# **Wetland & Stream Report**

# PSE Energize Eastside Project Documentation

# DELINEATION REPORT UPDATE NORTH BELLEVUE SEGMENT

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Prepared on behalf of (applicant):



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The information contained in this report is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, state and federal regulatory authorities. No other warranty, expressed or implied, is made.



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# 1 Introduction

# 1.1 Background and Purpose

The purpose of this report is to document wetland and stream critical areas associated with the Puget Sound Energy (PSE) Energize Eastside Project (Project) in North Bellevue. The Project includes building a new electric substation and higher capacity transmission lines to serve homes and businesses on the Eastside. This report focuses on the North Bellevue Segment of the Energize Eastside Project. The North Bellevue Segment includes 5.2 miles of two existing 115 kV transmission lines which will be upgraded to operate up to 230 kV (herein referred to as 230 kV lines). Upgrades will replace pole and conductor infrastructure.

This delineation report is intended to supplement the information provided in the *North Bellevue Critical Area Report* (The Watershed Company 2021) with respect to wetlands and streams. This document is an update from the original delineation report (which covered both North and South Bellevue Segments) issued May 2016; it supersedes that previous version and is intended to serve as a stand-alone document for local permitting<sup>1</sup> in North Bellevue.

## 1.2 Project Location

The North Bellevue Segment study area spans an urban landscape setting. Most of the corridor is zoned single-family residential at various densities; with the exception of the Bel-Red area, generally zoned commercial and office. In North Bellevue Segment, the Project corridor passes through or adjacent to (from north to south) the Bridle Trails, Bel-Red, Wilburton, Crossroads, Woodridge, Lake Hills, and Eastgate neighborhoods (Figure 1). The corridor is in the following public land survey sections: Sections 15, 22, 27, and 34 of Township 25N, Range 05E; and Sections 3 and 10 of Township 24N, Range 05E.

The North Bellevue Segment study area is in the Cedar-Sammamish Watershed (WRIA 8), and spans three City of Bellevue-defined drainage basins, which include (from north to south) the Valley Creek, Kelsey Creek, and Richards Creek basins.

<sup>&</sup>lt;sup>1</sup> Energize Eastside work associated with the North Bellevue Segment avoids activities that would trigger state and federal permitting. Therefore, state and federal regulations related to wetlands and streams are not included. The jurisdictional status of wetlands and streams, their classifications, and the associated buffer widths that are provided are in accordance with City of Bellevue regulations.

#### 1.3 Methods

#### Study Area

The North Bellevue Segment study area is a linear transmission line corridor that averages 100 feet in width. It begins at the northern city limit boundary at the Bridle Crest Trail near NE 60th Street and extends south to the existing Lakeside Substation for a corridor length of approximately 5.2 miles (Figure 1). Limits of the study area corridor were determined in the field using aerial maps, GPS, and by measuring 25 feet out from the center of each existing pole set or set of transmission lines when poles were not nearby.

#### Background Review

Public-domain information on the study area corridor was reviewed for 2015 delineation field work efforts. 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, no longer active), City of Bellevue GIS data, and King County's mapping website (iMap).

Online sources of information have been revisited so relevant changes since 2015 could be incorporated during updates to wetland and stream mapping and/or classification. Additional resources like Washington Department of Ecology's interactive Water Quality Atlas map and various sources for aerial imagery (like Google Earth) have also been referenced for answering wetland rating form questions.

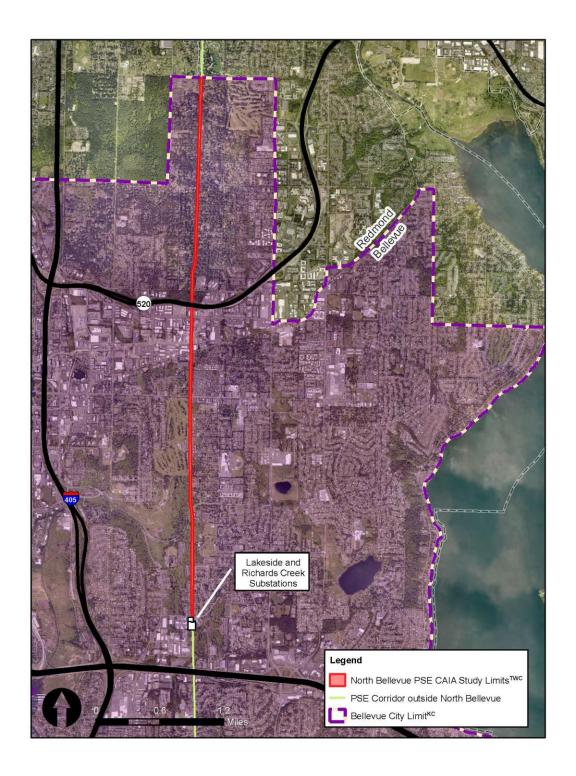


Figure 1. Vicinity map of the North Bellevue Segment study area.

#### Delineation and Classification Chronology

Original wetland and stream delineation field work for the Energize Eastside Project in Bellevue was completed in 2015. The Bellevue portion of the Project includes 8.3 miles of transmission line corridor and the Richards Creek Substation site. Wetlands were classified using the 2004 version of the *Washington State Wetland Rating System for Western Washington* (2004 Rating System), in accordance with the City of Bellevue Land Use Code (LUC) 20.25H.095 in effect at that time.

The 2004 Rating System was updated in 2014; and the LUC was subsequently updated to require use of the *Washington State Wetland Rating System for Western Washington:* 2014 Update (2014 Rating System) to classify wetlands. The Watershed Company began updating the North Bellevue Segment wetland classifications to the 2014 Rating System in 2018 and conducted site visits to many of the wetlands in the North Bellevue Segment to aid in that effort. The South Bellevue Segment is covered in a separate report and was permitted separately from the North Bellevue Segment.

Finally, in 2020, more than five years from the original delineation study, The Watershed Company revisited all wetlands and streams in the North Bellevue Segment project area (with one exception<sup>2</sup>) to verify or update wetland/stream boundaries and confirm each wetland was appropriately classified according to the 2014 Rating System. Overall, wetland boundaries did not change or remained relatively consistent with the original delineation study.

#### Wetland Assessment

The study area was evaluated for wetlands using methodology from the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (U.S. Army Corps of Engineers 2010). Presence or absence of wetlands was determined based on an examination of vegetation, soils and hydrology. Wetland determination data forms are included in Attachment B. These parameters were sampled at several locations along the wetland boundary to determine the wetland edge.

Wetlands were originally classified according to the 2004 version of the Department of Ecology's wetland rating system (Hruby 2004). Wetland classifications were updated using the

<sup>&</sup>lt;sup>2</sup> The Watershed Company was not granted access to the Overlake Farms property (parcel numbers 1525059269 and 1525059247) to verify or update the prior wetland delineation despite PSE's numerous attempts to reach the property owner(s) to obtain permission in 2018. The wetland on Overlake Farms (Wetland A) was last delineated March 29, 2013 (The Watershed Company).

Overlake Farms property owners granted permission for The Watershed Company to utilize the information obtained during the private 2013 wetland and stream delineation study where it was relevant to the Energize Eastside Project (C. Gugoni, personal communication, March 19, 2015).

Department of Ecology's 2014 rating system (Hruby 2014) beginning in 2018. Rating forms and figures are included in Attachment C.

#### Stream Assessment

The study area was evaluated for streams based on the City of Bellevue's definition and the presence or absence of an ordinary high water mark (OHWM) as defined by Section 404 of the Clean Water Act, the Washington Administrative Code 220-660-030, and the Revised Code of Washington 90.58.030. The City of Bellevue defines streams as follows (LUC 20.25H.075):

An aquatic area where surface water produces a channel, not including a wholly artificial channel, unless the artificial channel is:

- 1. Used by salmonids; or
- 2. Used to convey a stream that occurred naturally before construction of the artificial channel.

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 as a Type S, Type F, Type N or Type O water according to the City of Bellevue Land Use Code.

The City of Bellevue measures stream buffers from 'top-of-bank,' defined as (LUC 20.50.048):

The point closest to the boundary of the active floodplain of a stream where a break in the slope of the land occurs such that the grade beyond the break is flatter than 3:1 at any point for minimum distance of 50 feet measured perpendicularly from the break

In some instances, the mapped stream width, based on estimated average distance between opposite OHWM boundaries, coincides with top-of-bank. However, limited availability of detailed site-specific topographic information makes it infeasible to determine top-of-bank adjacent to streams. Stream buffers were measured from estimated OHWM boundaries.

#### Mapping

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 were differentially corrected using GPS Pathfinder Office and exported into ESRI ArcGIS software for mapping. Stream and wetland delineation maps are included as Attachment A.

# 2 Wetlands

A total of 25 wetlands are located along the North Bellevue Segment of the Energize Eastside corridor in the City of Bellevue (Attachment A). They are all categorized as having either slope or depressional hydrogeomorphic classes; and are palustrine systems according to the Cowardin classification system (Cowardin et. al. 1979). Wetland categories based on the 2014 Rating System range from Category II to Category IV with the majority of wetlands rated as

Category III features. Wetlands are further described in the following subsections and summarized in Table 1.

## 2.1 Descriptions

#### 2.1.1 Wetland A (Overlake Farms)

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; Attachment A, Page 1) (The Watershed Company 2013). 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 vegetation classes. Dominant vegetation includes western red cedar, red alder, vine maple, salmonberry, skunk cabbage, and lady fern. Sampled soils (Attachment B, Overlake Farms DP-1) in 2013 met hydric soil indicator, Hydrogen Sulfide. Wetland hydrology indicators include Saturation (to the surface) and Hydrogen Sulfide Odor. Wetland A is classified as a Category IV wetland.

#### 2.1.2 Wetland CB01

Wetland CB01 is a relatively large slope wetland located north of SR-520 in Viewpoint Park (Attachment A, Page 2). Wetland CB01 hydrology is mainly provided by groundwater seeps. Wetland CB01 contains forested, scrub-shrub, and emergent 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 (Attachment B, DP-8) met the criteria for both Depleted Matrix and Redox Dark Surface hydric soil indicators. The wetland also met multiple hydrology indicators at the time of sampling. Wetland CB01 is classified as a Category III wetland.

#### 2.1.3 Wetland EB01

Wetland EB01 is a slope wetland located south of Bel-Red Road near Kelsey Creek (Attachment A, Page 4-5). This wetland contains forested, scrub-shrub, and emergent 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 (Attachment B, DP-6), 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 EB01 is classified as a Category III wetland.

#### 2.1.4 Wetland EB02

Wetland EB02 is a relatively large slope wetland located in the northeast corner of the Glendale Golf and Country Club (Attachment A, Page 7-9). This wetland contains forested, scrub-shrub, and emergent vegetation classes. Common vegetation observed includes English hawthorn, red alder, Himalayan blackberry, reed canarygrass, soft rush and small-fruited bulrush. Sampled soils (Attachment B, DP-11) met hydric soil indicator, Depleted Matrix. Oxidized rhizospheres were present along living roots, indicative of a primary wetland hydrology indicator. Two secondary wetland hydrology indicators were also observed. Wetland EB02 rates as a Category III wetland.

#### 2.1.5 Wetlands EB03 through EB10

Wetlands EB03 through EB10 are located on two large parcels north of Lake Hills Connector (Attachment A, Pages 11-18). All except for Wetland EB09 are located within the transmission line corridor. The northern parcel is owned by the Glendale County Club; the southern property is owned by the City of Bellevue Parks Department (Kelsey Creek Park). 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. Topography is dominated by series of rolling hills and valleys oriented perpendicular to a generally west-facing slope.

The eight wetlands identified in this general area are relatively similar in character. They are commonly present in depressions, swales, or breaks in slopes, and are primarily supported by groundwater seeps. Several of these wetlands include small streams and/or culverts that convey surface water flow beneath the established trail. 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 (Attachment B, DPs 12-16,20-24, 24A).

Wetlands EB06 and EB07 are small (< 2,500 square feet) Category IV wetlands. The rest (EB03-EB05; EB08-EB10) are Category III wetlands (for more information, see Table 1 and Rating Forms & Figures in Attachment C).

## 2.1.6 Wetland EB11 through EB19

Wetlands EB11 through EB19 are located south of Lake Hills Connector (Attachment A, Pages 19-25), mostly located on a large vacant 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 130<sup>th</sup> 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; and the general topography is similar.

These nine wetlands are often located in low-lying swales. Most are associated with small stream features also present in the swales. Furthermore, the trail acts as a break between several of these wetland units. These wetlands are primarily supported by groundwater seeps. Vegetation is often dominated by red alder and black cottonwood in the forested areas with lady fern and reed canarygrass common in the understory. Other common emergent and shrub vegetation observed included Himalayan blackberry, 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 (Attachment B, DPs 17-19, 25-26, 29-34).

Wetland EB11 is classified as a Category II wetland; Wetlands EB12 through EB19 are all Category III wetlands (for more information, see Table 1 and Rating Forms & Figures in Attachment C).

#### 2.1.7 Wetland EB20

Wetland EB20 is a slope wetland located north of SE 26<sup>th</sup> Street on parcels 1024059089 and 1024059065 (Attachment A, Page 29, 31). The wetland contains an emergent vegetation class. Common plants observed include reed canarygrass, small-fruited bulrush, and patches of Himalayan blackberry along the perimeter. Soils met the criteria for hydric soil indicator, Redox Dark Surface. One primary wetland hydrology indicator and two secondary hydrology indicators were observed at the test pit during field investigations (Attachment B, DP-27). Wetland EB20 is classified as a Category III wetland.

#### 2.1.8 Wetland EB21

Wetland EB21 is a depressional wetland located south of NE 20<sup>th</sup> Street in a wide ditch-like feature that runs north-south, immediately adjacent to the transmission line corridor (Attachment A, Page 3). The wetland includes scrub-shrub and emergent Cowardin vegetation classes. Vegetation is dense and dominated by willows, red-twig dogwood, Himalayan blackberry, reed canarygrass, giant horsetail, and watercress. A number of red alder, Sitka spruce and Oregon ash trees are present just outside wetland boundaries, beneath existing transmission lines. City of Bellevue's GIS data characterizes this feature as stream that flows south, then is conveyed underground until it crosses 136<sup>th</sup> Place NE. Wetland hydrology observations included permanent slow-moving water, consistent with City of Bellevue's GIS data, as well as saturation near wetland edges. Wetland hydrology has been observed during each site visit (at least three) over several years. Hydric soils are presumed because strong wetland hydrology is persistent, and all dominant vegetation is hydrophytic. Wetland boundaries were judged to be equal to or larger than (more encumbering) stream edges. Wetland EB21 is classified as a Category III wetland.

#### 2.1.9 Wetland EE (Lakeside)

Wetland EE is located on the north side of Lakeside Substation parcel (Attachment A, Page 30-31). It is a slope wetland that drains to a ditch. It contains emergent and scrub-shrub vegetation classes. Dominant plants consist of shore pine, red alder, and English hawthorn, and willow species affected by routine vegetation management activities. Cattail, soft rush, and giant horsetail are common in the understory. Hydrology comes from groundwater seeps and is supplemented by surface water. Soils met criteria for hydric soil indicator, Redox Dark Surface and were saturated at seven inches below the surface during the site assessment. Wetland EE is rated as a Category IV wetland.

#### 2.1.10 Wetland I (Lakeside)

Wetland I is located in the northwest corner of the Lakeside Substation site outside of the transmission line corridor (Attachment A, Page 31). It is a relatively small, narrow wetland located at the toe of a slope, adjacent to a nearby road, and is rated as depressional. Wetland I contains a forested vegetation community dominated by weeping willow, red alder, and black cottonwood in the canopy with Himalayan blackberry, giant horsetail, soft rush, and grasses in the understory. Hydrology comes from groundwater and is supplemented by surface water. Soils were a dark brown gravelly sandy clay loam with organics masking redoximorphic features. Soils were saturated to the surface and a water table was present at nine inches below the soil surface at the time of the site visit (Attachment B, DP-4). Wetland I is classified as a Category III wetland.

#### 2.2 Standard Buffers

Wetlands are regulated by the City of Bellevue under their Land Use Code (LUC), Part 20.25H, Critical Areas Overlay District.

Wetland classification is used in part to determine wetland buffer widths in the City of Bellevue. Wetland size, habitat score, and whether a site is considered developed or undeveloped also influence buffer widths. Per LUC 20.25H.095.D, "developed" is defined as when a parcel has been previously recorded with a NGPE prior to August 1, 2006 (regardless of presence of a primary structure on-site). None of the wetlands encountered in the study area occur on parcels with NGPEs, so associated properties are all considered undeveloped for the purpose of applying wetland buffers.

Table 1 provides a summary of wetland classifications and other key wetland attributes. The wetland size in Table 1 is approximate for wetlands that include estimated wetland area outside of the transmission line corridor. Furthermore, the City of Bellevue does not regulate Category IV wetlands that are less than 2,500 SF; therefore, the two wetlands to which this exception applies do not require a buffer as they are not regulated.

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Table 1. Summary table of wetlands in the North Bellevue Segment of the PSE Energize Eastside corridor.

Latest Assessment Date	Wetland Name	Approx. Size (square feet)	HGM Class used for Rating	2014 Ecology Wetland Rating Scores (Water Quality   Hydrology   Habitat  Total)				Category	Standard Buffer Width (feet)
3/29/2013	A (Overlake)	15,673	Depressional	5	6	4	15	IV	40
5/26/2020	CB01	31,758	Slope	6	6	5	17	III	110
5/26/2020	EB01	7,289	Slope	5	6	6	17	III	110
5/26/2020	EB02	98,761	Slope	6	6	6	18	III	110
2/27/2020	EB03	6,507	Slope	7	7	4	18	III	60
2/27/2020	EB04	2,196	Depressional	7	6	4	17	III	60
2/27/2020	EB05	3,904	Slope	6	7	4	17	III	60
2/27/2020	EB06	1,067	Slope	5	6	4	15	IV	0
2/27/2020	EB07	717	Slope	5	6	4	15	IV	0
2/27/2020	EB08	497	Slope	7	5	5	17	III	110
2/27/2020	EB09	420	Depressional	7	6	6	19	III	110
2/27/2020	EB10	2,316	Slope	7	7	5	19	III	110
2/27/2020	EB11	8,365	Depressional	8	7	5	20	II	110
2/27/2020	EB12	12,823	Slope	5	6	5	16	III	110
2/27/2020	EB13	3,658	Slope	6	5	5	16	III	110
2/27/2020	EB14	7,322	Slope	6	5	6	17	III	110
2/27/2020	EB15	31,090	Slope	5	6	6	17	III	110
2/27/2020	EB16	6,792	Depressional	7	6	6	19	III	110
2/27/2020	EB17	58,906	Depressional	7	6	6	19	III	110
2/27/2020	EB18	4,317	Slope	6	6	6	18	III	110
2/27/2020	EB19	4,296	Slope	6	5	6	17	III	110
5/26/2020	EB20	11,595	Slope	5	7	4	16	III	60
5/26/2020	EB21	2,258	Depressional	7	7	3	17	III	60
2/27/2020	EE (Lakeside)	2,949	Slope	5	6	4	15	IV	40
2/27/2020	I (Lakeside)	1,061	Depressional	6	6	4	16	III	60

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# 3 Streams

# 3.1 Descriptions

## 3.1.1 Stream EBO1 (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) (Attachment A, Page 4). 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 n.d.). Stream EB01 is a Type F stream due to fish presence.

#### 3.1.2 Streams near Glendale Country Club

Streams EB02-EB05 and EB16 are typically small, non-fish bearing streams that day-light and reenter culverts along the PSE corridor on the Glendale Country Club property (parcel 3425059010) (Attachment A, Pages 8-11,13-15). They are in the Kelsey Creek drainage basin. Fish use is precluded by natural gradient barriers downstream (channel gradients exceed 16 percent); as such, they are classified as Type N streams. Additional information for these features is provided below and in Table 2:

- **Stream EB02** is a relatively straight, channelized feature that appears to have been altered by historical land use. It flows seasonally along the east edge of the Glendale County Club, both north along the edge of Wetland EB02, and south to where it enters a culvert. City of Bellevue's GIS data does not show a stream at this location.
- **Stream EB03** is associated with Wetland EB03. It is a small seasonal stream that flows west; it loses channel definition in the wetland before re-entering a culvert at the north end of the wetland unit. This feature is consistent with a stream mapped by City of Bellevue at this location.
- **Stream EB04** is a very narrow yet persistent channel within Wetland EB08. It is a short stream segment that begins at a culvert outlet, flows west then re-enters a culvert at the bottom of the wetland. This stream is not mapped by the City of Bellevue and is on the eastern edge of the transmission line corridor.
- Stream EB05 is on the west (downslope side) of the gravel trail near the southeast corner of the golf course east of the transmission line corridor. Three culverts discharge water on a slope of angular rock that eventually meet and channelize to the west, just outside of the project corridor. City of Bellevue GIS data show a stream in the vicinity of this feature, just downstream of the culverts and angular rock, outside the corridor.

• **Stream EB16** enters Wetland EB05 from the east, flows west through the center of the wetland unit then into a culvert. It is a seasonally flowing stream that is also mapped (and typed as 'Ns') in City of Bellevue's GIS data.

### 3.1.3 Streams in vicinity of Lake Hills Connector

Streams EB06 through EB14 and EB17 also occur in the Kelsey Creek drainage basin in the vicinity of the Lake Hills Connector (Attachment A, Pages 16-24). They are small, non-fish bearing streams that are often piped under the trail within the corridor or were noted to enter culverts. Fish use is precluded by natural gradient barriers downstream (channel gradients exceed 16 percent). These streams are Type N streams.

- Stream EB06, EB07, and EB08 are within approximately 600 feet of one another. They are mostly piped in the project corridor. They are consistent with streams mapped by the City of Bellevue. These are perennial features that flow west.
- **Stream EB09** is just north of Lake Hills Connector, associated with Wetland EB10. It is a perennial stream that flows west and is piped under the trail within the corridor. This stream is in the vicinity of one depicted in City of Bellevue's GIS data.
- Streams EB10 and EB11 are south of Lake Hills Connector, within the boundaries of Wetland EB11. Stream EB10 is a short segment that flows south. Stream EB11 is a longer segment that flows generally northwest. They meet and flow into the same culvert near the road right-of-way. These streams are located in the vicinity of one depicted in City of Bellevue's GIS data.
- **Stream EB12** flows west through Wetlands EB14 and EB13. City of Bellevue GIS data indicate two stream features that converge in the vicinity of this one.
- Stream EB13 serves as the outlet to Wetland EB16. It is piped under the gravel trail and
  daylights again at the western edge of the study area in Wetland EB15. This stream location
  is consistent with the City of Bellevue's stream mapping.
- **Stream EB14** is located in and adjacent to Wetland EB17. It flows into a culvert on the east side of the trail and presumably daylights further downstream within the wetland unit, outside of the study area. Stream EB14 is in the vicinity of one depicted in City of Bellevue's GIS data.
- **Stream EB17** is a small channel that begins at the western edge of Wetland EB12 and flows west outside of the study area. City of Bellevue GIS data show a stream feature nearby.

#### 3.1.4 Stream EB15

Stream EB15 is located in the Richards Creek drainage basin. The stream forms at a culvert outlet west of 130<sup>th</sup> Place SE. The stream and its buffer fall outside of the transmission line

corridor (Attachment A, Page 27-28). It is consistent with City of Bellevue mapping. City of Bellevue data indicate this feature is a permanently flowing, non-fish bearing stream. Fish use is likely precluded by a natural downstream gradient barrier. Stream EB15 is a Type N stream.

#### 3.1.5 Stream EB18

Stream EB18 is located in the Richards Creek drainage basin (Attachment A, Page 25). Stream flows near the study area to the west and appears to be seasonal. It flows west through Wetland EB18 then enters a culvert and discharges outside of the transmission line corridor in Wetland EB19. City of Bellevue GIS data indicate a stream at this location and classifies is as Type F. The fish access gradient barrier that was present for similar streams in the Kelsey Creek basin (except for Kelsey Creek) is no longer present at this location.

#### 3.2 Standard Buffers

Streams are regulated by the City of Bellevue under their Land Use Code (LUC), Part 20.25H, Critical Areas Overlay District.

Stream buffers are established based upon stream type, stream condition (open or closed), and whether the parcel on which the stream is located is considered developed or undeveloped. For streams, a developed site is a site that includes a primary structure or any site where the stream and stream buffer have been included within an approved and recorded NGPE or NGPA prior to August 1, 2006 (LUC 20.25H.075.C). There are two locations where streams in the study area occur on parcels with NGPEs/NGPAs and some contain structures. Table 2 provides a summary of stream classifications, flow characteristics, approximate channel width, description of developed or undeveloped site conditions, and buffer widths.

Table 2. Summary of stream critical area classifications, key attributes, and buffer widths.

Stream Name	Туре	Flow	Est. Width (feet)	Pri (Y/N  App	Buffer (feet)	
EB01 (Kelsey Creek)	F	Perennial	15	No	undeveloped ROW	100
				Yes	NGPA- 760580TRCT	NGPA edge
				Yes	0672100140	50
				Yes	0672100139	50
				Yes	0672100135	50
				Yes	0672100120	50
EB02	N	Seasonal	5	Yes	3425059010	25
EB03	N	Seasonal	2	Yes	3425059010	25
EB04	N	Seasonal	1	Yes	3425059010	25
EB05	N	Seasonal	3	Yes	3425059010	25
EB06	N	Perennial	2	Yes	3425059287	NGPE edge
				Yes	3425059016	25
EB07	N	Perennial	2	Yes	3425059017	25
				Yes	3425059016	25
EB08	N	Seasonal	2	Yes	3425059017	25
				Yes	3425059016	25
EB09	N	Perennial	2	No	0324059009	50
				No	0324059047	50
EB10	N	Seasonal	5	No	0324059122	50
				Yes	developed ROW	25
EB11	N	Seasonal	5	Yes	2077700036	25
				Yes	developed ROW	25
				No	developed ROW	50
EB12	N	Seasonal	2	No	0324059066	50
EB13	N	Seasonal	2	No 0324059066		50
EB14	N	Seasonal	2	No	0324059066	50
EB15	N	Perennial	2	Yes	0686050100	25
				No	0686050090	50
EB16	N	Seasonal	2	Yes	3425059219	25
				Yes	3425059010	25
EB17	N	Seasonal	2	No	0324059122	50
EB18	F	Seasonal	2	Yes	0324059025	50

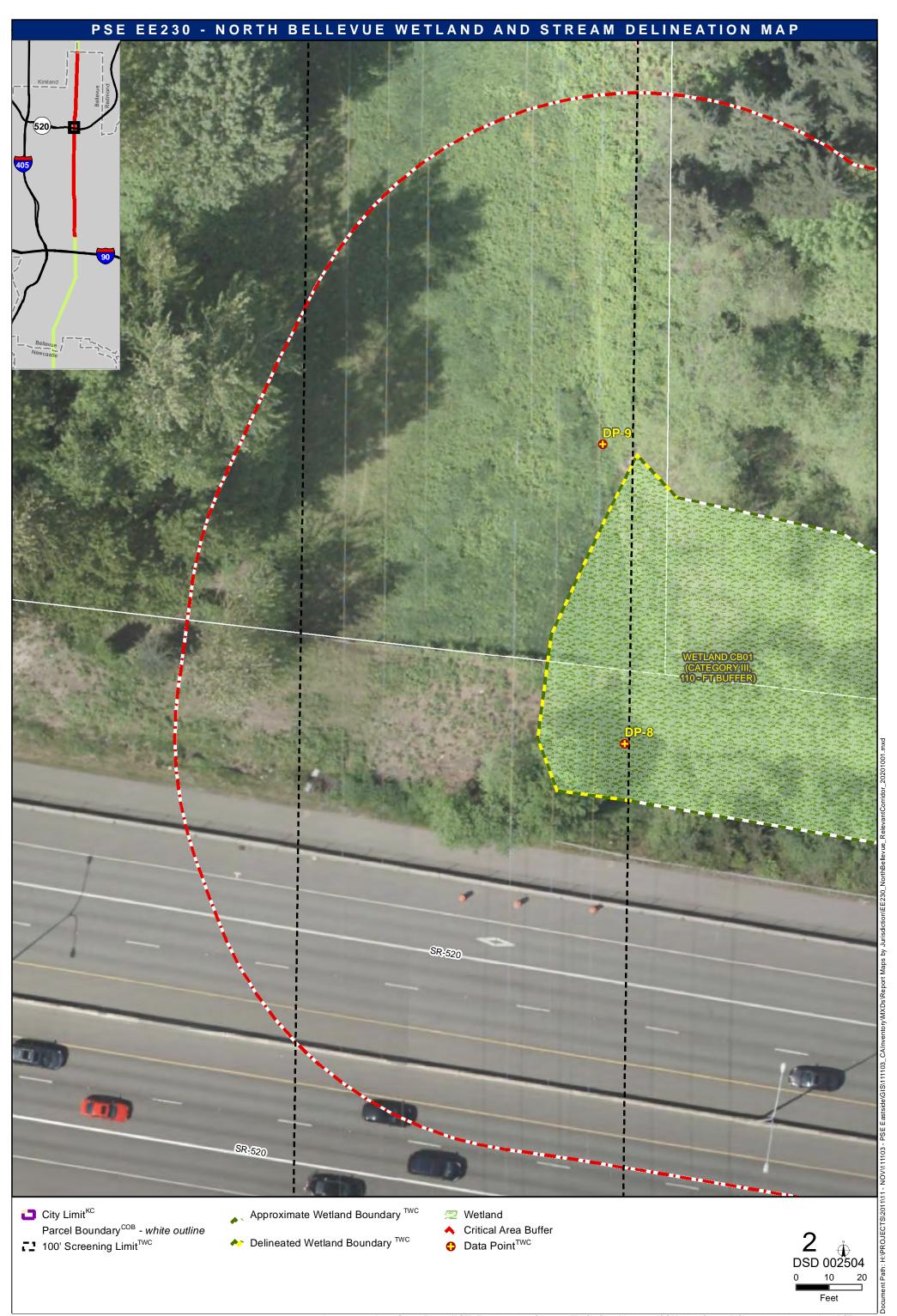
# References

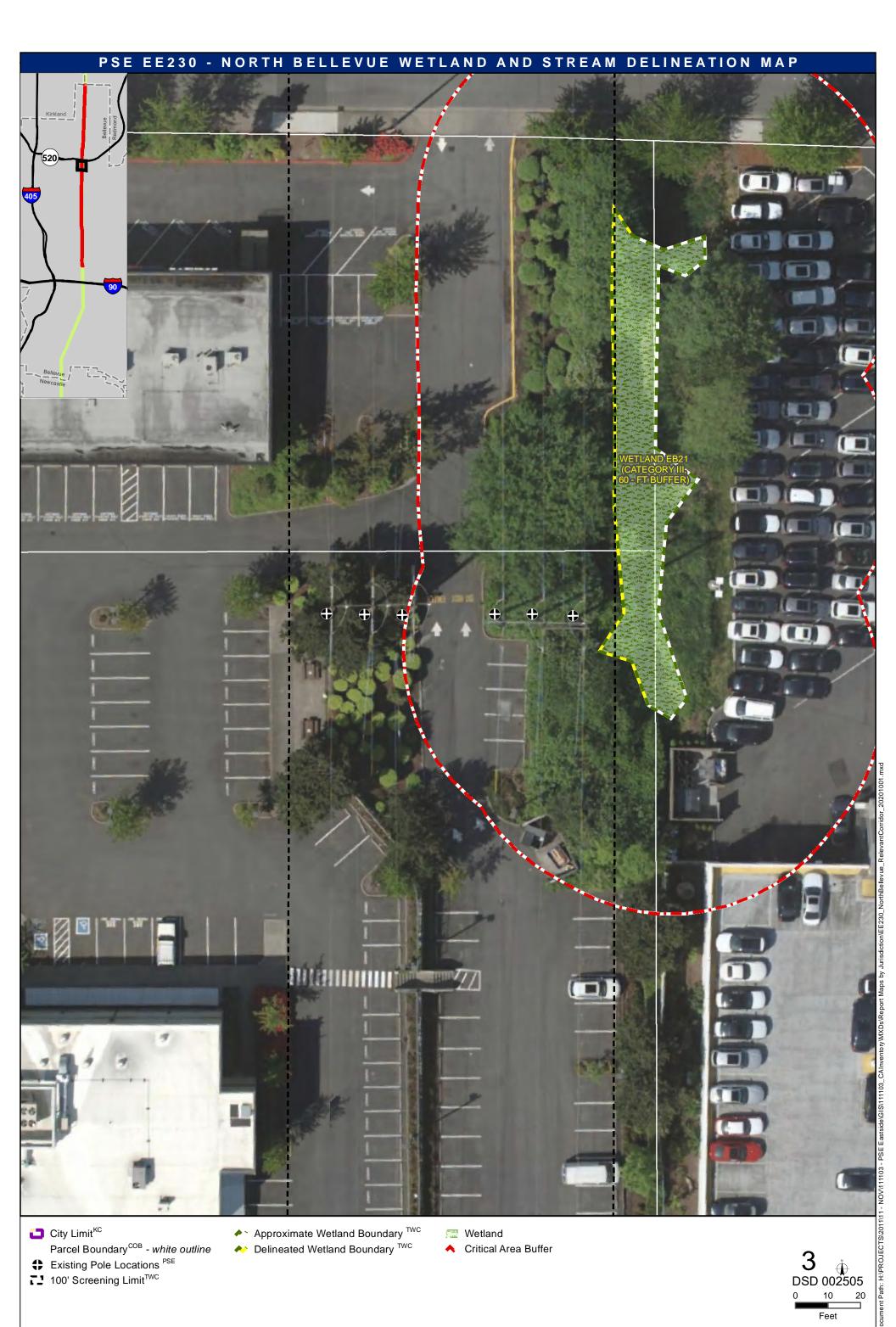
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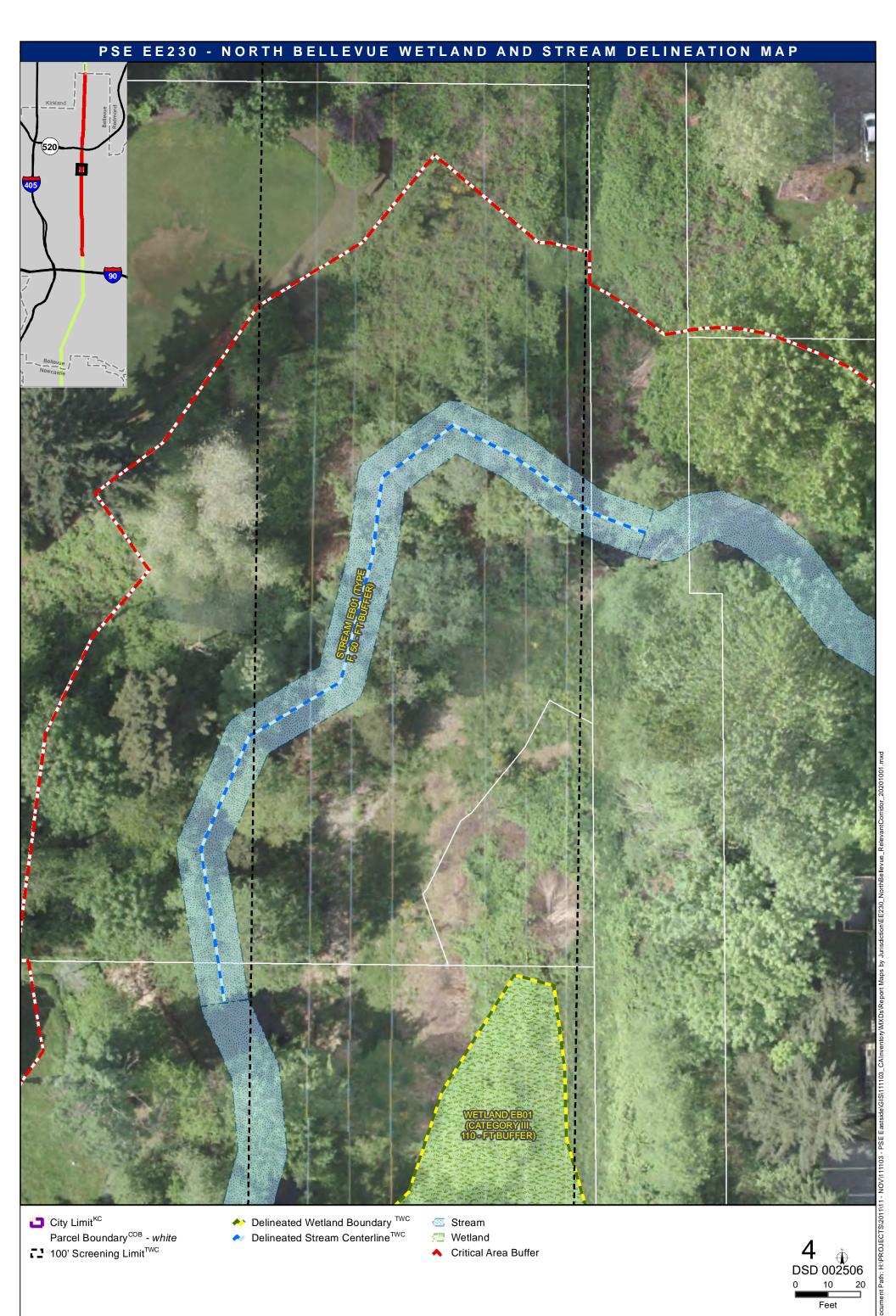
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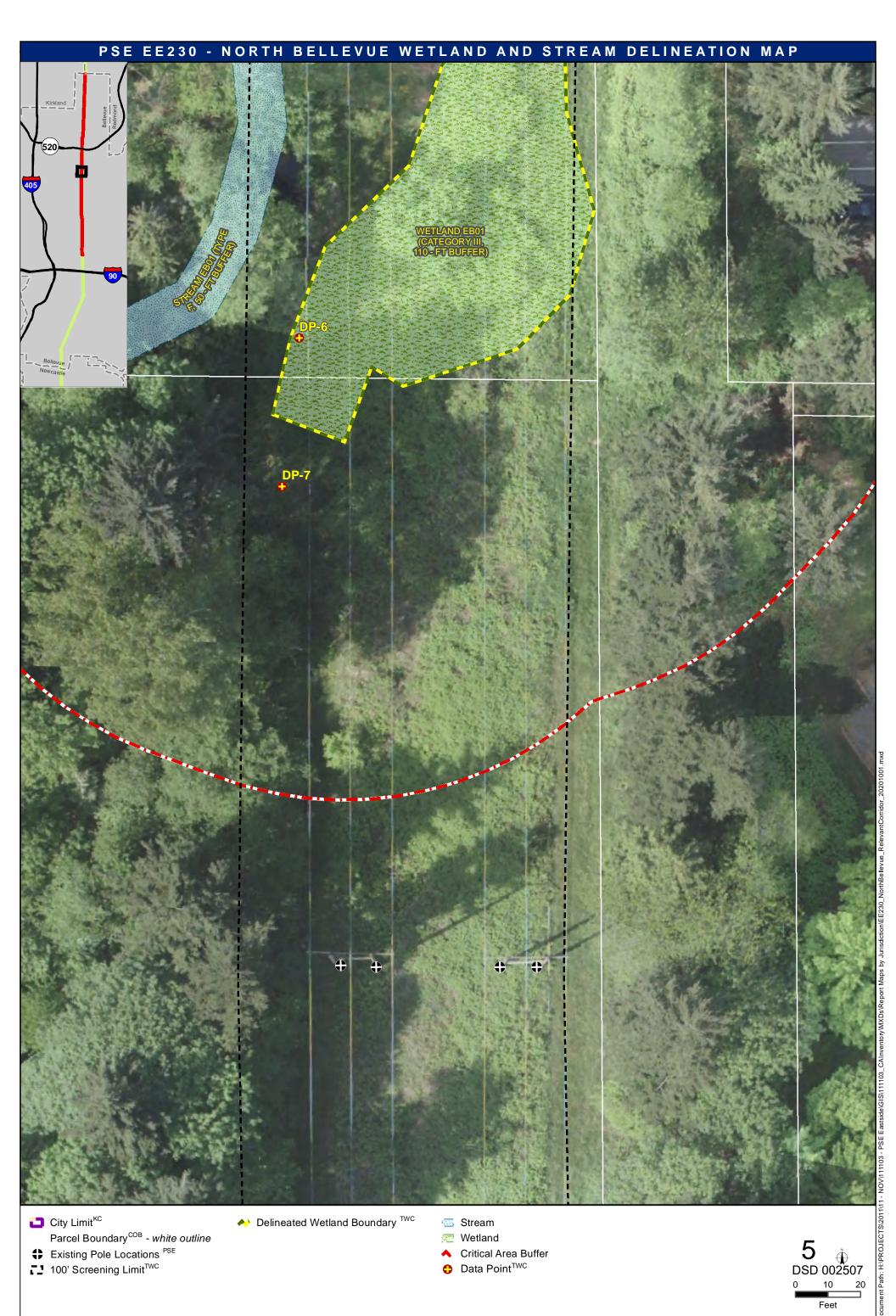
# **DELINEATION MAPS**

