐ Wetland is in a headwater of a river or stream that has flooding problems	14111	
	☐ Wetland drains to a river or stream that has flooding problems	multiplier	
	 ✓ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems ✓ Other 	2	
	_		
D	☐ YES multiplier is 2 ☐ NO multiplier is 1 TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	20	

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide h		
	tation structure (see p. 72)		
	e types of vegetation classes present (as defin than 10% of the area of the wetland if unit sn	the degree $\frac{1}{2}$ and $\frac{1}{2}$ and $\frac{1}{2}$ acre or covers and $\frac{1}{2}$ and $\frac{1}{2}$ acres.	
	Aquatic bed		
	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30	% cover)	
\boxtimes	Forested (areas where trees have >30% cov	ver)	1
	Forested areas have 3 out of 5 strata (canop	py, sub-canopy, shrubs, herbaceous, moss/ground-	
	cover) that each cover 20% within the fore	1 10	
Add the n	number of vegetation types that qualify. If you	<i>u have:</i> 4 structures or morepoints = 4	
		3 structures	
		2 structurespoints = 1	
		1 structurepoints = 0	
	coperiods (see p. 73)	ent within the wetland. The water regime has to	
		nt. (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent t	to, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)	that cover at least 10 ft ² . (different patches of the	
	e species can be combined to meet the size this		
	You do not have to name the species.		
D	Oo not include Eurasian milfoil, reed canaryg	prass, purple loosestrife, Canadian thistle > 19 speciespoints = 2	
List spe	cies below if you want to:	5 - 19 speciespoints = 1	
	,	< 5 speciespoints = 0	1
			1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	
None = 0 points Low = 1 point Moderate = 2 points [riparian braided channels] High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	1
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	1
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	5

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	1
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	1
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2	
☐ No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in bufferPoints = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
 ■ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points (go to $H 2.3$) NO = go to $H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	O
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to H 2.3) $NO = H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
⊠ N	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
w	etlands are addressed in question H2.4.	

Wetland name or number: MB01

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	2
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	7
TOTAL for H1 from page 14	5
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	12

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to SC } 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quanitity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
SC 5.1 Does the wetland meet all of the following three conditions?	
☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	Cat. II
☐ The wetalnd is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	NA
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
	land (if known):	Wetland MB02			site visit:	4/8/2015
	. Crandall,					00/00/
Rated by: R	. Whitson	Trained by Ecology? You	es 🗵	No □ Date	of Training	09/2014
SEC: <u>21</u>	TWNSHP: 24N	RNGE: 05E Is S	T/R in	Appendix D?	Yes □	No ⊠
		SUMMARY OF	RAT	ING		
Category b	ased on FUNC	TIONS provided by IV ⊠	wetla	and		
• -						
Category	$I = Score \ge 70$	Sco	re for V	Vater Quality F	Junctions -	2
Category	II = Score 51-69			r Hydrologic F		4
1	III = Score 30-50			re for Habitat F		9
Category	IV = Score < 30			AL score for f		15
			101	ill score for f		13
Category barry I □		IAL CHARACTER ot Apply ⊠	ISTI(CS of wetlar	nd	
	Final Categor	y (choose the "highe	est" ca	ntegory fro	m above)	IV
Ch	neck the appropria	te type and class of wetla	nd bein	g rated.		
		etland Type		Wetland C		
	Estuarine			essional		
	Natural Heritage	e Wetland \Box	Riveri			
	Bog		Lake-	iringe		
	Mature Forest		Slope			
	Old Growth For	est	Flats	4 (51) 1 1		
	Coastal Lagoon	<u>L</u>	Fresh	water Tidal		
	Interdunal					I

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 $\square \square YES$ – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5 □ YES − The wetland class is Slope

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from
	that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not
	flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. \square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes.