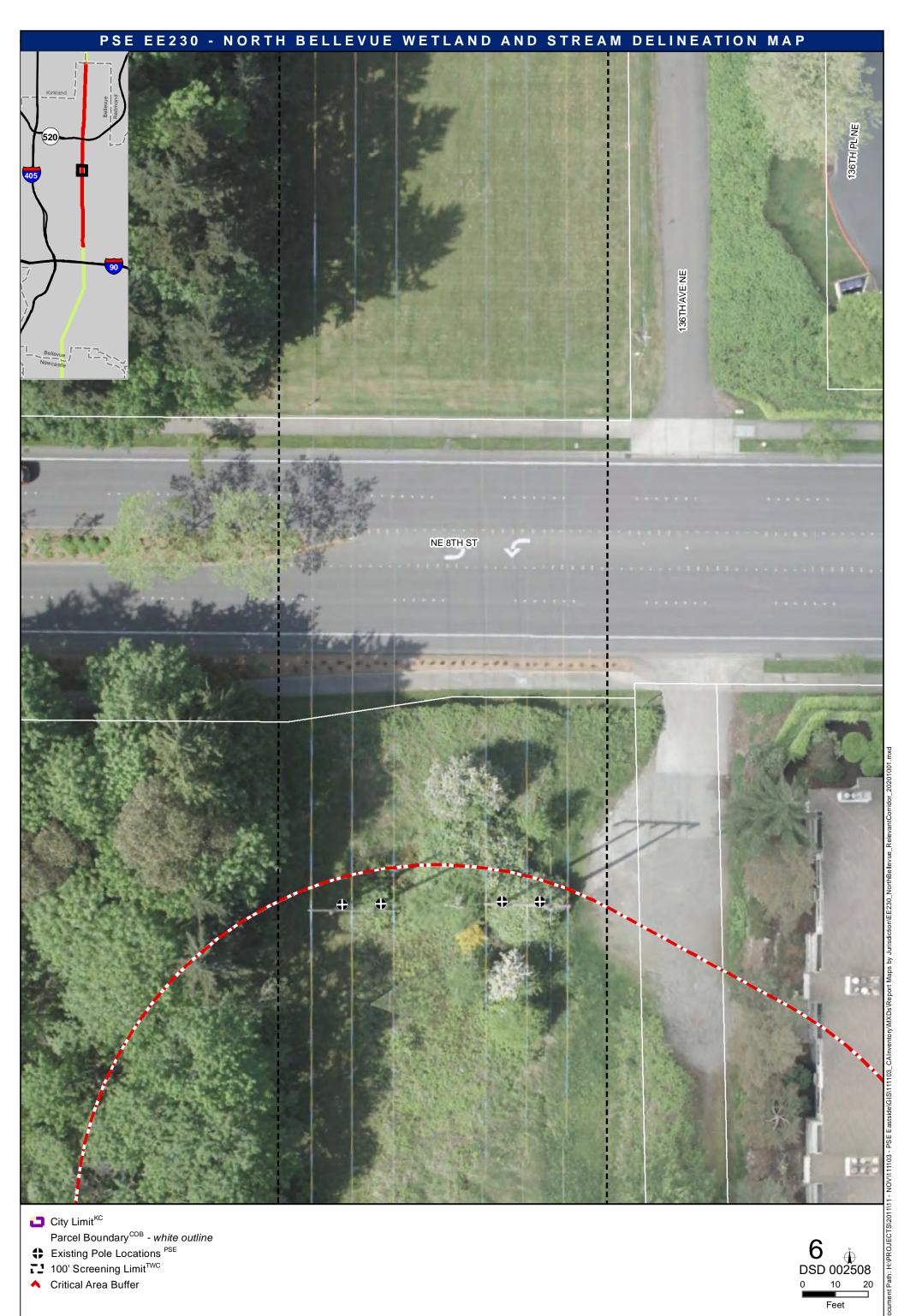




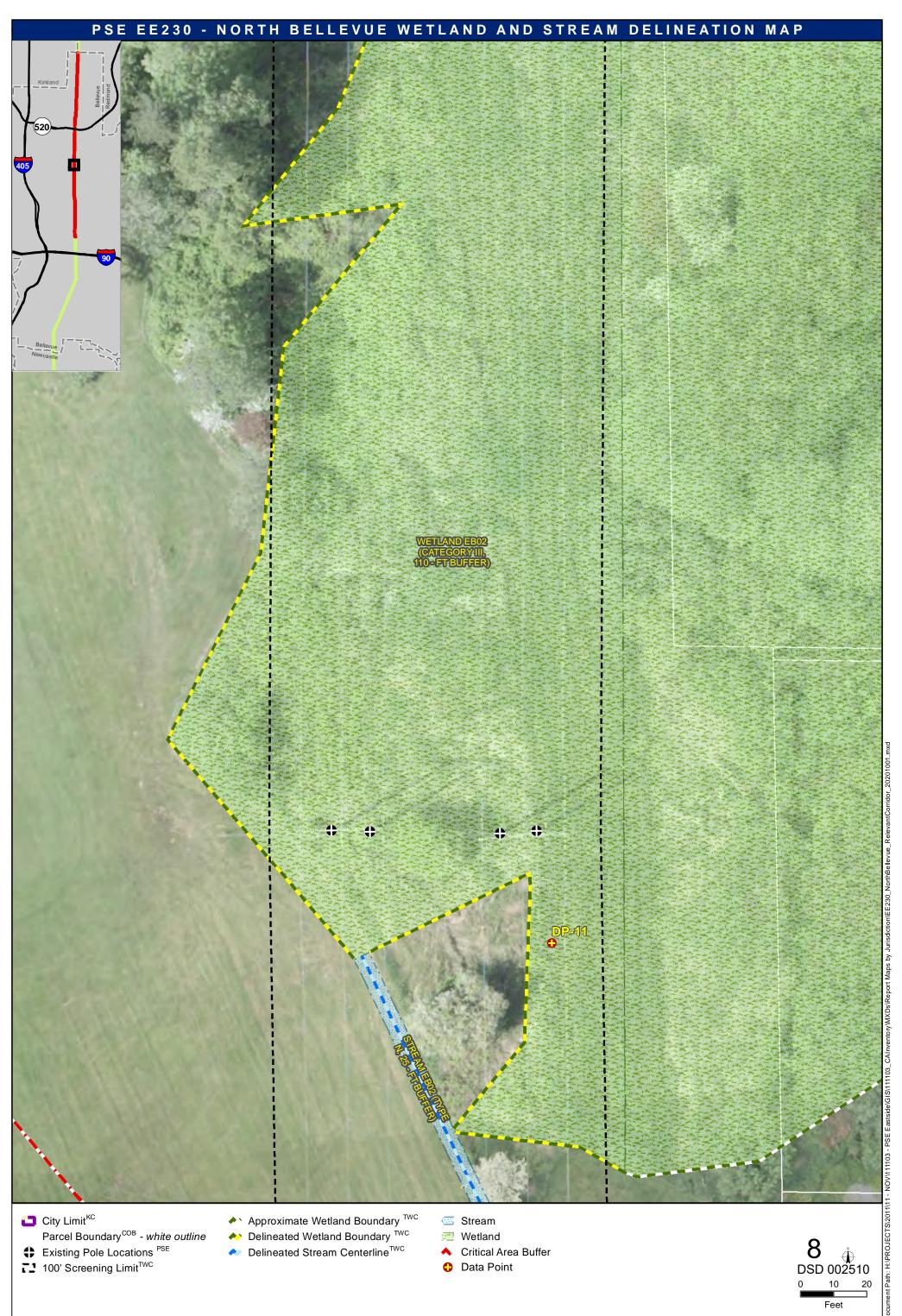


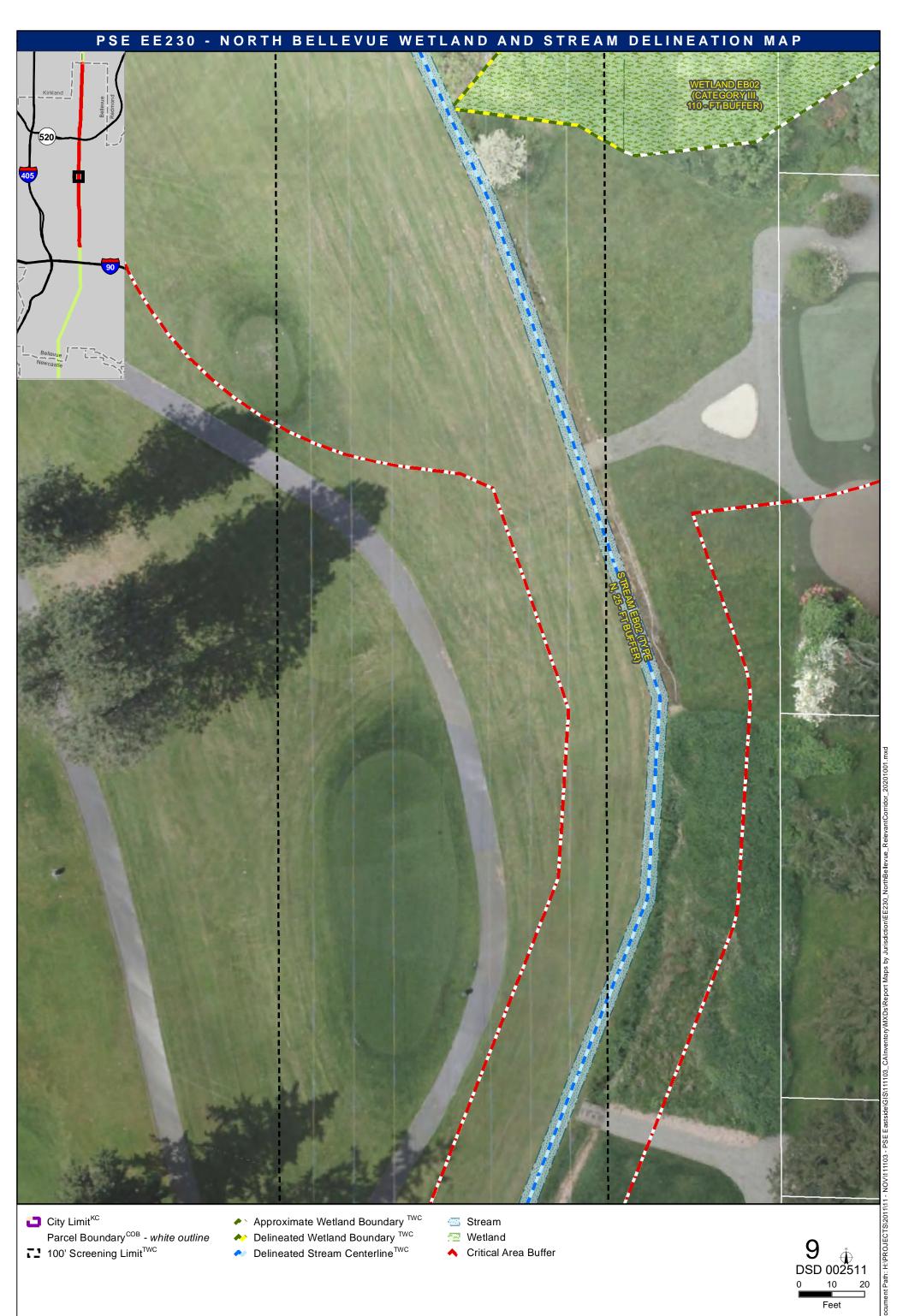


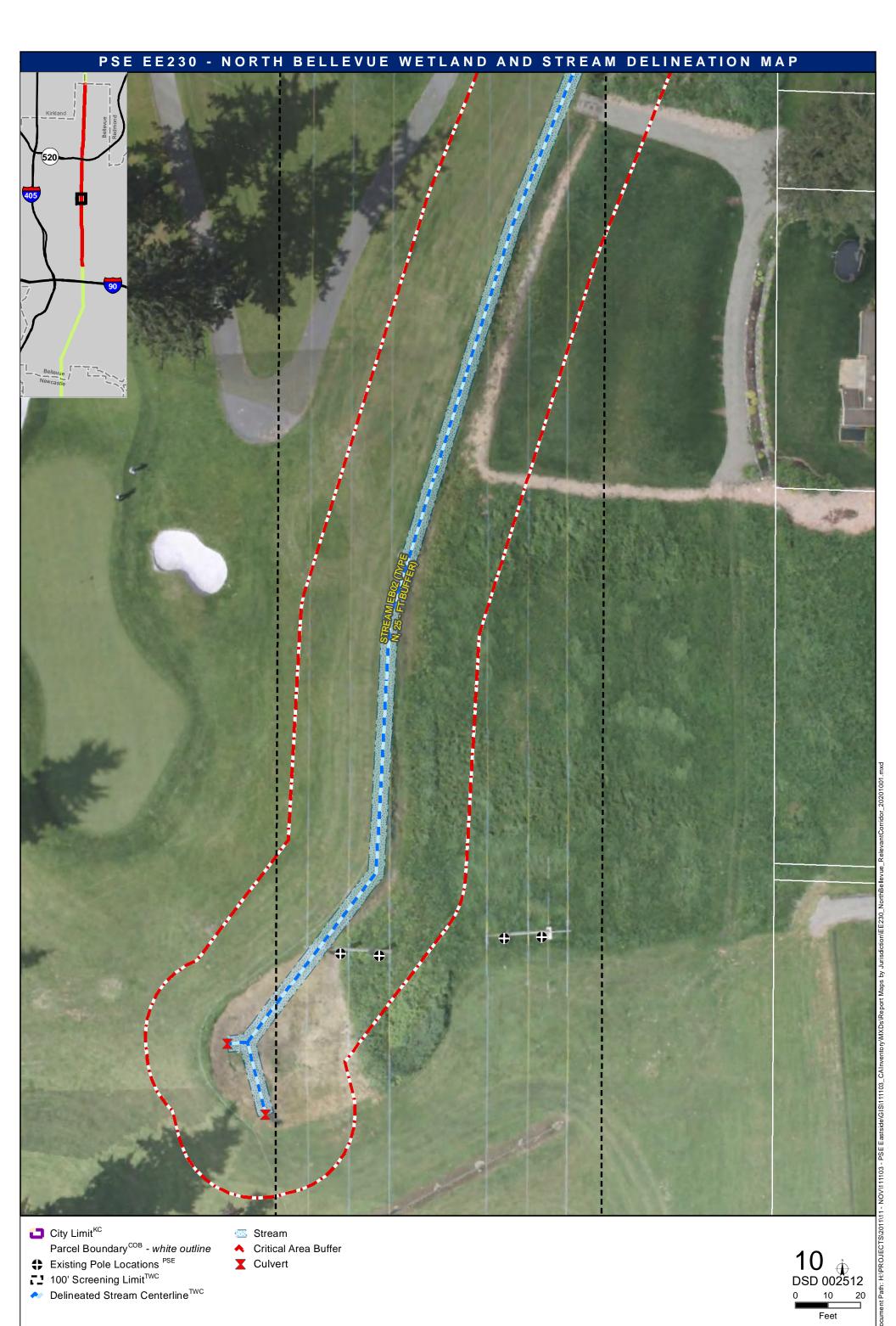


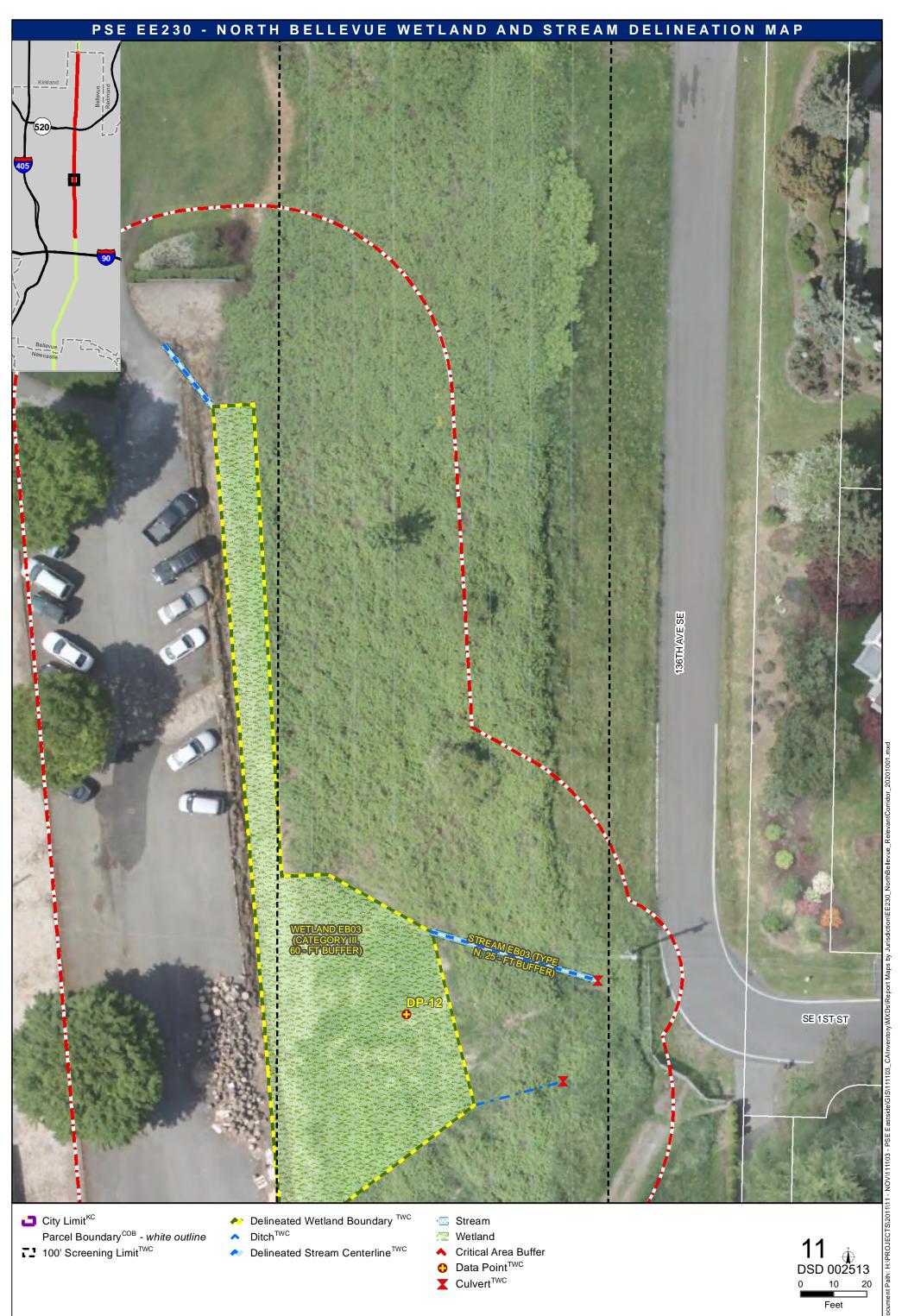


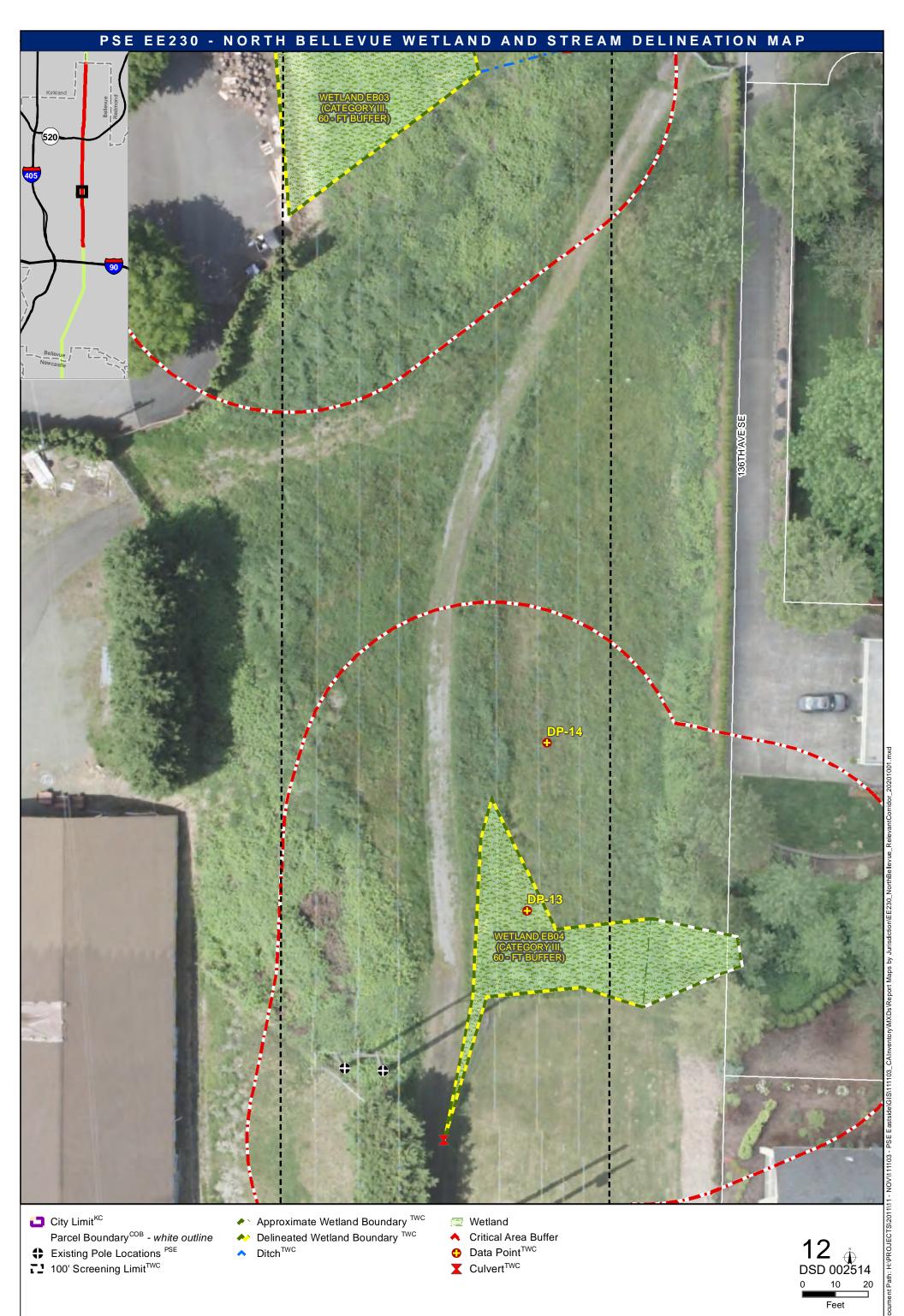


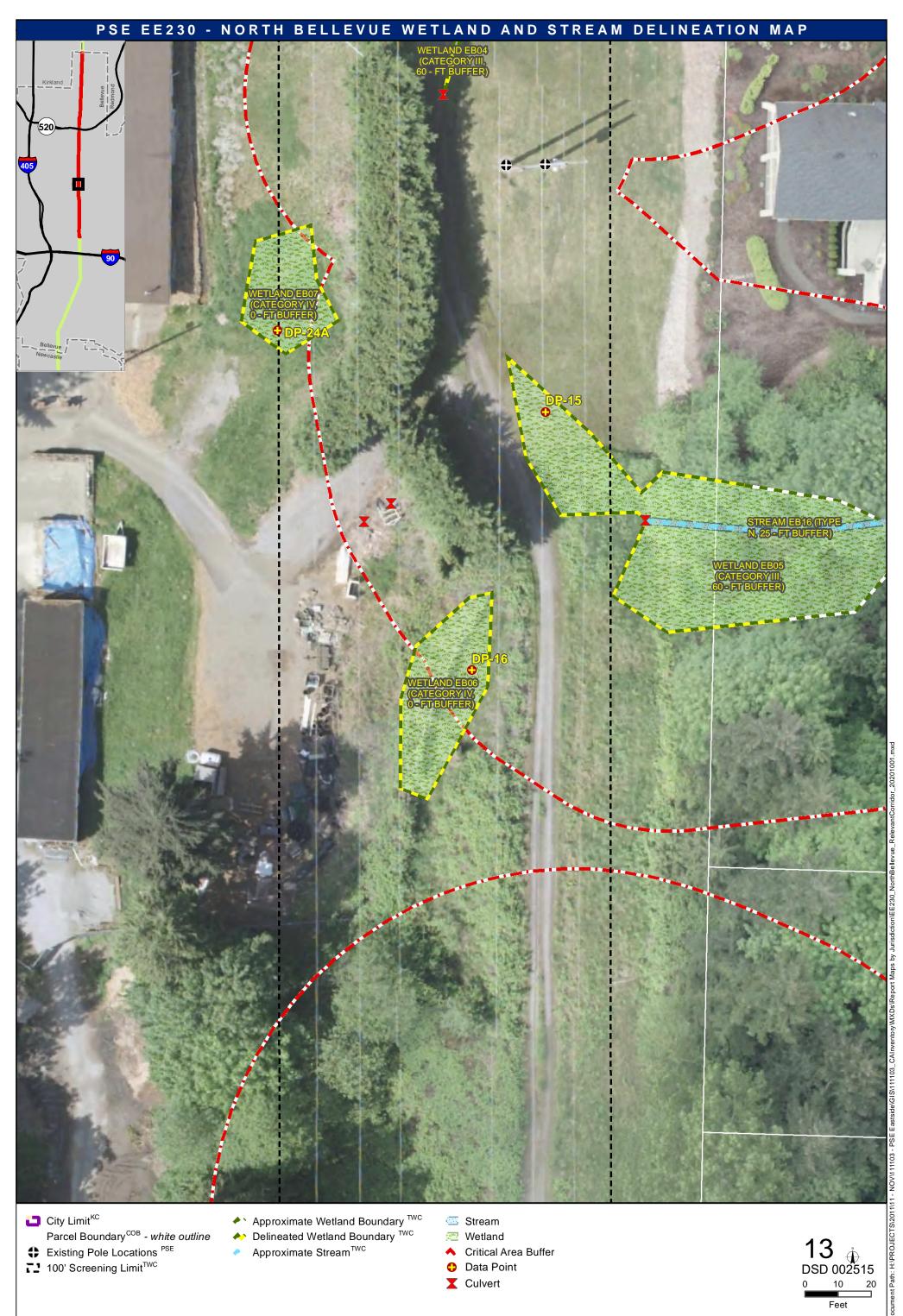


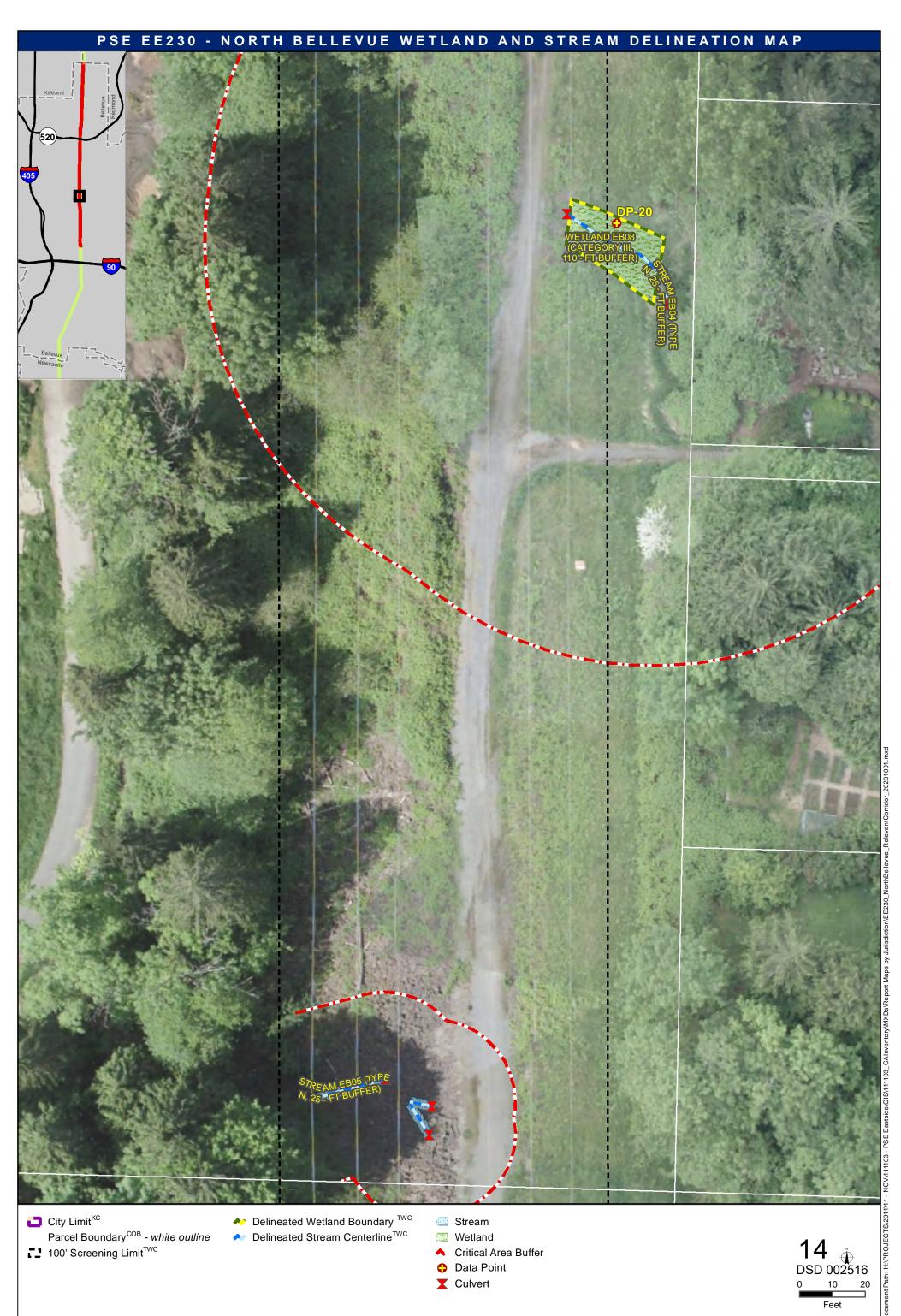




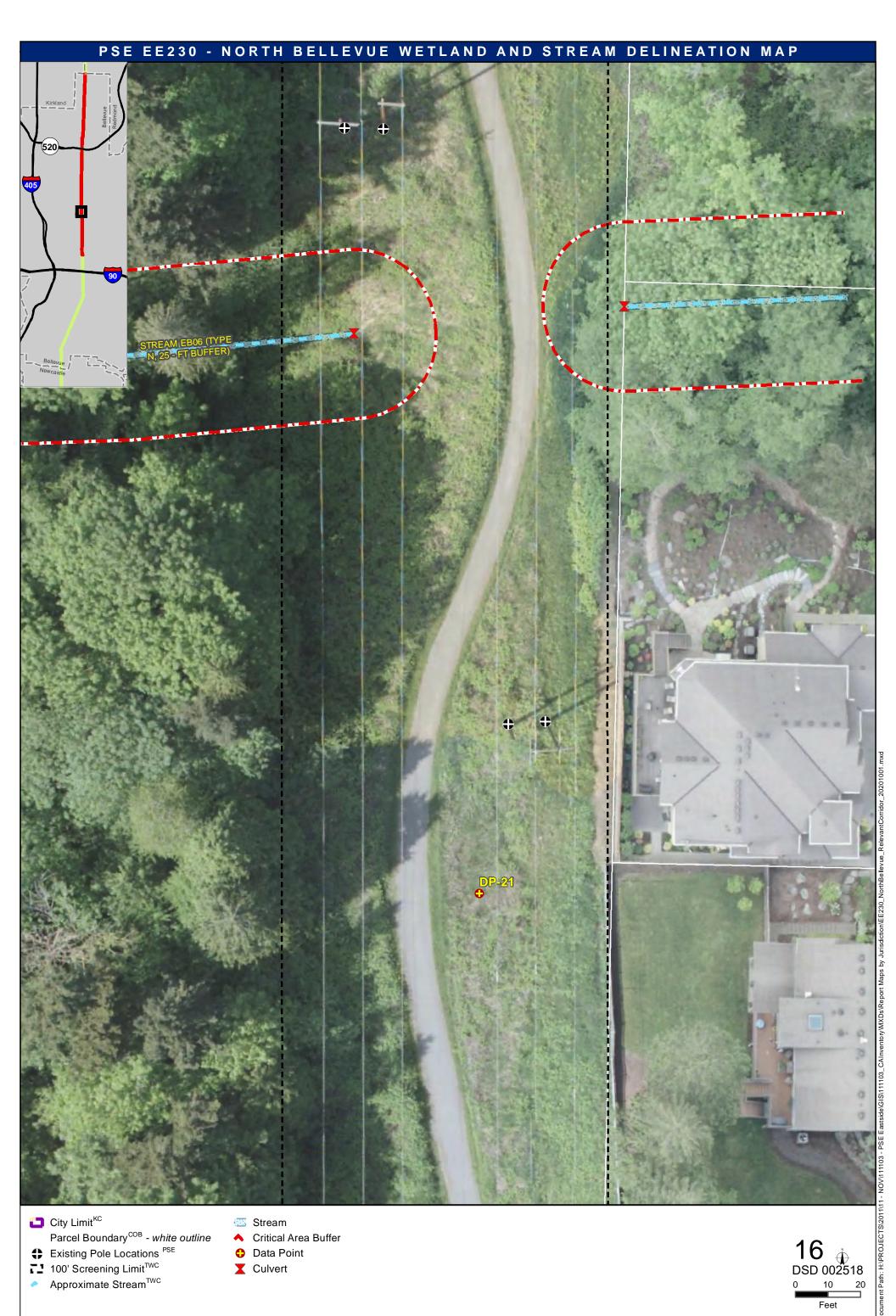


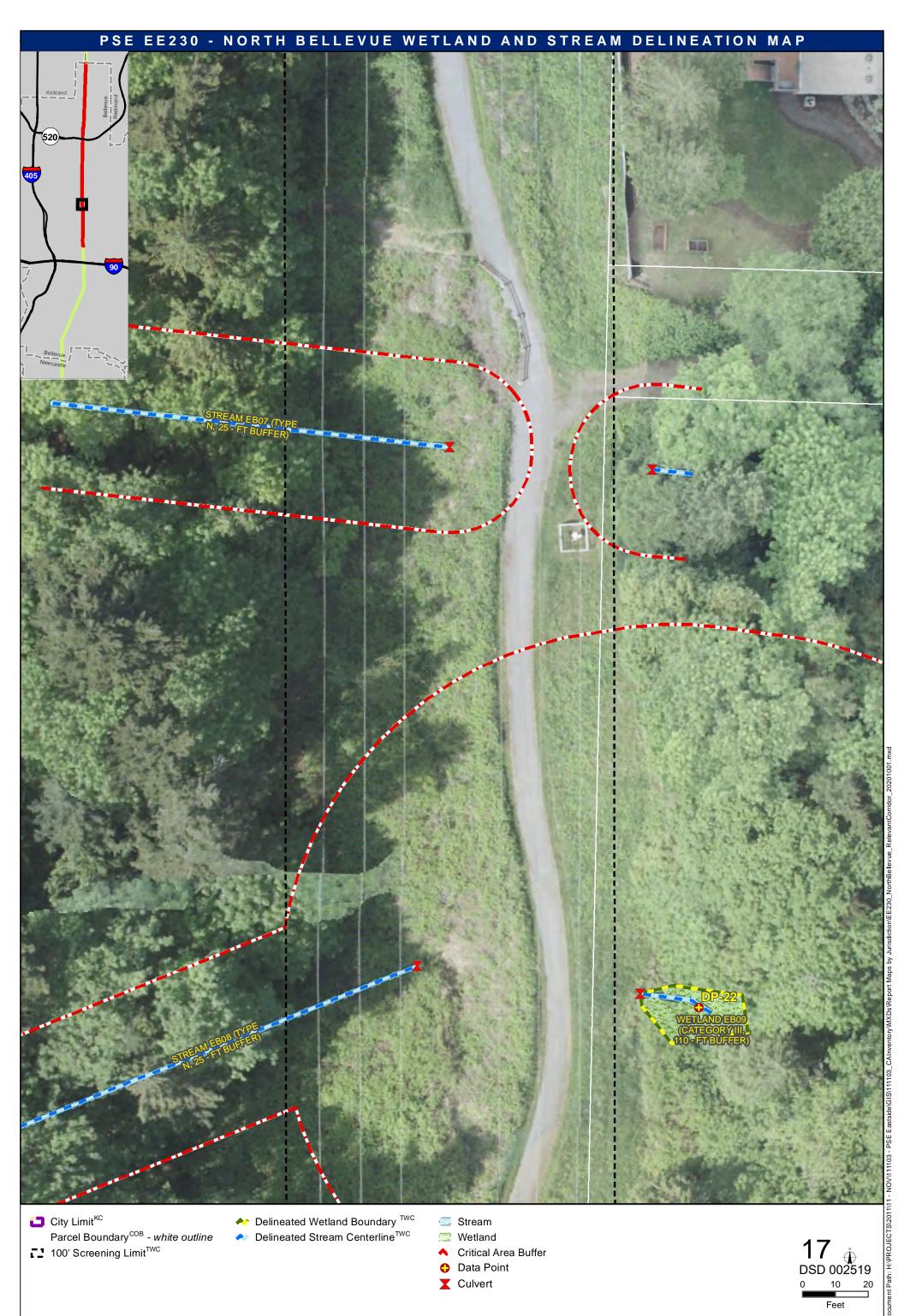


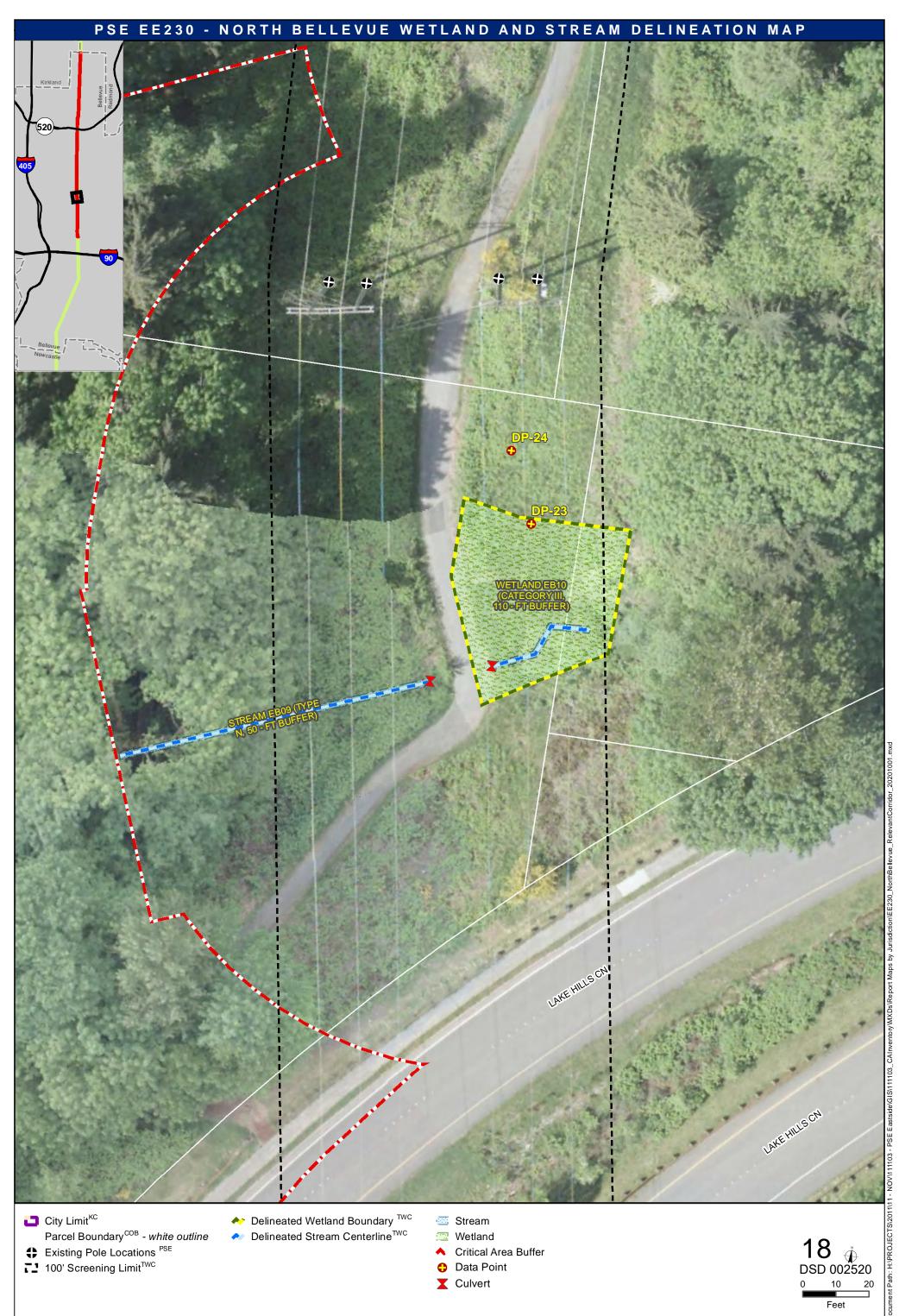


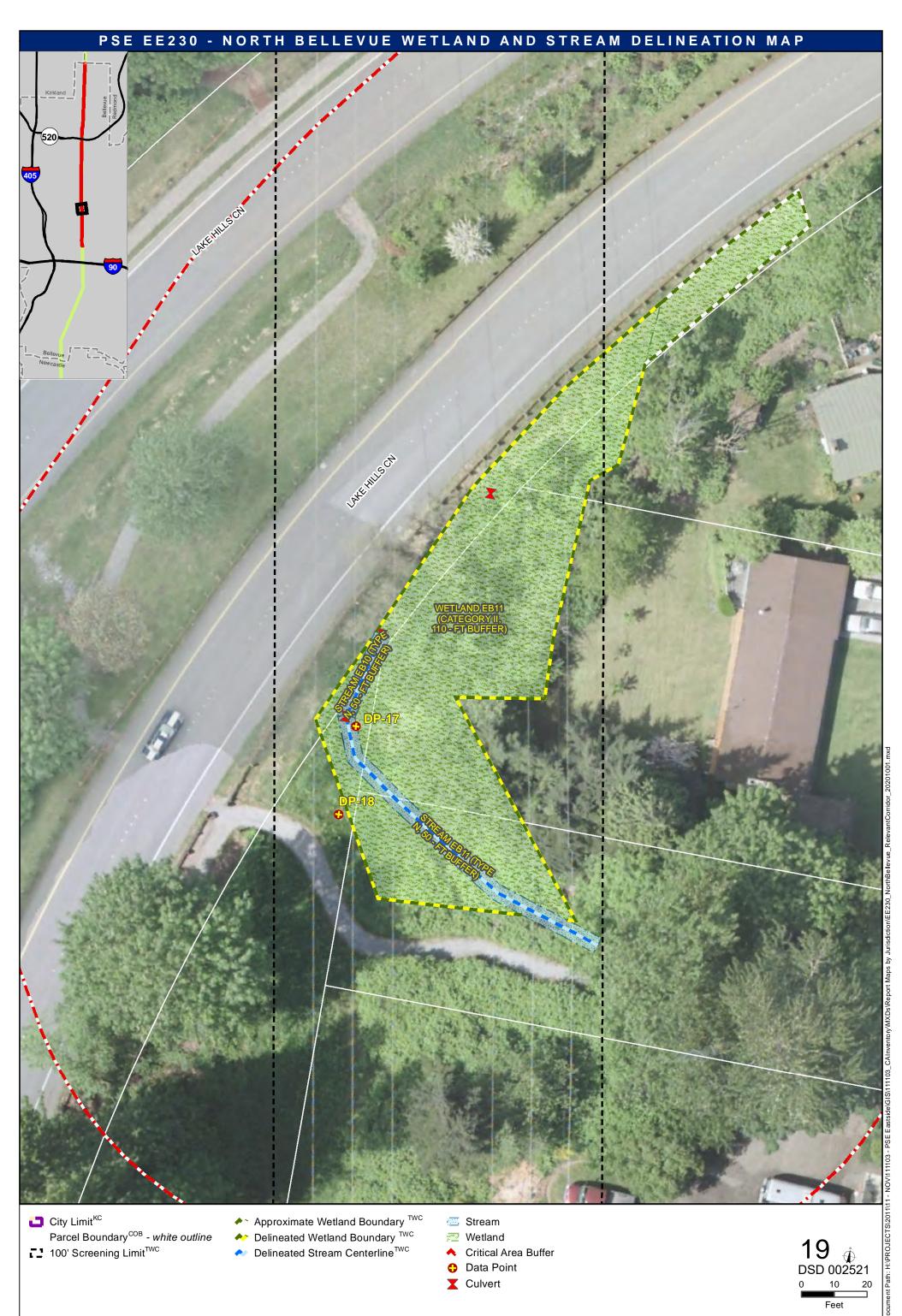


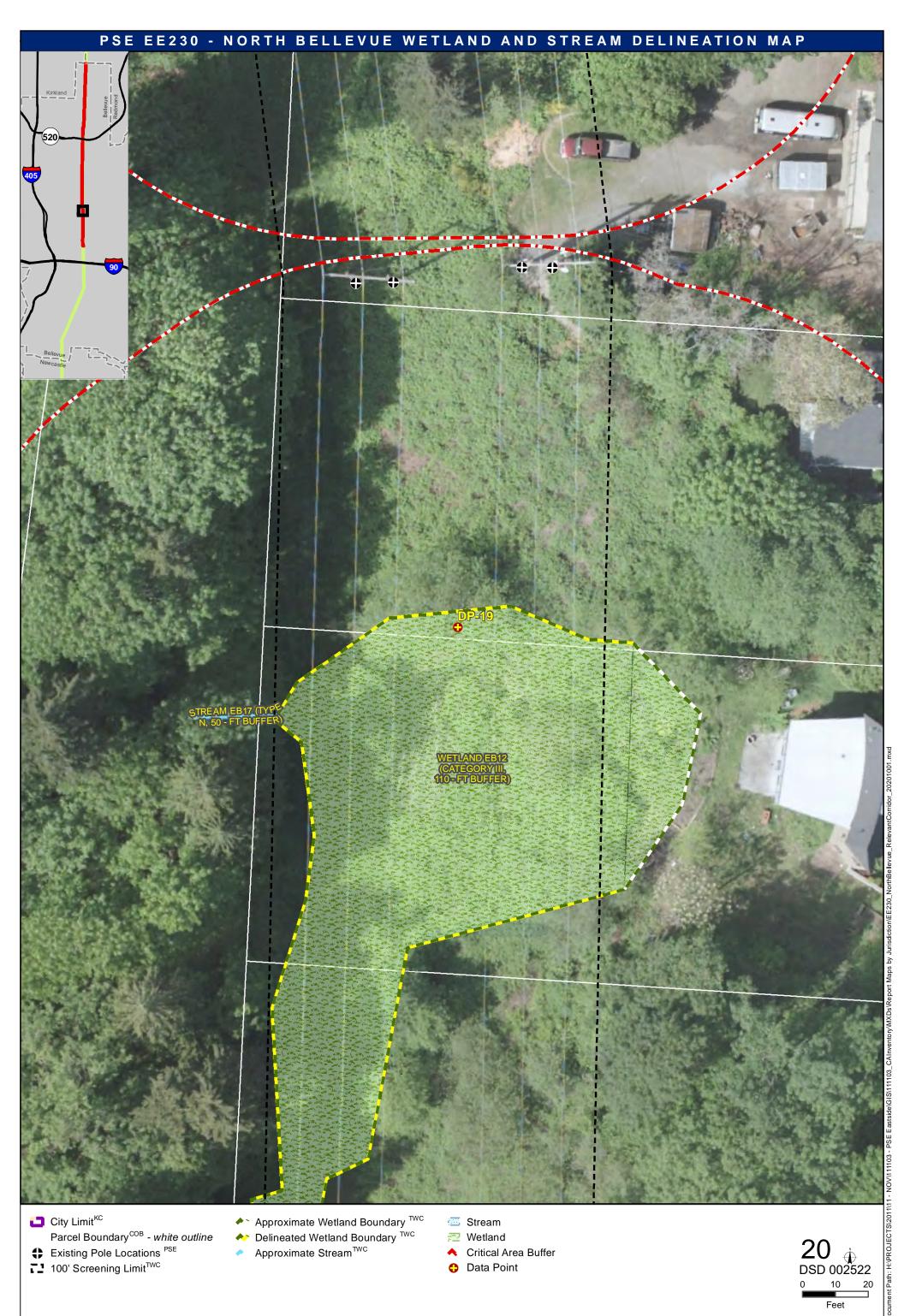


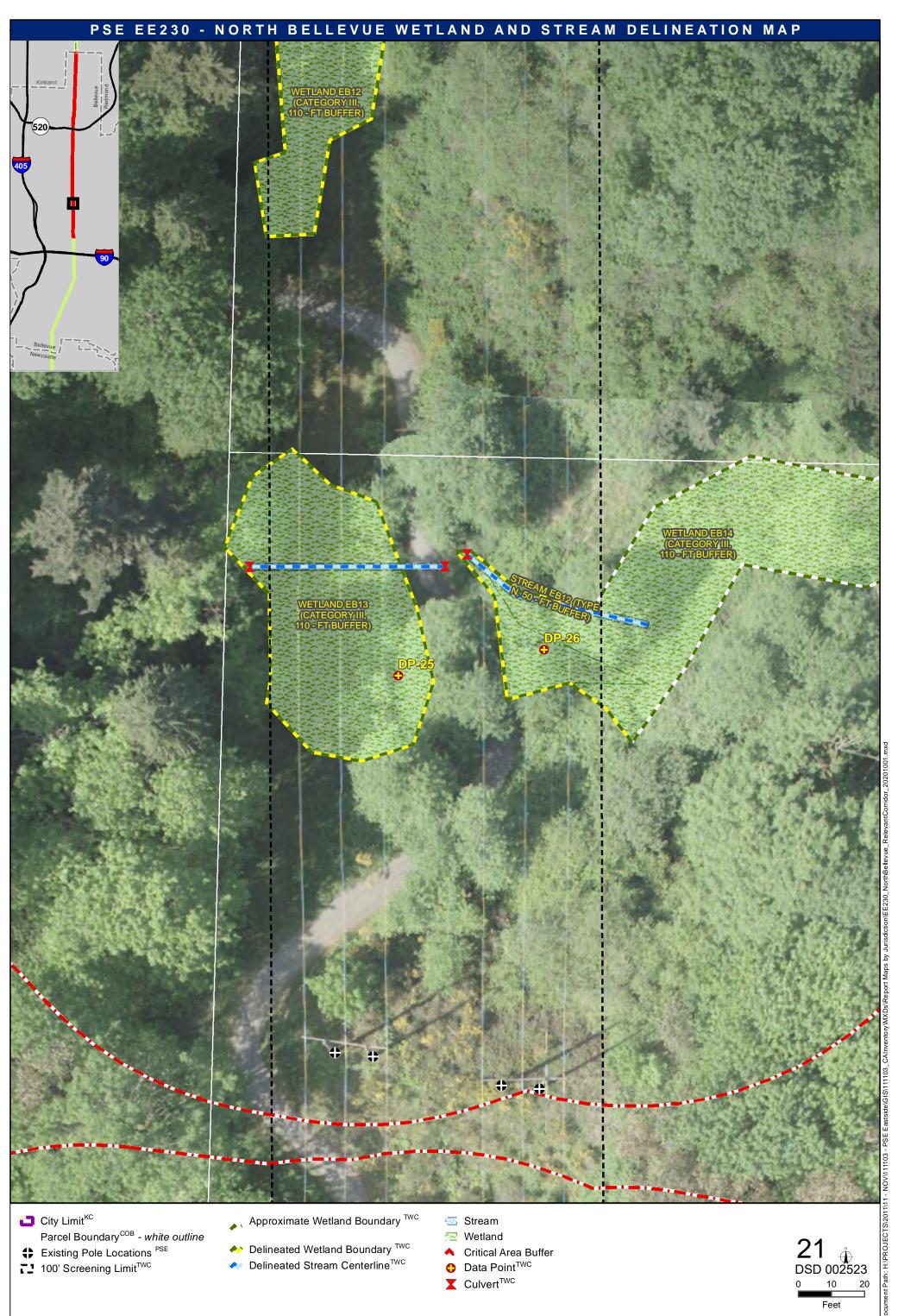


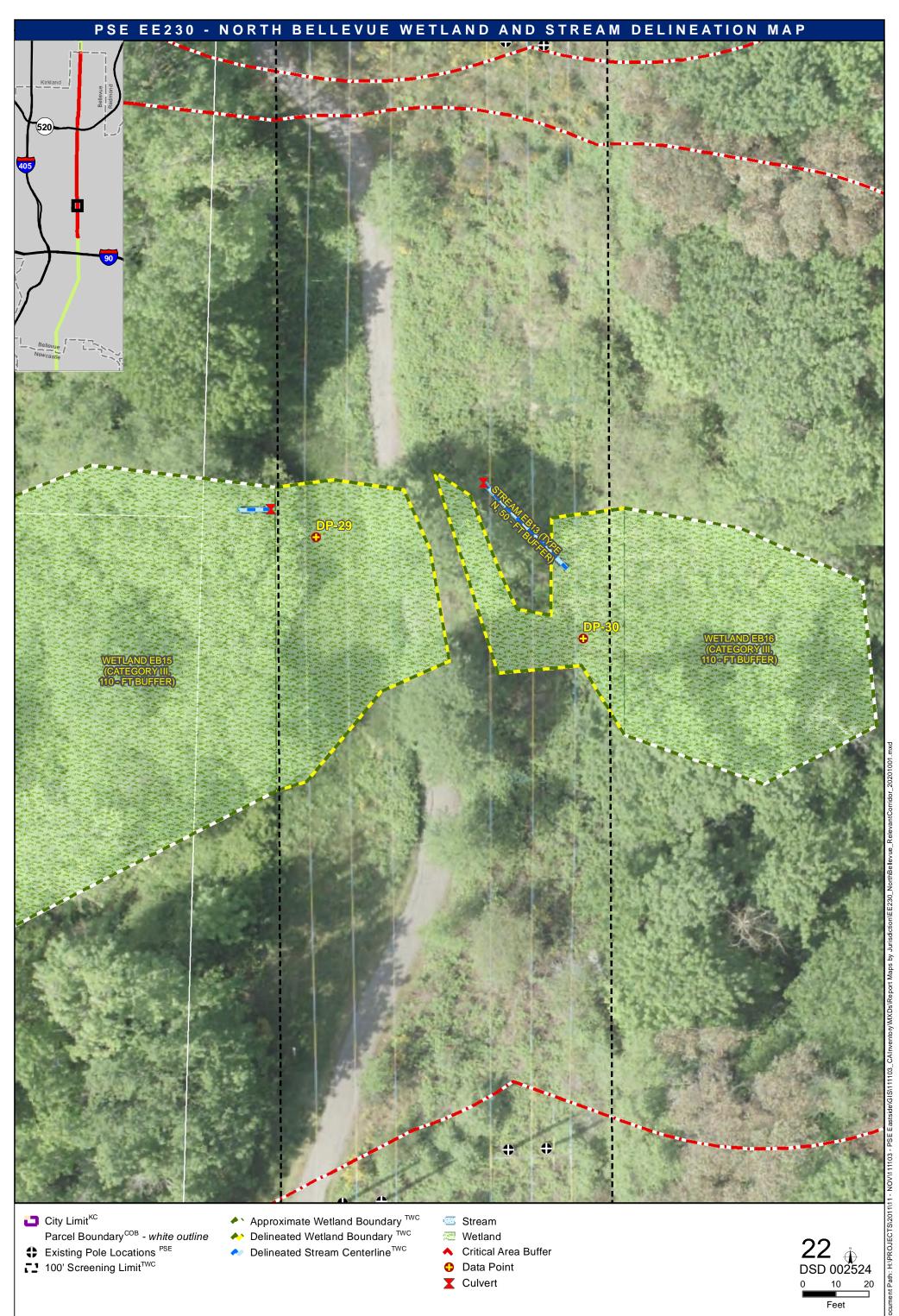




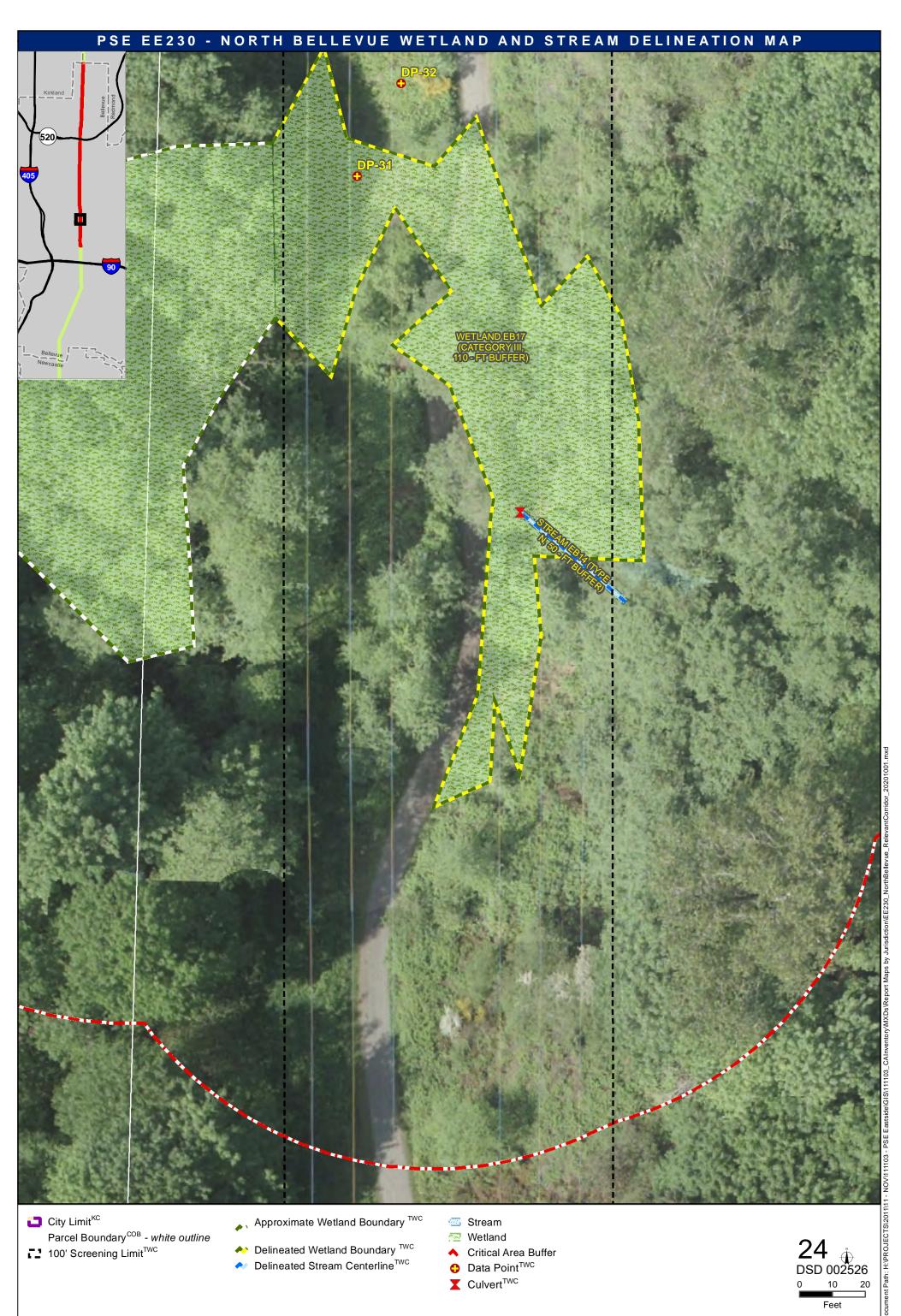


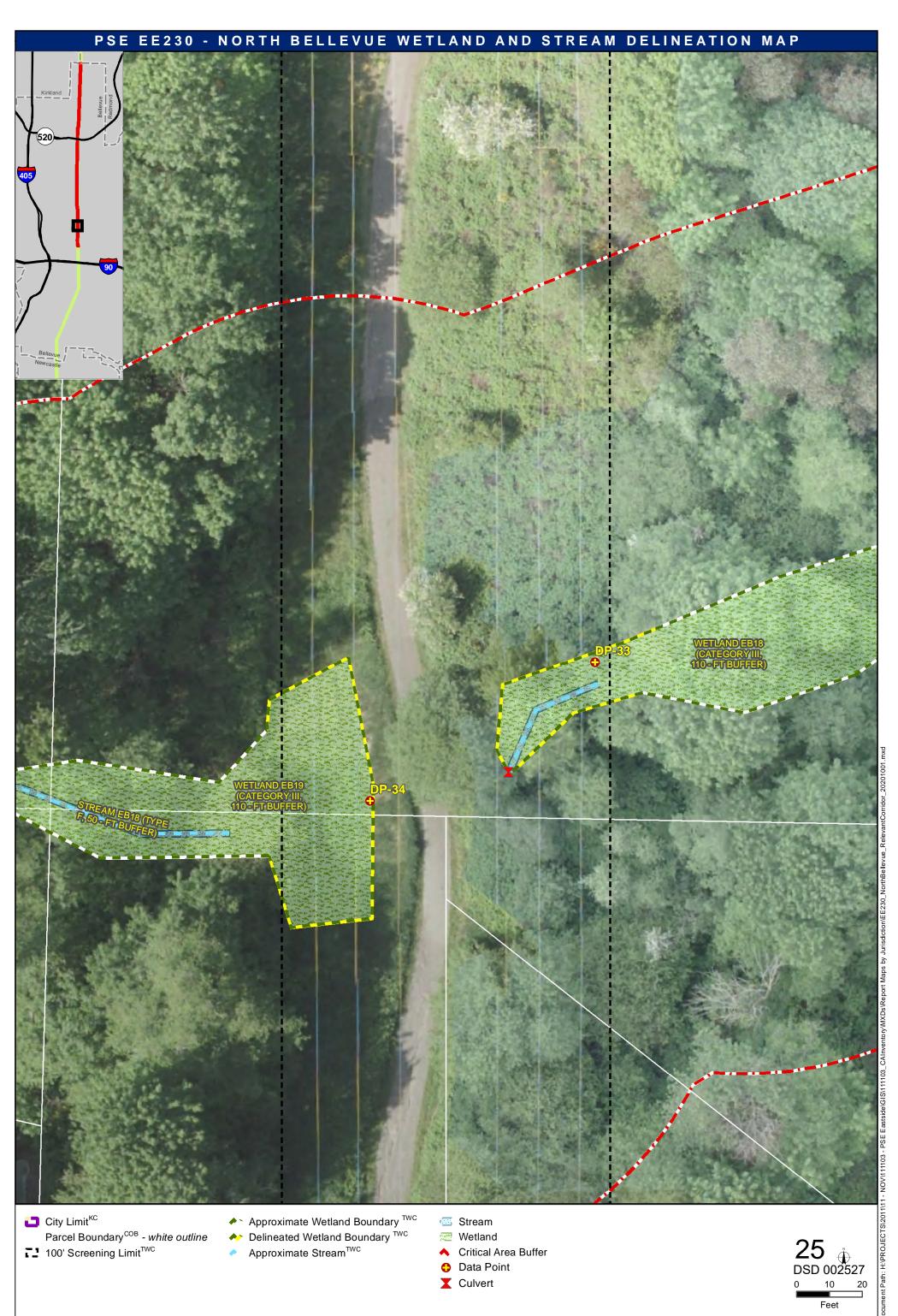


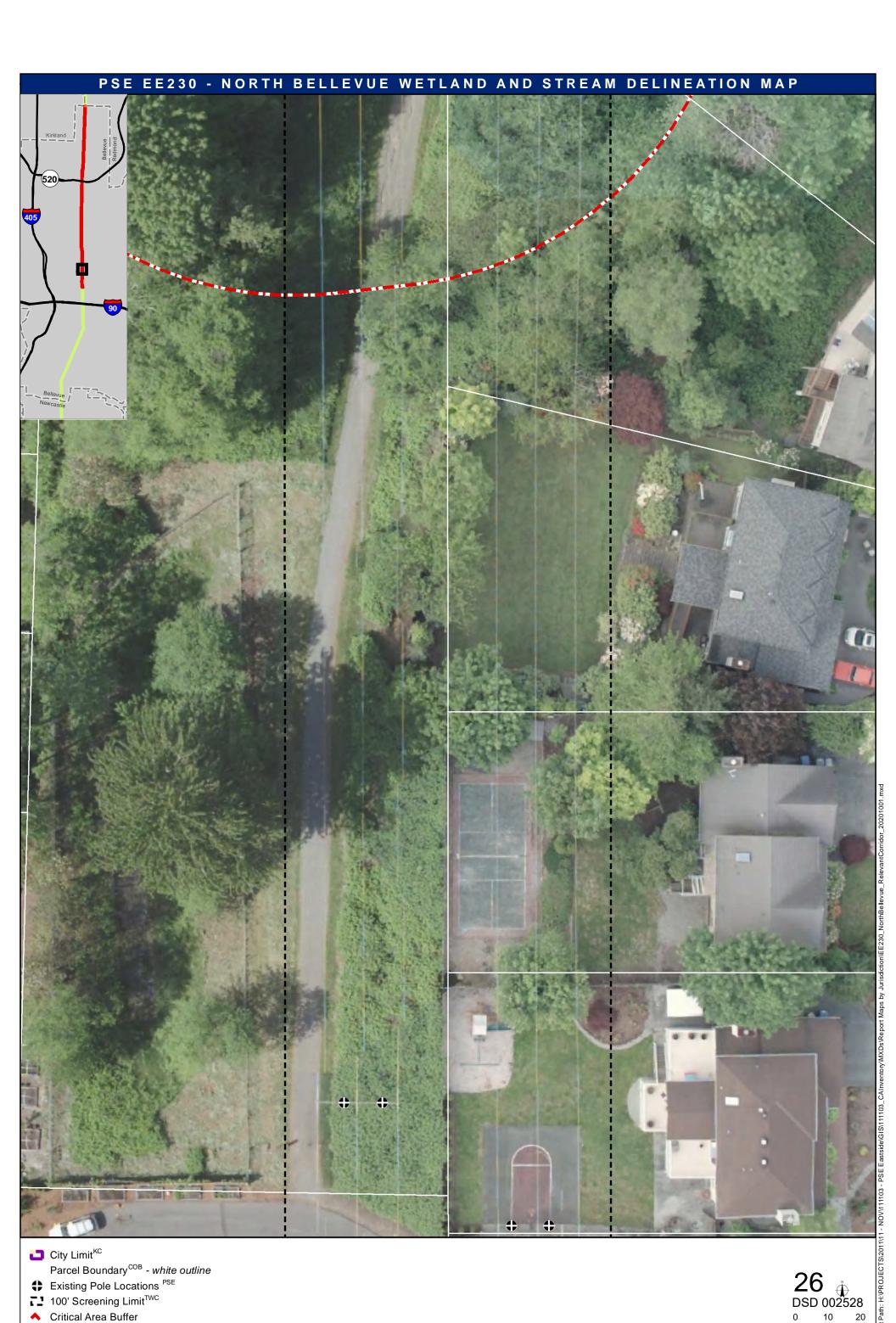








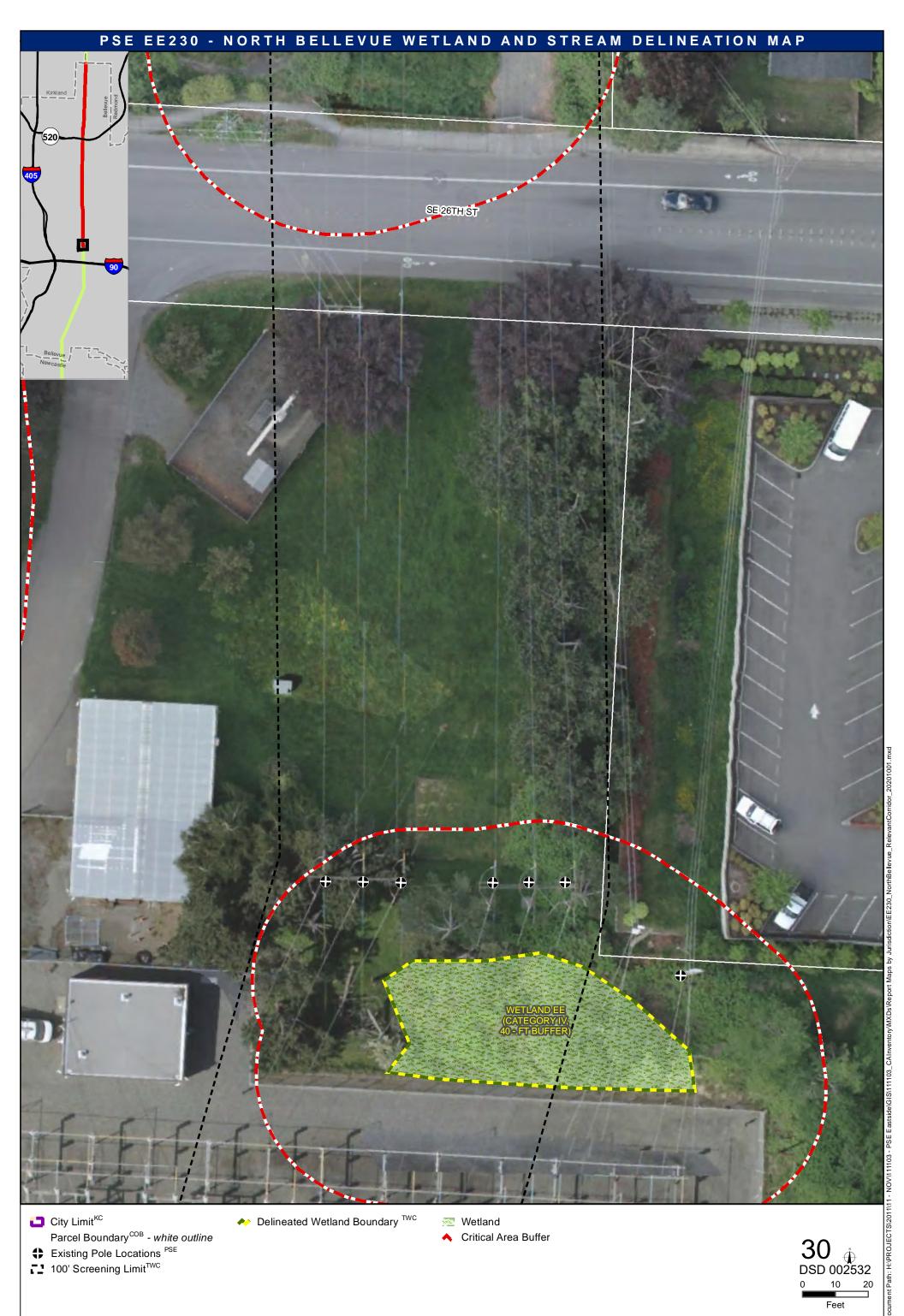
















Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

			Ī					ſ
Project Site: Overlake Farms (pa	arcels 152505-9	9269 and -924	7)	Sampling	Date:	4/20/2010		
Applicant/Owner: Davis Investors and			.,	Sampling		DP- 1		
Investigator: R. Kahlo, M. McMa		, LLO		City/Cou	•	Bellevue / K	ina	
Sect., Township, Range S 15 T 25				State:	ity.	WA	ang	
Landform (hillslope, terrace, etc)   Riverbank		Slope (%) >5	0/_		f (concove	e, convex, none)	concov	
					•		Datum	<del>U</del>
9 ( /		17 deg. 39' 37'	N	Long		eg. 9' 15" W		
Soil Map Unit Name	oam, 5-15% sl	opes			NWI cla	assification N	/A	
Are climatic/hydrologic conditions on the site typical for	or this time of year	? 🛛 Yes	□ No	(If no, exp	ain in rem	narks.)		
Are "Normal Circumstances" present on the site?	_		☐ No			•		
Are Vegetation $\square$ , Soil, $\square$ , or Hydrology $\square$ significa								
Are Vegetation ☐, Soil, ☐, or Hydrology ☐ naturally	problematic?			(If needed	, explain a	any answers in Re	emarks.)	
SUMMARY OF FINDINGS. Attack site man	ahawina aamu	lina naint laa	otiono trono	aata imn	autant fa			•
SUMMARY OF FINDINGS – Attach site map	snowing samp	ling point loc	ations, trans	ects, imp	ortant re	eatures, etc.		1
Hydric Soils Present?	<ul> <li>Yes □</li> <li>Yes □</li> <li>Yes □</li> </ul>	No Is this S No	Sampling Point	within a W	etland?	Yes	No.	
, 6,								
Remarks: Wetland A (Overlake Farms) in-pit.	Wetland conditi	ons were recon	firmed in adjad	cent areas i	n March 2	2013.		
VEGETATION – Use scientific names of plan	nts.							
Tree Stratum (Plot size 5m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Domina	nce Tes	t Worksheet		
1.	00101	Среское.	Otatuo	Number of	of Domina	nt Species		
2.						W, or FAC:	4	(A)
3.				Total Nur	nber of Do	ominant		(^)
4.					Across All		4	(B)
		= Total Cover		Percent o	f Domina	nt Species		(D)
		. 0.0				W, or FAC:	100	(4./5)
Continuish Christian (Diet size 2m diem )					, -	, · · · · · -		(A/B)
Sapling/Shrub Stratum (Plot size 3m diam. )								
1. Rubus spectabilis	15	Υ	FAC	Prevale		x Worksheet		
2. Rubus leucodermis	5	Υ	NL		Total % C	Cover of		Itiply by
3.				OBL spec			x 1 =	
4.				FACW sp			x 2 =	
5.				FAC spec			x 3 =	
	20	= Total Cover		FACU sp			x 4 =	
				UPL spec			x 5 =	
Herb Stratum (Plot size 1m diam. )				Column t	otals		(A)	(B)
1. Athyrium filix-femina	55	Υ	FAC					
2. Lysichiton americanum	10	N	OBL	Preva	ilence In	dex = B / A =		
3. Urtica dioica	20	Υ	FAC					
4. Rorippa sp.	5	N	NL			getation Indica	ators	
5.				Yes		nce test is > 50%		
6.						nce test is ≤ 3.0 *		
7.					•	ogical Adaptation		
8.						emarks or on a se	•	:)
9.						Non-Vascular Pla		
10.					Problem	atic Hydrophytic \	Vegetation * (	explain)
11.								
	80	= Total Cover				ic soil and wetlan		nust be
				present, i	ınless dis	turbed or problem	atic	
Woody Vine Stratum (Plot size )								
1.								
2.		T-1-1 C			ytic Vege	tation Yes	$\square$	No
		= Total Cover		Present?				
0/ Para Cround in black Stratum								
% Bare Ground in Herb Stratum				<u> </u>				
Remarks:								

SOIL Sampling Point – DP-1

JOIL							Sampling Four - Dr -	
Destila Deseri	······· /D		1 ( decomposit the indicat		'		`	
		аертп певае	d to document the indicate			Indicators	i.)	-
Depth	Matrix			edox Feature		. 2		1
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8"	10YR 2/1	100					Sandy loam	
8-16"	10YR 2/1	100					Sandy loam with some organic	
	centration, D=Depletion, dicators: (Applicable to		Matrix, CS=Covered or Co	ated Sand Gr			g, M=Matrix lematic Hydric Soils <sup>3</sup>	
Histosol ( Histic Epi Black His Hydroger Depleted Thick Dar Sandy Mi	A1) pedon (A2)		Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) (6) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	except MLRA	2cr Re Ott	m Muck (A10 d Parent Ma ner (explain ors of hydrop	0) aterial (TF2)	Irology must
Restrictive Lay	ver (if present):				T		Yes 🕅 I	No $\square$
Depth (inches)					Hydric soil p	oresent?	165	10
Remarks:	1					l (	d as a result of prolonged s	
	sulfidic odor							,
HYDROLOG	iΥ							
Primary Indic Surface High V Satura Water Sedim Drift D Algal N Surface	ology Indicators: ators (minimum of one research (A1) Vater Table (A2) stion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ee Soil Cracks (B6) ation Visible on Aerial ry (B7)	Sp   W   Sa   Sa   Ac   Sa   Sa   Sa   Sa   Sa   Sa   Sa   S	c all that apply): parsely Vegetated Concave ater-Stained Leaves (exceptate Crust (B11) quatic Invertebrates (B13) rdrogen Sulfide Odor (C1) rdidized Rhizospheres along esence of Reduced Iron (C4 ecent Iron Reduction in Tille unted or Stressed Plants (D ther (explain in remarks)	t MLRA 1, 2, Living Roots (	, , ,	☐ Wa ☐ Dra ☐ Dry ☐ Sat ☐ Ge ☐ Sha ☐ FA	ry Indicators (2 or more required) tter-Stained Leaves (B9) (MLRA sinage Patterns (B10) v-Season Water Table (C2) turation Visible on Aerial Imagery omorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A) ist-Heave Hummocks	1, 2, 4A & 4B)
Surface Water Water Table P Saturation Pre (includes capill	Present? Yeresent? Yesent? Yesent? Yesent? Yesent? Yesent? Yesent? Yesent? Yesent? Yesent?	es 🔲 N	No Depth (in):		Wetland Hydro	logy Presei	nt? Yes No	
Remarks:								



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DP- 6

B 1 1 01:										
Project Site:	Segment E, parce		2100140			pling Date:	5/29/2015			
Applicant/Owner:	Puget Sound Ene					pling Point:	DP- <b>6</b>			
Investigator:	K. Crandall, R. Wh	nitson, M. Fos	ster		City/0	County:	Bellevue			
Sect., Township, Range:	S 27 T 2	25N R 05	5E		State	<b>)</b> :	WA			
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): ~5	Local	relief (concar	ve, convex, none):	Concave		
	0.0) <b>0.0 p</b> 0			,	Local	`	vo, convox, nono).			
Subregion (LRR): A				Lat:		Long:		Datum:		
Soil Map Unit Name: AgC	- Alderwood grave	lly sandy loa	m		NWI	classification:	NA			
Are climatic/hydrologic cond	itions on the site typical	for this time of v	/ear?	⊠ Yes □ No	(If no	explain in re	marks )			
Are "Normal Circumstances"	• • • • • • • • • • • • • • • • • • • •			⊠ Yes □ No	(,	oxpia	a.no.,			
	•		L	∆ 165 ∐ NO						
Are Vegetation□, Soil □, or		•			(If no	adad avalain	any answers in Re	marka )		
Are Vegetation□, Soil □, or	r Hydrology □ naturally	problematic			(II Hee	eueu, expiairi	ally allsweis ill Ke	iliaiks.)		
SUMMARY OF FINDING	C Attach site me		malina na	int leastions tron		mmartant f				
SUMMARY OF FINDING	35 - Allach Sile ma	p snowing sa	mping po	onitiocations, trans	secis, i	пропансі	eatures, etc.			
Hydrophytic Vegetation Pres	sent?	Yes 🗵	No $\square$							
								7		
Hydric Soils Present?		Yes 🗵	No 🗆	Is the Sampling Poi	int withi	n a Wetland	? Yes 🔀	( No	)	
Wetland Hydrology Present?	?	Yes 🗵	No 🗌				_	-		
Remarks: Wetland	EB01 in-pit. Wetlan	nd near Kelse	v Creek u	nder lines: weedv	corrido	r area.				
			,	,						
VEGETATION – Use sc	iontific names of nl	ante								
VEGETATION - USE SC	ientine names or pi	anis.								
Tree Stratum (Plot size: 5m	diam.)	Absolute %			Don	ninance Te	st Worksheet			
		Cover	Specie	s? Status						
1.						ber of Domin		2		
2.					that a	are OBL, FAC	CW, or FAC:	_	(A)	
3.					Total	Number of D	Oominant			
4.					Spec	ies Across A	ll Strata:	2	(B)	
			= Total (	Cover	Perce	Percent of Dominant Species				
						are OBL, FAC		100	(4.5)	
0						,			(A/B)	
Sapling/Shrub Stratum (Ple	ot size: 3m diam.)									
1.	ot size: 3m diam.)				Prev	/alence Ind	lex Worksheet			
	ot size: 3m diam.)				Prev		lex Worksheet Cover of	Multip	ly by	
1. 2.	ot size. 3m diam.)							Multip	ly by	
1. 2. 3.	ot size. 3m diam.)				OBL	Total % species			ly by	
1. 2. 3. 4.	ot size. 3m diam.)				OBL	Total % species  N species		x 1 = x 2 =	ly by	
1. 2. 3.	ot size. 3m diam.)		– Total (	Cover	OBL FAC	Total % species W species species		x 1 = x 2 = x 3 =	ly by	
1. 2. 3. 4.	ot size. 3fff diafff.)		= Total (	Cover	OBL FAC\ FAC	Total % species W species species U species		x 1 = x 2 = x 3 = x 4 =	ly by	
1. 2. 3. 4. 5.			= Total (	Cover	OBL FAC FAC UPL	Total % species W species species U species species species	Cover of	x 1 = x 2 = x 3 = x 4 = x 5 =	ly by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m	n diam.)				OBL FAC FAC UPL	Total % species W species species U species		x 1 = x 2 = x 3 = x 4 =	ly b <u>y</u>	
1. 2. 3. 4. 5. Herb Stratum (Plot size: 1m 1. Scirpus microcar	n diam.)	60		Y OBL	OBL FAC FAC UPL	Total % species W species species U species species species	Cover of	x 1 = x 2 = x 3 = x 4 = x 5 =	ly b <u>y</u>	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina	n diam.) Pus acea	60 50		Y OBL Y FACW	OBL FAC FAC FACU UPL Colui	Total % species W species species U species species mn totals	Cover of	x 1 = x 2 = x 3 = x 4 = x 5 =	ly by	
1. 2. 3. 4. 5. Herb Stratum (Plot size: 1m 1. Scirpus microcar	n diam.) Pus acea		<del></del>	Y OBL	OBL FAC FAC FACU UPL Colui	Total % species W species species U species species mn totals	Cover of  (A)	x 1 = x 2 = x 3 = x 4 = x 5 =	ly by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina	n diam.) Ipus acea teia	50		Y OBL Y FACW	OBL FAC\ FAC FACUPL Colui	Total % species // species species // specie	(A) ndex = B / A =	x 1 = x 2 = x 3 = x 4 = x 5 = (B)	ly by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss	n diam.) Ipus acea teia	50 30 5		Y OBL Y FACW N FACW N FACW	OBL FAC\ FAC FACUPL Colui	Total % species // species species // specie	Cover of  (A)	x 1 = x 2 = x 3 = x 4 = x 5 = (B)	ly by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp.	n diam.) Ipus acea teia	50 30 5 5		Y OBL Y FACW N FACW N FACW N FAC*	OBL FACY FACY UPL Column P	Total % species W species Species U species Species U species Species M species Species M specie	(A)  ndex = B / A =  egetation Indicatest is > 50%	x 1 = x 2 = x 3 = x 4 = x 5 = (B)	ly by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta	n diam.) Ipus acea teia	50 30 5		Y OBL Y FACW N FACW N FACW	OBL FACV FAC FACU UPL Colui	Total % species W species Species U species Species U species Species Mr totals Prevalence I Dominance Prevalence Prevalence	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 *	x 1 = x 2 = x 3 = x 4 = x 5 = (B)		
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmat 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7.	n diam.) Ipus acea teia	50 30 5 5		Y OBL Y FACW N FACW N FACW N FAC*	OBL FACU FACU UPL Column P	Total % species W species Species U species Species U species Species Mrevalence I Prevalence I Dominance Prevalence Morphologi	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (p	x 1 =		
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta	n diam.) Ipus acea teia	50 30 5 5		Y OBL Y FACW N FACW N FACW N FAC*	OBL FACY FACY UPL Column P	Total % species W species Species U species Species U species Species Mrevalence I Prevalence I Dominance Prevalence Morphologicata in rem	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separatest)	x 1 =		
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmat 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7.	n diam.) Ipus acea teia	50 30 5 5		Y OBL Y FACW N FACW N FACW N FAC*	OBL FACU FACU UPL Column P	Total % species W species Species U species Species U species Species Mrevalence I Prevalence I Dominance Prevalence Morphologicata in rem	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (p	x 1 =		