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	1
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of area	0
S	Total for S 1 Add the points in the boxes above	1
S	S 2. Does the wetland have the <u>opportunity</u> to improve water quality? (see p. 67) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.	(see p. 67)
	☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields, logging or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☐ Residential, urban areas, or golf courses are within 150 ft upslope of wetland	multiplier 2
S		
5	Add score to table on p. 1	2

S	Slope Wetlands	Points
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream of	erosion
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1	0
S	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0 S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2
S	Total for S 3 Add the points in the boxes above	2
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply.	_
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier
	Other(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1	<u>2</u>
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	4

Comments

_	estions apply to wetlands of all HGM FUNCTIONS - Indicators that wetland fu		
	he wetland have the <u>potential</u> to provide h		
	tation structure (see p. 72)		
	e types of vegetation classes present (as defin than 10% of the area of the wetland if unit sn	ted by Cowardin) if the class is $\frac{1}{4}$ acre or covers maller than 2.5 acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
	Scrub/shrub (areas where shrubs have >30°	% cover)	
	Forested (areas where trees have >30% cov	ver)	0
	Forested areas have 3 out of 5 strata (canon	py, sub-canopy, shrubs, herbaceous, moss/ground-	
	cover) that each cover 20% within the fore	1 10	
Add the n	number of vegetation types that qualify. If you		
		4 structures or morepoints = 4 3 structurespoints = 2	
		2 structurespoints = 1	
		1 structure points = 0	
	roperiods (see p. 73)		
		ent within the wetland. The water regime has to nt. (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent t	o, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)	1 10 02 (100	
	nt the number of plant species in the wetland e species can be combined to meet the size thi	that cover at least 10 ft ² . (different patches of the reshold)	
	You do not have to name the species.	csiota)	
	o not include Eurasian milfoil, reed canaryg		
7.		> 19 speciespoints = 2	
List spe	ccies below if you want to:	5 - 19 speciespoints = 1 < 5 speciespoints = 0	
		v speciespoints = 0	0

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points	0
[riparian braided channels] High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	1

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
□ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	
50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	2
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
□ No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in buffer. Points = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81)	
H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	0
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above?	
YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wł	nich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points Sote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
w	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
There is at least 1 wetland within $\frac{1}{2}$ mile	
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	8
TOTAL for H1 from page 14	1
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	9

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151? ☐ YES = Category I ☐ NO = go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining	Cat. II Dual rating I/II
the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland. The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)	
S/T/R information from Appendix D ⊠ or accessed from WNHP/DNR web site □	Cat. I
YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?	
YES = Category I NO \square Not a Heritage Wetland	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	- 33 2

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
or, resp frequency, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
☐ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon	Cat. I
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species 	Cat. II
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, 	
 □ The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. 	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO \boxtimes not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	NA
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

					Date of	
		Wetland MB03			site visit:	4/8/2015
	. Crandall, . Whitson	Trained by Ecology? You	es 🗵	No □ Date	of Training	09/2014
SEC: 21	TWNSHP: 24N	RNGE: 05E Is S	T/R in	Appendix D?	Yes 🗆	No ⊠
		SUMMARY OF	RAT	ING		
Category ba I □	ased on FUNC	CTIONS provided by IV ⊠	wetla	and		
Category	I = Score ≥70	Saa	na fan V	Voton Ovolite I		0
	II = Score 51-69			Vater Quality F or Hydrologic F	<u> </u>	4
1	III = Score 30-50	`		re for Habitat F	<u> </u>	9
Category	IV = Score < 30			AL score for f		13
Category based on SPECIAL CHARACTERISTICS of wetland I □ II □ Does not Apply ⋈ Final Category (choose the "highest" category from above)				IV		
Ch		ite type and class of wetla	nd bein			-
Ch	We	etland Type		Wetland C]
Ch	We Estuarine	etland Type	Depre	Wetland C		
Ch	Wo Estuarine Natural Heritag	etland Type	Depre Riveri	Wetland C essional ine		
Ch	We Estuarine	etland Type	Depre Riveri Lake-	Wetland C essional ine		
Ch	We Estuarine Natural Heritag Bog	etland Type e Wetland	Depre Riveri	Wetland C essional ine		
Ch	Estuarine Natural Heritag Bog Mature Forest	etland Type e Wetland	Depre Riveri Lake- Slope Flats	Wetland C essional ine		