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telman 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8. 9.	n diam.) Ipus acea teia	50 30 5 5		Y OBL Y FACW N FACW N FACW N FAC*	OBL FACY FACY UPL Column P	Total % species W species Species U species Species U species Species Mr totals Prevalence I Dominance Prevalence Morphologicata in rem Wetland No.	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separatest)	x 1 = x 2 = x 3 = x 4 = x 5 = (B)	ng	
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1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telman 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8. 9.	n diam.) Ipus acea teia	50 30 5 5		Y OBL Y FACW N FACW N FACW N FAC* N OBL	OBL FACI FACI UPL Colui P Hyd	Total % species W species Species U species Species U species Species Mrevalence I Prevalence I Dominance Prevalence Morphologicata in rem Wetland No Problematic Sectors of hydrogens in the species of	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separate on-Vascular Plants to the Hydrophytic Vege	x 1 =	ng )	
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1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size: 1m 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8.	n diam.)  pus acea teia onis cooleyae	50 30 5 5 5	= Total (	Y OBL Y FACW N FACW N FACW N FAC* N OBL	OBL FACI FACI UPL Colui P Hyd  * Indi prese	Total % species N species Spec	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separation-Vascular Plants to Hydrophytic Vege tric soil and wetland sturbed or problems	x 1 = x 2 = x 3 = x 4 = x 5 = (B)  tors  rovide supporting the sheet) tation * (explain) hydrology mustatic	ng ) t be	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8.	n diam.)  pus acea teia onis cooleyae	50 30 5 5 5		Y OBL Y FACW N FACW N FACW N FAC* N OBL	OBL FACI FACI UPL Colui P Hyd  * Indi prese	Total % species W species Species U species Species U species Species Mrevalence I Prevalence I Dominance Prevalence Morphologicata in rem Wetland No Problematic Sectors of hydroty unless discontinuous Problematic Sectors of hydroty unless discontinuous Species Species No Species Speci	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separation-Vascular Plants to Hydrophytic Vege tric soil and wetland sturbed or problems	x 1 = x 2 = x 3 = x 4 = x 5 = (B)  tors  rovide supporting the sheet) tation * (explain) hydrology mustatic	ng )	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8.	n diam.)  pus acea teia onis cooleyae	50 30 5 5 5	= Total (	Y OBL Y FACW N FACW N FACW N FAC* N OBL	OBL FACI FACI UPL Colui P Hyd  * Indi prese	Total % species N species Spec	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separation-Vascular Plants to Hydrophytic Vege tric soil and wetland sturbed or problems	x 1 = x 2 = x 3 = x 4 = x 5 = (B)  tors  rovide supporting the sheet) tation * (explain) hydrology mustatic	ng ) t be	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8.	n diam.)  Pus  acea  teia  onis cooleyae  size: )	50 30 5 5 5	= Total (	Y OBL Y FACW N FACW N FACW N FAC* N OBL	OBL FACI FACI UPL Colui P Hyd  * Indi prese	Total % species N species Spec	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separation-Vascular Plants to Hydrophytic Vege tric soil and wetland sturbed or problems	x 1 = x 2 = x 3 = x 4 = x 5 = (B)  tors  rovide supporting the sheet) tation * (explain) hydrology mustatic	ng ) t be	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot i 1. 2.	n diam.)  ipus acea teia onis cooleyae  size: )	50 30 5 5 5	= Total (	Y OBL Y FACW N FACW N FACW N FAC* N OBL	OBL FACI FACI UPL Colui P Hyd  * Indi prese	Total % species N species Spec	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separation-Vascular Plants to Hydrophytic Vege tric soil and wetland sturbed or problems	x 1 = x 2 = x 3 = x 4 = x 5 = (B)  tors  rovide supporting the sheet) tation * (explain) hydrology mustatic	ng ) t be	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Scirpus microcar 2. Phalaris arundina 3. Equisetum telmai 4. Stachys chamiss 5. Galium sp. 6. Carex obnupta 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot: 1. 2.	n diam.)  ipus acea teia onis cooleyae  size: )	50 30 5 5 5	= Total (	Y OBL Y FACW N FACW N FACW N FAC* N OBL	OBL FACI FACI UPL Colui P Hyd  * Indi prese	Total % species N species Spec	(A)  ndex = B / A =  egetation Indicatest is > 50% test is ≤ 3.0 * cal Adaptations * (parks or on a separation-Vascular Plants to Hydrophytic Vege tric soil and wetland sturbed or problems	x 1 = x 2 = x 3 = x 4 = x 5 = (B)  tors  rovide supporting the sheet) tation * (explain) hydrology mustatic	ng ) t be	

SOIL Sampling Point - DP-6 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Color (moist) Remarks (inches) Color (moist) Type<sup>1</sup> Texture Sandy loam 0-12 10YR 3/1 100 12-16 2.5Y 3/1 95 10YR 3/4 5 С М Sandy loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) <sup>3</sup> 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?  $\boxtimes$ 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): ☐ 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)  $\boxtimes$ 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)  $\boxtimes$ 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)Field Observations Surface Water Present? Depth (in): Yes  $\square$ No  $\boxtimes$ Water Table Present? Yes 🗵 Depth (in): 7 BGS Nο Wetland Hydrology Present? No Saturation Present? Depth (in): 0 BGS Yes 🗵 No  $\square$ (includes capillary fringe)

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

BGS = below ground surface



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

DP- 7

D : 10"					0 " 0 .	E (00 (00 4 E		
Project Site:	Segment E, parc		72100140		Sampling Date:	5/29/2015		
Applicant/Owner:	Puget Sound En				Sampling Point:	DP- <b>7</b>		
Investigator:	K. Crandall, R. W				City/County:	Bellevue		
Sect., Township, Range:	S 27 T	25N R 0	5E	1	State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 3	Local relief (concav	e, convex, none):	None	
Subregion (LRR): A				Lat:	Long:	-	Datum:	
	Aldomico de anos	.all., a an di. la.		2011	·			
Soil Map Unit Name: AgC					NWI classification:	NA		
Are climatic/hydrologic condi	tions on the site typica	al 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	Hydrology ☐ signific:	antly disturbed?						
Are Vegetation□, Soil □, or	Hydrology □ naturall	ly problematic			(If needed, explain	any answers in Rem	narks.)	
					•			
SUMMARY OF FINDING	S – Attach site m	ap showing sa	ampling po	oint locations, trans	sects, important fe	eatures, etc.		
Lludraphytic Venetation Dree	am#2	Yes 🗵	No $\square$					
Hydrophytic Vegetation Pres	ent?							
Hydric Soils Present?		Yes □	No 🗵	Is the Sampling Poi	int within a Wetland?	Yes	No	
Wetland Hydrology Present?		Yes	No 🗵					
Remarks: Wetland I	EB01 out-pit.							
	•							
VEGETATION – Use sci	entific names of r	olants						
12021711011 000 001	ontino namos or p	<del>Jiantoi</del>						
T C44 (DI-4i 5	-U \	Al l t - 0	/ Damin		D T.			
Tree Stratum (Plot size: 5m	diam.)	Absolute %	6 Domina Specie		Dominance Tes	it worksneet		
4		Cover	Specie	s? Status	Number of Domina	ont Species		
1.					that are OBL, FAC		3	
2.								(A)
3.					Total Number of D		4	
4.					Species Across All			(B)
			= Total (	Cover	Percent of Domina		75	
					that are OBL, FAC	W, or FAC:	73	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)							_ ` ′
1. Rubus parviflorus		10		Y FACU	Prevalence Ind	ex Worksheet		
2.	<u>'</u>			17100		Cover of	Multipl	ly hy
3.					OBL species	00001 01	x 1 =	<u>., .,</u>
4.					FACW species		x 2 =	
					FAC species		x 3 =	
5.			= Total (	Cover	FAC species FACU species			
			= 10tart	Zovei			x 4 =	
					UPL species		x 5 =	
Herb Stratum (Plot size: 1m	diam.)				Column totals	(A)	(B)	
1. Holcus lanatus		70		Y FAC				
2. Other grass		60		Y FAC*	Prevalence Ir	ndex = B / A =		
3. Equisetum telmat	eia	20		N FACW				
4. Alopecurus prate	nsis	10		N FAC	Hydrophytic Ve	egetation Indicate	ors	
5. Athyrium cycloso	rum	5		N FAC		test is > 50%		
6.					☐ Prevalence	test is ≤ 3.0 *		
7.						cal Adaptations * (pro	ovide supportir	าต
8.					⊣	arks or on a separate		19
					<b>→</b>	•	3 311001)	
9.						n-Vascular Plants *		
10.					☐ Problematic	Hydrophytic Vegeta	tion * (explain)	)
11.								
		155	= Total (	Cover		ric soil and wetland h		t be
		•			present, unless dis	sturbed or problemat	tic	
Woody Vine Stratum (Plot s	size: )							· <u></u>
1. Rubus armeniacu	ıs	10		Y FACU				
2.					Hydrophytic Ve	egetation	<u> </u>	. $\Box$
			= Total (	Cover	Present		s 🔀 N	No
		-						
% Bare Ground in Herb Strat	tum.							
5 ,					1			
Remarks: *Presumed	FAC							

SOIL Sampling Point - DP-7 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) Type<sup>1</sup> Texture 0-4 10YR 3/2 100 Loam 4-8 10YR 4/2 98 10YR 4/6 2 С М Loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) <sup>3</sup> 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: Compact with many roots and cobbles; difficult to dig below 8 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) 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?  $\boxtimes$ Depth (in): Yes  $\square$ Nο X 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-8

5						
Project Site:	Segment C, parcel nu			Sampling Date:	6/1/2015	
Applicant/Owner:	Puget Sound Energy			Sampling Point:	DP- <b>8</b>	
Investigator:	Katy Crandall, Mike F	oster		City/County:	Bellevue	
Sect., Township, Range:	S 27 T 25N	R <b>05E</b>		State:	WA	
Landform (hillslope, terrace,	etc): Hillslope		Slope (%): 3	Local relief (concav	e, convex, none):	Concave
Subregion (LRR): A			Lat:	Long:		Datum:
	Franct marreller con	dulasma E 4E0/ alas				20101111
Soil Map Unit Name: EvC				NWI classification:		
Are climatic/hydrologic cond	**	•	⊠ Yes □ No	(If no, explain in rer	narks.)	
Are "Normal Circumstances"	present on the site?		oxtimes Yes $oxtimes$ No			
Are Vegetation□, Soil □, or	r Hydrology   significantly of	disturbed?				
Are Vegetation□, Soil □, or	r Hydrology   naturally prob	olematic		(If needed, explain	any answers in Ren	narks.)
SUMMARY OF FINDING	3S – Attach site map sh	nowing sampling p	oint locations, trans	sects, important fe	eatures, etc.	
Hydrophytic Vegetation Pres	sent? Yes	, ⊠ <sub>No</sub> □				
						. —
Hydric Soils Present?	Yes	i ⊠ No □	Is the Sampling Poi	nt within a Wetland?	' Yes 🔀	No
Wetland Hydrology Present	? Yes	i ⊠ No □				· —
Remarks: Wetland	CB01 in-pit. Wetland is	s located north of 5	20.			
VEGETATION - Use sc	ientific names of plant	S.				
	•					
Tree Stratum (Plot size: 5m	diam )	Absolute % Domin	ant Indicator	Dominance Tes	t Workshoot	
Tree Stratum (Flot Size: Sin	dam.)	Cover Specie		Dominance res	ot Workshieet	
1. Alnus rubra		30	Y FAC	Number of Domina	nt Species	
2.			,,,	that are OBL, FAC		3 (A)
3.				Total Number of D	ominant	(A)
				Species Across All		3
4.		30 = Total	Cover			(B)
	_	30 = Total	Cover	Percent of Domina that are OBL, FAC		100
				lilat are OBL, FAC	W, 01 FAC.	(A/E
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.				FAC species		x 3 =
		= Total	Cover	FACU species		x 4 =
	_			UPL species		x 5 =
Herb Stratum (Plot size: 1m	n diam )			Column totals	(A)	(B)
,	· · · · · · · · · · · · · · · · · · ·	80	Y FACW	Columnitionals	(A)	(D)
1. Phalaris arundina				Dua valanca li	adam D/A	
2. Scirpus microcar	pus	70		Prevalence II	ndex = B / A =	
3. Carex stipata		10	N OBL			
4.					getation Indicat	ors
5.					test is > 50%	
6.				☐ Prevalence	test is ≤ 3.0 *	
7.				Morphologic	al Adaptations * (pr	ovide supporting
8.				☐ data in rema	arks or on a separat	e sheet)
9.				<b>⊣</b>	n-Vascular Plants *	
					Hydrophytic Vegeta	ation * (evolain)
10.				i iobiematic	Trydropriytic vegeta	ation (explain)
11.		T-1-1	0	4		
	_	160 = Total	Cover		ic soil and wetland turbed or problema	
Wasdy Vine Stratum (Dist	oi=o. \			present, unless dis	turbed or problema	tic
Woody Vine Stratum (Plot	size: )					
1.				4		
2.				Hydrophytic Ve		s 🕅 No 🗆
		= Total	Cover	Present	?	, NO [
	_			İ		
% Bare Ground in Herb Stra	itum:			1		
Remarks:						
ll .						

SOIL Sampling Point - DP-8 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks (inches) Color (moist) Color (moist) Type<sup>1</sup> Loc<sup>2</sup> Texture Sandy loam С 0-6 10YR 3/2 7.5YR 4/6 5 М 10YR 4/1 6-12 85 7.5YR 4/6 15 С M. PL **Gravelly sandy loam** <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) <sup>3</sup> 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: **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)  $\boxtimes$ Geomorphic Position (D2) Drift Deposits (B3)  $\boxtimes$ Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3)

 $\boxtimes$ 

Wetland Hydrology Present?

Dryer than average rainfall - 1.32 inches below average for the year to date (NOAA National Weather Service Data, generated

FAC-Neutral Test (D5)

Frost-Heave Hummocks

Raised Ant Mounds (D6) (LRR A)

No ⊠

Nο

No 🗵

 $\boxtimes$ 

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)

Algal Mat or Crust (B4)

Surface Soil Cracks (B6)

Inundation Visible on Aerial Imagery

6/2/2015).

Yes  $\square$ 

Yes  $\square$ 

Yes

Iron Deposits (B5)

(B7)

Field Observations

Surface Water Present?

Water Table Present?

(includes capillary fringe)

Saturation Present?

No



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DP- 9

Davis at Oites	0		250045			On and the art Dates	0/4/0045		•
Project Site:	Segment C, parcel nu	mber 2/25	)59045			Sampling Date:	6/1/2015		
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- <b>9</b>		
Investigator:	Katy Crandall, Mike F					City/County:	Bellevue		
Sect., Township, Range:	S 27 T 25N	R <b>05E</b>		ı		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	nis time of ve	ar?	⊠ Yes □	No	(If no, explain in ren	narks.)		
Are "Normal Circumstances"		, , , , ,		⊠ Yes [		( , , , , , , , , , , , , , , , , , , ,	,		
Are Vegetation□, Soil □, or	•	isturbed?							
Are Vegetation□, Soil □, or	, 0, 0 ,					(If needed, explain a	any answers in Rer	narks.)	
SUMMARY OF FINDING	SS – Attach site map sh	owing sam	pling po	oint location	ns, trans	sects, important fe	atures, etc.		
Hydrophytic Vegetation Pres	sent? Yes	⊠ No	. 🗆						
, , , ,								1	
Hydric Soils Present?	Yes			Is the Sam	pling 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	1							
VEGETATION CSC SC	entino names or plants	<u> </u>				1			
Tree Stratum (Plot size: 5m	diam )	Absolute %	Domina	ant Ir	ndicator	Dominance Tes	t Workshoot		
Tree Gratain (1 fot 3/26: 5/1)		Cover	Specie		tatus	Dominance res	t Worksheet		
1. Alnus rubra		10		Y	FAC	Number of Domina	nt Species		
2.						that are OBL, FAC	W, or FAC:	3	(A)
3.						Total Number of Do	ominant		(- ',
4.						Species Across All	Strata:	4	(B)
		10	= Total	Cover		Percent of Domina	nt Species		` ′
	_		-			that are OBL, FAC	W, or FAC:	75	(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)								(,,,_)
1.						Prevalence Inde	y Worksheet		
2.						Total %		Multip	lv 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		Υ	FAC*	Prevalence In	dex = B / A =		
3. Galium sp.		15		N	FAC*				
4.						Hydrophytic Ve		ors	
5.							est is > 50%		
6.						☐ Prevalence t	est is ≤ 3.0 *		
7.						Morphologic	al Adaptations * (pr	ovide supporti	ng
8.						☐ data in rema	rks or on a separat	e sheet)	
9.							n-Vascular Plants *		
10.						☐ Problematic	Hydrophytic Vegeta	ation * (explain	.)
11.									<u>-</u>
		125	= Total	Cover		* Indicators of hydr	ic soil and wetland	hydrology mus	st be
	_		-			present, unless dis			
Woody Vine Stratum (Plot	size: )								
1. Rubus armeniaci	ıs	45		Y	FACU				
2.						Hydrophytic Ve		. 🖂 .	vio
		45	= Total	Cover		Present		s 🔀 N	No
	_		-						
% Bare Ground in Herb Stra	tum:								
Remarks: *Presumed	FAC		- <u></u>						

SOIL Sampling Point - DP-9 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Color (moist) Remarks (inches) Color (moist) Type<sup>1</sup> Texture 100 0-10 10 YR 4/2 Sandy Ioam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) <sup>3</sup> 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 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?  $\boxtimes$ Depth (in): Yes  $\square$ 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

Danis at Oites	0	-1 0.401	050040		Sampling Date	0/0/0045	
Project Site:							
Applicant/Owner:	Puget Sound End				Sampling Point		
Investigator:	Katy Crandall, Mi		_		City/County:	Bellevue	
Sect., Township, Range:		25N R 05I	_		State:	WA	
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 10	Local relief (cond	ave, convex, none):	None
Subregion (LRR): A				Lat:	Long:		Datum:
Soil Map Unit Name: AgC	- Alderwood grave	elly sandy loan	ı. 8-15%	slope	NWI classification	n· NA	
Are climatic/hydrologic cond				Yes 🗆 No	(If no, explain in		
Are "Normal Circumstances"		i ioi ulis ullie oi ye		⊠ Yes □ No	(II IIO, explain III I	emarks.)	
	•	41 11 41 10	Ŀ	⊴ res ⊔ mo			
Are Vegetation □, Soil □, or	, 0, 0	•			(If needed, expla	in any answers in Re	marks )
Are Vegetation□, Soil □, or	nyurology 🗆 naturally	problematic			(ii iioodod, oxpid		
SUMMARY OF FINDING	S - Attach site ma	p showing sar	npling po	int locations, trai	sects, important	features, etc.	
					, ,	,	
Hydrophytic Vegetation Pres	sent?	Yes 🗵 N					
Hydric Soils Present?		Yes 🗆 N	lo 🛛	Is the Sampling Po	oint within a Wetlan	d? Yes	No ⊠
Wetland Hydrology Present	?	Yes 🗌 N	lo 🗵	, ,			
, ,,							
Remarks: EB02 out	t-pit						
	· •						
VEGETATION - Use sc	ientific names of p	lants.					
Tree Stratum (Plot size: 5m	diam )	Absolute %	Domina	ant Indicator	Dominance T	est Worksheet	
1100 Guatam (1 101 0120: 011	diam.)	Cover	Specie		Dominance i	CSt WOIRSHOOT	
1.					Number of Dom	inant Species	
2.					that are OBL, FA	ACW, or FAC:	<b>2</b> (A)
3.					Total Number of	Dominant	
4.					Species Across	All Strata:	<b>3</b> (B)
			= Total (	Cover	Percent of Domi	nant Species	
			_		that are OBL, FA		<b>67</b> (A/B)
Sapling/Shrub Stratum (PI	ot size: 3m diam )						(A/D)
· · · · · · · · · · · · · · · · · · ·	ot 0120. Offi diam.)				Dravalanca In	alass Manhahaat	
1.						idex Worksheet % Cover of	Multiply by
					OBL species	1	Multiply by x 1 =
3.					FACW species		x 2 =
4. 5.					FAC species		x 3 =
5.			= Total (	over	FACU species		x 4 =
				Jovei	UPL species		x 5 =
Herb Stratum (Plot size: 1n	diam \				Column totals	(A)	
,				Y FACW	Column totals	(A)	(B)
1. Phalaris arundina		80			Duarralamaa	Janlan D / A	
2. Agrostis stolonifo	era	35		Y FAC N FAC	Prevalence	Index = B / A =	
3. Holcus lanatus		15			I leading in leasting 1		4
4. Vicia sp.		15		N FAC*		Vegetation Indica ce test is > 50%	tors
5. Galium sp.		5		N FAC*			
6. Cirsium arvense		5		N FAC		e test is ≤ 3.0 *	
7. Carex sp.		Trace		N		gical Adaptations * (p	
8.					☐ data in re	marks or on a separa	te sheet)
9.						Non-Vascular Plants *	í.
10.					☐ Problema	tic Hydrophytic Veget	tation * (explain)
11.							
		155	= Total (	Cover	* Indicators of hy	dric soil and wetland	hydrology must be
			_			disturbed or problema	
Woody Vine Stratum (Plot	size: )					·	
1. Rubus armeniaci		35		Y FACU			
2.					Hydrophytic	Vegetation	
		35	= Total (	Cover	Prese		es 🔀 No 📙
			_		1		
% Bare Ground in Herb Stra	tum: 0						
Remarks: *Presumed	FAC						

SOIL Sampling Point - DP-10 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) Type<sup>1</sup> Texture Sandy loam 0-5 10YR 4/2 100 5-14 10YR 4/3 97 7.5YR 5/8 3 С М Gravelly sandy loam Relict redox features\* <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) ☐ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) П ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) 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: \*Redox features are hard nodules with sharp edges **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) ☐ High Water Table (A2) Drainage Patterns (B10) ☐ Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) ☐ Water Marks (B1) Saturation Visible on Aerial Imagery (C9) Aquatic Invertebrates (B13) ☐ Sediment Deposits (B2) Hydrogen Sulfide Odor (C1)  $\boxtimes$ Geomorphic Position (D2)  $\Box$ ☐ Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3)  $\Box$ ☐ Algal Mat or Crust (B4) Presence of Reduced Iron (C4) FAC-Neutral Test (D5)  $\Box$  $\Box$ Raised Ant Mounds (D6) (LRR A)  $\Box$ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) 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  $\square$  $\boxtimes$ No Water Table Present? Depth (in): Yes  $\boxtimes$ No Wetland Hydrology Present?  $\boxtimes$ No Yes Saturation Present? Depth (in): Yes  $\square$ No  $\boxtimes$ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Dry



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DP- 11

D : (0)							0/0/0045					
Project Site:	Segment E, parcel n		)59010			Sampling Date:	6/3/2015					
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 11					
Investigator:	Katy Crandall, Mike					City/County:	Bellevue					
Sect., Township, Range:	S 34 T 25N	N R 05E				State:	WA					
Landform (hillslope, terrace,	etc): Hillslope			Slope (	%): <b>5</b>	Local relief (concav	/e, convex, none):	Concave				
Subregion (LRR): A				Lat:		Long:		Datum:				
Soil Map Unit Name: AgC - Alderwood gravelly sandy loam, 8-15% slopes						NWI classification:	NΔ					
					□ No							
Are climatic/hydrologic condi		this time of yea			☐ No	(If no, explain in rer	marks.)					
Are "Normal Circumstances"	•		L	⊠ Yes	☐ No							
Are Vegetation□, Soil □, or						(If needed, explain	any answers in Rei	marke )				
Are Vegetation□, Soil □, or	Hydrology ⊔ naturally pro	blematic				(II Ticcaca, explain	(If needed, explain any answers in Remarks.)					
SUMMARY OF FINDING	S – Attach site map s	howing sam	plina pa	oint loca	ations, trans	ects, important fe	eatures, etc.					
					,							
Hydrophytic Vegetation Pres	sent? Ye	s 🗵 No	, $\Box$									
Hydric Soils Present?	Ye	s 🗵 No	· 🗆	Is the S	Sampling Poir	nt within a Wetland?	Yes 🔀	no No				
Wetland Hydrology Present?	Ye	s 🗵 No						7	ш			
, ,,		_										
Remarks: Wetland	EB02 in-pit											
VEGETATION – Use sci	entific 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		2				
2.						that are OBL, FAC	•		(A)			
3.						Total Number of D		3				
4.						Species Across Al	l Strata:	<u> </u>	(B)			
	_		= Total (	Cover		Percent of Domina		67				
						that are OBL, FAC	CW, or FAC:	07	(A/B)			
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)											
1.						Prevalence Ind	ex Worksheet					
2.						Total %	Cover of	Multipl	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)				
1. Juncus ensifolius	j	60		Υ	FACW							
2. Juncus tenuis		40		Υ	FAC	Prevalence I	ndex = B / A =					
3. Holcus lanatus		20		N	FAC							
4. Carex stipata	,	5		N	OBL	Hydrophytic Ve	egetation Indica	tors				
5. Ranunculus repe	ns	5		N	FAC		test is > 50%					
6. Equisetum telmat	eia	5		N	FACW	☐ Prevalence	test is ≤ 3.0 *					
7. Plantago major		5		N	FAC	_	cal Adaptations * (p	rovide supportin	na			
8. Trifolium repens		5		N	FAC	☐ data in rema	arks or on a separa	te sheet)	J			
9.				•		_	n-Vascular Plants *	*				
							: Hydrophytic Veget					
10.						Troblemand	Trydropriyae veget	ation (explain)				
11.		4.45	= Total (	^over		* Indicators of bud	ria aail aad wattaad	l budrala au manat	. h.a			
	=	145	- 10tal t	55461			ric soil and wetland sturbed or problema		. De			
Woody Vine Stratum (Plot s	size· )					procont, amous aic	starboa or problome	1110				
Rubus armeniacu	· · · · · · · · · · · · · · · · · · ·	5		Υ	FACU	1						
2.	<del></del>			•	.,,,,,,	Hydrophytic V	ogotation		_			
		5	= Total (	Cover		Hydrophytic Vo		es 🔀 N	ю 🔲			
	-	J	-									
% Bare Ground in Herb Stra	tum:											
Remarks:	MIII.					L						
Nemains.												
Ĭ												

SOIL Sampling Point - DP-11 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) Type<sup>1</sup> Texture Sandy loam 0-5 10YR 4/2 100 5-12 2.5Y 6/2 75 7.5YR 4/6 25 С M. PL Sandy loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) <sup>3</sup> 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?  $\boxtimes$ 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): ☐ 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) 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)  $\boxtimes$ Geomorphic Position (D2) Drift Deposits (B3)  $\boxtimes$ 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)Field Observations Surface Water Present? Depth (in): Yes  $\square$ No  $\boxtimes$ Water Table Present?  $\boxtimes$ Depth (in): Yes  $\square$ Nο Wetland Hydrology Present? No 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- 12

Duniant Cita	Comment E management	b a. 24250	E0040			C	alian Data	C/2/204	-			
Project Site: Applicant/Owner:	Segment E, parcel no Puget Sound Energy		59010				pling Date: pling Point:	6/3/2015 DP- 12				
Investigator:	Katy Crandall, Mike F						County:	Bellevu				
Sect., Township, Range:	S 34 T 25N					State	•	WA				
Landform (hillslope, terrace,				Slone (%	6): <b>5-10</b>			ve, convex, no	ne). (	Concave		
Subregion (LRR): <b>A</b>	<u> </u>			Lat:	0). 0 10	Local	,	vo, oomvox, ne		Datum:		
	Aldemuse of annually		0.450/	l .		- NA/I	Long:	NI A		Jatum.		
Soil Map Unit Name: AgC							classification:					
Are climatic/hydrologic cond	= = =	this time of yea		⊠ Yes	□ No	(If no,	explain in re	marks.)				
Are "Normal Circumstances"	•		Ľ	⊠ Yes	☐ No							
Are Vegetation ☐, Soil ☐, or	, ,, ,					(If ne	eded. explain	any answers	in Rem	arks.)		
Are Vegetation□, Soil □, or						,						
SUMMARY OF FINDING	-			oint locat	tions, trans	ects,	mportant t	eatures, etc	<del>}.</del>			
Hydrophytic Vegetation Pres	sent? Yes	_	_									
Hydric Soils Present?	Yes	s 🗵 No		Is the Sa	ampling Poi	nt withi	n a Wetland	? Yes	$\boxtimes$		No	
Wetland Hydrology Present?	? Yes	s 🗵 No										
Remarks: Wetland	EB03; west of SE 1st s	troot										
Memarks. Wetland	EDUS, WEST OF SE 1ST S	Micel.										
VECETATION	iontific nomes of plant											
VEGETATION – Use sc	entific names of plant	<u>s.</u>				T						
Tree Stratum (Plot size: 5m	diam \	Absolute %	Domina	ant	Indicator	Don	ninanco To	st Workshe	o t			
Tree Stratum (1 lot 312e. 5111	ulam.)	Cover	Specie		Status	Doi:	illiance re	St MOLKSHE	EL			
1.							ber of Domin			2		
2.							are OBL, FAC	•				(A)
3.							Number of Dies Across A			2		
4.			= Total (	Cover								(B)
	=		= 10(a) (	Jover			ent of Domina are OBL, FAC			100		
Sapling/Shrub Stratum (Plo	ot sizo: 3m diam \						2.0 022,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				(A/B)
1.	or size. oili diaili.)					Drai	ralanaa Ina	lex Worksho				
2.						FIE		Cover of	361	Mı	ultiply b	ıV
3.						OBL	species	0010101		x 1 =	лирту Б	<del></del>
4.							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. Phalaris arundina		100		Y	FACW	↓ _		. 5/.				
2. Solanum dulcama	ara	50		Y	FAC	- ⊦	revalence l	ndex = B / A	· =			
3. 4.						Цуd	rophytic V	egetation In	dicate	ore .		
5.						⊠		test is > 50%		<u>// 5</u>		
6.		-						test is ≤ 3.0 *				
7.		-				┨ 🗀		cal Adaptation		vide sunn	ortina	
8.								arks or on a se	11		orang	
9.						1 🗔		n-Vascular Pl	•	,		
10.						1 7		Hydrophytic		tion * (exp	lain)	
11.								,		(0.4		
		150	= Total (	Cover		* Ind	icators of hyd	ric soil and we	etland h	ydrology r	nust be	)
	<del>-</del>							sturbed or pro				
Woody Vine Stratum (Plot	size: )					-						
1.						-						
2.			= Total (	Cover		- H <sup>y</sup>	drophytic V/ Presen		Yes	$\boxtimes$	No	
	-		- 10181	JJV61		1	1 163611					
% Bare Ground in Herb Stra	tum: 0											
	e <i>niacus</i> growing in plo	t from unclo	ne .									
Nubus allik	macas growing in pio	t ironi upsio	he									

SOIL Sampling Point - DP-12 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Color (moist) Remarks (inches) Color (moist) Type<sup>1</sup> Texture 0-10 10YR 3/2 100 Sandy loam 10-12 5GY 4/1 100 Sandy loam Slightly higher sand content <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup> ☐ 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) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) ☐ Redox Depressions (F8) ☐ Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 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): 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)  $\boxtimes$ Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) П Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9)  $\boxtimes$ Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Drift Deposits (B3) 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 Other (explain in remarks) П (B7) Field Observations +1/2" Surface Water Present? Yes 🏻 No  $\square$ Depth (in): Water Table Present? Depth (in): At surface Yes 🏻 Nο Wetland Hydrology Present? Saturation Present? Depth (in): Throughout Yes 🛛 No 🗆 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: About a half an inch of surface water flow near the test pit.



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

DP- 13

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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 <b>05E</b>				State	:	WA			
Landform (hillslope, terrace,	etc): Hillslope			Slope (9	%): <b>10</b>	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.					· <u></u> -	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 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) Type<sup>1</sup> Texture Sandy loam 0-2 2.5Y 3/2 100 5Y 4/1 2-16 85 10YR 4/6 15 С М Gravelly sandy clay <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) ☐ Hydrogen Sulfide (A4) П ☐ Depleted Below Dark Surface (A11)  $\boxtimes$ Depleted Matrix (F3) Redox Dark Surface (F6) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) 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?  $\boxtimes$ 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) ☐ 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)  $\boxtimes$ Geomorphic Position (D2)  $\Box$ ☐ Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3)  $\Box$ ☐ Algal Mat or Crust (B4) Presence of Reduced Iron (C4) FAC-Neutral Test (D5)  $\Box$ Recent Iron Reduction in Tilled Soils (C6)  $\Box$ Raised Ant Mounds (D6) (LRR A)  $\Box$ Iron Deposits (B5) 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  $\square$  $\boxtimes$ No Water Table Present? Depth (in): 15" BGS Yes 🗵 No Wetland Hydrology Present? X No Saturation Present? Depth (in): surface Yes 🗵 No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Standing water present in nearby depression.



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

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- <b>14</b>		
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 (	%): <b>5-10</b>	Local relief (concav	e, convex, none): N	IA	
Subregion (LRR): A				Lat:	<u>_</u>	Long:	[	Datum:	
		<del></del>	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	ent? Ye	es □ N	lo 🗵						
Hydric Soils Present?	Υe	es 🗆 N	lo 🗵	Is the S	Sampling Poir	nt within a Wetland?	Yes 🗍	No	$\nabla$
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	its.							
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: )								
<ol> <li>Rubus armeniacu</li> </ol>	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.) Redox Features Depth Matrix Color (moist) Remarks (inches) Color (moist) Type<sup>1</sup> Texture 100 0-8 10 YR 3/2 Gravelly sandy loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) <sup>3</sup> 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): ☐ 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) 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?  $\boxtimes$ Depth (in): Yes  $\square$ Nο X 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- 15

D :			50040			0 " 0 '	0/0/0045		
Project Site:	Segment E, parcel nu		159010			Sampling Date:	6/3/2015		
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- <b>15</b>		
Investigator:	Katy Crandall, Mike F					City/County:	Bellevue		
Sect., Township, Range:	S 34 T 25N	I R <b>05E</b>				State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%	s): <b>5</b>	Local relief (concave	e, convex, none):	Concave	
Subregion (LRR): A				Lat:	L.	Long:		Datum:	
	Aldemore describe		0.450/				N A	Dataiii.	
Soil Map Unit Name: AgC	- Alderwood gravelly	sandy loam,	8-15%	siopes		NWI classification:	NA		
Are climatic/hydrologic cond	itions on the site typical for	this time of year	ır?	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□, Soil □, or						(If needed, explain a	any answers in Rer	marks.)	
, ,	<u>, , , , , , , , , , , , , , , , , , , </u>				L.				
SUMMARY OF FINDING	S - Attach site map sl	howing sam	pling po	oint locat	ions, trans	ects, important fe	atures, etc.		
		<b>□</b>							
Hydrophytic Vegetation Pres	sent? Yes								
Hydric Soils Present?	Yes	s 🗵 No		Is the Sa	amplina Poir	nt within a Wetland?	Yes 🔀	l No	
Wetland Hydrology Present?	? Yes	s 🖂 No						<u> </u>	ш
, , , , , , , , , , , , , , , , , , , ,									
Remarks: Wetland	EB05 in-pit								
Nomans. Vetiand	LB03 III-pit								
VEGETATION		_							
VEGETATION – Use sc	entific names of plant	<u>s</u>				1			
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina		Indicator	Dominance Tes	t Worksheet		
		Cover	Specie	s?	Status				
1.						Number of Domina		2	
2.						that are OBL, FAC	V, or FAC:		(A)
3.						Total Number of Do		2	
4.						Species Across All	Strata:	2	(B)
			= Total (	Cover		Percent of Dominal	nt Species		_ ` ′
	_					that are OBL, FAC	V, or FAC:	100	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam )								(A/b)
	or size. om diam.)						14/ 1 1 /		
1.						Prevalence Inde			
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	ı diam )								
1 Dholorio orundino						Column totals	(A)	(B)	
1. Phalaris arundina	,	60		Y	FACW		(A)		
	,	60 60		Y Y		Column totals	•		
2. Holcus lanatus	,	60		Y	FAC		•		
<ol> <li>Holcus lanatus</li> <li>Vicia sp.</li> </ol>	acea	60 5		Y N	FAC*	Column totals  Prevalence In	dex = B / A =	(B)	
<ol> <li>Holcus lanatus</li> <li>Vicia sp.</li> <li>Equisetum telmat</li> </ol>	acea	60		Y	FAC	Column totals  Prevalence In  Hydrophytic Ve	dex = B / A =	(B)	
Holcus lanatus     Vicia sp.     Equisetum telmat     S.	acea	60 5		Y N	FAC*	Prevalence In  Hydrophytic Ve	dex = B / A =  getation Indicate est is > 50%	(B)	
<ol> <li>Holcus lanatus</li> <li>Vicia sp.</li> <li>Equisetum telmat</li> <li>6.</li> </ol>	acea	60 5		Y N	FAC*	Column totals  Prevalence In  Hydrophytic Ve	dex = B / A =  getation Indicatest is > 50% est is < 3.0 *	(B)	
Holcus lanatus     Vicia sp.     Equisetum telmat     S.	acea	60 5		Y N	FAC*	Prevalence In  Hydrophytic Ve  Dominance t Prevalence t Morphologic	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (pi	(B)	g
<ol> <li>Holcus lanatus</li> <li>Vicia sp.</li> <li>Equisetum telmat</li> <li>6.</li> </ol>	acea	60 5		Y N	FAC*	Prevalence In  Hydrophytic Ve  Dominance t Prevalence t Morphologic	dex = B / A =  getation Indicatest is > 50% est is < 3.0 *	(B)	g
<ul> <li>2. Holcus lanatus</li> <li>3. Vicia sp.</li> <li>4. Equisetum telmation</li> <li>5.</li> <li>6.</li> <li>7.</li> </ul>	acea	60 5		Y N	FAC*	Prevalence In  Hydrophytic Ve  □ Dominance t  □ Prevalence t  Morphologic  □ data in rema	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (pi	(B)	g
<ul> <li>Holcus lanatus</li> <li>Vicia sp.</li> <li>Equisetum telmat</li> <li>6.</li> <li>7.</li> <li>8.</li> <li>9.</li> </ul>	acea	60 5		Y N	FAC*	Prevalence In  Hydrophytic Ve  □ Dominance to □ Prevalence to Morphologica □ data in rema □ Wetland Nor	dex = B / A =  getation Indicatest is > 50% est is < 3.0 * al Adaptations * (processor on a separate of the se	(B)	J
<ul> <li>Holcus lanatus</li> <li>Vicia sp.</li> <li>Equisetum telmat</li> <li>6.</li> <li>7.</li> <li>9.</li> <li>10.</li> </ul>	acea	60 5		Y N	FAC*	Prevalence In  Hydrophytic Ve	dex = B / A =  getation Indicatest is > 50% est is $\leq 3.0$ * al Adaptations * (parks or on a separate	(B)	J
<ul> <li>Holcus lanatus</li> <li>Vicia sp.</li> <li>Equisetum telmat</li> <li>6.</li> <li>7.</li> <li>8.</li> <li>9.</li> </ul>	acea	60 5 5		Y N N	FAC*	Prevalence In  Hydrophytic Ve  □ Dominance t  □ Prevalence t  Morphologica  □ data in rema  □ Wetland Nor  □ Problematic	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (properties of the control of the	tors rovide supporting te sheet) ation * (explain)	
<ul> <li>Holcus lanatus</li> <li>Vicia sp.</li> <li>Equisetum telmat</li> <li>6.</li> <li>7.</li> <li>9.</li> <li>10.</li> </ul>	acea	60 5		Y N N	FAC*	Column totals  Prevalence In  Hydrophytic Ve  Dominance to Morphological data in reman Wetland Nor Problematic	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (prks or on a separate-Vascular Plants * Hydrophytic Veget c soil and wetland	tors rovide supporting te sheet) ation * (explain)	
<ul> <li>Holcus lanatus</li> <li>Vicia sp.</li> <li>Equisetum telmat</li> <li>6.</li> <li>8.</li> <li>9.</li> <li>10.</li> </ul>	teia	60 5 5		Y N N	FAC*	Prevalence In  Hydrophytic Ve  □ Dominance t  □ Prevalence t  Morphologica  □ data in rema  □ Wetland Nor  □ Problematic	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (prks or on a separate-Vascular Plants * Hydrophytic Veget c soil and wetland	tors rovide supporting te sheet) ation * (explain)	
Holcus lanatus     Vicia sp.     Equisetum telmat     .    .     .     .     .     .     .     .     .     .     .     .    .    .    .    .    .     .    .     .     .     .     .     .     .     .     .     .     .    .    .     .     .     .     .     .     .     .     .     .     .	teia	60 5 5		Y N N	FAC*	Column totals  Prevalence In  Hydrophytic Ve  Dominance to Morphological data in reman Wetland Nor Problematic	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (prks or on a separate-Vascular Plants * Hydrophytic Veget c soil and wetland	tors rovide supporting te sheet) ation * (explain)	
2. Holcus lanatus 3. Vicia sp. 4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot stratum)	teia	60 5 5		Y N N	FAC*	Column totals  Prevalence In  Hydrophytic Ve  Dominance t Prevalence t Morphologica data in rema Wetland Nor Problematic  * Indicators of hydripresent, unless dis	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (prks or on a separate-Vascular Plants * Hydrophytic Veget c soil and wetland	tors rovide supporting te sheet) ation * (explain)	
Holcus lanatus     Vicia sp.     Equisetum telmat     .    .     .     .     .     .     .     .     .     .     .     .    .    .    .    .    .     .    .     .     .     .     .     .     .     .     .     .     .    .    .     .     .     .     .     .     .     .     .     .     .	teia	60 5 5	= Total (	Y N N	FAC*	Column totals  Prevalence In  Hydrophytic Ve  Dominance t Prevalence t Morphologic data in rema Wetland Nor Problematic  * Indicators of hydrigresent, unless dist	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (pirks or on a separate) -Vascular Plants * Hydrophytic Veget c soil and wetland urbed or problema	tors rovide supporting te sheet) ation * (explain) hydrology must	be
2. Holcus lanatus 3. Vicia sp. 4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot stratum)	teia	60 5 5		Y N N	FAC*	Column totals  Prevalence In  Hydrophytic Ve  Dominance t Prevalence t Morphologica data in rema Wetland Nor Problematic  * Indicators of hydripresent, unless dis	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (pirks or on a separate) -Vascular Plants * Hydrophytic Veget c soil and wetland urbed or problema	tors rovide supporting te sheet) ation * (explain) hydrology must	be
2. Holcus lanatus 3. Vicia sp. 4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot stratum)	teia	60 5 5	= Total (	Y N N	FAC*	Column totals  Prevalence In  Hydrophytic Ve  Dominance t Prevalence t Morphologic data in rema Wetland Nor Problematic  * Indicators of hydrigresent, unless dist	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (pirks or on a separate) -Vascular Plants * Hydrophytic Veget c soil and wetland urbed or problema	tors rovide supporting te sheet) ation * (explain) hydrology must	be
2. Holcus lanatus 3. Vicia sp. 4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot stratum)	size: )	60 5 5	= Total (	Y N N	FAC*	Column totals  Prevalence In  Hydrophytic Ve  Dominance t Prevalence t Morphologic data in rema Wetland Nor Problematic  * Indicators of hydrigresent, unless dist	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (pirks or on a separate) -Vascular Plants * Hydrophytic Veget c soil and wetland urbed or problema	tors rovide supporting te sheet) ation * (explain) hydrology must	be
2. Holcus lanatus 3. Vicia sp. 4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot stratum) 2.	size: )	60 5 5	= Total (	Y N N	FAC*	Column totals  Prevalence In  Hydrophytic Ve  Dominance t Prevalence t Morphologic data in rema Wetland Nor Problematic  * Indicators of hydrigresent, unless dist	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (pirks or on a separate) -Vascular Plants * Hydrophytic Veget c soil and wetland urbed or problema	tors rovide supporting te sheet) ation * (explain) hydrology must	be
2. Holcus lanatus 3. Vicia sp. 4. Equisetum telmat 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot : 1. 2.	size: )	60 5 5	= Total (	Y N N	FAC*	Column totals  Prevalence In  Hydrophytic Ve  Dominance t Prevalence t Morphologic data in rema Wetland Nor Problematic  * Indicators of hydrigresent, unless dist	dex = B / A =  getation Indicatest is > 50% est is ≤ 3.0 * al Adaptations * (pirks or on a separate) -Vascular Plants * Hydrophytic Veget c soil and wetland urbed or problema	tors rovide supporting te sheet) ation * (explain) hydrology must	be

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) Type<sup>1</sup> Texture 100 0-9 2.5Y 3/2 Loam High organic content 9-16 5GY 4/1 100 Gravelly sandy loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup> ☐ Histosol (A1) ☐ Sandy Redox (S5) ☐ 2cm Muck (A10) ☐ Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Black Histic (A3) Other (explain in remarks) Loamy Gleyed Matrix (F2)  $\boxtimes$ ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12)  $\Box$ Redox Dark Surface (F6) be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1)  $\Box$ Depleted Dark Surface (F7) ☐ 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)  $\square$ ☐ Algal Mat or Crust (B4) Presence of Reduced Iron (C4) FAC-Neutral Test (D5)  $\Box$ Raised Ant Mounds (D6) (LRR A) ☐ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) П Surface Soil Cracks (B6)  $\Box$ Frost-Heave Hummocks Inundation Visible on Aerial Imagery Other (explain in remarks) П Field Observations Surface Water Present? Depth (in): +1/2 No  $\square$ Yes 🏻 Depth (in): Water Table Present? At surface Yes 🗵 No XWetland Hydrology Present? No Saturation Present? Depth (in): Throughout Yes 🗵 No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Shallow standing water



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

DP- 16

Davis at Oites	0					0 l' D - 1	0/0/0045		
Project Site:	Segment E, parcel no		159010			Sampling Date:	6/3/2015		
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 16		
Investigator:	Katy Crandall, Mike I					City/County:	Bellevue		
Sect., Township, Range:	S 34 T 25N	I R <b>05E</b>		•		State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (9	%): <b>5</b>	Local relief (concave	e, convex, none):	Concave	
Subregion (LRR): A				Lat:	<u>u</u>	Long:		Datum:	
	Aldense deservite		0.450/				NI A	- Datam.	
Soil Map Unit Name: AgC				siopes		NWI classification:	NA		
Are climatic/hydrologic cond	itions on the site typical for	this time of yea	ar?	⊠ 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	marks.)	
-									
SUMMARY OF FINDING	S – Attach site map s	howing sam	pling po	oint loca	tions, trans	ects, important fe	atures, etc.		
Hydrophytic Vegetation Bros	sent? Yes	s 🗵 No							
Hydrophytic Vegetation Pres		_						_	_
Hydric Soils Present?	Yes	s 🗵 No		Is the S	Sampling Poir	nt within a Wetland?	Yes 🔀	( No	)
Wetland Hydrology Present?	? Yes	s 🗵 No					<u>.                                    </u>		
Remarks: Wetland	EB06								
VEGETATION – Use sc	ientific names of plant	s.							
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant	Indicator	Dominance Tes	t Worksheet		
(. 100 011 011 011	<u></u>	Cover	Specie		Status	Dominianoe res	t Workshoot		
1.						Number of Domina	nt Species		
2.						that are OBL, FAC	N, or FAC:	2	(A)
3.						Total Number of Do	minant		(^)
4.						Species Across All		2	(D)
4.			= Total	over		Percent of Dominar			(B)
	-		- 10101	50101		that are OBL, FAC		100	
						that are OBE, 17101			(A/B)
Sapling/Shrub Stratum (Pl	of size: 3m diam.)								
1.						Prevalence Inde	ex Worksheet		
2.						Total %	Cover of	<u>Multip</u>	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		90		Υ	FACW		· /	(_)	
2. Equisetum telmas		50		· Y	FACW	Prevalence In	idey - B / A -		
3. Vicia sp.	.c.u	20		N.	FAC*	1 TOVAIONOC III	Idox - B / / ( -		
4. Cirsium arvense		5		N .	FAC	Hydrophytic Ve	getation Indica	tors	
		<u> </u>		IN	FAC			1015	
5.									
6.						☐ Prevalence t			
7.						<u> </u>	al Adaptations * (p		ng
8.						☐ data in rema	rks or on a separa	te sheet)	
9.							n-Vascular Plants *	r	
10.						☐ Problematic	Hydrophytic Veget	tation * (explain	1)
11.							, , , ,		<del>′</del>
11.		165	= Total	Cover		* Indicators of hydri	ic soil and wetland	hydrology mus	et ha
	-	103				present, unless dis			N DC
Woody Vine Stratum (Plot	size: )					p			
1.	,					1			
						1			
2.			T-1-1	20101		Hydrophytic Ve Present		es 🔀 I	No $\square$
	=		= Total	over		Present	r	<u></u>	
% Bare Ground in Herb Stra	tum:								
Remarks: *Presumed	FAC								
II									

SOIL Sampling Point - DP-16 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) Type<sup>1</sup> Texture Sandy loam 0-5 2.5Y 3/2 100 5-14 10GY 4/1 90 10YR 4/8 10 С M. PL Loamy sand <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) <sup>3</sup> 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?  $\boxtimes$ 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): ☐ 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) 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)  $\boxtimes$ 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)Field Observations Surface Water Present? Depth (in): Yes  $\square$ No  $\boxtimes$ Water Table Present?  $\boxtimes$ Depth (in): Yes  $\square$ Nο **Wetland Hydrology Present?** No Saturation Present? Depth (in): Throughout Yes 🗵 No  $\square$ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Water seeping into pit at about 5 inches below ground surface and pooling in bottom of pit.



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DP- 17

Danis at Oites	0		770000			0	- Paris	0/5/004/	-			
Project Site:	Segment E, parcel		7700035				pling Date:	6/5/201				
Applicant/Owner:	Puget Sound Ener						pling Point:	DP- <b>17</b>				
Investigator:	Katy Crandall, Ros			er		,	County:	Bellevu	е			
Sect., Township, Range:		4N R 05	E	1		State		WA				
Landform (hillslope, terrace,	etc): Hillslope			Slope (%	%): <b>5</b>	Local	relief (conca	ve, convex, no	one): <b>C</b>	oncave	1	
Subregion (LRR): A				Lat:			Long:		D	atum:		
Soil Map Unit Name: AgD	- Alderwood gravel	lly sandy loar	n. 15-30%	slopes		NWL	classification:	NΔ				
Are climatic/hydrologic cond		-		Yes	□ No		explain in re					
, ,	**	ioi uns ume or y				(II IIO,	explain in re	iliaiks.)				
Are "Normal Circumstances"	•		L	Yes	☐ No							
Are Vegetation □, Soil □, or		•				(If ne	aded evalain	any answers	in Roma	arke \		
Are Vegetation□, Soil □, or	r Hydrology ⊔ naturally p	problematic				(II IICC	oucu, expiairi	arry arrowers	III IXOIII	arito.)		
SUMMARY OF FINDING	S - Attach site man	showing sa	mplina pa	oint loca	tions. trans	ects. i	mportant f	eatures, etc	3.			
					,	,						
Hydrophytic Vegetation Pres	sent?	Yes 🗵 I	√o ⊔									
Hydric Soils Present?	•	Yes 🗵 I	No 🗆	Is the S	ampling Poir	nt withi	n a Wetland	? Yes	$\nabla$		No	
Wetland Hydrology Present	?	Yes ⊠ I	No 🗆		pg . o						110	ш
Remarks: Wetland	FR11											
· · · · · · · · · · · · · · · · · · ·												
VEGETATION - Use sc	ientific names of nla	ants										
VEGETATION - GSE SE	icitano names or pie	anto.				1						
Troe Stratum (Blot size: Em	diam \	Absolute %	Domina	nnt.	Indicator	Don	inanaa Ta	st Workshe	-4			
Tree Stratum (Plot size: 5m	diam.)	Cover	Domina Specie		Indicator Status	Don	iinance re	st worksne	et			
1.		00101	Орсско	J:	Otatus	Num	ber of Domin	ant Species				
2.							are OBL, FAC			2		(A)
3.						Total	Number of D	Onminant				(A)
4.							ies Across A			2		(D)
4.			= Total (	Cover			ent of Domina					(B)
		-		50101			are OBL, FAC			100		
0						lilatio	210 ODL, 1710	, or 1710.				(A/B)
Sapling/Shrub Stratum (Pl												
1. Rubus spectabili	S	15		Y	FAC	Prev		lex Worksh	eet			
2.								Cover of		<u>М</u>	ultiply by	<u>y</u>
3.							species			x 1 =		
4.							N species			x 2 =		
5.							species			x 3 =		
			= Total (	Cover			J species			x 4 =		
							species			x 5 =		
Herb Stratum (Plot size: 1n						Colu	mn totals	(A)		(B)		
1. Phalaris arundina	acea	85		Y	FACW							
2. Juncus effusus		20		N	FACW	P	revalence l	ndex = B / A	۱ =			
3. Typha latifolia		15		N	OBL							
4. Galium sp.		10		N	FACU	Hyd		egetation In		rs		
<ol><li>Stachys cooleyae</li></ol>	)	5		N	FACW	$\boxtimes$	Dominance	test is > 50%				
6. Athyrium cycloso	orum	5		N	FAC		Prevalence	test is ≤ 3.0 *				
7. Equisetum telma	teia	Trace		N	FACW	1	Morphologi	cal Adaptation	ns * (pro	vide supp	orting	
8.							data in rem	arks or on a s	eparate	sheet)		
9.							Wetland No	on-Vascular Pl	lants *	•		
						1 🗔		: Hydrophytic		ion * (evr	lain)	
10.							1 TODIETHALIC	Trydropriytic	vegetat	ion (exp	nani)	
11.		440	= Total (	Cover		٠						
		140	= 10tal t	Jovei				Iric soil and we sturbed or pro			must be	
Woody Vine Stratum (Plot	cizo. )					prese	ent, uniess ui	sturbed or pro	bieman	,		
,	3126.					1						
1.						┨						
2.			<b>+</b>			H)	drophytic V/ Presen		Yes	$\boxtimes$	No	
li .			= Total (	Jover		1	rresen	it f		لاحق		
			<del></del>									
% Bare Ground in Herb Stra	ıtum:											
% Bare Ground in Herb Stra Remarks:	tum:											

SOIL Sampling Point - DP-17 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks (inches) Color (moist) Color (moist) Type<sup>1</sup> Loc Texture С 0-5 10YR 3/2 7.5YR 3/4 10 М Sandy Ioam 5-14 10Y 3/1 93 5YR 3/4 7 С PL Coarse sandy loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) <sup>3</sup> 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?  $\boxtimes$ 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): ☐ 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) 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)  $\boxtimes$ 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)Field Observations Surface Water Present? Depth (in): Yes  $\square$ No  $\boxtimes$ Water Table Present?  $\boxtimes$ Depth (in): Yes  $\square$ Nο **Wetland Hydrology Present?** No Saturation Present? Depth (in): throughout Yes 🗵 No 🗆 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks.