 \times

None of the above

Check if unit has multiple

HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ⊠ The wetland is on a slope (<i>slope can be very gradual</i>), ⊠ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ⊠ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than a foot deep). □ NO − go to 5

5.	Does the entire wetland unit meet all of the following criteria?
	☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
	☐ The overbank flooding occurs at least once every two years
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	\square NO - go to 6 \square YES – The wetland class is Riverine
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. This means that any outlet, if present, is higher than the interior of the wetland. \square NO – go to 7 \square YES – The wetland class is Depressional
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
	\square NO – go to 8 \square YES – The wetland class is Depressional
8.	Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality			
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)		
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation horizontal distance) for every 100 ft	0		
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions). YES = 3 points $NO = 0$ points	0		
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. Dense vegetation means you have trouble seeing the soil surface (>75% cover) and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation > 90% of the wetland areapoints = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of area	0		
S	Total for S 1 Add the points in the boxes above	0		
S	A			
	 □ Grazing in the wetland or within 150 ft □ Untreated stormwater discharges to wetland □ Tilled fields, logging or orchards within 150 ft of wetland □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, or golf courses are within 150 ft upslope of wetland □ Other: powerline corridor 	multiplier		
G	YES multiplier is 2 NO multiplier is 1			
S	TOTAL - Water Quality Functions Multiply the score from S 1 by S 2 Add score to table on p. 1	0		

S	Slope Wetlands	Points			
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosic				
	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)			
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetlandpoints = 6 Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3 Dense, uncut, rigid vegetation > 1/4 areapoints = 1	0			
S	More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0 S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2			
S	Total for S 3 Add the points in the boxes above	2			
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 70) Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i>	(see p. 70)			
	Wetland has surface runoff that drains to a river or stream that has flooding problems	multiplier			
	Other (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike) YES multiplier is 2 NO multiplier is 1	<u>2</u>			
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	4			

Comments

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat			
	he wetland have the <u>potential</u> to provide hal	bitat for many species?	
Check the	tation structure (see p. 72) etypes of vegetation classes present (as defined than 10% of the area of the wetland if unit sman Aquatic bed	d by Cowardin) if the class is ¼ acre or covers aller than 2.5 acres.	
	•		
	Emergent plants		
	Scrub/shrub (areas where shrubs have >30%		0
	Forested (areas where trees have >30% cove		0
Add the n	cover) that each cover 20% within the forest umber of vegetation types that qualify. If you		
		4 structures or more points = 4 3 structures points = 2 2 structures points = 1 1 structure points = 0	
Check the	operiods (see p. 73) types of water regimes (hydroperiods) presente than 10% of the wetland or ½ acre to count	nt within the wetland. The water regime has to . (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or ac	djacent to, the wetland	
	Seasonally flowing stream in, or adjacent to,	, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
Coun same Y D	species can be combined to meet the size thre ou do not have to name the species. To not include Eurasian milfoil, reed canarygro		0

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points	0
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at the bottom > 4 inches) in the wetland Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	1

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." \[\sum 100\text{ m (330ft)}\] of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
open water $> 50\%$ circumference. Points = 4 \square 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference	2
☐ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference	
If buffer does not meet any of the criteria above	
No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK	
No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK	
☐ Heavy grazing in bufferPoints = 1	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
☐ Buffer does not meet any of the criteria above	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points	0

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report	
Wh	http://wdfw.wa.gov/hab/phslist.htm) hich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	3
	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the	
	earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
⊠ N	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points ote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby	
	etlands are addressed in question H2.4.	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or other development	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed	
There is at least 1 wetland within $\frac{1}{2}$ milepoints = 2	
There are no wetlands within $\frac{1}{2}$ milepoints = 0	
H 2 . TOTAL Score - opportunity for providing habitat <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i>	8
TOTAL for H1 from page 14	1
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	9