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DP- 18

D : O::							0/5/0045		
Project Site:	Segment E, parcel no		00035			Sampling Date:	6/5/2015		
Applicant/Owner:	Puget Sound Energy					Sampling Point:	DP- 18		
Investigator:	Katy Crandall, Rose		ke Fost	er		City/County:	Bellevue		
Sect., Township, Range:	S 03 T 24N	I R <b>05E</b>				State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%	6): <b>5</b>	Local relief (concave	e, convex, none):	None	
Subregion (LRR): A				Lat:	<u>_</u>	Long:		Datum:	
	Aldemuse ed americallis		45 200				NI A	2444	
Soil Map Unit Name: AgD		-				NWI classification:			
Are climatic/hydrologic cond	itions on the site typical for	this time of year	ır?	⊠ Yes	☐ No	(If no, explain in rem	narks.)		
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 a	any answers in Rer	narks.)	
SUMMARY OF FINDING	3S – Attach site map s	nowing sam	pling po	oint loca	tions, trans	ects, important fe	atures, etc.		
Hydrophytic Vegetation Pres	sent? Yes	s 🗆 No	$\boxtimes$						
			-					7	
Hydric Soils Present?	Yes			Is the S	ampling Poir	nt within a Wetland?	Yes	No	$\boxtimes$
Wetland Hydrology Present	? Yes	s 🗌 No	$\boxtimes$						
Remarks: Wetland	EB11 out-pit								
VEGETATION – Use sc	ientific names of plant	s.							
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant	Indicator	Dominance Tes	t Worksheet		
		Cover	Specie	s?	Status				
1.						Number of Domina		1	
2.						that are OBL, FAC	N, or FAC:	<u> </u>	(A)
3.						Total Number of Do		2	
4.						Species Across All	Strata:	2	(B)
			= Total	Cover		Percent of Dominal	nt Species		
	<del>-</del>		-1			that are OBL, FAC	N, or FAC:	50	(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam.)								_ (,,,,,,
1.						Prevalence Inde	v Workshoot	-	
2.						Total %		Multiply	v by
3.						OBL species	<u>cover or</u>	x 1 =	<u>y Dy</u>
4.						FACW species		x 2 =	
						FAC species		x 3 =	
5.			= Total	Cover					
	_		= 10tar	Sovei		FACU species		x 4 =	
H. I. C (D	P					UPL species	(4)	x 5 =	
Herb Stratum (Plot size: 1n				.,		Column totals	(A)	(B)	
1. Various unknowi		80		Υ	FAC*				
<ol> <li>Equisetum telma</li> </ol>		15		N	FACW	Prevalence In	dex = B / A =		
3. Phalaris arundina	icea	15		N	FACW				
4.						Hydrophytic Ve		tors	
5.						☐ Dominance t	est is > 50%		
6.						Prevalence t	est is ≤ 3.0 *		
7.						Morphologic	al Adaptations * (pr	rovide supportin	ıg
8.						☐ data in rema	rks or on a separat	te sheet)	
9.						4	-Vascular Plants *	•	
						┩ <u>╎</u>	Hydrophytic Vegeta		1
10.						Problematic	Trydrophlytic vegeti	ation (explain)	
11.		440	= Total	Cover		1			
	=	110	_ 10tai	Sovei		* Indicators of hydri present, unless dis			be
Woody Vine Stratum (Plot	size. )					prosont, unicos dis	andea of problema		
	· · · · · · · · · · · · · · · · · · ·	20		Y	FACU	-			
	13					1			
2. Rubus ursinus		Trace		<u>N</u>	FACU	Hydrophytic Ve Present		s N	lo 🔀
	=	20	= Total	over		Present	ı		<u>r_ \</u>
% Bare Ground in Herb Stra	tum:								
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) Remarks (inches) Color (moist) Type<sup>1</sup> Texture 100 0-9 10YR 2/2 Sandy Ioam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) <sup>3</sup> 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): ☐ 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) 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?  $\boxtimes$ Depth (in): Yes  $\square$ Nο X 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: dry



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DP- 19

						<u> </u>			
D : 10"						0 " 0 '	0/5/0045		
Project Site:	Segment E, parcel nu		00042			Sampling Date:	6/5/2015		
Applicant/Owner:	Puget Sound Energy		l-a <b>F</b> aat			Sampling Point:	DP- 19		
Investigator: Sect., Township, Range:	Katy Crandall, Rose S 03 T 24N			er		City/County: State:	Bellevue WA		
		K USE		01 (0/)	.E			None	
Landform (hillslope, terrace,	etc): milisiope			Slope (%):	<၁	Local relief (concav	e, convex, none):	None	
Subregion (LRR): A				Lat:	-	Long:		Datum:	
Soil Map Unit Name: AgD	<ul> <li>Alderwood gravelly:</li> </ul>	sandy loam,	15-30%	slopes		NWI classification:	NA		
Are climatic/hydrologic condi	tions on the site typical for	this 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 of	disturbed?							
Are Vegetation $\square$ , Soil $\square$ , or	Hydrology ☐ naturally prob	olematic				(If needed, explain a	any answers in Re	emarks.)	
SUMMARY OF FINDING	S _ Attach cita man cl	nowing sam	nlina na	nint location	e tranc	ects important fo	atures etc		
	•			mit location	3, (14113	icoto, important re	atures, etc.		
Hydrophytic Vegetation Pres	ent? Yes	, 🗵 No	, $\square$						
Hydric Soils Present?	Yes	, 🛛 No	. 🗆	Is the Samp	ling Poir	nt within a Wetland?	Yes 🔀	N     N    N     N	о П
Wetland Hydrology Present?	Yes	i ⊠ No		•	_		<u> </u>		
Remarks: Wetland	EB12								
VEGETATION – Use sci	entific names of plants	s.							
	- Praint	<del></del>							
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant Ind	licator	Dominance Tes	t Worksheet		
		Cover	Specie		atus	2011111111100 100			
1. Salix scouleriana		100		Y	FAC	Number of Domina		4	
2.						that are OBL, FAC	W, or FAC:		(A)
3.						Total Number of Do		5	
4.						Species Across All		<u> </u>	(B)
	_		= Total (	Cover		Percent of Domina		80	
						that are OBL, FAC	W, or FAC:		(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)								
1. Rubus spectabilis	3	45		Y	FAC	Prevalence Inde			
2.							Cover of		ply by
3.						OBL species		x 1 =	
4.						FACW species		x 2 =	
5.		45	= Total (	Cover		FAC species FACU species		x 3 =	
	_	45	- 10tal v	Sovei		UPL species		x 4 =	
Herb Stratum (Plot size: 1m	diam )					Column totals	(A)	(B)	
Equisetum telmat		10		Y F	ACW	Columnitotals	(/ ()	(D)	
2.	Cia	10			7011	Prevalence Ir	ndex = B / A =		
3.						1 1014101100 11	Idox - B / / t -		
4.						Hydrophytic Ve	getation Indica	ators	
5.							test is > 50%		
6.						 ☐ Prevalence t	est is ≤ 3.0 *		
7.						<b>≟</b>	al Adaptations * (p	orovide support	tina
8.						~	rks or on a separa		3
9.						4 =	n-Vascular Plants	•	
10.						<b>≟</b>	Hydrophytic Vege	tation * (explai	n)
11.							71 73-	(-1	,
		10	= Total (	Cover		* Indicators of hydr	ic soil and wetland	d hydrology mu	st be
	<del>-</del>		-			present, unless dis			
Woody Vine Stratum (Plot s	size: )								
1. Rubus armeniacu	ıs	50		Y I	ACU				
2. Solanum dulcama	ara	25		Y	FAC	Hydrophytic Ve		es 🔀	No $\square$
		75	= Total (	Cover		Present	? ''	<sup>85</sup> 🔼	NO
	_		_						
% Bare Ground in Herb Stra	tum: 70								
Remarks:									

SOIL Sampling Point - DP-19 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Color (moist) Texture Remarks (inches) Color (moist) Type<sup>1</sup> Silt loam 0-10 10YR 3/1 100 10-14 2.5Y 3/1 100 Few Coarse loamy sand cobbles <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) П ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12) 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 saturated, no redox visible at the time of sampling. **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) ☐ High Water Table (A2) Drainage Patterns (B10) ☐ Salt Crust (B11) Saturation (A3) Dry-Season Water Table (C2) ☐ Water Marks (B1) Saturation Visible on Aerial Imagery (C9) Aquatic Invertebrates (B13) ☐ Sediment Deposits (B2)  $\boxtimes$ Hydrogen Sulfide Odor (C1)  $\boxtimes$ Geomorphic Position (D2)  $\Box$ ☐ 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)  $\Box$ Raised Ant Mounds (D6) (LRR A) П Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) П 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  $\square$  $\boxtimes$ No Water Table Present? Depth (in): **5 BGS** Yes 🗵 No Wetland Hydrology Present? X No Saturation Present? Depth (in): throughout Yes 🗵 No  $\square$ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Surface soil visibly saturated due to groundwater seeps. BGS = below ground surface



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DP- 20

0								
B :			050040		0 " 0 "	0/0/0045		
Project Site:	Segment E, parce		059016		Sampling Date:	6/8/2015		
Applicant/Owner:	Puget Sound Ene				Sampling Point:			
Investigator:	Katy Crandall, Ne				City/County:	Bellevue		
Sect., Township, Range:	S 34 T 2	2 <b>5N</b> R <b>05</b> E	•		State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 5-10	Local relief (conca	ve, convex, none):	None	
Subregion (LRR): A				Lat:	Long:		Datum:	
- , ,			45.000			N1.4	Datam.	
Soil Map Unit Name: AgD	- Alderwood grave	ily sandy loam	1, 15-30%	6 slopes	NWI classification:	NA .		
Are climatic/hydrologic cond	itions on the site typical	for this time of ye	ar?	⊠ Yes □ No	(If no, explain in re	emarks.)		
Are "Normal Circumstances"	present on the site?		[	⊠ Yes □ No				
Are Vegetation□, Soil □, o	r Hydrology □ significan	ntly disturbed?						
Are Vegetation□, Soil □, o	Hydrology ☐ naturally	problematic			(If needed, explain	any answers in Rei	marks.)	
-					•			
SUMMARY OF FINDING	SS – Attach site ma	p showing san	npling po	oint locations, tran	sects, important t	eatures, etc.		
Hydrophytic Vegetation Pres	ont?	Yes ⊠ N	0 🗆					
			•				-	_
Hydric Soils Present?		Yes 🗵 N	o 🗆	Is the Sampling Po	int within a Wetland	? Yes 🔀	No	
Wetland Hydrology Present	?	Yes 🗵 N	o 🗌				-	
Remarks: Wetland	EB08							
VEGETATION – Use sc	ientific names of pla	ants.						
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina	ant Indicator	Dominance Te	st Worksheet		
(	,	Cover	Specie					
1.					Number of Domin		4	
2.					that are OBL, FA	CW, or FAC:	4	(A)
3.					Total Number of I	Dominant		('')
4.					Species Across A		4	(B)
			= Total	Cover	Percent of Domin	ant Species		(D)
			_		that are OBL, FA		100	
Caralina (Charaba Charabana (Di	-4 -i Odi \							(A/B)
Sapling/Shrub Stratum (Pl								
1. Populus balsami	fera (sapling)	5		Y FAC		dex Worksheet		
2.					_	Cover of	Multipl	<u>iy by</u>
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	n diam.)				Column totals	(A)	(B)	
1. Phalaris arundina	acea	90		Y FACW		•		
2. Juncus effusus		35		Y FACW	Prevalence	Index = B / A =		
3. Carex stipata		5		N OBL	-			
4.					Hydrophytic V	egetation Indica	tors	
5.						test is > 50%	10.0	
						test is ≤ 3.0 *		
6.								
7.					⊣ '.	cal Adaptations * (p		ıg
8.						arks or on a separa	•	
9.					☐ Wetland No.	on-Vascular Plants *		
10.					☐ Problemati	c Hydrophytic Veget	tation * (explain)	)
11.								
		130	= Total	Cover	* Indicators of hyd	dric soil and wetland	hvdrology must	t be
			_			sturbed or problema		
Woody Vine Stratum (Plot	size: 3m diam )							
1. Solanum dulcam	ara	15		Y FAC				
2.		-			Hydrophytic V	/enetation	<u> </u>	
		15	= Total	Cover	Preser		es 🔀 N	10
		13				-		
0/ Dave Creus dis Hast Co	de como e							
% Bare Ground in Herb Stra	iturfi:							
Remarks:								
ii .								

SOIL Sampling Point - DP-20 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) Type<sup>1</sup> Texture Sandy loam 0-4 10YR 3/2 100 4-12 10GY 4/1 90 7.5YR 4/6 10 С M. PL Sandy clay loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) <sup>3</sup> 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?  $\boxtimes$ 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): 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)Field Observations Surface Water Present? Depth (in): Yes  $\square$ No  $\boxtimes$ Water Table Present?  $\boxtimes$ Depth (in): Yes  $\square$ Nο **Wetland Hydrology Present?** No Saturation Present? Depth (in): 4-12 BGS Yes 🗵 No  $\square$ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: BGS = below ground surface



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DP- 21

D									
B : (0)						0 " 0 '	0/0/0045		
Project Site:	Segment E, parcel		059016			Sampling Date:	6/8/2015		
Applicant/Owner:	Puget Sound Ener					Sampling Point:	DP- <b>21</b>		
Investigator:	Katy Crandall, Nel					City/County:	Bellevue		
Sect., Township, Range:	S 34 T 2	5N R 05	E			State:	WA		
Landform (hillslope, terrace,	etc): Terrace			Slope (9	%): <b>~5</b>	Local relief (concar	ve, convex, none):	None	
Subregion (LRR): A				Lat:		Long:		Datum:	
<u> </u>			45.000			_		Datairi.	
Soil Map Unit Name: AgD	- Alderwood grave	ily sandy loan	n, 15-30%	% siopes		NWI classification:	NA		
Are climatic/hydrologic cond	itions on the site typical	for 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 ☐ significan	tly disturbed?							
Are Vegetation□, Soil □, or		•				(If needed, explain	any answers in Rer	marks.)	
SUMMARY OF FINDING	SS – Attach site map	showing sar	npling p	oint loca	tions, trans	ects, important f	eatures, etc.		
		. 🗸 .							
Hydrophytic Vegetation Pres	sent?	Yes 🗵 N	10 🗆						
Hydric Soils Present?	•	Yes 🗆 N	lo 🗵	Is the S	ampling Poir	nt within a Wetland	? Yes	7 No	
Wetland Hydrology Present?	?	Yes 🗆 N	lo 🖂						
, , , , , , ,									
Remarks: Former w	etland per GeoEng	ineers' 2008 c	lalinaatio	n					
Nomano. Torricry	retiand per OcoLing	1110013 2000 0	cinicatic	/11					
VECETATION LINE OF	iantifia namaa af nle	nnta.							
VEGETATION – Use sc	ientific names of pia	ants.				T			
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domin		Indicator	Dominance Te	st Worksheet		
		Cover	Specie	s?	Status	N 1 (5 )			
1.						Number of Domin		3	
2.						that are OBL, FAC	SVV, OF FAC:		(A)
3.						Total Number of D		4	
4.						Species Across A	II Strata:	4	(B)
			= Total	Cover		Percent of Domina	ant Species		` '
			_			that are OBL, FAC	CW, or FAC:	75	(A/B)
Sapling/Shrub Stratum (Pl	nt size: 3m diam )								(A/b)
	ot size. om diam.)					<del></del>			
1. Alnus rubra		5		Υ	FAC	Prevalence Ind			
2.							Cover of	Multip	ly 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	n diam.)					Column totals	(A)	(B)	
1. Juncus effusus		75		Υ	FACW				
2. Phalaris arundina	асеа	40		Υ	FACW	Prevalence I	ndex = B / A =		
3.						1			
4.						Hydronhytic V	egetation Indicat	tors	
5.							test is > 50%	1013	
6.							test is ≤ 3.0 *		
7.						' · ·	cal Adaptations * (pr		ng
8.						☐ data in rem	arks or on a separat	te sheet)	
9.							on-Vascular Plants *		
10.						☐ Problemation	Hydrophytic Veget	ation * (explain	)
11.							, , , ,		<u></u>
- 11:		115	= Total	Cover		* Indicators of by	Iric soil and wetland	hydrology muo	t ho
				00101			sturbed or problema		t be
Woody Vine Stratum (Plot	cizo. )					present, unicss di	starbed or probleme	1110	
		20		Υ	FACU				
	15	20		1	FACU	4			
2.						Hydrophytic V		es 🔀 N	No $\square$
		20	= Total	Cover		Presen	ıtr	<u></u>	ш
% Bare Ground in Herb Stra	tum:					<u> </u>			
Remarks:									

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) Type<sup>1</sup> Remarks (inches) Color (moist) Texture 100 0-5 10 YR 3/2 **Gravelly sandy clay** loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup> ☐ 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 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) 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  $\square$ 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

Project Sito:		^											
Pugget Sound Energy	Droject Site:	Soamont E norool	number 242E	050017			Compline	Doto:	6/9/201	-			
Investigator:   Masty Crandal, Nell Lund, Clover Muters   State, Township, Range:   S 3	,			039017									
Sect.   Towership Range    S 34	• •			Mutars									
Landton (hillstope, terrace, etc):   Depression   Latt							,	ity.					
Seal May Use Name: AgD - Alderwood gravelly sandy loam, 15-30% slopes   NVI desafication: NA	, , , , , , , , , , , , , , , , , , , ,		- 1 002	•	Slope (	%): 2		f (concave		one): <b>C</b>	oncave		
Seal May Use Name: AgD - Alderwood gravelly sandy loam, 15-30% slopes   NVI desafication: NA	Subregion (LRR): A	<u> </u>				,		•			atum:		
As a climatichydrologic conclotions on the site by out of this time of year?	- ,	- Alderwood gravel	lv sandv loam	. 15-30%	6 slopes	<u> </u>			NA				
Are Normal Circumstance's present on the site?  Are Vegetation   Soil   or Hydrology   Significantly disturbed?  Yes   No     Is the Sampling Point within a Wetland?   Yes   No      Wetland Hydrology Present?   Yes   No     Is the Sampling Point within a Wetland?   Yes   No      Wetland EB09 - Stream EB07 present within boundaries.  ***VEGETATION - Use scientific names of plants.**  **Tree Stratum (Plot size: 5m diam.)   Absolute   Species?   Sitular    1. Thuja plicata   30   Y   FAC    2. Acer macrophilyum (rooted out)   Species?   Sitular    1. Thuja plicata   30   Y   FAC    3.   Total Number of Dominant   Species    1. Thuja plicata   Species   Stratum (Plot size: 3m diam.)    3.   Total Number of Dominant   Species    3.   Total Number of Dominant   Species    4.   FAC   Species   Species    5.   FAC   Species   Species    5.   FAC   Prevalence Index Worksheet    Total Number of Dominant   Species    4.   FAC   Species   Species    5.   FAC   Species   Species    6.   FAC   Species   X   Z    1. Thuja plicata   Species   X   Z    2.   FAC   Species   X   Z    1. Rubus spectabilis   90   Y   FAC    1. Rubus spectabilis   90   Y   FAC    1. Rubus spectabilis   Species   Species    3.   FAC   Species   X   Z    4.   FAC   Species   X   Z    5.   FAC   Species   X   Z    6.   FAC   Species   X   Z    7.   FAC   Species   X   Z    8.   FAC   Species   X   Z    9.   FAC   Species   X   Z    9.   FAC   S													
Mark Vegetation   Sol   Or Hydrology   anturally problematic	, ,		,				( -, - 1		,				
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?		•	tly disturbed?										
Hydricphytic Vegetation Present? Yes	Are Vegetation□, Soil □, or	Hydrology ☐ naturally p	oroblematic				(If needed,	, explain a	any answers	in Rema	arks.)		
Hydric Soils Present?   Yes	SUMMARY OF FINDING	S – Attach site map	showing sam	pling po	oint loca	ations, trans	ects, impo	ortant fe	atures, etc	С.			
Vest and Hydrology Present?   Yes   No	Hydrophytic Vegetation Pres	ent?	Yes ⊠ N	o 🗆									
Vestand Hydrology Present?   Yes   No	Hydric Soils Present?	,	Yes ⊠ N	o 🗆	le the S	Sampling Poi	nt within a V	Vatland?	Voc	$\nabla$		No.	П
VEGETATION - Use scientific names of plants.   VEGETATION - VEGETATI		,	Yes ⊠ N		is the c	Janiping i on	it within a v	vetiana:	163		,	NO	Ш
VEGETATION - Use scientific names of plants.   Tree Stratum (Plot size: 5m diam.)	, 0,												
Truja plicata   30	Remarks: Wetland	EB09 – Stream EB07	7 present with	in bound	daries.								
Truja plicata   30													
Truja plicata   30													
Truja plicata   30													
Thuja plicata   30	VEGETATION – Use sci	entific names of pla	ants.				1						
Thuja plicata   30	Tree Stratum (Plot size: 5m	diam )	Absolute %	Domina	ant	Indicator	Domina	nce Tes	t Workshe	et			
Second Composition	1100 Gardani (1101 0120: 0111	diam.)					Domina	100 103	t Workship				
Acer macrophilyum (rooted out)   Section   S			30	,	Υ	FAC					3		
Species Across All Strata:		ım (rooted out)											(A)
Sapling/Shrub Stratum (Plot size: 3m diam.)											4		<b>(D)</b>
Name	4.		30	= Total (	Cover								(B)
Rubus spectabilis   90				_							75		(Δ/R)
Total % Cover of   Multiply by	Sapling/Shrub Stratum (Plo	ot size: 3m diam.)											(700)
Total % Cover of   Multiply by	1. Rubus spectabilis	3	90	,	Υ	FAC	Prevaler	nce Inde	x Worksh	eet			
FACW species	2.							Total %	Cover of		<u>Mul</u>	tiply by	<u>y</u>
FAC species   X3 =	3.												
Per   Facu													
Line   Line	5.		•	- Total (	Cover								
Column totals   Column tota			90	_ 10tart	Sovei								
1. Equisetum telmateia       20       Y       FACW         2.       3.         3.       Hydrophytic Vegetation Indicators         5.       Dominance test is > 50%         6.       Prevalence test is ≤ 3.0 *         Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)         9.       Wetland Non-Vascular Plants *         10.       Problematic Hydrophytic Vegetation * (explain)         11.       Problematic Hydrophytic Vegetation * (explain)         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         * Indicators of hydric Vegetation * (explain)         * Indicators of hydric vegeta	Herb Stratum (Plot size: 1m	diam.)							(A)				
3. 4. 5.	,		20		Υ	FACW		ı	. ,		(=)		
4.       Hydrophytic Vegetation Indicators         5.       □ Dominance test is > 50%         6.       □ Prevalence test is ≤ 3.0 *         7.       Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)         9.       □ Wetland Non-Vascular Plants *         10.       □ Problematic Hydrophytic Vegetation * (explain)         11.       * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Woody Vine Stratum (Plot size: )       * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         2.       * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         2.       * Hydrophytic Vegetation Present?       Yes No □	2.						Preva	alence In	dex = B / A	۱ =			
5. Dominance test is > 50%   6. Prevalence test is ≤ 3.0 *   7. Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)   9. Wetland Non-Vascular Plants *   10. Problematic Hydrophytic Vegetation * (explain)   11. * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic   Woody Vine Stratum (Plot size: ) * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic   1. Rubus armeniacus 10 Y FACU   2. Hydrophytic Vegetation Present? No No													
6.  7.  8.  9.  10.  11.  20 = Total Cover  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric vegetation Present?											rs		
Morphological Adaptations * (provide supporting data in remarks or on a separate sheet)  9.													
8. data in remarks or on a separate sheet)  9. Wetland Non-Vascular Plants *  10. Problematic Hydrophytic Vegetation * (explain)  11. Problematic Hydrophytic Vegetation * (explain)  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic											ما ما ما ما ما	m4:	
9.									•			rung	
Problematic Hydrophytic Vegetation * (explain)    10.											311001)		
11.    20   = Total Cover   * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic							4 L				ion * (expla	ain)	
* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  1. * Rubus armeniacus**  1. * Rubus armeniacus**  1. * Rubus armeniacus**  1. * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic								bicinatio	Пушорпушо	vegetati	он (охріс	,	
Woody Vine Stratum (Plot size:  1. Rubus armeniacus  10 Y FACU  2. Hydrophytic Vegetation Present?  10 = Total Cover  Hydrophytic Vegetation Present?  Yes No   No   No   No   No   No   No   No			20	= Total (	Cover		* Indicator	rs of hydri	ic soil and w	etland hy	drology m	ust be	
1. Rubus armeniacus 2. Hydrophytic Vegetation Present?  **Mare Ground in Herb Stratum:**  **Present**  **Total Cover**  **Present**  **No **  No **  **No **				<del>_</del>									
2. Hydrophytic Vegetation Present? Yes No Sare Ground in Herb Stratum:	•		40		v	E40!!	4						
		IS	10		T	FACU	┨						
% Bare Ground in Herb Stratum:	۷.		10	= Total (	Cover		Hydrop			Yes	$\boxtimes$	No	
				- 10tai (	20101				-		_		_
	% 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.) Matrix Redox Features Depth Color (moist) Type<sup>1</sup> Remarks (inches) Color (moist) Texture 100 0-10 10YR 3/1 **Gravelly sandy clay** loam 10-16 5GY 5/1 100 **Gravelly clay loam** <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup> ☐ 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) Drainage Patterns (B10)  $\boxtimes$  Saturation (A3) Salt Crust (B11)  $\boxtimes$ 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 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 15" BGS Water Table Present? Depth (in): Yes 🛛 No  $\square$ Wetland Hydrology Present? Saturation Present? Depth (in): throughout Yes ⊠ No  $\square$ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks. Surface water (Stream EB07) located nearby. BGS = below ground surface



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DP- 23

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D 1 100								0/0/00/			
Project Site:	Segment E, parcel n		59009				pling Date:	6/8/2015			
Applicant/Owner:	Puget Sound Energy		M				pling Point:	DP- 23			
Investigator:	Katy Crandall, Nell L S 34 T 25N		viuters			•	County:	Bellevue WA			
Sect., Township, Range: Landform (hillslope, terrace,		N R 05E		Slope (	o/ \. <b>5</b> _10	State		ve, convex, none):	Concave		
· · · · · · · · · · · · · · · · · · ·	eic). Hillstope				%): <b>5-10</b>	Local	,	ve, convex, none):		<u>'</u>	
Subregion (LRR): A				Lat:		1	Long:		Datum:		
Soil Map Unit Name: AgD							classification:				
Are climatic/hydrologic cond	= = =	this time of yea		⊠ Yes	☐ No	(If no	, explain in re	marks.)			
Are "Normal Circumstances"	•			⊠ Yes	☐ No						
Are Vegetation□, Soil □, or						/lf ===	ماما ميمامام	any anawara in D	\		
Are Vegetation□, Soil □, or	Hydrology ☐ naturally pro	blematic				(II He	eueu, expiairi	any answers in Re	emarks.)		
SUMMARY OF FINDING	SS – Attach site map s	howing same	olina pa	oint loca	tions. trans	ects.	important f	eatures, etc.			
	-				,	,					
Hydrophytic Vegetation Pres								_	_		
Hydric Soils Present?	Ye	s 🗵 No	Ш	Is the S	Sampling Poir	nt withi	n a Wetland	? Yes	abla	No	
Wetland Hydrology Present?	Ye	s 🗵 No									_
Remarks: Wetland	EB10										
VEGETATION - Use sc	ientific names of plan	ts.									
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina		Indicator	Don	ninance Te	st Worksheet			
		Cover	Specie	s?	Status						
1.							ber of Domina are OBL, FAC		3		
2.							Number of D				(A)
3. 4.							ies Across Al		3		(D)
4.			= Total (	Cover			ent of Domina				(B)
	-		- rotar	30701			are OBL, FAC		100		(A (D)
Sapling/Shrub Stratum (Pl	nt size: 3m diam )						,	· —			(A/B)
1.	ot oizo. om diam.)					Drai	ralanaa lad	lex Worksheet			
2.						FIE		Cover of	M	ultiply b	V
3.						OBL	species	0000101	x 1 =	unipiy b	<u> </u>
4.							W species		x 2 =		
5.							species		x 3 =		
			= Total (	Cover		FAC	U species		x 4 =		
	·					UPL	species		x 5 =		
Herb Stratum (Plot size: 1m	ı diam.)					Colu	mn totals	(A)	(B)		
1. Scirpus microcar	pus	25		Υ	OBL						
2. Juncus effusus		25		Υ	FACW	F	Prevalence I	ndex = B / A =			
3. Phalaris arundina	ncea	20		Υ	FACW	ļ					
4. Carex stipata		10		N	OBL			egetation Indica	ators		
5. Athyrium cycloso	orum	10		N	FAC	$\boxtimes$		test is > 50%			
6.								test is ≤ 3.0 *			
7.						4_		cal Adaptations * (		orting	
8.						<b>-</b> □		arks or on a separ	•		
9.								n-Vascular Plants			
10.							Problemation	Hydrophytic Vege	etation * (exp	olain)	
11.			T-1-1			4					
	-	90	= Total (	over				ric soil and wetland sturbed or problem		must be	)
Woody Vine Stratum (Plot	size· )					pies	ent, uniess un	sturbed or problem	ialic		
1.						1					
2.						ш,	ydrophytic V	egetation			
			= Total (	Cover		1 "	Presen		es 🔀	No	
	-					1					
% Bare Ground in Herb Stra	tum:										
Remarks:											
Ī											

SOIL Sampling Point - DP-23 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) Type<sup>1</sup> Loc2 Texture С 0-8 2.5Y 3/1 2.5Y 3/3 5 М Sandy clay loam 8-14 10Y 4/1 70 7.5YR 4/6 30 С М Gravelly sandy clay <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) ☐ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) П ☐ Depleted Below Dark Surface (A11)  $\boxtimes$ Depleted Matrix (F3) Redox Dark Surface (F6) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must  $\boxtimes$ ☐ Thick Dark Surface (A12) 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?  $\boxtimes$ 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) ☐ 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)  $\boxtimes$ Geomorphic Position (D2)  $\Box$ Shallow Aquitard (D3) ☐ Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) ☐ Algal Mat or Crust (B4) Presence of Reduced Iron (C4)  $\boxtimes$ FAC-Neutral Test (D5)  $\Box$ Recent Iron Reduction in Tilled Soils (C6)  $\Box$ Raised Ant Mounds (D6) (LRR A)  $\Box$ Iron Deposits (B5) 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  $\square$  $\boxtimes$ No Water Table Present? Depth (in): Yes  $\boxtimes$ No Wetland Hydrology Present? X Yes No Saturation Present? Depth (in): throughout Yes ⊠ No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:



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DP- 24

D-										
B : (0)						0 " 0 "	0/0/0045			
Project Site:	Segment E, pard		25059009			Sampling Date:	6/8/2015			
Applicant/Owner:	Puget Sound En	Sampling Point:	DP- <b>24</b>							
Investigator:	Katy Crandall, N	City/County:	Bellevue							
Sect., Township, Range:	S <b>34</b> T	25N R 0	5E			State:	WA			
Landform (hillslope, terrace,	etc). Hillslope			Slope (%): >1	0	Local relief (concav	ve convex none).	None		
· · · · · · · · · · · · · · · · · · ·				,		,				
Subregion (LRR): A				Lat:		Long:		Datum:		
Soil Map Unit Name: AgD	<ul> <li>Alderwood grav</li> </ul>	elly sandy loa	m, 15-30%	6 slopes		NWI classification:	NA			
Are climatic/hydrologic cond	tions on the site typic	al for this time of	vear?	⊠ Yes □	No	(If no, explain in re	marks )			
Are "Normal Circumstances"	* * * * * * * * * * * * * * * * * * * *		•		No	(ii iio, onpiaiii iii io				
	•		L	∆ res ⊔	INO					
Are Vegetation□, Soil □, or	, 0, 0	•				(If needed explain	any anawara in Da			
Are Vegetation□, Soil □, or	Hydrology   natural	ly problematic				(If needed, explain	any answers in Ke	marks.)		
OLIMAN A DV OF FINIDING	O A 44 1 14						4			
SUMMARY OF FINDING	S – Attach site m	ap showing sa	ampling po	oint locations,	trans	sects, important f	eatures, etc.			
Hydrophytic Vogototica Bros	ont?	Yes 🗵	No 🗆							
Hydrophytic Vegetation Pres	ent?							_		
Hydric Soils Present?		Yes 🗵	No $\square$	Is the Samplin	ıg Poiı	nt within a Wetland	? Yes	7	No	$\boxtimes$
Wetland Hydrology Present?	•	Yes	No 🖂	•	_		_	_		
, , , , , , , , , , , , , , , , , , ,										
Remarks: Wetland	ED10 out pit									
Nemarks. Wetland	EB10 out-pit									
VEGETATION – Use sc	entific names of	plants.								
Tree Stratum (Plot size: 5m	diam )	Absolute %	Domina	ant Indica	ator	Dominance Te	st Workshoot			
1100 011 011 011 0120: 0111	diam.,	Cover	Specie			Dominance re-	St WOIRSHEEL			
1.		00101	Ороско	o. Otata		Number of Domina	ant Species			
2.						that are OBL, FAC		2		(4)
						<u> </u>				(A)
3.						Total Number of D		3		
4.						Species Across Al	i Strata:			(B)
			= Total	Cover		Percent of Domina	ant Species	67		
						that are OBL, FAC	CW, or FAC:	67		(A/B)
Sapling/Shrub Stratum (Pl	ot size: 3m diam )									(700)
<u> </u>	51 0120: 0111 diam.)					<del> </del>				
1.						Prevalence Ind				
2.						Total %	Cover of	<u>M</u>	lultiply b	Ŋ
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)			
	ulam.)				-	Column totals	(A)	(B)		
1. Unknown grass		30			C*					
2. Equisetum telmat		15			CW	Prevalence I	ndex = B / A =			
<ol> <li>Phalaris arundina</li> </ol>	icea	5		N FA	CW					
4.						Hydrophytic Vo	egetation Indica	itors		
5.							test is > 50%			
6.						_	test is ≤ 3.0 *			
7.							cal Adaptations * (p		orting	
8.						data in rema	arks or on a separa	ate sheet)		
9.							n-Vascular Plants	*		
10.		-				☐ Problemation	Hydrophytic Vege	etation * (exc	olain)	
11.							,			
11.			= Total	Cover						
		50	= 10tar	Sover			ric soil and wetland		must be	<b>;</b>
Woody Vino Otester (5)	·i=a. \					present, unless di	sturbed or problem	allu		
Woody Vine Stratum (Plot										
1. Rubus armeniacu	IS	5		Y FA	CU	_				
2.						Hydrophytic V	egetation	🔽	NJ=	
		5	= Total	Cover		Presen		es 🔀	No	Ш
% Bare Ground in Herb Stra	tum:									
	tuiii.					I .				
Remarks:										

SOIL Sampling Point - DP-24 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix Remarks (inches) Color (moist) Color (moist) Type<sup>1</sup> Texture 10YR 3/4 С 0-8 2.5Y 3/2 10 М Sandy Ioam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) <sup>3</sup> 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?  $\boxtimes$ 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): ☐ 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) 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?  $\boxtimes$ Depth (in): Yes  $\square$ 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.



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COMPAI	VY							DP	'- 24A	wa	tershed	dco.com
Project Site: Applicant/Owner: Investigator: Sect., Township, Range:	Segment E – parcel number 3425059010 Puget Sound Energy K. Crandall, R. Whitson S 34 T 25N R 05E						Sampling Date: Sampling Point: City/County: State:	6/15/2015 DP- 24A Bellevue WA				
Landform (hillslope, terrace, etc): Hillslope Slope (%): 15								Local relief (concave	e, convex, none)	: Conca	/e	
Subregion (LRR): A						Lat:		Long:		Datum:		
Soil Map Unit Name: Ew	C – Everett-Alderw	ood gr	avelly	sand	ly loan	ns, 6-15	% slopes	NWI classification:	NA			
Are climatic/hydrologic cor Are "Normal Circumstance Are Vegetation□, Soil □, Are Vegetation□, Soil □,	es" present on the site? or Hydrology   signific	antly dis	sturbed'	•		☐ Yes ⊠ Yes	⊠ No □ No	(If no, explain in rem	,	Remarks.)		
SUMMARY OF FINDIN	IGS – Attach site m	ap sho	owing	samp	oling p	oint loc	ations, trans	sects, important fe	atures, etc.			
Hydrophytic Vegetation Pr Hydric Soils Present? Wetland Hydrology Preser		Yes Yes Yes		No No No		Is the	Sampling Poi	int within a Wetland?	Yes [	$\boxtimes$	No	
Remarks: Wetland	d EB07 inpit.											
VEGETATION – Use s	cientific names of	olants.	<u></u>									
Tree Stratum (Plot size: 5	m diam.)		Absolute Cover	÷%	Domin Specie		Indicator Status	Dominance Tes	t Worksheet			
1. 2.								Number of Domina that are OBL, FAC\		1		(A)
3. 4.								Total Number of Do Species Across All		1		(B)
					= Total	Cover		Percent of Dominar	nt Species			_ (-)

Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1. 2.				Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)
3. 4.				Total Number of Dominant Species Across All Strata:	1	— (**) (B)
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC:	100	(A/E
Sapling/Shrub Stratum (Plot size: 3m diam.)						<u>.</u>
1.				Prevalence Index 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 diam.)				Column totals (A)	(B)	
1. Phalaris arundinacea	100	Y	FACW			
2. Scirpus microcarpus 3.	10	N	OBL	Prevalence Index = B / A =		
3. 4.				Hydrophytic Vegetation Indic	ators	
5.				□ Dominance test is > 50%	utor 5	
6.				☐ Prevalence test is ≤ 3.0 *		
7.				Morphological Adaptations * (	nrovide supportir	na
7. 8.				data in remarks or on a separ		··g
9.				☐ Wetland Non-Vascular Plants	,	
				<b> </b>		`
10. 11.				Problematic Hydrophytic Veg	etation (explain)	)
11.	110	= Total Cover		Indicators of hydric soil and wetlan present, unless disturbed or problen		t be
Woody Vine Stratum (Plot size: )						
1.				1		
2.				Hydrophytic Vegetation	, 🖂 .	
		= Total Cover		Present?	′es 🔀 N	No [
% Bare Ground in Herb Stratum:		_				

SOIL Sampling Point - DP-24A Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Color (moist) Remarks (inches) Color (moist) Type<sup>1</sup> Texture 0-18 2.5Y 3/1 100 Coarse loamy sand 18-24 5GY 5/1 90 7.5YR 3/2 10 С М Gravelly loamy sand Round small peagravel <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup> ☐ 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) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) ☐ Redox Depressions (F8) ☐ Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 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) ☐ Surface water (A1) ☐ Sparsely Vegetated Concave Surface (B8) ☐ 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) Aquatic Invertebrates (B13) П Water Marks (B1) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2)  $\boxtimes$ Hydrogen Sulfide Odor (C1)  $\boxtimes$ Geomorphic Position (D2) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Drift Deposits (B3) 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 Other (explain in remarks) П (B7) Field Observations Surface Water Present? Depth (in): Yes  $\square$ No 🗵 Water Table Present? Depth (in): Yes No  $\boxtimes$ Wetland Hydrology Present? Saturation Present? 0 BGS Depth (in): Yes 🛛 No 🗆 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: BGS = below ground surface

Some surface water upslope from test pit



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DP- 25

1						•	
Danis at Oite	0		-0000		0	0/45/0045	
Project Site:	Segment E – parcel n	umber 032405	9066		Sampling Date		
Applicant/Owner:	Puget Sound Energy			Sampling Point			
Investigator:	K. Crandall, R. Whitso			City/County:	Bellevue		
Sect., Township, Range:	S 03 T 24N	R <b>05E</b>	State:	WA			
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 5	Local relief (conc	ave, convex, none):	Concave
Subregion (LRR): A	<del>-                                    </del>			Lat:	Long:		Datum:
							Datum.
Soil Map Unit Name: AgD	- Alderwood gravelly s	sandy loam, 15	5-30%	slopes	NWI classification	n: NA	
Are climatic/hydrologic cond	litions on the site typical for t	his time of year?		☐ Yes 🗵 No	(If no, explain in r	emarks.)	
Are "Normal Circumstances"	" present on the site?		Б	⊠ Yes □ No	Below avg preci	nitation	
Are Vegetation□, Soil □, or	•	listurhed?			Below avg preci	pitation	
Are Vegetation□, Soil □, or	, ,, ,				(If needed, explain	n any answers in Re	marks.)
Are vegetation , soil , or	Trydrology - Hatdrally prob	Terriatio			1 ' '		
SUMMARY OF FINDING	3S – Attach site map sh	owing sampli	na pc	oint locations, tran	sects, important	features, etc.	
				,			
Hydrophytic Vegetation Pres	sent? Yes	⊠ No					
Hydric Soils Present?	Yes	⊠ No		la tha Canadha a Da	!	10 Vaa 🔽	7 No [
'				Is the Sampling Po	int within a wetian	d? Yes ∑	No L
Wetland Hydrology Present?	? Yes	⊠ No					
Remarks: Wetland	EB13 in-pit						
VEGETATION - Use sc	ientific names of plants	š.					
	- prante	<u></u>					
Tree Stretum (Diet size: Em	diam \	Absolute 0/ F	`~~i~~	ant Indiantar	Daminanaa T		
Tree Stratum (Plot size: 5m			Domina Species		Dominance 1	est Worksheet	
1. Alnus rubra	· · · · · · · · · · · · · · · · · · ·	100		s? Status Y FAC	Number of Domi	nant Species	
		100		T FAC	that are OBL, FA		2
2.							(A)
3.					Total Number of		2
4.					Species Across	All Strata:	<b>2</b> (B)
		100 =	Total C	Cover	Percent of Domi	nant Species	400
	<del></del>				that are OBL, FA	CW, or FAC:	100 (A/
Sapling/Shrub Stratum (Pl	ot size: 3m diam )						(/ //
					Duarralamaa lu	day Wantahaat	
1.						dex Worksheet	
2.						% Cover of	Multiply by
3.					OBL species		x 1 =
4.					FACW species		x 2 =
5.					FAC species		x 3 =
		=	Total C	Cover	FACU species		x 4 =
	_				UPL species		x 5 =
Herb Stratum (Plot size: 1m	n diam.)				Column totals	(A)	(D)
1 Phalaris arundina						(A)	I (B)
	2002	85		Y FACW	Column totals	(A)	(B)
2 Fauisotum tolma		85 15		Y FACW			(B)
2. Equisetum telmas	teia	15	ı	N FACW		Index = B / A =	(B)
3. Cardamine oligos	teia		ı		Prevalence	Index = B / A =	
3. Cardamine oligos 4.	teia	15	ı	N FACW	Prevalence  Hydrophytic \	Index = B / A =	
3. Cardamine oligos	teia	15	ı	N FACW	Prevalence  Hydrophytic   Dominance	Index = B / A =  /egetation Indica e test is > 50%	
3. Cardamine oligos 4.	teia	15	ı	N FACW	Prevalence  Hydrophytic   Dominance	Index = B / A =	
3. Cardamine oligos 4. 5.	teia	15	ı	N FACW	Prevalence  Hydrophytic V  Dominance  Prevalence	Index = B / A =  /egetation Indica e test is > 50%	tors
3. Cardamine oligos 4. 5. 6.	teia	15	ı	N FACW	Prevalence  Hydrophytic \  □ Dominance  □ Prevalence  Morpholog	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p	tors rovide supporting
3. Cardamine oligos 4. 5. 6. 7.	teia	15	ı	N FACW	Prevalence  Hydrophytic \ Dominance Prevalence Morphologe data in rei	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa	tors rovide supporting te sheet)
3. Cardamine oligos 4. 5. 6. 7. 8.	teia	15	ı	N FACW	Prevalence  Hydrophytic \ Dominance Prevalence Morphologe data in rei	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa Ion-Vascular Plants *	rovide supporting te sheet)
3. Cardamine oligos 4. 5. 6. 7.	teia	15	ı	N FACW	Prevalence  Hydrophytic \ Dominance Prevalence Morphologe data in rei	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa	rovide supporting te sheet)
3. Cardamine oligos 4. 5. 6. 7. 8.	teia	15	ı	N FACW	Prevalence  Hydrophytic \ Dominance Prevalence Morphologe data in rei	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa Ion-Vascular Plants *	rovide supporting te sheet)
3. Cardamine oligos 4. 5. 6. 7. 8. 9.	teia	15 5	ı	N FACW N FAC	Prevalence  Hydrophytic  Dominance Prevalence Morphologe data in red Wetland N Problema	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa Ion-Vascular Plants *	rovide supporting te sheet)
3. Cardamine oligos 4. 5. 6. 7. 8. 9.	teia	15 5	1	N FACW N FAC	Prevalence  Hydrophytic V Dominance Prevalence Morphological data in recensive Wetland N Problema  * Indicators of hy	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p marks or on a separa lon-Vascular Plants * ic Hydrophytic Veget	rovide supporting te sheet) tation * (explain) hydrology must be
3. Cardamine oligos 4. 5. 6. 7. 8. 9.	teia sperma	15 5	1	N FACW N FAC	Prevalence  Hydrophytic V Dominance Prevalence Morphological data in recensive Wetland N Problema  * Indicators of hy	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa lon-Vascular Plants * ic Hydrophytic Veget	rovide supporting te sheet) tation * (explain) hydrology must be
3. Cardamine oligos 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot :	teia sperma	15 5	1	N FACW N FAC	Prevalence  Hydrophytic V Dominance Prevalence Morphological data in recensive Wetland N Problema  * Indicators of hy	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa lon-Vascular Plants * ic Hydrophytic Veget	rovide supporting te sheet) tation * (explain) hydrology must be
3. Cardamine oligos 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot 1.	teia sperma	15 5	1	N FACW N FAC	Prevalence  Hydrophytic V Dominance Prevalence Morpholog data in reg Wetland N Problema  * Indicators of hypresent, unless of	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p marks or on a separa lon-Vascular Plants * ic Hydrophytic Veget  dric soil and wetland disturbed or problema	rovide supporting te sheet) tation * (explain) hydrology must be
3. Cardamine oligos 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot :	teia sperma	15 5	- Total C	N FACW N FAC	Prevalence  Hydrophytic V Dominance Prevalence Morpholog data in reg Wetland N Problema  * Indicators of hy present, unless of	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa lon-Vascular Plants * ic Hydrophytic Veget  dric soil and wetland disturbed or problema  //egetation	rovide supporting te sheet) tation * (explain) hydrology must be
3. Cardamine oligos 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot 1.	teia sperma	15 5	1	N FACW N FAC	Prevalence  Hydrophytic V Dominance Prevalence Morpholog data in reg Wetland N Problema  * Indicators of hypresent, unless of	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa lon-Vascular Plants * ic Hydrophytic Veget  dric soil and wetland disturbed or problema  //egetation	rovide supporting te sheet) tation * (explain) hydrology must be
3. Cardamine oligos 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot 1. 2.	teia sperma  size: )	15 5	- Total C	N FACW N FAC	Prevalence  Hydrophytic V Dominance Prevalence Morpholog data in reg Wetland N Problema  * Indicators of hy present, unless of	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa lon-Vascular Plants * ic Hydrophytic Veget  dric soil and wetland disturbed or problema  //egetation	rovide supporting te sheet) tation * (explain) hydrology must be
3. Cardamine oligos 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot 1.	teia sperma  size: )	15 5	- Total C	N FACW N FAC	Prevalence  Hydrophytic V Dominance Prevalence Morpholog data in reg Wetland N Problema  * Indicators of hy present, unless of	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa lon-Vascular Plants * ic Hydrophytic Veget  dric soil and wetland disturbed or problema  //egetation	rovide supporting te sheet) tation * (explain) hydrology must be
3. Cardamine oligos 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot 1. 2.	teia sperma  size: )	15 5	- Total C	N FACW N FAC	Prevalence  Hydrophytic V Dominance Prevalence Morpholog data in reg Wetland N Problema  * Indicators of hy present, unless of	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa lon-Vascular Plants * ic Hydrophytic Veget  dric soil and wetland disturbed or problema  //egetation	rovide supporting te sheet) tation * (explain) hydrology must be
3. Cardamine oligos 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot 1. 2.	teia sperma  size: )	15 5	- Total C	N FACW N FAC	Prevalence  Hydrophytic V Dominance Prevalence Morpholog data in reg Wetland N Problema  * Indicators of hy present, unless of	Index = B / A =  /egetation Indica e test is > 50% e test is ≤ 3.0 * gical Adaptations * (p narks or on a separa lon-Vascular Plants * ic Hydrophytic Veget  dric soil and wetland disturbed or problema  //egetation	rovide supporting te sheet) tation * (explain) hydrology must be

SOIL Sampling Point - DP-25 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) Type<sup>1</sup> Texture 0-6 10YR 3/2 100 **Gravelly sandy loam** With large 6-16 2.5Y 3/1 85 7.5YR 3/3 15 С М Gravelly sandy loam cobbles <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) ☐ Hydrogen Sulfide (A4) П ☐ Depleted Below Dark Surface (A11) Depleted Matrix (F3) Redox Dark Surface (F6) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must ☐ Thick Dark Surface (A12)  $\boxtimes$ 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?  $\boxtimes$ 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) ☐ High Water Table (A2) Drainage Patterns (B10) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) ☐ Water Marks (B1) Saturation Visible on Aerial Imagery (C9) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1)  $\boxtimes$ Geomorphic Position (D2)  $\Box$ Shallow Aquitard (D3) ☐ Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) ☐ Algal Mat or Crust (B4) Presence of Reduced Iron (C4)  $\boxtimes$ FAC-Neutral Test (D5)  $\Box$ Recent Iron Reduction in Tilled Soils (C6)  $\Box$ Raised Ant Mounds (D6) (LRR A)  $\square$ Iron Deposits (B5) 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  $\square$  $\boxtimes$ No Water Table Present? Depth (in): Yes  $\boxtimes$ No Wetland Hydrology Present? X No Yes Saturation Present? Depth (in): throughout Yes 🗵 No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Groundwater seeps in pit at 6 inches below ground surface. Iron deposits near test pit.

Remarks:



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DP- 26

Davis at Cites	0					0 1'	- D-1	0/45/004	-			
Project Site:	Segment E – parcel i		159066	l		Sampling Sampling	•	6/15/201 DP- 26	5			
Applicant/Owner:								Bellevu				
Investigator: Sect., Township, Range:	S 03 T 24N					City/Cou State:	irity.	WA	<del>.</del>			
Landform (hillslope, terrace,		I K UJL		Slope (	%). 5		ef (concav	e, convex, no	ne). C	oncave		
Subregion (LRR): A	oto). Timolopo			Lat:	70).	Local Telle	Long:	rc, convex, ne		atum:		
	Aldomico d anacialli	aandy laam	0 4 5 0 /			NNA/1 -1		NI A		aturri.		
Soil Map Unit Name: AgD						NWI class						
Are climatic/hydrologic condi		this time of year		Yes	⊠ No	(If no, exp		,				
Are "Normal Circumstances"	•			⊠ Yes	☐ No	Below av	g precipi	itation				
Are Vegetation□, Soil □, or						(If needed	d evolain	any answers	in Rems	arke \		
Are Vegetation□, Soil □, or	, ,,		!! a	.:	otione trans	<u> </u>	<u> </u>					
SUMMARY OF FINDING	•			oint ioca	ations, trans	sects, imp	ortant 10	eatures, etc	· <u>·</u>			
Hydrophytic Vegetation Pres			_									_
Hydric Soils Present?	Yes			Is the	Sampling Poir	nt within a	Wetland?	? Yes	$\boxtimes$		No	
Wetland Hydrology Present?	Yes	s 🛛 No										
Remarks: Wetland I	EB14 in-pit											
	<b>-</b>											
VEGETATION – Use sci	entific names of plant	S.				<u> </u>						
						l	_					
Tree Stratum (Plot size: 5m	diam.)	Absolute % Cover	Domina Specie		Indicator Status	Domina	ance Tes	st Workshe	et			
1. Alnus rubra		100		<u>Ծ։</u> <b>Y</b>	FAC	Number	of Domina	ant Species				
2.				•	.,,,,			W, or FAC:		2		(A)
3.						Total Nur	mber of D	ominant				(, ,)
4.						Species	Across Al	l Strata:		2		(B)
		100	= Total	Cover		Percent of	of Domina	ant Species				(-)
	-	_				that are 0	OBL, FAC	W, or FAC:		100		(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)											( /
1.						Prevale	ence Ind	ex Workshe	eet			
2.						1		Cover of		<u>M</u>	ultiply by	<u>v</u>
3.						OBL spe	cies			x 1 =		
4.						FACW s	pecies			x 2 =		
5.						FAC spe	cies			x 3 =		
	_		= Total	Cover		FACU sp				x 4 =		
						UPL spe				x 5 =		
Herb Stratum (Plot size: 1m		100			E 4 014/	Column t	totals	(A)		(B)		
1. Phalaris arundina		100		<u>Y</u>	FACW			D / A				
2. Athyrium cycloso 3. Urtica dioica	rum	25 5		N N	FAC FAC	Prev	alence II	ndex = B / A	. =			
		3		IN	FAC	Hydron	bytic Va	egetation In	dicato	re		
4.       5.								test is > 50%	uicato	13	-	
6.								test is ≤ 3.0 *				
7.								cal Adaptation	e * (prov	vida sunr	orting	
8.								arks or on a se			orung	
9.						_		n-Vascular Pl	•	,		
10.								: Hydrophytic '		ion * (exc	olain)	
11.						+	obiciliatio	Trydrophytic	vegetati	оп (схр	-14111)	
11.		130	= Total	Cover		* Indicato	ors of hyd	ric soil and we	tland h	vdrology	must ha	
	-	100						sturbed or pro			Hust DE	
Woody Vine Stratum (Plot s	size: )											
1.						_						
2.						Hydro	phytic V	egetation	Vaa		NIa	
			= Total	Cover		]	Present		Yes	$\boxtimes$	No	Ш
	<del>-</del>											
% Bare Ground in Herb Strat	tum:											
Remarks: <b>Equisetum</b> t	telmateia and Rubus a	rmeniacus ne	earby.									
			-									

SOIL Sampling Point - DP-26 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) Type<sup>1</sup> Texture 0-5 10YR 3/1 100 Sandy silt loam Moist 5-18 10YR 4/1 80 10YR 4/6 20 С M. PL Medium to Sandy loam large sized gravel <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup> ☐ 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) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic ☐ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) ☐ Redox Depressions (F8) ☐ Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: 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): ☐ 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) П Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2)  $\boxtimes$ Hydrogen Sulfide Odor (C1) Geomorphic Position (D2)  $\boxtimes$ Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) Drift Deposits (B3) 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 Other (explain in remarks) П (B7) Field Observations Surface Water Present? Depth (in): Yes  $\square$ No 🗵 Depth (in): Water Table Present? Yes No  $\boxtimes$ Wetland Hydrology Present? Saturation Present? 5-18 BGS Depth (in): Yes 🛛 No (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: BGS = below ground surface.



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

DP- 27

					<u> </u>				
D : O':			4050000		0 " 0 .	0/4=/0045			
Project Site:	Segment E – parcel		1059089		Sampling Date:	6/17/2015			
Applicant/Owner: Investigator:	Puget Sound Energ K. Crandall, R. Whit				Sampling Point: DP- 27 City/County: Bellevue				
Sect., Township, Range:	S 10 T 24				State:	WA			
Landform (hillslope, terrace,		1 1002		Slope (%): <b>5</b>			NA		
Subregion (LRR): A	, ,			Lat:	Long:		Datum:		
Soil Map Unit Name: RdE	– Ragnar-Indianola a	ssociation n	oderate		NWI classification:				
Are climatic/hydrologic condi				☐ Yes ⊠ No	(If no, explain in re				
Are "Normal Circumstances"	• • • • • • • • • • • • • • • • • • • •	r and arric or yea		Yes No	(ii iio, explaiii iii ie	marks.)			
Are Vegetation□, Soil □, or	•	/ disturbed?	_						
Are Vegetation□, Soil □, or	, ,, ,				(If needed, explain	any answers in Rem	arks.)		
SUMMARY OF FINDING	SS – Attach site map	showing sam	pling po	oint locations, trans	sects, important t	eatures, etc.			
Lludronhutio Vacatation Dros	ont? Va	es 🏿 No	, $\square$						
Hydrophytic Vegetation Pres			_	la tha Canadha a Dai		o v	NIa		
Hydric Soils Present?	Υe			Is the Sampling Poi	nt within a wetiand	? Yes 🔀	No	Ш	
Wetland Hydrology Present?	Υe	es 🗵 No	) [						
Remarks: Wetland	EB20 in-pit.								
	•								
VEGETATION – Use sci	ientific names of plan	ıts.			T				
Tron Stratum (Plot cizo: 5m	diam \	Absolute %	Domina	ant Indicator	Dominance Te	et Werkeheet			
Tree Stratum (Plot size: 5m	ulaili.)	Cover	Specie		Dominance re	st worksneet			
1.			•		Number of Domin		2		
2.					that are OBL, FAC		2	_ (A)	
3.					Total Number of I		3		
4.			= Total (	Cover	Species Across A			_ (B)	
			_ TOTAL (	20Vei	Percent of Domin that are OBL, FAC		67	(A /D)	
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)							_ (A/B)	
1. Salix lasiandra	,	50		Y FACW	Prevalence Inc	dex Worksheet			
2.						Cover of	Multiply	by	
3.					OBL species		x 1 =		
4.					FACW species		x 2 =		
5.			Ŧ . I.		FAC species		x 3 =		
		50	= Total (	Jover	FACU species		x 4 =		
Herb Stratum (Plot size: 1m	ı diam )				UPL species Column totals	(A)	x 5 = (B)		
Phalaris arundina		100		Y FACW	Column totals	(7)	) (D)		
2. Cirsium arvense		10		N FAC	Prevalence	Index = B / A =			
3.									
4.						egetation Indicate	ors		
5.						e test is > 50%			
6.						test is ≤ 3.0 *			
7.					⊣	cal Adaptations * (pro arks or on a separate		1	
8.					<b>→</b>	on-Vascular Plants *	s sneet)		
9.						c Hydrophytic Vegeta	tion * (ovalain)		
10.					☐ Problemati	c nydropnylic vegeta	tion (explain)		
11.		110	= Total (	Cover	* Indicators of hyd	dric soil and wetland h	nvdrology must l	be	
			-			sturbed or problemat			
Woody Vine Stratum (Plot s	•			V 540::	-				
1. Rubus armeniacu	IS	20		Y FACU				_	
2.		20	= Total (	Cover	Hydrophytic V Preser		No.	· 🗌	
			- 10tal (	J0101	1.0301				
% Bare Ground in Herb Stra	tum:								
Remarks:					-				
ii									

SOIL Sampling Point - DP-27 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) Type<sup>1</sup> Silt loam 0-8 10YR 2/2 100 8-16 5YR 2.5/1 85 5YR 3/4 15 С M. PL Silt loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) <sup>3</sup> 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): 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): ☐ 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) 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)  $\boxtimes$ Geomorphic Position (D2) Drift Deposits (B3)  $\boxtimes$ 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)Field Observations Surface Water Present? Depth (in): Yes  $\square$ No  $\boxtimes$ Water Table Present? Yes  $\boxtimes$ Depth (in): Nο Wetland Hydrology Present? No Saturation Present? Depth (in): Yes  $\square$ No ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Damp, not saturated.



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DP- 28

Project Site: Applicant/Owner:	Segment E – parc	Sampling Date: Sampling Point:	6/17/2015 DP- 28						
Investigator:		City/County:	Bellevue						
Sect., Township, Range:	K. Crandall, R. Wh		05E			State:	WA		
Landform (hillslope, terrace,	etc): Hillslope			Slope (	%): 5	Local relief (concav	ve, convex, none):	None	
Subregion (LRR): A				Lat:		Long:		Datum:	
Soil Map Unit Name: RdE	- Ragnar-Indianola	associatio	n, moderate	ely stee	p	NWI classification:	NA		
Are climatic/hydrologic cond	itions on the site typical	for this time o	f year?	Yes	⊠ No	(If no, explain in re	marks.)		
Are "Normal Circumstances"	" present on the site?		[	⊠ Yes	☐ No				
Are Vegetation□, Soil □, or		•				//f = = = d = d = = = =	i- D-		
Are Vegetation□, Soil □, or	r Hydrology   naturally	problematic				(If needed, explain	any answers in Re	marks.)	
SUMMARY OF FINDING	SS – Attach site ma	showing s	sampling p	oint loca	ations, trans	sects, important f	eatures, etc.		
Hydrophytic Vegetation Pres	sent?	Yes $\square$	No 🗵						
Hydric Soils Present?		Yes $\square$	No 🗵	Is the	Sampling Poi	nt within a Wetland	Yes	Π No	$\boxtimes$
Wetland Hydrology Present?	?	Yes	No 🗵						
Remarks: Out-pit n	ear wetland EB20.								
VEGETATION – Use sc	ientific names of pla	ants.				<u> </u>			
Tree Stratum (Plot size: 5m	diam.)	Absolute Cover	% Domin Specie		Indicator Status	Dominance Tes			
1.						Number of Domination that are OBL, FAC		2	(4)
3.						Total Number of D			(A)
4.						Species Across Al		4	(B)
			= Total	Cover		Percent of Domina		<b>E</b> 0	_ (=)
						that are OBL, FAC	CW, or FAC:	50	(A/B)
Sapling/Shrub Stratum (Ple	ot size: 3m diam.)								
1.						Prevalence Ind			
2.							Cover of	Multiply	<u>y by</u>
3. 4.						OBL species FACW species		x 1 =	
5.						FAC species		x 3 =	
			= Total	Cover		FACU species		x 4 =	
						UPL species		x 5 =	
Herb Stratum (Plot size: 1m				.,		Column totals	(A)	(B)	
1. Dactylis glomerat 2. Holcus lanatus	ta	15 15		Y Y	FACU FAC	Drovolonoo I	ndex = B / A =		
<ol> <li>Holcus lanatus</li> <li>Convolvulus sp. (</li> </ol>	(hindweed)	15		Y	FACU*	Prevalence i	nuex = b / A =		
4. Phalaris arundina	,	15		· Y	FACW	Hydrophytic Ve	egetation Indica	tors	
5. Galium aparine		10		N	FACU		test is > 50%		
6.						☐ Prevalence	test is ≤ 3.0 *		
7.							cal Adaptations * (p		g
8.						<b>→</b>	arks or on a separa	·	
9.							n-Vascular Plants		
10.						☐ Problemation	Hydrophytic Vege	tation * (explain)	
11.		70	= Total	Cover		* Indicators of bud	ria sail and wattans	l budrology must	ho
				00101			ric soil and wetland sturbed or problem		be
Woody Vine Stratum (Plot	size: )						•		
1.									
2.						Hydrophytic V		es 🗍 No	o 🔀
				Covor		Presen	t?		
			= Total	Covei		1 100011			
	ttura.		= 10(a)	Cover		1 100011			
% Bare Ground in Herb Stra			= 10tal	Cover		1 100011			
Remarks: *Presumed			= Total	Cover		1,1996			
5 /			= 10tai	Cover					

SOIL Sampling Point - DP-28 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Depth Matrix Color (moist) Type<sup>1</sup> Remarks (inches) Color (moist) Texture 100 0-10 10YR 2/2 Gravelly sandy loam With cobbles <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup> ☐ 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): 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)  $\Box$ Salt Crust (B11) 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  $\square$ 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

I						<u></u>			
Project Site:	Segment E – par	cel number 0	324059066			Sampling Date:	6/19/2015		
Applicant/Owner:	Puget Sound En		32-1033000			Sampling Point:	DP- <b>29</b>		
Investigator:	K. Crandall, R. K					City/County:	Bellevue		
Sect., Township, Range:		24N R 0	5E			State:	WA		
Landform (hillslope, terrace,		2414 11 0	JL	Clara (0/):	10			Consove	
	etc): <b>milisiope</b>			Slope (%):	10	Local relief (concav	/e, convex, none)	): Concave	
Subregion (LRR): A				Lat:		Long:		Datum:	
Soil Map Unit Name: AgD	- Alderwood grav	elly sandy loa	am, 8-15%	slopes		NWI classification:	NA		
Are climatic/hydrologic condi				Yes	No	(If no, explain in rei	marks.)		
Are "Normal Circumstances"			•	⊠ Yes □		(,	,		
Are Vegetation□, Soil □, or	•	antly disturbed?	2	3 100 _					
Are Vegetation□, Soil □, or		•				(If needed, explain	any answers in F	Remarks.)	
7tte vegetation=, eon =, or	Trydrology - Hatarali	y problematic						<del></del>	
SUMMARY OF FINDING	S - Attach site ma	ap showing s	ampling po	oint location	ıs, trans	sects, important fo	eatures, etc.		
						•			
Hydrophytic Vegetation Pres	ent?	Yes 🗵	No $\square$						
Hydric Soils Present?		Yes 🗵	No $\square$	Is the Sam	oling Poi	nt within a Wetland?	? Yes	∑ No	ь П
Wetland Hydrology Present?	)	Yes 🗵	No 🗌		_		Ŀ		
Remarks: Wetland	EB15 inpit								
	•								
VEGETATION - Use sci	entific names of p	lants.							
	•								
Tree Stratum (Plot size: 5m	diam.)	Absolute %	6 Domina	ant Ir	dicator	Dominance Tes	st Worksheet		
(* 100 011 011 011 012 011	a.a,	Cover	Specie		atus	Dominianoe res	or trontoneer		
1.			•			Number of Domina			
2.						that are OBL, FAC	;W, or FAC:	1	(A)
3.						Total Number of D	ominant		` '
4.						Species Across Al	l Strata:	1	(B)
			= Total (	Cover		Percent of Domina	ant Species		(5)
						that are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam )						_		(A/b)
<u> </u>	or size. om diam.)					Daniel I and I and	\\		
1.						Prevalence Ind			
2.						-	Cover of	Multip	<u>yiy by</u>
3.						OBL species FACW species		x 1 =	
4.								x 2 =	
5.			= Total (	Cover		FACILITY STATES		x 3 =	
			= 10tai t	Jovei		FACU species		x 4 =	
Harb Stratum (Diet size, 1m	diam \					UPL species	<b>(A)</b>	x 5 =	
Herb Stratum (Plot size: 1m		400		v	TAC\A/	Column totals	(A)	(B)	
1. Phalaris arundina		100			FACW	Barrata a a a	D / A		
2. Scirpus microcar	pus	25		N .	OBL	Prevalence I	ndex = B / A =		
3. Galium sp.		25		N	FAC*	11 1 1 1 1 1			
4.						Hydrophytic Ve		cators	
5.							test is > 50%		
6.						☐ Prevalence	test is ≤ 3.0 *		
7.						Morphologic	cal Adaptations *	(provide supporti	ng
8.						☐ data in rema	arks or on a sepa	rate sheet)	
9.						☐ Wetland No	n-Vascular Plant	s *	
10.						_	: Hydrophytic Ved	getation * (explain	1)
11.							7: 1 7: 3	, , , , , ,	<del>,</del>
11.		150	= Total (	Cover		* Indicators of hyd	ric soil and wetla	nd hydrology mus	et ha
						present, unless dis			of De
Woody Vine Stratum (Plot s	size: )					processit, amose an	Adiada di pidalo.	- Tatio	
1.	,								
2.			= Total (	Cover		Hydrophytic Vo		Yes 🔀 1	No 🗌
			= 10tal (	JUV <del>E</del> I		Fiesell	• •	_	
0/ B 0 1/ 1/ 5									
% Bare Ground in Herb Stra	tum:					1			
Remarks: *Presumed									

SOIL Sampling Point - DP-29 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) Type<sup>1</sup> Texture Sandy loam 0-8 10YR 3/2 100 8-16 5GY 3/1 90 7.5YR 4/4 10 С M. PL Loamy coarse sand <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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)\* <sup>3</sup> 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?  $\boxtimes$ 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): 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)  $\boxtimes$ 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)  $\boxtimes$ 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)Field Observations Surface Water Present? Depth (in): Yes  $\square$ No  $\boxtimes$ Water Table Present? Yes 🗵 Depth (in): **14 BGS** Nο Wetland Hydrology Present? No Saturation Present? Depth (in): throughout Yes 🗵 No  $\square$ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: BGS = below ground surface



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DP-30

CONTIN												
Project Site:	Soamont E norool	number 022	40E0066			Sampling	Doto:	6/19/20	115			
Applicant/Owner:	Segment E – parcel Puget Sound Energ		4039000			Sampling	•	DP- 30				
Investigator:	K. Crandall, R. Kah					City/Cou	•	Bellevi				
Sect., Township, Range:	S 03 T 24					State:	ity.	WA				
Landform (hillslope, terrace,				Slope	(%): <b>0</b>		f (concav	e, convex, r	one): C	oncave		
Subregion (LRR): A	,			Lat:	(,		Long:	-,,		atum:		
Soil Map Unit Name: AgD	- Alderwood gravelly	v sandy loam	8-15%			NWI class		NΔ				
Are climatic/hydrologic cond				Yes	⊠ No	(If no, exp						
Are "Normal Circumstances"	• • • • • • • • • • • • • • • • • • • •	ir triis tirrie or yea		⊒ res ⊠ Yes	□ No	(II IIO, exp	iaiii iii iei	iiaiks.)				
Are Vegetation □, Soil □, or	•	/ disturbed?	L	A 163								
Are Vegetation□, Soil □, or						(If needed	, explain	any answers	s in Rema	arks.)		
SUMMARY OF FINDING			pling po	oint loc	ations, trans	ects, imp	ortant fo	eatures, et	c.			
Hydrophytic Vegetation Pres	sent? Yo	es 🗵 No	, <b></b>									
Hydric Soils Present?		es 🗵 No	o 🗆	lo the	Sampling Poir	at within a l	Notland	yoo			No	
Wetland Hydrology Present?		es 🏻 No	_	is the	Sampling Poli	it within a v	vellanu	P Yes	$\boxtimes$		INO	Ш
Trouland Trydrology 1 Todonic	·	00 Z 110	, <sub>-</sub>									
Remarks: Wetland	EB16 in-pit											
VEGETATION - Use sc	ientific names of plar	nts.										
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina		Indicator	Domina	nce Tes	st Worksh	eet			
1.		Cover	Specie	S?	Status	Number o	of Domina	ant Species				
2.								W, or FAC:		3		(A)
3.						Total Nun	nber of D	ominant				(, ,
4.						Species A	Across Al	Strata:		4		(B)
			= Total (	Cover				int Species		75		, ,
			_			that are C	BL, FAC	W, or FAC:		75		(A/B)
Sapling/Shrub Stratum (Ple	ot size: 3m diam.)											
1. Rubus spectabilis	s	25		Υ	FAC	Prevale		ex Worksl	neet			
2. Ribes lacustre		15		Y	FAC	<u> </u>		Cover of			ıltiply b	У
3.						OBL spec				x 1 =		
4.						FACW spec				x 2 =		
5.		40	= Total (	Cover		FAC spec				x 3 = x 4 =		
		40	-	50101		UPL spec				x 5 =		
Herb Stratum (Plot size: 1m	n diam.)					Column to		(A)		(B)		
1. Phalaris arundina		80		Υ	FACW			( )		(5)		
2. Pteridium aquilin		10		N	FACU	Preva	alence li	ndex = B /	A =			
3.												
4.								egetation I		rs		
5.					<u></u>			test is > 50%				
6.						☐ Pre	evalence	test is ≤ 3.0	*			
7.						4		cal Adaptatio	VI		orting	
8.						_		arks or on a	•	sheet)		
9.						1 -		n-Vascular F				
10.						☐ Pro	blematic	Hydrophytic	: Vegetat	ion * (expl	ain)	
11.												
Woody Vino Stratum (Diet	cizo:	90	= Total (	Cover				ric soil and v sturbed or pr			nust be	•
Woody Vine Stratum (Plot :  1. Rubus armeniacu		20		Υ	FACU	1						
2.	•~			•		Hydro	nhytic W	egetation		<u> </u>		
		20	= Total (	Cover		- i i yui o	Present		Yes	$\boxtimes$	No	
			-									
% Bare Ground in Herb Stra	tum:											
Remarks:												

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) Remarks (inches) Color (moist) Type<sup>1</sup> Texture 0-8 10YR 2/2 100 Sandy loam 8-16 5Y 4/1 100 Gravelly loamy sand <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) <sup>3</sup> 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?  $\boxtimes$ 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): ☐ 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)  $\boxtimes$ 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)  $\boxtimes$ 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) 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 🗵 Depth (in): **12 BGS** Nο Wetland Hydrology Present? No Saturation Present? Depth (in): throughout Yes 🗵 No  $\square$ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: BGS = below ground surface



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

DP- 31

Davis at Oite	0		4050000		0		0/40/0045			
Project Site:	Segment E – parcel		4059066			npling Date:	6/19/2015			
Applicant/Owner:	Puget Sound Energy					pling Point:	DP- 31			
Investigator:	K. Crandall, R. Kahle S 03 T 24		•			/County:	Bellevue WA			
Sect., Township, Range:		N K USE		01 (01) 40	Stat			0		
Landform (hillslope, terrace,	etc): Hillslope			Slope (%): 10	Loca	I relief (conca	ve, convex, none):	Concave	<del>)</del>	
Subregion (LRR): A				Lat:		Long:		Datum:		
Soil Map Unit Name: AgD	<ul> <li>Alderwood gravelly</li> </ul>	sandy loam	, 8-15%	slopes	NWI	classification:	NA			
Are climatic/hydrologic condi	itions on the site typical for	this time of ye	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 in R	emarks.)		
STIMMARY OF FINDING	C Attach site man s	howing com	nlina na	int locations	rancasta	important f	ooturos oto			
SUMMARY OF FINDING	55 - Attach Site map s	nowing sain	ipiirig po	onit iocations,	i alisecis,	important i	eatures, etc.			
Hydrophytic Vegetation Pres	ent? Ye	s 🗵 No	o 🗆							
Hydric Soils Present?	Ye	s 🗵 No	o 🗆	Is the Samplin	Point with	in a Wetland	? Yes	$\overline{A}$	No [	
Wetland Hydrology Present?	Ye	s 🖂 No	o 🗆	io tho oumpling	, . O W	a rronana	. 100 [2			
, , , , , , , , , , , , , , , , , , ,										
Remarks: Wetland	EB17 in-pit.									
	•									
VEGETATION – Use sci	ientific names of plan	ts.			1					
Tree Stratum (Plot size: 5m	diam.)	Absolute %	Domina			minance Te	st Worksheet			
1		Cover	Specie	s? Status		nber of Domin	ant Species			
1. 2.						are OBL, FAC		1	,	<b>(</b>
3.						al Number of D			(	(A)
4.						cies Across A		1	,	(D)
4.			= Total (	Cover		cent of Domina			(	(B)
	•		-			are OBL, FAC		100	,	(A /D)
Sapling/Shrub Stratum (Plo									(	(A/B)
	at cize. 3m diam i									
	ot size: 3m diam.)				Dro	volence Ind	lay Warkahaat			
1.	ot size: 3m diam.)				Pre		lex Worksheet		lultiply by	
1. 2.	ot size: 3m diam.)					Total %	ex Worksheet Cover of		lultiply by	
1. 2. 3.	ot size: 3m diam.)				ОВІ	Total % species		x 1 =	lultiply by	
1. 2. 3. 4.	ot size: 3m diam.)				OBL FAC	Total % species W species		x 1 = x 2 =	lultiply by	
1. 2. 3.	ot size: 3m diam.)		= Total (	Cover	OBI FAC	Total % species W species species		x 1 = x 2 = x 3 =	lultiply by	
1. 2. 3. 4.	ot size: 3m diam.)		= Total (	Cover	OBL FAC FAC	Total % species W species Species U species		x 1 = x 2 =	lultiply by	
1. 2. 3. 4.			= Total (	Cover	OBL FAC FAC UPL	Total % species W species species		x 1 = x 2 = x 3 = x 4 = x 5 =	lultiply by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m	diam.)	95	_	Cover	OBL FAC FAC UPL Colu	Total % species W species species U species species species	Cover of	x 1 = x 2 = x 3 = x 4 =	lultiply by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m	diam.)	95 15			OBL FAC FAC UPL Colu	Total %  species  Syspecies  Suspecies  Suspecies  species  species  umn totals	Cover of	x 1 = x 2 = x 3 = x 4 = x 5 =	lultiply by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina	ı diam.)			Y FAC	OBL FAC FAC UPL Colu	Total %  species  Syspecies  Suspecies  Suspecies  species  species  umn totals	Cover of  (A)	x 1 = x 2 = x 3 = x 4 = x 5 =	lultiply by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp.	ı diam.)	15	<u> </u>	Y FAC	OBL FAC FAC UPL Colu	Total % species W species Supecies U species species species umn totals Prevalence I	Cover of  (A)	x 1 = x 2 = x 3 = x 4 = x 5 = (B)	lultiply by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar	ı diam.)	15 15	-	Y FAC N FA N OE	OBL FAC FAC UPL Colu	Total % species W species Supecies U species species species umn totals Prevalence I	(A) ndex = B / A =	x 1 = x 2 = x 3 = x 4 = x 5 = (B)	lultiply by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia	ı diam.)	15 15 10		Y FAC N FA N OE N OE	OBL FAC FAC UPL Colu	Total % species W species Species U species species species umn totals Prevalence I	(A) ndex = B / A =	x 1 = x 2 = x 3 = x 4 = x 5 = (B)	lultiply by	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar, 4. Typha latifolia 5. Juncus effusus	ı diam.)	15 15 10		Y FAC N FA N OE N OE	OBL FAC UPL Colu	Total % species W species Supecies U species species umn totals Prevalence I	(A)  ndex = B / A =  egetation Indic test is > 50%	x 1 = x 2 = x 3 = x 4 = x 5 = (B)		
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6.	ı diam.)	15 15 10		Y FAC N FA N OE N OE	OBL FAC UPL Colu	Total % species Sw species Supecies Supecies Species Supecies Species Sumn totals Prevalence I	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 *	x 1 = x 2 = x 3 = x 4 = x 5 = (B)		
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar, 4. Typha latifolia 5. Juncus effusus 6. 7.	ı diam.)	15 15 10		Y FAC N FA N OE N OE	OBL FAC UPL Column Colu	Total % species W species Supecies U species species umn totals Prevalence I Dominance Prevalence Morphologidata in rem	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * (	x 1 =		
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar, 4. Typha latifolia 5. Juncus effusus 6. 7.	ı diam.)	15 15 10		Y FAC N FA N OE N OE	OBL FACUPL Column Colum	Total % species W species Species U species species species umn totals Prevalence I Dominance Prevalence Morphologidata in rem Wetland No	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ	x 1 =	porting	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8.	ı diam.)	15 15 10		Y FAC N FA N OE N OE	OBL FACUPL Column Colum	Total % species W species Species U species species species umn totals Prevalence I Dominance Prevalence Morphologidata in rem Wetland No	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ	x 1 =	porting	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8. 9.	ı diam.)	15 15 10		Y FAC	OBL FAC UPL Column Colu	Total % species SW species Species SU species Species	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ	x 1 =	porting	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8. 9.	ı diam.)	15 15 10 5		Y FAC	OBL FACUPL Column Colum	Total % species W species Species U species species species I species The species I sp	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ on-Vascular Plants theydrophytic Vego	x 1 =	porting	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8. 9.	n diam.) ncea pus	15 15 10 5		Y FAC	OBL FACUPL Column Colum	Total % species W species Species U species species species I species The species I sp	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ on-Vascular Plants thydrophytic Veg ric soil and wetlan	x 1 =	porting	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8. 9. 10.	n diam.) ncea pus	15 15 10 5		Y FAC	OBL FACUPL Column Colum	Total % species W species Species U species species species I species The species I sp	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ on-Vascular Plants thydrophytic Veg ric soil and wetlan	x 1 =	porting	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size: 1m	n diam.) ncea pus	15 15 10 5	= Total (	Y FAC N FA N OE N OE N FAC	OBL FAC FAC UPL Colu C* L L Hyc  * Inc pres	Total % species SW species Supecies Supecies Supecies Supecies Supecies Sumn totals Prevalence I  Idrophytic Vo Dominance Prevalence Morphologicata in rem Wetland No Problematic dicators of hydrophytic Vo Supecies Sumn totals Supecies Sumn totals Supecies	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ on-Vascular Plants Hydrophytic Vege ric soil and wetlan sturbed or problem	x 1 = x 2 = x 3 = x 4 = x 5 = (B)  ators  provide sup ate sheet) * etation * (ex d hydrology matic	porting  polain)  must be	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8.	n diam.) ncea pus	15 15 10 5		Y FAC N FA N OE N OE N FAC	OBL FAC FAC UPL Colu C* L L Hyc  * Inc pres	Total % species EW species EU species EU species Species Un specie	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ on-Vascular Plants Hydrophytic Vege ric soil and wetlan sturbed or problem	x 1 =	porting	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8.	pus  size: )	15 15 10 5	= Total (	Y FAC N FA N OE N OE N FAC	OBL FAC FAC UPL Colu C* L L Hyc  * Inc pres	Total % species SW species Supecies Supecies Supecies Supecies Supecies Sumn totals Prevalence I  Idrophytic Vo Dominance Prevalence Morphologicata in rem Wetland No Problematic dicators of hydrophytic Vo Supecies Sumn totals Supecies Sumn totals Supecies	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ on-Vascular Plants Hydrophytic Vege ric soil and wetlan sturbed or problem	x 1 = x 2 = x 3 = x 4 = x 5 = (B)  ators  provide sup ate sheet) * etation * (ex d hydrology matic	porting  polain)  must be	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1mm.) 1. Phalaris arundina. 2. Galium sp. 3. Scirpus microcar. 4. Typha latifolia. 5. Juncus effusus. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size: 1mm.) 1. 2.	pus  size: )	15 15 10 5	= Total (	Y FAC N FA N OE N OE N FAC	OBL FAC FAC UPL Colu C* L L Hyc  * Inc pres	Total % species SW species Supecies Supecies Supecies Supecies Supecies Sumn totals Prevalence I  Idrophytic Vo Dominance Prevalence Morphologicata in rem Wetland No Problematic dicators of hydrophytic Vo Supecies Sumn totals Supecies Sumn totals Supecies	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ on-Vascular Plants Hydrophytic Vege ric soil and wetlan sturbed or problem	x 1 = x 2 = x 3 = x 4 = x 5 = (B)  ators  provide sup ate sheet) * etation * (ex d hydrology matic	porting  polain)  must be	
1. 2. 3. 4. 5.  Herb Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size: 1m 1. Phalaris arundina 2. Galium sp. 3. Scirpus microcar 4. Typha latifolia 5. Juncus effusus 6. 7. 8.	o diam.) ncea  pus  size: )	15 15 10 5	= Total (	Y FAC N FA N OE N OE N FAC	OBL FAC FAC UPL Colu C* L L Hyc  * Inc pres	Total % species SW species Supecies Supecies Supecies Supecies Supecies Sumn totals Prevalence I  Idrophytic Vo Dominance Prevalence Morphologicata in rem Wetland No Problematic dicators of hydrophytic Vo Supecies Sumn totals Supecies Sumn totals Supecies	(A)  ndex = B / A =  egetation Indic test is > 50% test is ≤ 3.0 * cal Adaptations * ( arks or on a separ on-Vascular Plants Hydrophytic Vege ric soil and wetlan sturbed or problem	x 1 = x 2 = x 3 = x 4 = x 5 = (B)  ators  provide sup ate sheet) * etation * (ex d hydrology matic	porting  polain)  must be	

SOIL Sampling Point - DP-31 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) Type<sup>1</sup> Texture 0-9 10YR 2/2 100 Loam 9+ 10Y 4/1 93 10YR 4/3 7 С М Gravelly loamy sand <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) □ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) <sup>3</sup> 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: \_\_\_\_Fill material\_ X Hydric soil present? Yes No Depth (inches): \_ \_9 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)  $\boxtimes$ 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)  $\boxtimes$ 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)Field Observations Surface Water Present? Depth (in): Yes  $\square$ No  $\boxtimes$ Water Table Present? Yes 🗵 Depth (in): **9 BGS** Nο **Wetland Hydrology Present?** No Saturation Present? Depth (in): throughout Yes 🗵 No  $\square$ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: BGS = below ground surface



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DP- 32

0										
B : (0)				_		0 " 5 '	0/40/0045			
Project Site:	Segment E – pa		032405906	6		Sampling Date:	6/19/2015			
Applicant/Owner:	Puget Sound Er	nergy				Sampling Point:	DP- <b>32</b>			
Investigator:	K. Crandall					City/County:	Bellevue			
Sect., Township, Range:	S 03 T	<b>24N</b> R	05E			State:	WA			
Landform (hillslope, terrace,	etc): Hillslope			Slone	(%): 5	Local relief (conca	ve convex none).	Convex		
· · · · · · · · · · · · · · · · · · ·	5.6). Time: <b>6</b>				(70).	,	vo, oonvox, nono).			
Subregion (LRR): A				Lat:		Long:		Datum:		
Soil Map Unit Name: AgD	- Alderwood grav	velly sandy l	oam, 8-15%	slopes		NWI classification:	NA			
Are climatic/hydrologic cond				☐ Yes	⊠ No	(If no, explain in re	marke \			
, ,	**		or your:	_		(II 110, explain III 10	marks.)			
Are "Normal Circumstances"			_		☐ No					
Are Vegetation□, Soil □, or		•	?			(16	i- D-			
Are Vegetation□, Soil □, or	Hydrology 🗆 natural	lly problematic				(ii needed, explain	any answers in Re	marks.)		
OURANA DV OF FINIDING										
SUMMARY OF FINDING	S – Attach site m	nap snowing	sampling p	oint loc	ations, trans	sects, important t	eatures, etc.			
Hydrophytic Vogotation Pros	ont?	Yes	No 🗵							
Hydrophytic Vegetation Pres	ent						_	_	_	_
Hydric Soils Present?		Yes $\square$	No 🗵	Is the	Sampling Poin	nt within a Wetland	? Yes	1	No 🔀	$\langle  $
Wetland Hydrology Present?	)	Yes 🗌	No 🗵					_		
, 0,										
Remarks: Out-pit n	oar FR17									
nomane. Out-pit ii	cai LD17									
		_								
VEGETATION – Use sc	ientific names of	plants.								
Tree Stratum (Plot size: 5m	diam.)	Absolute	e % Domi	nant	Indicator	Dominance Te	st Worksheet			
(	,	Cover	Speci		Status					
1.			•			Number of Domin	ant Species			
2.						that are OBL, FAC		1	(A	
3.						Total Number of D	Ominant		(^	()
						Species Across A		2		
4.						· ·			(B	3)
			= 1 ota	l Cover		Percent of Domin		50		
						that are OBL, FAC	CW, or FAC:	30	(A	VB)
Sapling/Shrub Stratum (Ple	ot size: 3m diam.)						-			,
1.						Prevalence Inc	lov Workshoot			
2.							Cover of	NALI	ltiply by	
						_	l		ltiply by	
3.						OBL species		x 1 =		
4.						FACW species		x 2 =		
5.						FAC species		x 3 =		
			= Tota	l Cover		FACU species		x 4 =		
			<u></u>			UPL species		x 5 =		
Herb Stratum (Plot size: 1m	diam.)					Column totals	(A)	(B)		
1 Unknown field gr		80		Υ	FAC*		. ,			
2. Holcus lanatus	400(00)	20		N	FAC	Prevalence	ndex = B / A =			
3. Plantago lanceola	nto.	5		N	FACU	- I TOVAICHOO	ndox = B / / ( =			
	ita			14	1 700	Usalnombustio V	anatation Indias	1000		
4.							egetation Indica	HOLR		
5.							test is > 50%			
6.						Prevalence	test is ≤ 3.0 *			
7.						Morphologi	cal Adaptations * (p	orovide suppo	orting	
8.						☐ data in rem	arks or on a separa	ate sheet)	•	
						<b>⊣</b>	on-Vascular Plants	,		
9.						<b>-</b>				
10.						☐ Problemation	Hydrophytic Vege	tation * (expla	ain)	
11.										
		105	= Tota	l Cover		* Indicators of hyd	Iric soil and wetland	d hydrology m	ust be	
						present, unless di	sturbed or problem	atic		
Woody Vine Stratum (Plot	size: )									
1. Rubus armeniacu	IS	50		Υ	FACU					
2.				•		Usala sa les attente	agatatia-			
<u> </u>		F	T-1-	l Cover		Hydrophytic V Presen		es 🗍	No [	X
		50	= 10ta	cover		Fresen			Ľ	
						1				
% Bare Ground in Herb Stra	tum:					<u> </u>				
Remarks: *Presumed	·									
Tresumed										
Ī										

SOIL Sampling Point - DP-32 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Color (moist) Type<sup>1</sup> Remarks (inches) Color (moist) Texture 100 0-10 2.5Y 3/2 Gravelly sandy loam Very compact <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup> ☐ 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): 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) 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  $\square$ 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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DP- 33

Project Site:	Segment E, parcel	number 0224	050066			Sampling I	Jato:	6/24/201	5			
Applicant/Owner:	Puget Sound Ener		039000			Sampling I		DP- 33	3			
Investigator:	K. Crandall, R. Kal					City/Count		Bellevu	Δ			
Sect., Township, Range:		4N R 05E	<u> </u>			State:	у.	WA				
Landform (hillslope, terrace,	etc): Hillslope			Slope (9	%): 10	Local relief (	concav	e, convex, no	ne): C	oncave		
Subregion (LRR): A				Lat:		L	ong:		D	atum:		
Soil Map Unit Name: AgD	- Alderwood gravel	ly sandy loam	, 15-30%	6		NWI classifi	cation:	NA				
Are climatic/hydrologic cond	itions on the site typical f	or this time of ye	ar?	⊠ Yes	☐ No	(If no, explai	in in rem	narks.)				
Are "Normal Circumstances"	present on the site?			⊠ Yes	☐ No							
Are Vegetation□, Soil □, or	, 0, 0	•				///						
Are Vegetation□, Soil □, or	r Hydrology □ naturally p	problematic				(If needed, 6	explain a	any answers i	ın Kema	irks.)		
SUMMARY OF FINDING	SS – Attach site map	showing san	npling po	oint loca	itions, trans	sects, impor	tant fe	atures, etc				
Hydrophytic Vegetation Pres	sent?	res ⊠ N	o 🗆									
Hydric Soils Present?	•	res ⊠ N	o 🗆	Is the S	Sampling Poi	nt within a We	etland?	Yes	$\nabla$		No	
Wetland Hydrology Present	?	r∕es ⊠ N	o 🗆	13 1110 0	ounipining i on	iii wiliiiii a vv	Juana .	103			110	ш
, 0,												
Remarks: Wetland	EB18 in-pit											
VEGETATION – Use sc	ientific names of pla	ints.										
Tree Stratum (Plot size: 5m	diam )	Absolute %	Domina	ont	Indicator	Daminan	T	t Markaha	-4			
Tree Stratum (Plot Size: 5m	diam.)	Cover	Specie		Status	Dominan	ce res	t Workshe	et			
1. Alnus rubra		75		Υ	FAC	Number of				5		
2.						that are OB				3		(A)
3.						Total Numb				6		
4.		7.	= Total	Cover		Species Ac						(B)
		75	= 10tar	Covei		Percent of I that are OB				83		
Sapling/Shrub Stratum (Pl	ot size: 3m diam )						_,	, 6				(A/B)
Populus balsami	· · · · · · · · · · · · · · · · · · ·	15		Υ	FAC	Provalone	o Indo	x Workshe	oot			
2. Alnus rubra (sapl		10		Y	FAC			Cover of	<del>56</del> 1	Mı	ultiply b	v
3.	9/			•	1710	OBL specie				x 1 =		-
4.						FACW spec	cies			x 2 =		
5.						FAC specie				x 3 =		
		25	= Total	Cover		FACU spec				x 4 =		
Harb Ctratum (Diet einer 1m	a diama \					UPL specie		(4)		x 5 =		
Herb Stratum (Plot size: 1m  1. Athyrium cycloso		5		Y	FAC	Column tota	ais	(A)		(B)		
2.	лип			•	170	Prevale	ence In	idex = B / A	=			
3.						1						
4.						Hydrophy	tic Ve	getation In	dicato	rs		
5.								est is > 50%				
6.								est is ≤ 3.0 *				
7.						-1		al Adaptation	VI		orting	
8.						<b>-</b>		rks or on a se	•	sheet)		
9.						<b>-</b>		n-Vascular Pla		* /		
10.						☐ Prob	lematic	Hydrophytic \	vegetati	on ^ (exp	iain)	
11.		5	= Total	Cover				ic soil and we			nust be	!
Woody Vine Stratum (Plot	size:					present, un	iess ais	turbed or pro	biematic	;		
1. Rubus armeniaci	,	50		Υ	FACU	1						
2. Solanum dulcam		80		Y	FAC	Hydroni	ıvtic Ve	getation	.,			
		130	= Total				resent		Yes	$\boxtimes$	No	Ш
			_									
% Bare Ground in Herb Stra	tum:											
Remarks:												
I												

SOIL Sampling Point - DP-33 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) Type<sup>1</sup> Texture 0-7 7.5YR 2/1 100 Loam 7-11 2.5Y 3/2 95 10YR 4/6 5 С М **Gravelly sandy clay** 11-16 2.5Y 3/2 7.5YR3/4 С М 80 20 Gravelly sandy clay With more loam gravel than previous layer <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Black Histic (A3) Other (explain in remarks) ☐ Loamy Gleyed Matrix (F2) ☐ Hydrogen Sulfide (A4) П ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) <sup>3</sup> 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?  $\boxtimes$ 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): 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)  $\boxtimes$ 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) Recent Iron Reduction in Tilled Soils (C6) Raised Ant Mounds (D6) (LRR A) Iron Deposits (B5) 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** 0.5 AGS\* Surface Water Present? Depth (in): Yes 🛛 No Water Table Present? Depth (in): Yes Nο  $\boxtimes$ Wetland Hydrology Present? X Saturation Present? Depth (in): throughout Yes 🗵 No  $\square$ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

AGS = Above ground surface

\*Appears to be coming from shallow groundwater seeps.