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
☐ The dominant water regime is tidal,	
☐ Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC 1.1 \qquad \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II) The are a f Spartina would be rated a Category II while the	Cat. II
relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least 3/4 of the landward edge of the wetland has a 100 ft buffer of	Dual rating I/II
shrub, forest, or un-grazed or un-mowed wetland. □ The wetland has at least 2 or the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a	
Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR)	
S/T/R information from Appendix D ⊠ or accessed from WNHP/DNR web	Cat. I
site \square	
YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?	
YES = Category I NO \square Not a Heritage Wetland	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and	
vegetation in bogs? Use the key below to identify if the wetland is a bog. If you	
answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil),	
either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.)	
Yes - go to Q.3 NO - go to Q.2	
2. Does the wetland have organic soils, either peats or mucks, that are less	
than 16 inches deep over bedrock or an impermeable hardpan such as clay	
or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO \boxtimes is not a bog for purpose of rating	
3. Does the wetland have more than 70% cover of mosses at ground level,	
AND other plants, if present, consist of the "bog" species listed in Table 3	
as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)?	
Yes – Is a bog for purpose of rating NO - go to Q.4	
NOTE: If you are uncertain about the extent of mosses in the understory,	
you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the	
"bog" plant species in Table 3 are present, the wetland is a bog.	G 4 I
4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir,	Cat. I
western red cedar, western hemlock, lodgepole pine, quaking aspen,	
Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a	
significant component of the ground cover (>30% coverage of the total	
shrub/herbaceous cover)?	
YES = Category I NO \square is not a bog for purpose of rating	

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
\Box The lagoon in which the wetland is located contains surgace water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES − Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ☒ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	
p. 1 .	NA
If you answered NO for all types enter "Not Applicable" on p.1.	

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wet	land (if known):	Wetland MB04			Date of site visit:	9/9/2015
K	. Crandall, . Hoenig	Trained by Ecology? Y	es 🗵	No □ Date	of Training	9/2014
SEC: 21	TWNSHP: 24N	RNGE: <u>R05E</u> Is S	/T/R in	Appendix D	? Yes □	No ⊠
		SUMMARY OF	RAT	ING		
Category ba I □	ased on FUNC	CTIONS provided by IV ⊠	wetla	and		
Category Category	I = Score ≥70 II = Score 51-69 III = Score 30-50 IV = Score < 30		Score for Scor	Vater Quality F r Hydrologic F e for Habitat F AL score for f o	Functions Functions	4 0 17 21
Category based on SPECIAL CHARACTERISTICS of wetland I □ II □ Does not Apply ⊠						
		ry (choose the "highe	est'' ca	tegory froi	n above)	IV
Ch	eck the appropria	ate type and class of wetla	nd bein	g rated.		-
		etland Type	_	Wetland Cl		
	Estuarine		Depre			
	Natural Heritag	e Wetland	Riveri			-
	Bog		Lake-f	ringe		
	Mature Forest		Slope			
	Old Growth For	est	Flats	4 (0) 1 1		
	Coastal Lagoon	<u> </u>	Freshy	water Tidal		
	Interdunal					

None of the above

Check if unit has multiple HGM classes present

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X*
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X*
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		X*
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

^{*}The study area was reviewed for the presence of endangered, threatened, and priority species using WDFW online Priority Habitat and Species Data, PHS on the Web (http://wdfw.wa.gov/mapping/phs/).

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in Questions 1-7 apply, and go to Question 8.

1.	Are the water levels in the wetland unit usually controlled by tides (i.e. except during floods)? \boxtimes NO – go to 2 \square YES – the wetland class is Tidal Fringe
	If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
	If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2.	The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit \boxtimes NO – go to 3 \square YES – The wetland class is Flats
	If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3.	Does the entire wetland unit meet both of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m)? ☑NO – go to 4 ☐ YES – The wetland class is Lake-fringe (Lacustrine Fringe)
4.	Does the entire wetland unit meet all of the following criteria? ☐ The wetland is on a slope (slope can be very gradual), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded ? NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter
	and less than a foot deep). \boxtimes NO – go to 5 \square YES – The wetland class is Slope

Wetland name or number: MB04

5.	Does the entire wetland unit meet all of the following criteria?		
	\square The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from		
	that stream or river.		
	☐ The overbank flooding occurs at least once every two years		
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not		
	flooding. \boxtimes NO - go to 6 \square YES – The wetland class is Riverine		
6.	Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. <i>This means that any outlet, if present, is higher than the interior of the wetland.</i>		
7.	Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet. NO – go to 8 YES – The wetland class is Depressional		

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under
	wetlands with special
	characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D	Depressional and Flats Wetlands	Points			
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality					
D	D 1. Does the wetland have the potential to improve water quality?	(see p. 38)			
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet)points = 3 Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2 Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing)points = 1	1			
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet, and/or outlet is a man-made ditchpoints = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions).				
D	YES points = 4 NO points = 0	0			
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): Wetland has persistent, ungrazed, vegetation > = 95% of area	1			
D	D1.4 Characteristics of seasonal ponding or inundation. This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs. Area seasonally ponded is > ½ total area of wetland				
D	NOTE: See text for indicators of seasonal and permanent inundation. Total for D 1 Add the points in the boxes above				
D	D 2. Does the wetland unit have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. □ Grazing in the wetland or within 150 ft □ Untreated stormwater discharges to wetland □ Tilled fields or orchards within 150 ft of wetland □ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging □ Residential, urban areas, golf courses are within 150 ft of wetland				
	 □ Wetland is fed by groundwater high in phosphorus or nitrogen □ Other YES multiply score in D 1. by 2 NO multiply score in D 1. by 1 				
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	4			

D	Depresssional and Flats Wetlands	
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream d	legradation
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit	
	Unit is a depression with no surface water leaving it (no outlet)points = 4	
	Unit has an intermittently flowing, or highly constricted permanently flowing outletpoints = 2	
	Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow and	0
	no obvious natural outlet , and/or outlet is a man-made ditchpoints = 1	
	(If ditch is not permanently flowing treat unit as "intermittently flowing")	
	Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>)points = 0	
D	D 3.2 Depth of storage during wet periods	
	Estimate the height of ponding above the bottom of the outlet For units with no outlet measure from	
	the surface of permanent water or deepest part (if dry).	
	Marks of ponding are at least 3 ft or more above the surface or bottom of outletpoints = 7	
	The wetland is a "headwater" wetland"points = 5	0
	Marks of ponding between 2 ft to < 3 ft from surface or bottom of outletpoints = 5	0
	Marks are at least 0.5 ft to < 2 ft from surface or bottom of outletpoints = 3	
	Unit is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that	
	trap waterpoints = 1	
	Marks of ponding less than 0.5 ftpoints = 0	
D	D 3.3 Contribution of wetland unit to storage in the watershed	
	Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the	
	area of the wetland unit itself.	
	The area of the basin is less than 10 times the area of the unitpoints = 5	0
	The area of the basin is 10 to 100 times the area of the unit	Ü
	The area of the basin is more than 100 times the area of the unitpoints = 0	
	Entire unit is in the FLATS class points = 5	
D	Total for D 3 Add the points in the boxes above	0
D	D 4. Does the wetland unit have the opportunity to reduce flooding and erosion?	(see p. 49)
	Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in	
	water velocity, it provides helps protect downstream property and aquatic resources from flooding	
	or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled	
	by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than	
	90% of the water in the wetland is from groundwater in areas where damaging groundwater	
	flooding does not occur.	
	Note which of the following conditions apply.	
	Wetland is in a headwater of a river or stream that has flooding problems	
	Wetland drains to a river or stream that has flooding problems	multiplier
	☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into	<u>2</u>
	a river or stream that has flooding problems	
	☐ Other	
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4	0
	Add score to table on p. 1	υ