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DP- 34

Project Site:	Segment E, parce	al numbar 0	224050066			Sampling Date:	6/24/2015			
			324039000	'			DP- <b>34</b>			
Applicant/Owner:	Puget Sound End					Sampling Point:				
Investigator:	K. Crandall, R. K					City/County:	Bellevue			
Sect., Township, Range:		<b>24N</b> R	05E			State:	WA			
Landform (hillslope, terrace,	etc): Hillslope			Slop	oe (%): <b>5</b>	Local relief (concar	ve, convex, none)	: Concave	Į.	
Subregion (LRR): A				Lat:		Long:		Datum:		
	Aldemuse ed mass	-11	45.00				NIA			
Soil Map Unit Name: AgD						NWI classification:				
Are climatic/hydrologic cond	tions on the site typica	al for this time of	of year?	⊠ Ye	s 🗌 No	(If no, explain in re	marks.)			
Are "Normal Circumstances"	present on the site?			⊠ Ye	es 🗌 No					
Are Vegetation□, Soil □, or	Hydrology ☐ significa	antly disturbed?	?							
Are Vegetation□, Soil □, or	Hydrology □ naturall	v problematic				(If needed, explain	any answers in R	lemarks.)		
, , , , , , , , , , , , , , , , , , , ,										
SUMMARY OF FINDING	SS – Attach site ma	ip showing	sampling p	oint l	ocations, trans	sects, important f	eatures, etc.			
Hydrophytic Vegetation Pres	ent?	Yes 🖾	No $\square$							
Hydric Soils Present?		Yes 🗵	No $\square$	ls th	ne Sampling Poi	nt within a Wetland	? Yes D	$\triangleleft$	No	
Wetland Hydrology Present?	,	Yes 🖂	No 🗆	10 11	io camping i oi	in minim a monana	. 100 2	$\simeq$	140	ш
Woulding Hydrology 1 1000iii.		.00	.40							
Remarks: Wetland	ED40 in nit									
Remarks: vvetiand	EB19 in-pit.									
<u> </u>										
VEGETATION – Use sc	entific names of p	lants.								
Tree Stratum (Plot size: 5m	diam.)	Absolute	% Domii	nant	Indicator	Dominance Te	st Worksheet			
(		Cover	Speci		Status	2011111111100 10	or mornomout			
1.			•			Number of Domin	ant Species			
2.						that are OBL, FAC	CW, or FAC:	1		(A)
3.						Total Number of D	Onminant			(71)
4.						Species Across A		1		<b>(D)</b>
4.			Tata	l Cover		<u>'</u>				(B)
			= 10ta	Cover		Percent of Domina that are OBL, FAC		100		
						triat are OBL, FAC	JW, OI FAC.			(A/B)
Sapling/Shrub Stratum (Plo	ot size: 3m diam.)									
1.						Prevalence Inc	lex Worksheet			
2.						Total %	Cover of	M	ultiply b	V
3.						OBL species	<u> </u>	x 1 =		_
4.						FACW species		x 2 =		
5.						FAC species		x 3 =		
- 5.			Tota	l Cover		FACU species		x 4 =		
			= 10ta	Cover						
l <u>.</u>						UPL species	(1)	x 5 =		
Herb Stratum (Plot size: 1m						Column totals	(A)	(B)		
1. Phalaris arundina	icea	100		Υ	FACW					
2.						Prevalence I	Index = B / A =			
3.										
4.						Hydrophytic V	egetation Indic	ators		
5.							test is > 50%			
						_	test is ≤ 3.0 *			
6.								,		
7.							cal Adaptations * (		orting	
8.						data in rem	arks or on a sepai	rate sheet)		
9.							on-Vascular Plants	<b>`</b> *		
10.						☐ Problemation	c Hydrophytic Veg	etation * (exp	olain)	
11.										
11.		100	- Tota	l Cover		* Indicators of hyd	tric soil and wattan	ad bydrology i	must he	
		100		. 0010.		present, unless di			ilust be	•
Woody Vine Stratum (Plot s	cizo. )					procent, amose an	otarboa or problem	natio		
	3126.					_				
1.						_				
2.						Hydrophytic V		res 🖂	No	
			= Tota	l Cover		Presen	it?	[	. •0	Ш
		<del></del>	-							
% Bare Ground in Herb Stra	tum:									
Remarks:						•				
nomano.										
Ī										

SOIL Sampling Point - DP-34 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) Type<sup>1</sup> Texture 0-4 10YR 2/2 100 **Gravelly sandy loam** 4-9 2.5Y 3/2 85 7.5YR 3/3 15 С М Loam 5YR 3/4 9-14 2.5Y 3/2 75 25 С М Gravelly sandy loam <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains <sup>2</sup>Loc: 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) <sup>3</sup> 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): 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): 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)Field Observations Surface Water Present? Depth (in): Yes  $\square$ No  $\boxtimes$ Water Table Present?  $\boxtimes$ Depth (in): Yes  $\square$ Nο **Wetland Hydrology Present?** No Saturation Present? Depth (in): 0-9 BGS Yes 🗵 No 🗆 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks.



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							_		
Project Site:	PSE Lakeside				Sampling	n Date:	5/2/2014		
Applicant/Owner:	Puget Sound Energ	MV.			Sampling		DP- <b>1E</b>		
Investigator:	N. Lund, K. Cranda				City/Cou	nty:	Bellevue		
Sect., Township, Range		4N R 05E			State:		WA		
Landform (hillslope, terrace,	etc) Hillslope		Slope (%) 2-	-5		f (concave	e, convex, none)	Slightly of	concave
Subregion (LRR) A		Lat			Long		Datun	n	
Soil Map Unit Name Ur	- Urban Land					NWI cla	assification N	Δ	
Are climatic/hydrologic condi		or this time of yea		□ No	(If no, exp	lain in rem	ıarks.)		
Are "Normal Circumstances"				☐ No					
Are Vegetation ☐, Soil, ☐,					//5				
Are Vegetation ☐, Soil, ☐,	or Hydrology 🔲 naturally	/ problematic?			(It needed	, explain a	iny answers in Re	marks.)	
SUMMARY OF FINDING	iS – Attach site map	showing sam	pling point loc	cations, trans	ects, imp	ortant fe	atures, etc.		
Lludranhutia \/agatatian Dr	t0	Vac 🗖	T No. le this 6	Compline Daim		lation d?			
Hydrophytic Vegetation Pro		X Yes □ X Yes □		Sampling Point	t within a w	etiana?	Yes	No	
Hydric Soils Present?			No					Ш	
Wetland Hydrology Presen	it?	Yes 🔲	No						
- · · · · · · · · -									
Remarks: Wetland E	in-pit								
VEGETATION - Use sci	antific names of nla	nte							
VEGETATION - USE SCI	entine names of pla	1113.			1				
Tree Stratum (Plot size	5m diam. )	Absolute %	Dominant	Indicator	Domina	nce Tes	t Worksheet		
		Cover	Species?	Status					
1. Pinus contorta (ro	ooted upslope)	5	Υ	FAC			nt Species	4	
2.					that are 0	OBL, FAC	N, or FAC:	4	(A)
3.					Total Nur	nber of Do	minant		()
4.						Across All		4	(D)
			- Total Caver						(B)
			= Total Cover				nt Species	100	
					that are t	JBL, FAC	N, or FAC:	100	(A/B)
Sapling/Shrub Stratum (PI	ot size 3m diam. )						_		
1. Salix sitchensis	· · · · · · · · · · · · · · · · · · ·	2	Y	FACW	Provalo	nco Indo	x Worksheet		
Gunk Greation			Y		Fievale			N 41+;	in la de la constantina della
Outin Tuoruu		2	Y	FACW		Total % C	<u>cover or</u>		iply by
3.					OBL spe			x 1 =	
4.					FACW sp	ecies		x 2 =	
5.					FAC spe	cies		x 3 =	
			= Total Cover		FACU sp	ecies		x 4 =	
			=		UPL spec			x 5 =	
Herb Stratum (Plot size	1m diam. )				Column t			(A)	(B)
`	iiii diaiii. )			E4.0#	Coldiniii	otais		(//)	(D)
1. Poa sp.		80	Y	FAC*	4 _				
2. Holcus lanatus		25	N	FAC	Preva	ilence Ind	dex = B / A =		
<ol> <li>Juncus effuses</li> </ol>		10	N	FACW					
4. Equisetum arvens	se	5	N	FAC	Hydrop	hvtic Ve	getation Indica	tors	
•			.,						
5. Ranunculus reper	าร	5	N	FAC	Х		nce test is > 50%		
6. Trifolium repens		5	N	FAC			nce test is ≤ 3.0 *		
7. Carex sp.		1	N			Morphol	ogical Adaptations	s * (provide su	pporting
8.						data in re	emarks or on a se	parate sheet)	
9.						Wetland	Non-Vascular Pla	ants *	
10.							atic Hydrophytic \		vnlain)
11.						1 TODICITI	and riyaropriyad t	regetation (c	лрішіт)
115			T-4-1 O		l				
		131	= Total Cover				c soil and wetland		ust be
					present,	uniess dist	turbed or problem	atic	
Woody Vine Stratum (Plot	size )								
1.									
2.					Hydroph	ytic Vege	tation ,		$\Box$
			= Total Cover		Present?		Yes	$\bowtie$	No
			=						
% Bare Ground in Herb Strat	tum								
	luiii				1				
Remarks: *Presumed F	AC								

SOIL							Sampling Point – D	P-1E		
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth Descri	Matrix	Jehm Heere		edox Featu		I illulouto.	I	T		
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-4	10 YR 3/1	95	7.5 YR <sup>3</sup> / <sub>4</sub>	5	С	PL	Sandy loam	T Comand		
			7.0 11.74				-			
4-12	10 YR 3/1	80	7.5 YR 3//4	20	С	PL	Gravelly sandy loam			
							with cobbles			
		<u> </u>	<u></u>							
<sup>1</sup> Type: C=Cond	centration. D=Depletion, F	RM=Reduced	d Matrix, CS=Covered or Coa	ated Sand	Grains <sup>2</sup> Loc: PL	=Pore Lini	ing, M=Matrix			
,,	, , ,		,				_			
			nless otherwise noted.)				blematic Hydric Soils <sup>3</sup>			
Histosol (			Sandy Redox (S5)			m Muck (A				
	pedon (A2)		Stripped Matrix (S6)	aant MI I			Material (TF2) n in remarks)			
	iic (A3) i Sulfide (A4)		Loamy Mucky Mineral (F1) <b>(є</b> Loamy Gleyed Matrix (F2)	xcept w∟	<b>~~</b> "	пет (ехріан	n in remarks)			
	Below Dark Surface (A11		Depleted Matrix (F3)							
	Thick Dark Surface (A12)  Redox Dark Surface (F6)  3 Indicators of hydrophytic vegetation and wetland hydrology must									
	Sandy Mucky Mineral (S1)  Depleted Dark Surface (F7)  be present, unless disturbed or problematic									
Restrictive Lay	or (if procept):		_							
Type:	ei (ii pieseiit <i>i</i> .				1		Yes 🔀	No 🗍		
					Hydric soil	present?	res	INO L		
Depth (inches)	:		<u> </u>							
Remarks:	Remarks:									
HYDROLOG	Υ									
Motland Hydr	alasu Indicatore:									
	ology Indicators: ators (minimum of one re	auired: checl	k all that annly):			Second	ary Indicators (2 or more requir	rad):		
	e water (A1)		parsely Vegetated Concave S	Surface (B	3)		/ater-Stained Leaves (B9) ( <b>MLI</b>			
	Vater Table (A2)	₩ w	ater-Stained Leaves ( <b>excep</b>	t MLRA 1,	<b>2, 4A &amp; 4B</b> ) (B9)		rainage Patterns (B10)	VA 1, 2, 3		
	tion (A3)		alt Crust (B11)		, , , ,		ry-Season Water Table (C2)			
☐ Water	Marks (B1)		quatic Invertebrates (B13)				aturation Visible on Aerial Imag	jery (C9)		
	ent Deposits (B2)		ydrogen Sulfide Odor (C1)				eomorphic Position (D2)			
	eposits (B3)		xidized Rhizospheres along		s (C3)		hallow Aquitard (D3)			
	Mat or Crust (B4)		resence of Reduced Iron (C4				AC-Neutral Test (D5)			
	eposits (B5)		ecent Iron Reduction in Tilled				aised Ant Mounds (D6) (LRR A	<b>(</b> )		
	e Soil Cracks (B6)		tunted or Stressed Plants (D	1) (LKK A)			rost-Heave Hummocks			
Inunda Image	ition Visible on Aerial	Ot	ther (explain in remarks)							
iiiagc	у (Бт)									
Field Observa	tions									
Surface Water		s 🛛 N	No Depth (in):							
Water Table P			No Depth (in):				V 🔽	NI.		
			,	_	Wetland Hydro	logy Pres	ent? Yes 🔀	No		
Saturation Pre		s 🔲 N	No Depth (in): 7" B	GS						
(includes capill	ary fringe)									
Describe Reco	rded Data (stream gauge	monitoring	well, aerial photos, previous	inspection	e) if available.					
Describe Reco	Tueu Dala (Sirvain gaage	, monitoring	Well, aeriai priotos, previege	III apeoue	s), ii avallabic.					
<u> </u>										
Remarks:										



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Drainat Citar	DCE Lakacida				Camplina	Doto	E101004.4		
Project Site:	PSE Lakeside				Sampling		5/2/2014		
Applicant/Owner:	Puget Sound Energ	gy			Sampling	Point:	DP- <b>2E</b>		
Investigator:	N. Lund, K. Cranda	all			City/Cour	nty:	Bellevue		
Sect., Township, Range	S10 T 24	4N R 05E			State:	,	WA		
Landform (hillslope, terrace,				10		f (concave	convex, none)	None	
	cio) Tillisiope	Lot	Glope (70)	10		T	Datur		
Subregion (LRR) A		Lat			Long			П	
Soil Map Unit Name Ur	- Urban Land					NWI cla	ssification N	/Α	
Are climatic/hydrologic condi	tions on the site typical f	or this time of yes	ar? 🛛 Yes	□ No	(If no, exp	ain in rom	arke )		
Are "Normal Circumstances"		or trus time or yea		□ No	(II IIO, exp	alli ili icili	aiks.)		
			I les	LL INO					
Are Vegetation ☐, Soil, ☐, o					(If pooded	ovnloin o	ny answers in Re	marka )	
Are vegetation [], Soil, [],	Ji Hydrology 🔲 flaturally	y problematic?			(II Heeded	, схріаін а	ily alisweis ili ite	iliaiks.)	
01111111 DV 05 5111D1110									
SUMMARY OF FINDING	S – Attach site map	snowing sam	pling point loc	ations, trans	ects, impo	ortant fea	atures, etc.		
11 1 1 2 1 2 1 2 5	10		1 N 1 1 1 1 1 1 1						
Hydrophytic Vegetation Pre		Yes 🔲		Sampling Point	t within a W	etland?	Yes		No
Hydric Soils Present?	L	☐ Yes	No						10
Wetland Hydrology Presen	it? [	☐ Yes 🛛	No						
Remarks: Wetland E	out-pit								
VEGETATION – Use sci	entific names of pla	nts.							
Tree Stratum (Plot size	5m diam. )	Absolute %	Dominant	Indicator	Domino	naa Taaf	Worksheet		
Tree Stratum (FIOL SIZE	Jili diaili. )	Cover	Species?	Status	Domina	nce resi	vvorksneet		
1. Pinus contorta					Number	f Dominor	nt Species		
i ilius colitortu		5	Y	FAC			V, or FAC:	3	
2.					that are C	DDL, FACV	V, OI FAC:		(A)
3.					Total Nur	nber of Do	minant	_	
4.					Species A	Across All	Strata:	3	(B)
			= Total Cover		Porcont o	f Dominan	t Species		(D)
			- Total Govel				V, or FAC:	100	
					llial ale C	DL, FACT	V, OI FAC.		(A/B)
Sapling/Shrub Stratum (Pl	ot size 3m diam. )						_		
1.	·				Dravala	naa lada	x Worksheet		
					Prevale				
2.					1	Total % C	over of	M	lultiply by
					OBL spec	cies		x 1 =	
3.									
3. 4.					FACW sp	ecies		x 2 =	
								_	
4.			= Total Cover		FAC spec	ies		x 3 =	
4.			= Total Cover		FAC spec	cies ecies		x 3 = x 4 =	
4. 5.			= Total Cover		FAC spec	cies ecies cies		x 3 = x 4 = x 5 =	
4. 5.  Herb Stratum (Plot size	1m diam. )		= Total Cover		FAC spec	cies ecies cies		x 3 = x 4 =	(B)
4. 5.	Im diam. )	80	= Total Cover	FAC*	FAC spec	cies ecies cies		x 3 = x 4 = x 5 =	(B)
4. 5.  Herb Stratum (Plot size 1. Meadow grass	Im diam. )	80 70	<del>-</del>		FAC spec FACU spec UPL spec Column to	cies ecies cies otals	dex = B / A =	x 3 = x 4 = x 5 =	(B)
4. 5.  Herb Stratum (Plot size 1.  Meadow grass 2. Trifolium repens		70	Y Y	FAC	FAC spec FACU spec UPL spec Column to	cies ecies cies otals	dex = B / A =	x 3 = x 4 = x 5 =	(B)
Herb Stratum (Plot size  1. Meadow grass 2. Trifolium repens 3. Taraxacum officin	nale	70 30	Y Y N	FAC FACU	FAC spec FACU spec UPL spec Column to	cies ecies eies otals		x 3 = x 4 = x 5 = (A)	(B)
Herb Stratum (Plot size  1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus reper	nale	70	Y Y	FAC	FAC spec FACU spec UPL spec Column to	cies ecies eies otals	dex = B / A =	x 3 = x 4 = x 5 = (A)	(B)
Herb Stratum (Plot size  1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus reper	nale	70 30	Y Y N	FAC FACU	FAC spec FACU spec UPL spec Column to	cies ecies cies cies cias cias cias cias cias cias cias cia		x 3 = x 4 = x 5 = (A)	(B)
Herb Stratum (Plot size  1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus repen 5. Holcus lanatus	nale	70 30 20 5	Y Y N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to	cies ecies cies cias cias cias cias cias cias cias cia	getation Indica	x 3 = x 4 = x 5 = (A)	(B)
4. 5.  Herb Stratum (Plot size 1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus reper 5. Holcus lanatus 6. Vicia sp.	nale ns	70 30 20 5	Y Y N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to	cies ecies cies bies btals lence Inc	getation Indica ace test is > 50% ce test is ≤ 3.0 *	x 3 = x 4 = x 5 = (A)	
4. 5.  Herb Stratum (Plot size 1. 1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus repei 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens	nale ns	70 30 20 5	Y Y N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to	cies ecies bies bias bias lence Inc nytic Veg Dominan Prevalen Morpholo	getation Indica ce test is > 50% ce test is ≤ 3.0 * ogical Adaptations	x 3 = x 4 = x 5 = (A)	supporting
4. 5.  Herb Stratum (Plot size 1. 1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus reper 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8.	nale ns	70 30 20 5	Y Y N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to	cies ecies cies cies cias cias cias cias control contr	getation Indica ice test is > 50% ce test is ≤ 3.0 * ogical Adaptations emarks or on a se	x 3 = x 4 = x 5 = (A)   x 5 =	supporting
4. 5.  Herb Stratum (Plot size 1) Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus reper 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9.	nale ns	70 30 20 5 5	Y Y N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to	cies cies cies cies cies cies cies cies	getation Indica ice test is > 50% ce test is ≤ 3.0 * ogical Adaptations emarks or on a se Non-Vascular Pla	x 3 = x 4 = x 5 = (A)	supporting et)
4. 5.  Herb Stratum (Plot size 1. 1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus reper 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8.	nale ns	70 30 20 5 5	Y Y N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to	cies cies cies cies cies cies cies cies	getation Indica ice test is > 50% ce test is ≤ 3.0 * ogical Adaptations emarks or on a se	x 3 = x 4 = x 5 = (A)	supporting et)
4. 5.  Herb Stratum (Plot size 1) Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus reper 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9.	nale ns	70 30 20 5 5	Y Y N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to	cies cies cies cies cies cies cies cies	getation Indica ice test is > 50% ce test is ≤ 3.0 * ogical Adaptations emarks or on a se Non-Vascular Pla	x 3 = x 4 = x 5 = (A)	supporting et)
4. 5.  Herb Stratum (Plot size 1)  Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus reper 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9.	nale ns	70 30 20 5 5	Y Y N N N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva	cies cies cies cies cies cies cies cies	getation Indica ce test is > 50% ce test is ≤ 3.0 * ogical Adaptations emarks or on a se Non-Vascular Pla atic Hydrophytic \	x 3 = x 4 = x 5 = (A)   x 5 = (A)   x 5 = x 6   x 6	supporting et)
4. 5.  Herb Stratum (Plot size 1)  Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus reper 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9.	nale ns	70 30 20 5 5	Y Y N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva  Hydropi X  * Indicato	cies cies cies cies cies cies cies cies	getation Indica loce test is > 50% ce test is ≤ 3.0 * locical Adaptations locemarks or on a se Non-Vascular Pla latic Hydrophytic \ c soil and wetland	x 3 = x 4 = x 5 = (A) attors  s * (provide eparate sheet ants * //egetation *	supporting et)
4. 5.  Herb Stratum (Plot size 1.  Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus reper 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9. 10.	nale ns	70 30 20 5 5	Y Y N N N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva  Hydropi X  * Indicato	cies cies cies cies cies cies cies cies	getation Indica ce test is > 50% ce test is ≤ 3.0 * ogical Adaptations emarks or on a se Non-Vascular Pla atic Hydrophytic \	x 3 = x 4 = x 5 = (A) attors  s * (provide eparate sheet ants * //egetation *	supporting et)
4. 5.  Herb Stratum (Plot size  1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus repen 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9. 10. 11.  Woody Vine Stratum (Plot	nale ns	70 30 20 5 5	Y Y N N N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva  Hydropi X  * Indicato	cies cies cies cies cies cies cies cies	getation Indica loce test is > 50% ce test is ≤ 3.0 * locical Adaptations locemarks or on a se Non-Vascular Pla latic Hydrophytic \ c soil and wetland	x 3 = x 4 = x 5 = (A) attors  s * (provide eparate sheet ants * //egetation *	supporting et)
4. 5.  Herb Stratum (Plot size of the size	nale ns	70 30 20 5 5	Y Y N N N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva Hydropi X	cies cies cies cies cies cies cies cies	getation Indication leads to see test is > 50% ce test is ≤ 3.0 * or or or or or or or or or or or or or	x 3 = x 4 = x 5 = (A) attors  s * (provide eparate sheet ants * //egetation *	supporting et)
4. 5.  Herb Stratum (Plot size  1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus repen 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9. 10. 11.  Woody Vine Stratum (Plot	nale ns	70 30 20 5 5	Y Y N N N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva  Hydropl X  * Indicato present, u	bies becies becies botals becies botals becies botals become beco	getation Indica loce test is > 50% ce test is ≤ 3.0 * location or a second	x 3 = x 4 = x 5 = (A)   x 5 = (A)   x 5 = x 6   x 6 =	supporting et)  (explain)  must be
4. 5.  Herb Stratum (Plot size of the size	nale ns	70 30 20 5 5	Y Y N N N N	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva Hydropi X	bies becies becies botals becies botals becies botals become beco	getation Indication leads to see test is > 50% ce test is ≤ 3.0 * or or or or or or or or or or or or or	x 3 = x 4 = x 5 = (A)   x 5 = (A)   x 5 = x 6   x 6 =	supporting et)
4. 5.  Herb Stratum (Plot size of the size	nale ns	70 30 20 5 5	Y Y N N N N N - Total Cover	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva  Hydropl X  * Indicato present, u	bies becies becies botals becies botals becies botals become beco	getation Indica loce test is > 50% ce test is ≤ 3.0 * location or a second	x 3 = x 4 = x 5 = (A)   x 5 = (A)   x 5 = x 6   x 6 =	supporting et)  (explain)  must be
4. 5.  Herb Stratum (Plot size 1.  Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus repei 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9. 10. 11.  Woody Vine Stratum (Plot 1. 2.	nale ns Se	70 30 20 5 5	Y Y N N N N N - Total Cover	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva  Hydropl X  * Indicato present, u	bies becies becies botals becies botals becies botals become beco	getation Indica loce test is > 50% ce test is ≤ 3.0 * location or a second	x 3 = x 4 = x 5 = (A)   x 5 = (A)   x 5 = x 6   x 6 =	supporting et)  (explain)  must be
4. 5.  Herb Stratum (Plot size 1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus repei 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9. 10. 11.  Woody Vine Stratum (Plot 1. 2.	nale ns se size )	70 30 20 5 5	Y Y N N N N N - Total Cover	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva  Hydropl X  * Indicato present, u	bies becies becies botals becies botals becies botals become beco	getation Indica loce test is > 50% ce test is ≤ 3.0 * location or a second	x 3 = x 4 = x 5 = (A)   x 5 = (A)   x 5 = x 6   x 6 =	supporting et)  (explain)  must be
4. 5.  Herb Stratum (Plot size 1.  Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus repei 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9. 10. 11.  Woody Vine Stratum (Plot 1. 2.	nale ns se size )	70 30 20 5 5	Y Y N N N N N - Total Cover	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva  Hydropl X  * Indicato present, u	cies cies cies cies cies cies cies cies	getation Indica loce test is > 50% ce test is ≤ 3.0 * location or a second	x 3 = x 4 = x 5 = (A)   x 5 = (A)   x 5 = x 6   x 6 =	supporting et)  (explain)  must be
4. 5.  Herb Stratum (Plot size 1. Meadow grass 2. Trifolium repens 3. Taraxacum officin 4. Ranunculus repei 5. Holcus lanatus 6. Vicia sp. 7. Equisetum arvens 8. 9. 10. 11.  Woody Vine Stratum (Plot 1. 2.	nale ns se size )	70 30 20 5 5	Y Y N N N N N - Total Cover	FAC FACU FAC FAC	FAC spec FACU sp UPL spec Column to Preva  Hydropl X  * Indicato present, u	cies cies cies cies cies cies cies cies	getation Indica loce test is > 50% ce test is ≤ 3.0 * location or a second	x 3 = x 4 = x 5 = (A)   x 5 = (A)   x 5 = x 6   x 6 =	supporting et)  (explain)  must be

SOIL Sampling Point – DP-2E

JUIL							Sampling Form =	DF-ZL
Profile Descri	ntion: (Describe to th	e denth needed	to document the indicate	or or confirm	n the absence o	f indicator	re l	
Depth	Matrix			edox Feature		i iliulouto.	s.,	1
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10	10 YR 2/2	100	Odioi (moist)	70	турс	L00	Gravelly sandy loam	Remains
0-10	10 11 2/2	100					Graveny Sandy Idam	
10-12	10 YR 2/2	70					Gravelly sandy loam	Mixed
	10 = =	'					with cobbles	matrix
	7.5 YR 3/4	30					With Cobbics	Mixed
	7.5 IK 3/4	30						
								matrix
Hydric Soil In  Histosol ( Histosol ( Histic Epi Black His Hydroger Depleted Thick Dan Sandy Mi Sandy Gl  Restrictive Lay Type:	dicators: (Applicable A1) pedon (A2) tic (A3) Sulfide (A4) Below Dark Surface (A k Surface (A12) icky Mineral (S1) eyed Matrix (S4)	to all LRRs, unl	Matrix, CS=Covered or Coalless otherwise noted.) andy Redox (S5) tripped Matrix (S6) pamy Mucky Mineral (F1) (6 pamy Gleyed Matrix (F2) epleted Matrix (F3) edox Dark Surface (F6) epleted Dark Surface (F7) edox Depressions (F8)		Indicato    2cr   Re   Oth	rs for Prot m Muck (A' d Parent M ner (explair ors of hydro nt, unless o	ng, M=Matrix  plematic Hydric Soils <sup>3</sup> 10) laterial (TF2) n in remarks)  phytic vegetation and wetlandisturbed or problematic  Yes	d hydrology must
HYDROLOG	Y							
Primary Indic Surface High V Satura Water Sedim Drift D Algal N Iron D Surface Inunda Image		Span Wall Sal Aquad Hyco	all that apply): arsely Vegetated Concave Ster-Stained Leaves (except to Crust (B11) uatic Invertebrates (B13) drogen Sulfide Odor (C1) dized Rhizospheres along I ssence of Reduced Iron (C4 cent Iron Reduction in Tillet inted or Stressed Plants (D) ier (explain in remarks)	t MLRA 1, 2 Living Roots ) I Soils (C6)	, <b>4A &amp; 4B</b> ) (B9)	WDDrDrDrDrDrDrDrDrDrDrDrDrDrDrDrDrDrDrD	ary Indicators (2 or more requater-Stained Leaves (B9) (Mirainage Patterns (B10) yy-Season Water Table (C2) aturation Visible on Aerial Imaeomorphic Position (D2) nallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR oost-Heave Hummocks	LRA 1, 2, 4A & 4B) agery (C9)
Field Observa Surface Water Water Table P Saturation Pre (includes capil	Present?	Yes No No No No No No No No No No No No No	Depth (in):	inspections)	<b>Wetland Hydro</b> , if available:	logy Prese	ent? Yes	No 🔀
Remarks:	Damp, not saturat	ed.						



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

Project Site: PSE Lakeside				Sampling	n Date:	5/2/2014		
Applicant/Livinor: Dugot Sound En	orav			Sampling		DP- <b>4</b>		
Applicant/Owner: Puget Sound En					•			
Investigator: N. Lund, K. Cran				City/Cou	nty:	Bellevue		
Sect., Township, Range S 10 T	24N R 05E			State:		WA		
Landform (hillslope, terrace, etc) Hillslope		Slope (%) <5			f (concave	, convex, none)	Concave	)
Subregion (LRR)	Lat			Long		Datu	ım	
Soil Map Unit Name Ur – Urban Land	L			I	NWI cla	ssification	N/A	
	-1 f 4l-i- 4if	-0   <del>                                   </del>	I D I N-	//5				
Are climatic/hydrologic conditions on the site typic	ai for this time of yea		No No	(ii no, exp	lain in rem	arks.)		
Are "Normal Circumstances" present on the site? Are Vegetation □, Soil, □, or Hydrology □ signif	ficantly disturbed?		□ No					
Are Vegetation ☐, Soil, ☐, or Hydrology ☐ significant for the significant formula in the significant	ally problematic?			(If needed	explain a	ny answers in F	emarks )	
746 Vegetation [ , coll, [ , or rivarology [ ] mater	any problematio:			(II Noodod	, охрішіт а	ing anomore in i	tomanto.)	
SUMMARY OF FINDINGS - Attach site ma	ap showing sam	pling point loc	ations, trans	ects, imp	ortant fe	atures, etc.		
Lhydranhytia Vagatatian Dragant?	⊠ Yes □	No le this C	ampling Daint	4idbi.a a 14	lational?			
Hydrophytic Vegetation Present? Hydric Soils Present?			ampling Point	t within a w	etiand?	Yes	s No	
	Yes 🔲	No					Ш	
Wetland Hydrology Present?		No						
Demonstra Westland Lin wit								
Remarks: Wetland I in-pit								
VEGETATION – Use scientific names of p	olants.			1				
Tree Otrotore (Districe For disease)	A I I 4 - 0/	D	l	<b>.</b> .	_			
Tree Stratum (Plot size 5m diam. )	Absolute % Cover	Dominant Species?	Indicator Status	Domina	nce Test	Worksheet		
1. Salix habylonica				Number	of Dominar	at Species		
Outix bubytotiteu	55	Y	FACW		DBL, FAC		4	
2. Pinus contorta	10	Υ	FAC					(A)
3.					nber of Do		5	
4.				Species /	Across All	Strata:	3	(B)
		= Total Cover		Percent of	of Dominar	t Species		` ′
		•		that are C	DBL, FACV	V, or FAC:	80	(A/B)
Sapling/Shrub Stratum (Plot size 3m diam.	١							(A/b)
	,							
1. Alnus rubra (sapling)	3	Υ	FAC	Prevale		x Worksheet		
2.					Total % C	over of	<u>Mult</u>	iply by
3.				OBL spec			x 1 =	
4.				FACW sp	ecies		x 2 =	
5.				FAC spec			x 3 =	
5.		= Total Cover		FAC spec	cies		x 3 = x 4 =	
5.		= Total Cover		FAC spec	cies ecies		x 4 =	
		= Total Cover		FAC spec	ecies ecies		x 4 = x 5 =	(B)
Herb Stratum (Plot size 1m diam. )		•	EAC	FAC spec	ecies ecies		x 4 =	(B)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass	99	Y	FAC	FAC spec FACU sp UPL spec Column t	cies ecies cies otals	D./A	x 4 = x 5 =	(B)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense	99	•	FAC FAC	FAC spec FACU sp UPL spec Column t	cies ecies cies otals	dex = B / A =	x 4 = x 5 =	(B)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3.		Y		FAC spec FACU sp UPL spec Column t	cies ecies cies otals		x 4 = x 5 = (A)	(B)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3.		Y		FAC specific FACU sp UPL specific Column to Prevail	cies ecies cies otals alence Inc	getation Indic	x 4 = x 5 = (A)	(B)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5.		Y		FAC spec FACU sp UPL spec Column t	cies ecies cies otals alence Inc hytic Ve	getation Indicates test is > 50%	x 4 =	(B)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6.		Y		FAC specific FACU sp UPL specific Column to Prevail	cies ecies cies cies otals alence Inc hytic Veg Dominar Prevalen	getation Indicate test is > 50% ce test is ≤ 3.0 °	x 4 = x 5 = (A)	
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5.		Y		FAC specific FACU sp UPL specific Column to Prevail	cies ecies cies cies otals alence Inc hytic Veg Dominar Prevalen	getation Indicates test is > 50%	x 4 = x 5 = (A)	
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6.		Y		FAC specific FACU sp UPL specific Column to Prevail	cies ecies cies otals alence Inc hytic Veg Dominar Prevalen Morpholo	getation Indicate test is > 50% ce test is ≤ 3.0 °	x 4 = x 5 = (A) cators	
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7.		Y		FAC specific FACU sp UPL specific Column to Prevail	cies ecies cies otals  Alence Inc hytic Ve Dominar Prevalen Morpholo data in re	getation Indic ice test is > 50% ce test is ≤ 3.0° ogical Adaptatio	x 4 = x 5 = (A) cators  cators  series * (provide su separate sheet)	
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9.		Y		FAC specific FACU sp UPL specific Column to Prevail	cies ecies cies otals  Alence Inc hytic Ve Dominar Prevalen Morpholo data in re Wetland	getation Indic ice test is > 50% ce test is ≤ 3.0 ogical Adaptatio emarks or on a s Non-Vascular F	x 4 = x 5 = (A) cators  cators  separate sheet)	pporting
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10.		Y		FAC specific FACU sp UPL specific Column to Prevail	cies ecies cies otals  Alence Inc hytic Ve Dominar Prevalen Morpholo data in re Wetland	getation Indicate test is > 50% ce test is ≤ 3.0 sogical Adaptation temarks or on a second control of the cont	x 4 = x 5 = (A) cators  cators  separate sheet)	pporting
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9.		Y		FAC spec FACU sp UPL spec Column t Preva	cies ecies cies otals  Alence Inc hytic Ve Dominar Prevalen Morpholo data in re Wetland Problema	getation Indic cee test is > 50% ce test is ≤ 3.0 ogical Adaptatio emarks or on a s Non-Vascular F atic Hydrophytic	x 4 = x 5 = (A) cators  (A) cators  (B) x 4 = x 5 = (A) cators  (C) x 5 = (A) cators  (C) x 6 = (A) cators  (C) x 7 = (A) cators  (C) x 8 = (A) cators  (C) x 9 = (A) cators  (C	pporting explain)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10.		Y		FAC specific FACU specific FAC	cies ecies cies otals  alence Inc hytic Veg Dominar Prevalen Morpholo data in re Wetland Problema	getation Indic oce test is > 50% ce test is < 3.0 optical Adaptatio emarks or on a seminarity of the auto- partice Hydrophytical control of the auto- centrol of the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce solid or the	x 4 = x 5 = (A)  cators  s * (provide su separate sheet)  lants * Vegetation * (e	pporting explain)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10. 11.		Y		FAC specific FACU specific FAC	cies ecies cies otals  alence Inc hytic Veg Dominar Prevalen Morpholo data in re Wetland Problema	getation Indic cee test is > 50% ce test is ≤ 3.0 ogical Adaptatio emarks or on a s Non-Vascular F atic Hydrophytic	x 4 = x 5 = (A)  cators  s * (provide su separate sheet)  lants * Vegetation * (e	pporting explain)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size	3	Y N	FAC	FAC specific FACU specific FAC	cies ecies cies otals  alence Inc hytic Veg Dominar Prevalen Morpholo data in re Wetland Problema	getation Indic oce test is > 50% ce test is < 3.0 optical Adaptatio emarks or on a seminarity of the auto- partice Hydrophytical control of the auto- centrol of the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce test is a solid or the auto- oce solid or the	x 4 = x 5 = (A)  cators  s * (provide su separate sheet)  lants * Vegetation * (e	pporting explain)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size 1. Rubus armeniacus		Y		FAC specific FACU specific FAC	cies ecies cies otals  alence Inc hytic Veg Dominar Prevalen Morphole data in re Wetland Problem: ors of hydri	getation Indic oce test is > 50% ce test is ≤ 3.0 ogical Adaptatio emarks or on a se Non-Vascular Featic Hydrophytic c soil and wetlar urbed or problem	x 4 = x 5 = (A)  cators  s * (provide su separate sheet)  lants * Vegetation * (e	pporting explain)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot size	3	Y N  = Total Cover	FAC	FAC specific FACU specific FAC	cies ecies cies cies cies cotals  Alence Inc hytic Veg Dominar Prevalen Morpholo data in re Wetland Problem ors of hydri unless dist	getation Indic oce test is > 50% ce test is ≤ 3.0 ocical Adaptatio ormarks or on a s Non-Vascular F attic Hydrophytic c soil and wetlan urbed or problem	x 4 = x 5 = (A)  cators  s * (provide su separate sheet)  lants * Vegetation * (e	pporting explain)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size 1. Rubus armeniacus	3	Y N	FAC	FAC specific FACU specific FAC	cies ecies cies cies cies cotals  Alence Inc hytic Veg Dominar Prevalen Morpholo data in re Wetland Problem ors of hydri unless dist	getation Indic oce test is > 50% ce test is ≤ 3.0 ogical Adaptatio emarks or on a se Non-Vascular Featic Hydrophytic c soil and wetlar urbed or problem	x 4 = x 5 = (A)  cators  s * (provide su separate sheet)  lants * Vegetation * (e	pporting explain)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size 1. Rubus armeniacus 2.	3	Y N  = Total Cover	FAC	FAC specific FACU specific FAC	cies ecies cies cies cies cotals  Alence Inc hytic Veg Dominar Prevalen Morpholo data in re Wetland Problem ors of hydri unless dist	getation Indic oce test is > 50% ce test is ≤ 3.0 ogical Adaptatio emarks or on a se Non-Vascular Featic Hydrophytic c soil and wetlar urbed or problem	x 4 = x 5 = (A)  cators  s * (provide su separate sheet)  lants * Vegetation * (e	pporting explain)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size 1. Rubus armeniacus 2.	3	Y N  = Total Cover	FAC	FAC specific FACU specific FAC	cies ecies cies cies cies cotals  Alence Inc hytic Veg Dominar Prevalen Morpholo data in re Wetland Problem ors of hydri unless dist	getation Indic oce test is > 50% ce test is ≤ 3.0 ogical Adaptatio emarks or on a se Non-Vascular Featic Hydrophytic c soil and wetlar urbed or problem	x 4 = x 5 = (A)  cators  s * (provide su separate sheet)  lants * Vegetation * (e	pporting explain)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size 1. Rubus armeniacus 2.	3	Y N  = Total Cover	FAC	FAC specific FACU specific FAC	cies ecies cies cies cies cotals  Alence Inc hytic Veg Dominar Prevalen Morpholo data in re Wetland Problem ors of hydri unless dist	getation Indic oce test is > 50% ce test is ≤ 3.0 ogical Adaptatio emarks or on a se Non-Vascular Featic Hydrophytic c soil and wetlar urbed or problem	x 4 = x 5 = (A)  cators  s * (provide su separate sheet)  lants * Vegetation * (e	pporting explain)
Herb Stratum (Plot size 1m diam. )  1. Meadow grass 2. Equisetum arvense 3. 4. 5. 6. 7. 8. 9. 10. 11.  Woody Vine Stratum (Plot size 1. Rubus armeniacus 2.	3	Y N  = Total Cover	FAC	FAC specific FACU specific FAC	cies ecies cies cies cies cotals  Alence Inc hytic Veg Dominar Prevalen Morpholo data in re Wetland Problem ors of hydri unless dist	getation Indic oce test is > 50% ce test is ≤ 3.0 ogical Adaptatio emarks or on a se Non-Vascular Featic Hydrophytic c soil and wetlar urbed or problem	x 4 = x 5 = (A)  cators  s * (provide su separate sheet)  lants * Vegetation * (e	pporting explain)

SOIL							Sampling Point – I	<u> </u>
Drofile Decer		-lanth noods	-1 to decrement the indicat		the change	-findicate	\	
	Matrix	aeptn neeue	ed to document the indicato	or or confi edox Featu		of indicator	rs.)	<del>-</del>
Depth (inches)		T 0/				1 1 2 2		D orle
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12	10 YR 3/1	100	'	'			Gravelly sandy clay	
<b></b> '		<b></b>	<u> </u>	<u> </u>		<del> </del>	loam	
i '			1	'				1
		<u> </u>		<u> </u>	ļ			
l '			i	'				
				<u> </u>	<u></u>			
<sup>1</sup> Type: C=Con	centration, D=Depletion,	RM=Reduced	d Matrix, CS=Covered or Coa	ated Sand	Grains <sup>2</sup> Loc: Pl	L=Pore Lini	ing, M=Matrix	
Hydric Soil In	dicators: (Applicable to	all LRRs, u	nless otherwise noted.)		Indicate	ors for Pro	blematic Hydric Soils <sup>3</sup>	
Histosol (	(A1)	:	Sandy Redox (S5)			cm Muck (A	v10)	
	ipedon (A2)		Stripped Matrix (S6)			ed Parent N	Material (TF2)	
☐ Black His	` '		Loamy Mucky Mineral (F1) <b>(e</b>	except ML/	RA 1) 🔲 OI	ther (explai	in in remarks)	
	n Sulfide (A4)		Loamy Gleyed Matrix (F2)					
	Below Dark Surface (A1		Depleted Matrix (F3)		•			
	rk Surface (A12)		Redox Dark Surface (F6)				ophytic vegetation and wetland	d hydrology must
	ucky Mineral (S1)		Depleted Dark Surface (F7)		be prese	ent, unless	disturbed or problematic	
□ Sandy GI	leyed Matrix (S4)	<u> </u>	Redox Depressions (F8)					
Restrictive Lav	yer (if present):							
Туре:					Undrie soil		Yes	No 🗌
Donth (inches	١.				Hydric soil	present	.32	
Depth (inches)	):							
Remarks:	Organics masking re	edox						
1	g	,						
1								
1								
HYDROLOG	iΥ							
	rology Indicators:							
	ators (minimum of one re					Seco	ondary Indicators (2 or more re	
	rface water (A1)		Sparsely Vegetated Concav				Water-Stained Leaves (B9) (	(MLRA 1, 2, 4A & 4B)
	h Water Table (A2)		Water-Stained Leaves (exc	ept MLRA	. <b>1, 2, 4A &amp; 4B</b> ) (B	;9) <u>                                    </u>	Drainage Patterns (B10)	
	turation (A3)		Salt Crust (B11)			ᄖ	Dry-Season Water Table (Ca	
	iter Marks (B1)		Aquatic Invertebrates (B13)			ᄖ	Saturation Visible on Aerial I	magery (C9)
	diment Deposits (B2)		Hydrogen Sulfide Odor (C1			닏	Geomorphic Position (D2)	
	ft Deposits (B3)		Oxidized Rhizospheres alor		coots (C3)	닏	Shallow Aquitard (D3)	
	al Mat or Crust (B4)		Presence of Reduced Iron (			ᄖ	FAC-Neutral Test (D5)	
	n Deposits (B5)		Recent Iron Reduction in Ti				Raised Ant Mounds (D6) (LF	RA)
	rface Soil Cracks (B6)	무	Stunted or Stressed Plants	(D1) ( <b>LRR</b>	. <b>A</b> )		Frost-Heave Hummocks	
— .	ndation Visible on Aerial		Other (explain in remarks)				'	
Ima	agery (B7)							
Field Observa	**				<del></del>			
		🗔	7					
Surface Water		Yes 🗵	No Depth (in):					
Water Table P	Present?	Yes	No Depth (in): 9'	" BGS	Wetland Hy	rdrology Pr	resent? Yes	No
Saturation Pre	esent?	Yes 🗆	No Depth (in): 0'	" BGS	WGuana,	uiology	lesent:	
(includes capil		162   _	NO Depurtury.	ВОО				
(IIIOIGGGGGGG	lally lillinge)	ш	]					
Describe Reco	orded Data (stream gauge	e. monitoring	well, aerial photos, previous	inspection	s). if available:			
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , , , , , , , , , , , , , , , ,		o),			
Domorko								
Remarks:								