_	estions apply to wetlands of all HGM FUNCTIONS - Indicators that wetland fu		
	he wetland have the <u>potential</u> to provide h		
	tation structure (see p. 72)		
	e types of vegetation classes present (as defin than 10% of the area of the wetland if unit sn	ned by Cowardin) if the class is $\frac{1}{4}$ acre or covers naller than 2.5 acres.	
	Aquatic bed		
\boxtimes	Emergent plants		
\boxtimes	Scrub/shrub (areas where shrubs have >30	% cover)	
	Forested (areas where trees have >30% co	ver)	1
	Forested areas have 3 out of 5 strata (canop cover) that each cover 20% within the fore	py, sub-canopy, shrubs, herbaceous, moss/ground- ested polygon	
Add the n	number of vegetation types that qualify. If yo		
		4 structures or morepoints = 4	
		3 structurespoints = 2 2 structurespoints = 1	
		1 structurepoints = 0	
	roperiods (see p. 73)	•	
		ent within the wetland. The water regime has to nt. (see text for descriptions of hydroperiods)	
	Permanently flooded or inundated	4 or more types presentpoints = 3	
	Seasonally flooded or inundated	3 types presentpoints = 2	
\boxtimes	Occasionally flooded or inundated	2 types presentpoints = 1	1
\boxtimes	Saturated only	1 types presentpoints = 0	1
	Permanently flowing stream or river in, or	adjacent to, the wetland	
	Seasonally flowing stream in, or adjacent t	to, the wetland	
	Lake-fringe wetland = 2 points		
	Freshwater tidal wetland = 2 points		
	ness of Plant Species (see p. 75)	that cover at least 10 ft ² . (different patches of the	
	e species can be combined to meet the size th		
	ou do not have to name the species.		
D	Oo not include Eurasian milfoil, reed canaryg	grass, purple loosestrife, Canadian thistle > 19 speciespoints = 2	
List spe	cies below if you want to:	5 - 19 speciespoints = 2	
Zist spe	eres eere, g yeu nam ter	< 5 speciespoints = 0	1
			1

H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none. None = 0 points Low = 1 point Moderate = 2 points	1
High = 3 points NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".	
H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. □ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). □ Standing snags (diameter at the bottom > 4 inches) in the wetland □ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream for at least 33 ft (10m) □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present □ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated.(structures for egg-laying by amphibians) □ Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error.	2
H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	6

H 2. Does the wetland have the opportunity to provide habitat for many species?	
H 2.1 <u>Buffers</u> (see p. 80)	
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that	
applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	
☐ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of	
circumference. No developed areas within undisturbed part of buffer.	
(relatively undisturbed also means no-grazing)	
☐ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 50% circumference	
□ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water >95% circumference	
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or	
open water > 25% circumference	2
\square 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or	2
open water for > 50% circumference	
If buffer does not meet any of the criteria above	
No paved areas (except paved trails) or buildings within 25 m (80ft)	
of wetland > 95% circumference. Light to moderate grazing, or lawns are OKPoints = 2	
No paved areas or buildings within 50m of wetland for >50% circumference.	
Light to moderate grazing, or lawns are OK	
Heavy grazing in buffer	
☐ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	
(e.g. tilled fields, paving, basalt bedrock extend to edge of wetland	
Buffer does not meet any of the criteria above	
H 2.2 <u>Corridors and Connections</u> (<i>see p. 81</i>) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either	
riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native	
undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least	
250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are	
considered breaks in the corridor).	
YES = 4 points $(go \ to \ H \ 2.3)$ NO = go to H 2.2.2	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian	
or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to	2
estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe	
wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to $H 2.3$) NO = $H 2.2.3$	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 3 mi of a large field or pasture (>40 acres) OR	
within 1 mi of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of	
	WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Wl	hich of the following priority habitats are within 330ft (100m) of the wetland?	
	OTE: the connections do not have to be relatively undisturbed)	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acres).	
\boxtimes	Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full description in WDFW PHS report p. 152</i>)	
	Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
	Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests.) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158.</i>)	
\boxtimes	Riparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.	
	Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>)	4
\boxtimes	Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.	·
	Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A.)	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
	Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of >51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30cm (12 in) in diameter at the largest end, and > 6m (20 ft) long. If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points	
	lote: All vegetated wetland are by definition a priority habitat but are not included in this list. Nearby vetlands are addressed in question H2.4.	

Wetland name or number: MB04

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits)	
(see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or	
other developmentpoints = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other	3
lake-fringe wetlands within ½ milepoints = 5	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them	
are disturbedpoints = 3	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetland within ½ milepoints = 3	
There is at least 1 wetland within $\frac{1}{2}$ milepoints = 2	
There are no wetlands within $\frac{1}{2}$ milepoints = 0	
H 2. TOTAL Score - opportunity for providing habitat	11
Add the scores from H2.1, H2.2, H2.3, H2.4	11
TOTAL for H1 from page 14	6
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	17

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the	
appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
\Box The dominant water regime is tidal,	
\square Vegetated, and	
☐ With a salinity greater than 0.5 ppt.	
$YES = Go \text{ to } SC \text{ 1.1} \qquad NO \boxtimes$	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-151?	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions?	Cat. I
☐ YES = Category I ☐ NO = Category II ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual	Cat. II
rating (I/II) The are a f Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre.	Dual rating I/II
☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed wetland.	
☐ The wetland has at least 2 or the following features: tidal channels,	
depressions with open water, or contiguous freshwater wetlands.	

SC 2.0 Natural Heritage Wetlands (see p. 87)	
Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.	
SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites before you need to contact WNHP/DNR) S/T/R information from Appendix D ⋈ or accessed from WNHP/DNR web	Cat. I
site \square YES \square – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO \boxtimes	
SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? $YES = Category\ I \qquad \qquad NO\ \square\ Not\ a\ Heritage\ Wetland$	
SC 3.0 Bogs (see p. 87)	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. If you answer yes, you will still need to rate the wetland based on its functions.	
1. Does the wetland have organic soils horizons (i.e. layers of organic soil), either peats or mucks, that compose 16" or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils.) Yes - go to Q.3 NO - go to Q.2	
 Does the wetland have organic soils, either peats or mucks, that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes - go to Q.3 NO ⋈ is not a bog for purpose of rating 	
3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists species in Table 3)? Yes – Is a bog for purpose of rating NO - go to Q.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.	Cat. I
 4. Is the wetland forested (>30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (>30% coverage of the total shrub/herbaceous cover)? YES = Category I NO □ is not a bog for purpose of rating 	Cat. I

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i>	
□ Old growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. Note: The criterion for dbh is based on measurements for upland forests. Two hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so oldgrowth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade crest) Stands where the largest trees are 80-200 years old OR have average diameters (dbh) exceeding 21 in (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth	
YES = Category 1 NO \boxtimes not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks.	
☐ The lagoon in which the wetland is located contains surgace water that is	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES − Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⊠ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? □ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species	Cat. I
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.	
saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES – Go to SC 5.1 NO ⋈ not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetalnd unit west of the 1889 line (also called the Westarn Boundary of	
Upland Ownership or WBUO)?	
YES – go to SC 6.1 NO ⊠ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR 103 	
 Grayland-Westport – lands west of SR 105 	
 Ocean Shores-Copalis – lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland 1 acre or larger, or is it in a mosaic of wetlands that is 1 acre	
or larger?	
$YES = Category II \qquad NO - go to SC 6.2$	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	
between 0.1 and 1 acre?	
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categorie, and record on	NA
p. 1 .	
If you answered NO for all types enter "Not Applicable" on p.1.	