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

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Project Site: PSE Lakeside				Sampling	n Date:	5/2/2014		
	HA11					DP- <b>5</b>		
				Sampling				
Investigator: N. Lund, K. Crand	lall			City/Cou	nty:	Bellevue		
Sect., Township, Range S 10 T 2	24N R 05E			State:		WA		
Landform (hillslope, terrace, etc) Hillslope		Slope (%) >1	0	Local relie	f (concav	e, convex, none	None	
Subregion (LRR) A	Lat			Long		Date	um	
<u> </u>								
Soil Map Unit Name Ur – Urban Land					NVVI CI	assification	N/A	
Are climatic/hydrologic conditions on the site typical	for this time of year	ar? 🛛 Yes	□ No	(If no, exp	lain in ren	narks.)		
Are "Normal Circumstances" present on the site?	,		□ No			,		
Are Vegetation □, Soil, □, or Hydrology □ signific	antly disturbed?							
Are Vegetation , Soil, , or Hydrology natura				(If needed	, explain a	any answers in F	Remarks.)	
<u> </u>	• •					-		
SUMMARY OF FINDINGS - Attach site may	o showing sam	pling point loc	ations. trans	ects. imp	ortant fe	eatures, etc.		
_		paring promoters						
Hydrophytic Vegetation Present?	Yes □	No Is this S	Sampling Point	t within a W	etland?		N	
Hydric Soils Present?	☐ Yes 🖾	No				Yes	s No	
Wetland Hydrology Present?	☐ Yes 🖾	No						
, 0,								
Remarks: Wetland I out-pit								
Tromana Tout pit								
VEGETATION – Use scientific names of pl	ants.							
Tree Stratum (Plot size 5m diam. )	Absolute %	Dominant	Indicator	Domina	nce Tes	t Worksheet		
,	Cover	Species?	Status					
1. Pinus contorta	40	Y	FAC	Number of	of Domina	nt Species		
2.		•	.,,,,			W, or FAC:	3	(A)
3.				Total Nur				(A)
				Species /			4	
4.				Species /	ACIOSS AII	Strata.	•	(B)
		= Total Cover				nt Species	7.5	
		_		that are C	DBL, FAC	W, or FAC:	75	(A/B)
Sapling/Shrub Stratum (Plot size 3m diam. )								(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
1.				Prevale		ex Worksheet		
2.					Total % (	Cover of	<u>Multip</u>	oly by
3.				OBL spec	cies		x 1 =	
4.				FACW sp	ecies		x 2 =	
5.				FAC spec			x 3 =	
		= Total Cover		FACU sp			x 4 =	
		- Total Gover						
				UPL spec			x 5 =	
Herb Stratum (Plot size 1m diam. )				Column t	otals		(A)	(B)
1. Meadow grass	60	Υ	FAC*					
2. Phalaris arundinacea	45	Υ	FACW	Preva	lence In	dex = B / A =		
3. Equisetum arvense	15	N	FAC	1				
4. Solanum dulcamara				Hydron	hytia Va	actation India	octoro	
Solariam dalcamara	5	N	FAC	пушор	nylic ve	getation Indic	cators	
5. Taracacum officinale	5	N	FACU	Х	Domina	nce test is > 50%	6	
6.					Prevale	nce test is ≤ 3.0	*	
7.					Morpho	logical Adaptatio	ns * (provide sup	porting
8.				1		emarks or on a		' '
9.						Non-Vascular F		
10.					Problem	atic Hydropnytic	Vegetation * (ex	(piain)
11.								
		= Total Cover					nd hydrology mu	st be
		_		present, i	unless dis	turbed or proble	matic	
Woody Vine Stratum (Plot size )								
1. Rubus armeniacus	15	Υ	FACU					
2.				Hydroph	ytic Veac	etation		
		= Total Cover		Present?		Yes		No
	-	_						
% Bare Ground in Herb Stratum								
Demontos				1				
Remarks: *Presumed FAC								

							Sampling Point -	
Brofile Descr	intion: (Describe to the	danth neede	ed to document the indicate	er or confi	m the shearca o	f indicator	ro 1	
Depth	Matrix	Jepui neeue	ed to document the indicate	edox Featu		Hiuicaco	rs.)	
		0/				1 002	Taytura	Domorko
(inches)	Color (moist)	% 400	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10	7.5 YR 3/2	100					Sandy loam	
			+					
		1						
		<del> </del>	<del>                                     </del>					
		1						
	1	t	<u></u>					
<sup>1</sup> Type: C=Con	centration, D=Depletion, I	RM=Reduced	d Matrix, CS=Covered or Coa	ated Sand	Grains <sup>2</sup> Loc: PL	.=Pore Lini	ing, M=Matrix	
l								
	idicators: (Applicable to						blematic Hydric Soils <sup>3</sup>	
Histosol			Sandy Redox (S5)			n Muck (A		
	ipedon (A2)		Stripped Matrix (S6)				Material (TF2)	
Black His			Loamy Mucky Mineral (F1) (e	except ML	, <del></del>	ner (explaii	n in remarks)	
	n Sulfide (A4)		Loamy Gleyed Matrix (F2)					
	Below Dark Surface (A11		Depleted Matrix (F3)		31 11 1			
	rk Surface (A12)		Redox Dark Surface (F6)				ophytic vegetation and wetlan	d hydrology must
	ucky Mineral (S1)		Depleted Dark Surface (F7)		be prese	nt, uniess	disturbed or problematic	
Sandy G	leyed Matrix (S4)		Redox Depressions (F8)					
Restrictive La	yer (if present):							
Туре:	·····				Undrie eeile		Yes	No 🔀
Depth (inches	١.				Hydric soil	oresent r	100	
Deptii (iliches	):							
Remarks:								
HYDROLOG	SY							
	rology Indicators:							
	cators (minimum of one re						ary Indicators (2 or more requ	
	ce water (A1)		parsely Vegetated Concave S				/ater-Stained Leaves (B9) (M	LRA 1, 2, 4A & 4B)
	Nater Table (A2)		ater-Stained Leaves (except	t MLRA 1,	<b>2, 4A &amp; 4B</b> ) (B9)		rainage Patterns (B10)	
_	ation (A3)		alt Crust (B11)				ry-Season Water Table (C2)	
	Marks (B1)		quatic Invertebrates (B13)				aturation Visible on Aerial Ima	agery (C9)
	nent Deposits (B2)		ydrogen Sulfide Odor (C1)				eomorphic Position (D2)	
	Deposits (B3)		xidized Rhizospheres along l		s (C3)		hallow Aquitard (D3)	
	Mat or Crust (B4)		resence of Reduced Iron (C4				AC-Neutral Test (D5)	
☐ Iron D	eposits (B5)	☐ Re	ecent Iron Reduction in Tilled	Soils (C6)	)	□ R	aised Ant Mounds (D6) (LRR	A)
☐ Surfac	ce Soil Cracks (B6)	□ St	tunted or Stressed Plants (D1	1\ /I DD A\			rost-Heave Hummocks	
				I) ( <b>LKK A</b> )		F	rost-neave numinocks	
☐ Inund	ation Visible on Aerial		ther (explain in remarks) `	1) ( <b>LKK A</b> )		☐ F	rost-neave numinocks	
	ation Visible on Aerial ery (B7)			I) (LRK A)		☐ F	rost-neave nummocks	
Image	ery (B7)			i) (LRR A)		☐ Fi	lost-neave numinocks	
Field Observ	ations		ther (explain in remarks)	1) (LRR A)		☐ Fi	iost-neave nummocks	
Image	ations	01		i) (LKK A)		FI	ost-neave nummocks	
Field Observ	ery (B7)  ations r Present?	es 🔯 N	ther (explain in remarks)	(LKK A)			[V <sub>1</sub> , []]	No 🔀
Field Observe Surface Water Water Table F	ery (B7)  ations  r Present?		ther (explain in remarks)  No Depth (in): No Depth (in):	i) (LKK A)	Wetland Hydro		[V <sub>1</sub> , []]	No 🔀
Field Observers Surface Water Table F Saturation Pre	ations r Present? Ye esent? Ye esent? Ye		ther (explain in remarks) ` No Depth (in):	i) (LRR A)			[V <sub>1</sub> , []]	No 🔀
Field Observe Surface Water Water Table F	ations r Present? Ye esent? Ye esent? Ye		ther (explain in remarks)  No Depth (in): No Depth (in):	i) (LRR A)			[V <sub>1</sub> , []]	No 🔀
Field Observersurface Water Table For Saturation Pre (includes capi	ery (B7)  ations  r Present?		ther (explain in remarks)  No Depth (in): No Depth (in): No Depth (in):		Wetland Hydro		[V <sub>1</sub> , []]	No 🔀
Field Observersurface Water Table For Saturation Pre (includes capi	ery (B7)  ations  r Present?		ther (explain in remarks)  No Depth (in): No Depth (in):		Wetland Hydro		[V <sub>1</sub> , []]	No 🔀
Field Observ. Surface Wate Water Table F Saturation Pre (includes capi Describe Reco	ations r Present? Ye Present? Ye esent? Ye esent? Ye esent? Ye corded Data (stream gauge	Of Officers of the Control of the Co	ther (explain in remarks)  No Depth (in): No Depth (in): No Depth (in):		Wetland Hydro		[V <sub>1</sub> , []]	No 🔀
Field Observersurface Water Table For Saturation Pre (includes capi	ery (B7)  ations  r Present?	Of Officers of the Control of the Co	ther (explain in remarks)  No Depth (in): No Depth (in): No Depth (in):		Wetland Hydro		[V <sub>1</sub> , []]	No 🔀
Field Observ. Surface Wate Water Table F Saturation Pre (includes capi Describe Reco	ations r Present? Ye Present? Ye esent? Ye esent? Ye esent? Ye corded Data (stream gauge	Of Officers of the Control of the Co	ther (explain in remarks)  No Depth (in): No Depth (in): No Depth (in):		Wetland Hydro		[V <sub>1</sub> , []]	No 🔀
Field Observ. Surface Wate Water Table F Saturation Pre (includes capi Describe Reco	ations r Present? Ye Present? Ye esent? Ye esent? Ye esent? Ye corded Data (stream gauge	Of Officers of the Control of the Co	ther (explain in remarks)  No Depth (in): No Depth (in): No Depth (in):		Wetland Hydro		[V <sub>1</sub> , []]	No 🔀

# UPDATED WETLAND RATING FORMS AND FIGURES

#### PSE Energize Eastside Project – North Bellevue

#### WETLAND RATING FORMS

September 2020

#### List of Rating Forms (hyperlinks):

Wetland A Rating Form

Wetland CB01 Rating Form

Wetland EB01 Rating Form

Wetland EB02 Rating Form

Wetland EB03 Rating Form

Wetland EB04 Rating Form

Wetland EB05 Rating Form

Wetland EB06 Rating Form

Wetland EB07 Rating Form

Wetland EB08 Rating Form

Wetland EB09 Rating Form

Wetland EB10 Rating Form

Wetland EB11 Rating Form

Wetland EB12 Rating Form

Wetland EB13 Rating Form

Wetland EB14 Rating Form

Wetland EB15 Rating Form

Wetland EB16 Rating Form

Wetland EB17 Rating Form

Wetland EB18 Rating Form

Wetland EB19 Rating Form

Wetland EB20 Rating Form

Wetland EB21 Rating Form

Wetland EE Rating Form

Wetland I Rating Form

"Categorization based on special characteristics" pages for *all* wetlands rated in this document

#### Rating Form Notes and Assumptions

The following special notes and assumptions have been relied upon for classifying all wetlands in the North Bellevue portion of the PSE Energize Eastside Project area corridor to consistently rate wetland units.

#### General:

- Rating forms should be reviewed in conjunction with the associated wetland rating figures (separate document).
- Where only part of a wetland unit was delineated, off-site portions have been estimated to the extent feasible using best professional judgement. Off-site areas have not been field-assessed.
- Figures for 303(d) list, TMDL, and habitat have been consolidated to the extent feasible.
- No wetlands included in this document met criteria for categorization based on special characteristics. Rather than including redundant rating form pages for each wetland rated, the 'categorization based on special characteristics' section of the rating form has been included only once at the end of this document. It applies to all wetlands rated.

#### Rating Form Questions S1.3 and S4.1:

• In regard to "uncut" vegetation, it is presumed that emergent vegetation in the utility corridor is mowed on an approximately annual basis in the dryer summer months and that vegetation has re-grown and reached a height of greater than six inches when the wetter, early growing season arrives. This is consistent with field observations.

#### Rating Form Question S2.1:

- The north-south gravel trail located both north and south of Lake Hills Connector is not considered pollutant-generating.
- The PSE utility corridor is not considered pollutant-generating.

#### Rating Form Question S3.1:

Per Ecology guidance, "within 1 mile" is to be measured as the crow flies.

#### Rating Form Question S6.1:

• Per Ecology guidance, the term "sub-basin" refers to hydrologic cataloging units (12-digit HUC), which is different from the Bellevue-defined sub-basins. The North Bellevue wetlands are in the Lake Washington-Sammamish River sub-basin (HUC: 171100120400). All wetlands were awarded 2 points for "the sub-basin immediately down-gradient of the site has flooding problems that result in damage to human or natural resource (e.g., houses or salmon redds)." This determination is based on Bellevue's 2012 Storm and Surface Water System Plan that documents structural flooding and salmonid use in the Lake Washington-Sammamish River sub-basin.

#### Rating Form Question D2.1, D5.1, S2.2

- D2.1 and D5.1 ask if the wetland receives stormwater discharges. The rating form guidance document states "Stormwater may come into the unit by way of a stream or ditch as well as a pipe." Therefore, when depressional wetlands include a stream channel that drains urban areas (all instances), these questions were answered "yes."
- Similarly, question S2.2 asks if there are other of pollutants coming into the wetland that are not listed in question S2.1 (which focuses on land uses within 150 feet of the wetland unit). When slope wetlands include a stream channel that drains urban areas (all instances), this question was answered "yes."

#### Wetland A Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland A Date of site visit: 3/29/2013Rated by: K. Crandall, R. Kahlo Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014HGM Class used for rating: Depressional Wetland has multiple HGM classes?  $\boxtimes$  Y  $\square$  N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

#### **OVERALL WETLAND CATEGORY** (based on functions $\boxtimes$ or special characteristics $\square$ )

#### 1. Category of wetland based on FUNCTIONS

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- ☐ Category III Total score = 16 19
- **⊠** Category IV Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic		Habitat				
				Circle	the app	oropi	riate ra	tings	
Site Potential	Н	M (L)	Н	М	(L)	Н	M	L	
Landscape Potential	(H)	M L	Н	M	Ĺ	Н	M	(L)	
Value	Н	M L) (	H	M	L	Н	М	(L)	TOTAL
Score Based on Ratings		5		6			4		15

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I	II	
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest		I	
Coastal Lagoon	I	II	
Interdunal	I II	III IV	
None of the above		$\boxtimes$	

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

#### Wetland A

# Maps and figures required to answer questions correctly for Western Washington

#### **Depressional Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	A-1
Hydroperiods	D 1.4, H 1.2	A-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	A-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	A-2
Map of the contributing basin	D 4.3, D 5.3	A-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	6
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

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 entire unit usually controlled by tides except during floods?						
	$\boxtimes$ NO – go to 2 $\square$ YI	ES – the wetland class is <b>Tidal Fringe</b> – go to 1.1					
1	1.1 Is the salinity of the water during periods of	annual low flow below 0.5 ppt (parts per thousand)?					
		YES – Freshwater Tidal Fringe ter Tidal Fringe use the forms for Riverine wetlands. If it etland and is not scored. This method cannot be used to					
2.	. The entire wetland unit is flat and precipitation and surface water runoff are NOT sources of v	n is the only source (>90%) of water to it. Groundwater vater to the unit.					
	$\boxtimes$ NO – go to 3 If your wetland can be classified as a Flats wetl	$\square$ <b>YES</b> – The wetland class is <b>Flats</b> and, use the form for <b>Depressional</b> wetlands.					
3.	<ul> <li>Does the entire wetland unit <b>meet all</b> of the following criteria?</li> <li>□ The vegetated part of the wetland is on the shores of a body of permanent open water (without an plants on the surface at any time of the year) at least 20 ac (8 ha) in size;</li> <li>□ At least 30% of the open water area is deeper than 6.6 ft (2 m).</li> </ul>						
	$\boxtimes$ NO – go to 4 $\square$ <b>YES</b> – The v	vetland class is <b>Lake Fringe</b> (Lacustrine Fringe)					
4.	$\square$ The wetland is on a slope (slope can be very	gradual), e direction (unidirectional) and usually comes from y, or in a swale without distinct banks,					
	⊠ NO – go to 5	$\square$ <b>YES</b> – The wetland class is <b>Slope</b>					
		type of wetlands except occasionally in very small and epressions are usually <3 ft diameter and less than 1 ft					
5.		here it gets inundated by overbank flooding from that					

#### Wetland A

	<ul><li>NO − go to 6</li><li>NOTE: The Riverine unit can contain depress</li><li>flooding</li></ul>	☐ <b>YES</b> – The wetland class is <b>Riverine</b> sions that are filled with water when the river is not
5.	1 0 1	epression in which water ponds, or is saturated to the means that any outlet, if present, is higher than the interior
	⊠ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
7.	flooding? The unit does not pond surface wa	at area with no obvious depression and no overbank ater more than a few inches. The unit seems to be  The wetland may be ditched, but has no obvious natural
	⊠ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

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 the wetland unit being scored.

**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 HGM 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
$\boxtimes$	Slope + Depressional	Depressional
	Slope + Lake Fringe	Lake Fringe
	Depressional + Riverine along stream within	Depressional
	boundary of depression	Depressional
	Depressional + Lake Fringe	Depressional
	Riverine + Lake Fringe	Riverine
	Salt Water Tidal Fringe and any other class of	Treat as
	freshwater wetland	ESTUARINE

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

	N.	lore	than	2	HC	ìM	cl	2556	ς
ш	14	יסו כי	uiaii	4	$\mathbf{I}$	1141	LI	assc	а

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland:	
⊠ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.     points = 2	2
☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) $\square$ Yes = $4 \boxtimes$ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  □ Wetland has persistent, ungrazed, plants > 95% of area  □ Wetland has persistent, ungrazed, plants > 1/2 of area  □ Wetland has persistent, ungrazed plants > 1/10 of area  □ Wetland has persistent, ungrazed plants < 1/10 of area  □ points = 0	3
D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  □ Area seasonally ponded is > ½ total area of wetland  □ Area seasonally ponded is > ½ total area of wetland  □ Area seasonally ponded is < ½ total area of wetland  □ Area seasonally ponded is < ½ total area of wetland  □ Area seasonally ponded is < ½ total area of wetland	0
Total for D 1 Add the points in the boxes above	5
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the fi	rst page
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? $\square$ Yes = 1 $\boxtimes$ No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $\square$ Yes = 1 $\square$ No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?* $ extstyle  $	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source: grazing in/adjacent to wetland  Yes = 1  No = 0	1
Total for D 2 Add the points in the boxes above	3
Rating of Landscape Potential If score is: ⊠ 3 or 4 = H ☐ 1 or 2 = M ☐ 0 = L Record the rating on the first	st page
D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? $\square$ Yes = 1 $\square$ No = 0	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	0
Total for D 3 Add the points in the boxes above	0
Rating of Value If score is: □ 2-4 = H □ 1 = M ⋈ 0 = L  *Three properties to west on septic based on KC assessor (Sewer/septic = PRIVATE)	rst page

<u>DEPRESSIONAL AND FLATS WETLANDS</u>				
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation	on			
D 4.0. Does the site have the potential to reduce flooding and erosion?				
D 4.1. Characteristics of surface water outflows from the wetland:				
☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4				
☑ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet				
points = 2	2			
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1				
☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0				
D 4.2. <u>Depth of storage during wet periods:</u> <i>Estimate the height of ponding above the bottom of the outlet. For wetlands</i>				
with no outlet, measure from the surface of permanent water or if dry, the deepest part.				
$\square$ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7				
☐ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5	2			
☑ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet  points = 3	3			
☐ The wetland is a "headwater" wetland points = 3				
☐ Wetland is flat but has small depressions on the surface that trap water points = 1				
☐ Marks of ponding less than 0.5 ft (6 in) points = 0				
D 4.3. Contribution of the wetland 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 points = 5	•			
$\Box$ The area of the basin is 10 to 100 times the area of the unit points = 3	0			
oximes The area of the basin is more than 100 times the area of the unit points = 0				
☐ Entire wetland is in the Flats class points = 5				
Total for D 4 Add the points in the boxes above	5			
Rating of Site Potential If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the	first page			
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?				
D 5.1. Does the wetland receive stormwater discharges? $\square$ Yes = 1 $\boxtimes$ No = 0	0			
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? $\square$ Yes = 1 $\square$ No = 0	1			
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at	1			
>1 residence/ac, urban, commercial, agriculture, etc.)?   ⊠ Yes = 1 □ No = 0	1			
Total for D 5 Add the points in the boxes above	2			
Rating of Landscape Potential If score is: $\square$ 3 = H $\boxtimes$ 1 or 2 = M $\square$ 0 = L Record the rating on the fin				
D 6.0. Are the hydrologic functions provided by the site valuable to society?				
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around				
the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met.</u>				
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has				
damaged human or natural resources (e.g., houses or salmon redds):				
• 🗵 Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2	2			
• □ Surface flooding problems are in a sub-basin farther down-gradient. points = 1	2			
$\Box$ Flooding from groundwater is an issue in the sub-basin. points = 1				
$\Box$ The existing or potential outflow from the wetland is so constrained by human or natural conditions that				
the water stored by the wetland cannot reach areas that flood. Explain why points = 0				
☐ There are no problems with flooding downstream of the wetland. points = 0				
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?				
$\square \ Yes = 2 \ \boxtimes \ No = 0$	0			
Total for D 6 Add the points in the boxes above	2			

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 ☐ Emergent 3 structures: points = 2 2 ⊠ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ⊠ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 2 $\square$ None = 0 points $\square$ Low = 1 point Moderate = 2 points All three diagrams in this row are $\square$ **HIGH** = 3 points

#### Wetland A

H 1.5. Special habitat features:					
Check the habitat features that are present in the wetland. <i>The number of checks is the nur</i>	nher of noints				
□ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).					
<ul> <li>✓ Standing snags (dbh &gt; 4 in) within the wetland</li> </ul>					
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends a					
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	, ,				
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denni slope) OR signs of recent beaver activity are present (cut shrubs or trees that have no where wood is exposed)		3			
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas t permanently or seasonally inundated (structures for egg-laying by amphibians)	hat are				
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see F					
strata)					
Total for H 1 Add the points	in the boxes above	9			
Rating of Site Potential If score is: $\Box$ 15-18 = H $\boxtimes$ 7-14 = M $\Box$ 0-6 = L Record the rating on		he first page			
H 2.0. Does the landscape have the potential to support the habitat functions of the site?					
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).					
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs.	. 2-5				
If total accessible habitat is:					
$\square$ > 1/3 (33.3%) of 1 km Polygon	points = 3	0			
$\square$ 20-33% of 1 km Polygon	points = 2				
$\square$ 10-19% of 1 km Polygon	points = 1				
	points = 0				
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.					
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs.	. 2-5	1			
☐ Undisturbed habitat > 50% of Polygon	points = 3	2			
☑ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	2			
☐ Undisturbed habitat 10-50% and > 3 patches	points = 1				
☐ Undisturbed habitat < 10% of 1 km Polygon	points = 0				
H 2.3. Land use intensity in 1 km Polygon: If					
☑ > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2			
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0				
	in the boxes above	0			
Rating of Landscape Potential If score is: □ 4-6 = H □ 1-3 = M ⊠ < 1 = L	Record the rating on th	e first page			
H 3.0. Is the habitat provided by the site valuable to society?					
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only</i>	y the highest score				
that applies to the wetland being rated.					
Site meets ANY of the following criteria:	points = 2				
☐ It has 3 or more priority habitats within 100 m (see next page)		0			
<ul> <li>☐ It provides habitat for Threatened or Endangered species (any plant or animal on the</li> <li>☐ It is mapped as a location for an individual WDFW priority species</li> </ul>	e state or federal lists)				
	ıral Resources	U			
-	t is a Wetland of High Conservation Value as determined by the Department of Natural Resources				
a Shoreline Master Plan, or in a watershed plan	☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in				
☐ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1				
	points = 0				
Rating of Value If score is: $\square 2 = H \square 1 = M \square 0 = I$	Record the rating on	the first nage			

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit:  $\it NOTE:$  This question is independent of the land use between the wetland unit and the priority habitat.

$\square$ <b>Aspen Stands:</b> Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
☐ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
☐ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests:</b> 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</i> ).
☐ <b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☐ <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
□ <b>Nearshore</b> : 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 – see web link on previous page).
□ <b>Caves:</b> 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.
□ <b>Cliffs:</b> Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
□ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
□ <b>Snags and Logs:</b> 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed

elsewhere.

Wetland A

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## Wetland CB01 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland CB01 Date of site visit: 6/1/2015, 3/2018, 5/26/2020 Rated by: K. Crandall, N. Lund Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014

**HGM Class used for rating:** Slope

Wetland has multiple HGM classes? ☐ Y ⊠ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

### **OVERALL WETLAND CATEGORY** (based on functions $\boxtimes$ or special characteristics $\square$ )

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION		nprov ter Q	ing uality	Hy	Hydrologic			Habita	it	
		Circle the appropriate ratings								
Site Potential	Н	М	(L)	Н	М		Н	(M)	L	
Landscape Potential	Н	M	Ĺ	Н	M	Ĺ	Н	M	(L)	
Value	H	М	L	H	М	L	Н	M	L	TOTAL
Score Based on		6			6			Г		17
Ratings		6			6			Э		1/

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CAT	EGORY
Estuarine	I II	
Wetland of High Conservation Value	I	
Bog		I
Mature Forest		I
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		$\boxtimes$

## Score for each function based on three ratings (order of ratings ìs not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L4 = M,L,L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	CB01-1
Hydroperiods	H 1.2	CB01-3
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	CB01-2
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	CB01-2
(can be added to figure above)		CB01-2
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	CB01-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	CB01-4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

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.

9.	Are the water levels in th	ne entire unit usually controlle	ed by tides except during floods?	
	⊠ NO – go to 2	$\square$ <b>YES</b> – the	wetland class is <b>Tidal Fringe</b> – go to 1.1	
1	.1 Is the salinity of the wa	iter during periods of annual l	ow flow below 0.5 ppt (parts per thousand	)?
	If your wetland can be	ge it is an <b>Estuarine</b> wetland a	☐ <b>YES – Freshwater Tidal Fringe</b> I Fringe use the forms for <b>Riverine</b> wetlands  nd is not scored. This method <b>cannot</b> be used	
10		is flat and precipitation is the fare NOT sources of water to	only source (>90%) of water to it. Groundy the unit.	watei
	$\boxtimes$ NO – go to 3 If your wetland can be clo	assified as a Flats wetland, use	☐ <b>YES</b> – The wetland class is <b>Flats</b> the form for <b>Depressional</b> wetlands.	
11	☐ The vegetated part of plants on the surface	unit <b>meet all</b> of the following the wetland is on the shores o at any time of the year) at leas en water area is deeper than	of a body of permanent open water (withou to 20 ac (8 ha) in size;	t any
	⊠ NO – go to 4	$\square$ <b>YES</b> – The wetland $\square$	class is <b>Lake Fringe</b> (Lacustrine Fringe)	
12	<ul><li>☑ The wetland is on a sl</li><li>☑ The water flows throuseeps. It may flow su</li></ul>	_	<i>l</i> ), on (unidirectional) and usually comes from swale without distinct banks,	l
	□ NO – go to 5		☑ YES – The wetland class is Slope	
			wetlands except occasionally in very small ns are usually <3 ft diameter and less than	
13	☐ The unit is in a valley, stream or river,	unit <b>meet all</b> of the following or stream channel, where it g	ets inundated by overbank flooding from th	nat

T /	7	1	CD01
V	veτ	iana	CB01

	■ NO – go to 6 <b>NOTE</b> : The Riverine unit can contain depression flooding	☐ <b>YES</b> – The wetland class is <b>Riverine</b> ons that are filled with water when the river is not
14.	1 9 1	oression in which water ponds, or is saturated to the neans that any outlet, if present, is higher than the interior
	□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
15.	flooding? The unit does not pond surface water	area with no obvious depression and no overbank er more than a few inches. The unit seems to be The wetland may be ditched, but has no obvious natural
	□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

16. 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 the wetland unit being scored.

**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 HGM 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 of depression	Depressional	
	Depressional + Lake Fringe	Depressional	
	Riverine + Lake Fringe	Riverine	
	Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE	

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

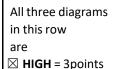
□ Moi	e than	2 HGM	classes
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SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every	
100 ft of horizontal distance)	
☐ Slope is 1% or less points = 3	0
$\square$ Slope is > 1%-2% points = 2	Ü
$\square$ Slope is > 2%-5% points = 1	
⊠ Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\square$ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:	
Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher</i>	
than 6 in.	_
☐ Dense, uncut, herbaceous plants > 90% of the wetland area  ☐ Dense, uncut, herbaceous plants > 1/ of orea.	1
☐ Dense, uncut, herbaceous plants > ½ of area  ☐ Dense, uncut, herbaceous plants > ½ of area  ☐ Dense, uncut, herbaceous plants > ½ of area	
☐ Dense, woody, plants > ½ of area points = 2	
☐ Dense, uncut, herbaceous plants > ¼ of area points = 1	
☐ Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	1
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on t	he first page
Rating of Site Potential If score is: $\square$ 12 = H $\square$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on to S 2.0. Does the landscape have the potential to support the water quality function of the site?	he first page
	the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☑ Yes = 1 ☐ No = 0	1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☑ Yes = 1 □ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☑ Yes = 1 ☐ No = 0	1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: homeless encampment debris ☐ Yes = 1 ☐ No = 0	1 1 2
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: homeless encampment debris  ☐ Yes = 1 ☐ No = 0  Total for S 2  Add the points in the boxes above	1 1 2
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  ☐ Other sources: homeless encampment debris ☐ Otal for S 2 ☐ Add the points in the boxes above  Rating of Landscape Potential If score is: ☐ 1-2 = M ☐ 0 = L ☐ Record the rating on the stream of the stream	1 1 2
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  ☐ Other sources: homeless encampment debris ☐ Yes = 1 ☐ No = 0  Total for S 2 ☐ Add the points in the boxes above  Rating of Landscape Potential If score is: ☐ 1-2 = M ☐ 0 = L ☐ Record the rating on the site valuable to society?	1 1 2 The first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 □ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: homeless encampment debris □ Yes = 1 □ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? □ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is	1 2 the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1 2 The first page

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion		
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0	0	
Rating of Site Potential If score is: $\Box$ 1 = M $\boxtimes$ 0 = L Record the rating on a	the first page	
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\boxtimes$ Yes = 1 $\square$ No = 0	1	
Rating of Landscape Potential If score is: $\square$ 1 = M $\square$ 0 = L Record the rating on a		
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  Down the flooding problems anywhere downstream  Down the flooding problems anywhere downstream	2	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 □ No = 0	0	
Total for S 6 Add the points in the boxes above	2	
Rating of Value If score is:	the first page	

NOTES and FIELD OBSERVATIONS:

#### Wetland CB01 These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 2 □ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 0 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 3 $\square$ None = 0 points $\square$ Low = 1 point ☐ Moderate = 2 points









## Wetland CB01

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. <i>The number of check</i>		
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft lon	g).	
☑ Standing snags (dbh > 4 in) within the wetland		
☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (		
☐ Stable steep banks of fine material that might be used by beaver or muskra	t for denning (> 30 degree	2
slope) OR signs of recent beaver activity are present (cut shrubs or trees the where wood is exposed)	at have not yet weathered	
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are preser permanently or seasonally inundated (structures for egg-laying by amphibian		
☐ Invasive plants cover less than 25% of the wetland area in every stratum of pl	ants (see H 1.1 for list of	
strata)		
Total for H 1 Add	the points in the boxes above	8
Rating of Site Potential If score is:   15-18 = H  7-14 = M  0-6 = L	Record the rating on t	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of	of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat: + [(% moderate and low intensity land uses)/2]	= see Fias. 2-5	
If total accessible habitat is:	300gg. L 3	
$\square$ > 1/3 (33.3%) of 1 km Polygon	points = 3	0
☐ 20-33% of 1 km Polygon	points = 2	
☐ 10-19% of 1 km Polygon	points = 1	
□ 10 13 / 6 / 1 km Polygon     □ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	points	
Calculate: % undisturbed habitat: + [(% moderate and low intensity land uses)/2]	= see Fias 2-5	
☐ Undisturbed habitat > 50% of Polygon	points = 3	
☐ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	0
☐ Undisturbed habitat 10-50% and > 3 patches	points = 1	
☐ Undisturbed Habitat < 10% of 1 km Polygon	points = 1 points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	polits – o	
$\boxtimes$ > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
$\square \le 50\%$ of 1 km Polygon is high intensity	• • • •	_
	points = 0 the points in the boxes above	-2
Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L	Record the rating on th	
	necora the rating on the	ie jiist page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies?	Choose only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
☐ It has 3 or more priority habitats within 100 m (see next page)		
☐ It provides habitat for Threatened or Endangered species (any plant or an	ımaı on the state or federal lists)	4
☐ It is mapped as a location for an individual WDFW priority species	. (1)	1
☐ It is a Wetland of High Conservation Value as determined by the Departm		
☐ It has been categorized as an important habitat site in a local or regional of	comprenensive plan, in	
a Shoreline Master Plan, or in a watershed plan ⊠ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
	·	
☐ Site does not meet any of the criteria above	points = 0	ul f:. :
Rating of Value If score is: $\square 2 = H \square 1 = M \square 0 = L$	Record the rating on	tne first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

Aspen stantas: Fure of mixed stantas of aspen greater than 1 at (0.4 ha).
☐ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
☐ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests:</b> 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</i> ).
☐ <b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☐ <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
□ <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. ( <i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i> ).
□ <b>Caves:</b> 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.
$\Box$ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
$\Box$ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland CB01

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## Wetland EB01 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB01 Date of site visit: 5/29/2015, 5/26/2020 Rated by: K. Crandall Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions $\boxtimes$ or special characteristics $\square$ )

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION		mproving iter Quality	H	ydrol	ogic	ŀ	labit	at	
				Circle	the ap	propri	ate ra	tings	
Site Potential	Н	M (L)	Н	(M)	) L	Н	М	(L)	
Landscape Potential	Н	M) L	Н	М		Н	М	<u>(l)</u>	
Value	Н	M L	H	М	Ĺ	H	М	Ĺ	TOTAL
Score Based on Ratings		5		6			6		17

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I II	
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	I II	
Interdunal	I II III IV	
None of the above		

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB01-1
Hydroperiods	H 1.2	EB01-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB01-1
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	EB01-1
(can be added to figure above)		EB01-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB01-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 17. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 18. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 19. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 20. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 **∠ YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 21. 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,  $\square$  The overbank flooding occurs at least once every 2 years.

Wet	land	FRO	11
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	■ NO – go to 6 <b>NOTE</b> : The Riverine unit can contain depression flooding	□ <b>YES</b> – The wetland class is <b>Riverine</b> ons that are filled with water when the river is not
22.	1 0 1	ression in which water ponds, or is saturated to the eans that any outlet, if present, is higher than the interior
	□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
23.	flooding? The unit does not pond surface water	area with no obvious depression and no overbank or more than a few inches. The unit seems to be The wetland may be ditched, but has no obvious natural
	□ NO – go to 8	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>

24. 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 the wetland unit being scored.

**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 HGM 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Ш	Mo	ore thar	12 H	GM c	lasses
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SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
□ Slope is > 1%-2% points = 2 □ Slope is > 2%-5% points = 1 □ Slope is greater than 5% points = 0	0
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\boxtimes$ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area  points = 6	3
<ul> <li>□ Dense, uncut, herbaceous plants &gt; ½ of area</li> <li>□ Dense, woody, plants &gt; ½ of area</li> <li>□ Dense, uncut, herbaceous plants &gt; ¼ of area</li> <li>□ Dense, uncut, herbaceous plants &gt; ¼ of area</li> <li>□ Does not meet any of the criteria above for plants</li> </ul>	5
Total for S 1  Add the points in the boxes above	3
Rating of Site Potential If score is:	the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1
	1 0
$ extrm{$\boxtimes$ Yes = 1$}  extrm{$\square$ No = 0$}$ S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	_
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 ⋈ No = 0	0
	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  □ Yes = 1 □ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  □ Yes = 1 □ No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 ☒ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☒ 1-2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	0 1 the first page
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:	0 1 the first page
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  Total for S 2  Rating of Landscape Potential If score is: S 1-2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	0 1 the first page 0 1

SLOPE WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion			
S 4.0. Does the site have the potential to reduce flooding and stream erosion?			
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0	1		
Rating of Site Potential If score is: $\square$ 1 = M $\square$ 0 = L Record the rating on	the first page		
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?			
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0		
Rating of Landscape Potential If score is: □ 1 = M ⊠ 0 = L Record the rating on	the first page		
S 6.0. Are the hydrologic functions provided by the site valuable to society?			
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  ☐ Problems anywhere downstream  ☐ Problems anywhere downstream	2		
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? $\Box$ Yes = 2 $\boxtimes$ No = 0	0		
Total for S 6 Add the points in the boxes above	2		
Rating of Value If score is:	the first page		

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 1 2 structures: points = 1 □ Scrub-shrub (areas where shrubs have > 30% cover) ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 2 $\square$ None = 0 points $\square$ Low = 1 point Moderate = 2 points All three diagrams in

this row are

HIGH = 3 points

## Wetland EB01

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of checks is the	number of points.	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
☐ Standing snags (dbh > 4 in) within the wetland		
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants exten	ids at least 3.3 ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	, ,	
☐ Stable steep banks of fine material that might be used by beaver or muskrat for de	enning (> 30 degree	0
slope) OR signs of recent beaver activity are present (cut shrubs or trees that hav	ve not yet weathered	
where wood is exposed)		
$\square$ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in are	eas that are	
permanently or seasonally inundated (structures for egg-laying by amphibians)		
$\square$ Invasive plants cover less than 25% of the wetland area in every stratum of plants (s	see H 1.1 for list of	
strata)		
Total for H 1 Add the po	pints in the boxes above	5
Rating of Site Potential If score is: $\Box$ 15-18 = H $\Box$ 7-14 = M $\boxtimes$ 0-6 = L	Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the	site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see F	Fias 2-5	
If total accessible habitat is:	1g3. 2 3	
□ > 1/3 (33.3%) of 1 km Polygon	points = 3	0
□ 20-33% of 1 km Polygon	points = 2	
☐ 10-19% of 1 km Polygon	points = 1	
$\boxtimes$ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	<b>503</b>	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see F	ias. 2-5	
☐ Undisturbed habitat > 50% of Polygon	points = 3	
☐ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	0
☐ Undisturbed habitat 10-50% and > 3 patches	points = 1	
□ Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	<b>,</b>	
	points = (- 2)	-2
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0	
	pints in the boxes above	-2
Rating of Landscape Potential If score is: □ 4-6 = H □ 1-3 = M ⊠ < 1 = L	Record the rating on th	ne first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>	only the highest score	
that applies to the wetland being rated.	. only the highest score	
Site meets ANY of the following criteria:	points = 2	
	<b>F</b>	
☐ It provides habitat for Threatened or Endangered species (any plant or animal or	n the state or federal lists)	
☐ It is mapped as a location for an individual WDFW priority species	,	2
☐ It is a Wetland of High Conservation Value as determined by the Department of	Natural Resources	
☐ It has been categorized as an important habitat site in a local or regional compre		
a Shoreline Master Plan, or in a watershed plan	·	
$\square$ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
$\square$ Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: ⊠ 2 = H □ 1 = M □ 0 = L	Record the rating on	the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

□ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
☐ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests:</b> 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</i> ).
<b>⊠ Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☑ 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.
□ <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. ( <i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i> ).
□ <b>Caves:</b> 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.
$\Box$ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
□ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland EB01

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## Wetland EBO2 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB02 Date of site visit: 6/3/2015

Rated by: K. Crandall Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the app	propriate ratings	
Site Potential	H M (L)	H M (L)	H (M) L	
Landscape Potential	H M L	H M L	H M (L)	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings	6	6	6	18

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	I	II	
Interdunal	I II	III IV	
None of the above		$\boxtimes$	

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB02-1
Hydroperiods	H 1.2	EB02-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB02-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	EB02-1
(can be added to figure above)		EB02-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB02-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

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.

questions 1-7 apply, and go to	o Question 8.	
25. Are the water levels in the	entire unit usually contr	rolled by tides except during floods?
⊠ N0 – go to 2	□ <b>YES</b> – t	the wetland class is <b>Tidal Fringe</b> – go to 1.1
1.1 Is the salinity of the water	r during periods of annu	ual low flow below 0.5 ppt (parts per thousand)?
	ssified as a Freshwater T t is an <b>Estuarine</b> wetlan	☐ <b>YES - Freshwater Tidal Fringe</b> Fidal Fringe use the forms for <b>Riverine</b> wetlands. If it and and is not scored. This method <b>cannot</b> be used to
26. The entire wetland unit is family and surface water runoff ar		the only source (>90%) of water to it. Groundwater to the unit.
$\boxtimes$ NO – go to 3  If your wetland can be class:	ified as a Flats wetland,	$\square$ <b>YES</b> – The wetland class is <b>Flats</b> use the form for <b>Depressional</b> wetlands.
	e wetland is on the shore any time of the year) at l	es of a body of permanent open water (without any least 20 ac (8 ha) in size;
⊠ NO – go to 4	☐ <b>YES -</b> The wetland	nd class is <b>Lake Fringe</b> (Lacustrine Fringe)
9	e ( <i>slope can be very grad</i> the wetland in one dire urface, as sheetflow, or i	dual), ection (unidirectional) and usually comes from in a swale without distinct banks,
$\square$ NO – go to 5		oxtimes YES – The wetland class is <b>Slope</b>
		of wetlands except occasionally in very small and ssions are usually <3 ft diameter and less than 1 ft
29. Does the entire wetland un  ☐ The unit is in a valley, or stream or river, ☐ The overbank flooding of	stream channel, where	it gets inundated by overbank flooding from that

#### Wetland EB02

	<ul><li>NO − go to 6</li><li>NOTE: The Riverine unit can contain depressio flooding</li></ul>	□ <b>YES</b> – The wetland class is <b>Riverine</b> ns that are filled with water when the river is not
30		ression in which water ponds, or is saturated to the ans that any outlet, if present, is higher than the interior
	□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
31	flooding? The unit does not pond surface water	area with no obvious depression and no overbank or more than a few inches. The unit seems to be he wetland may be ditched, but has no obvious natural
	□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

32. 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 the wetland unit being scored.

**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 HGM 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		HGM class to	
	being rated	use in rating	
	Slope + Riverine	Riverine	
	Slope + Depressional	Depressional	
☐ Slope + Lake Fringe		Lake Fringe	
	Depressional + Riverine along stream within	Donrossional	
	boundary of depression	Depressional	
	Depressional + Lake Fringe	Depressional	
	Riverine + Lake Fringe	Riverine	
	Salt Water Tidal Fringe and any other class of	Treat as	
	freshwater wetland	ESTUARINE	

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

		More than	2	HCM	classa
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SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)  □ Slope is 1% or less □ Slope is > 1%-2% □ Slope is > 2%-5% □ Slope is greater than 5% □ Slope is greater than 5%	0
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\boxtimes$ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  □ Dense, uncut, herbaceous plants > 90% of the wetland area □ Dense, uncut, herbaceous plants > ½ of area □ Dense, woody, plants > ½ of area □ Dense, uncut, herbaceous plants > ¼ of area □ Dense, uncut, herbaceous plants > ¼ of area □ Dense, uncut, herbaceous plants > ¼ of area □ Dense, uncut, herbaceous plants > ¼ of area □ Dense, uncut, herbaceous plants > ¼ of area □ Does not meet any of the criteria above for plants	3
Total for S 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the same of the sa	he first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? $\boxtimes$ Yes = 1 $\square$ No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: golf course stream/ditch  U Yes = 1  No = 0	0
Total for S 2 Add the points in the boxes above	1
Rating of Landscape Potential If score is: □ 1-2 = M □ 0 = L  Record the rating on to	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. $\boxtimes$ Yes = 1 $\square$ No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found. $\square$ Yes = 2 $\bowtie$ No = 0	0
Total for S 3 Add the points in the boxes above	2
Rating of Value If score is:	

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion				
S 4.0. Does the site have the potential to reduce flooding and stream erosion?				
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, rigid plants cover > 90% of the area of the wetland □ All other conditions  points = 0	0			
Rating of Site Potential If score is: □ 1 = M ⊠ 0 = L Record the rating on	the first page			
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?				
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\square$ Yes = 1 $\square$ No = 0	1			
Rating of Landscape Potential If score is:	the first page			
S 6.0. Are the hydrologic functions provided by the site valuable to society?				
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  Down the flooding problems are in a sub-basin farther down-gradient  ☐ points = 0	2			
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 □ No = 0	0			
Total for S 6 Add the points in the boxes above	2			
Rating of Value If score is:	the first page			

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 2 2 structures: points = 1 □ Scrub-shrub (areas where shrubs have > 30% cover) ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 2 If you counted: $\boxtimes$ > 19 species points = 2☐ 5 - 19 species points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 3 $\square$ None = 0 points $\square$ Low = 1 point ☐ Moderate = 2 points All three diagrams in this row are

 $\boxtimes$  **HIGH** = 3 points

### Wetland EB02

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of checks is the number of points.		
☑ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
☐ Standing snags (dbh > 4 in) within the wetland		
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m)		
over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 ft (1 m)		
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree	1	
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered		
where wood is exposed)		
☐ At least ¼ ac of thin-stemmed persistent plants 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 every stratum of plants (see H 1.1 for list of strata)		
Total for H 1 Add the points in the boxes above	9	
'		
Rating of Site Potential If score is: $\square$ 15-18 = H $\boxtimes$ 7-14 = M $\square$ 0-6 = L Record the rating on t	he first page	
H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
$\square$ > 1/3 (33.3%) of 1 km Polygon points = 3	0	
$\square$ 20-33% of 1 km Polygon points = 2		
$\square$ 10-19% of 1 km Polygon points = 1		
$\boxtimes$ < 10% of 1 km Polygon points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
☐ Undisturbed habitat > 50% of Polygon points = 3		
☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2	0	
☐ Undisturbed habitat 10-50% and > 3 patches points = 1		
☐ Undisturbed habitat < 10% of 1 km Polygon points = 0		
H 2.3. Land use intensity in 1 km Polygon: If		
$\boxtimes$ > 50% of 1 km Polygon is high intensity land use points = (-2)	-2	
$\square \le 50\%$ of 1 km Polygon is high intensity points = 0		
Total for H 2 Add the points in the boxes above	-2	
Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L Record the rating on the	e first page	
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score		
that applies to the wetland being rated.		
Site meets ANY of the following criteria: points = 2		
☑ It has 3 or more priority habitats within 100 m (see next page)		
$\square$ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)		
☐ It is mapped as a location for an individual WDFW priority species		
$\square$ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		
$\square$ It has been categorized as an important habitat site in a local or regional comprehensive plan, in		
a Shoreline Master Plan, or in a watershed plan		
$\square$ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1		
$\Box$ Site does not meet any of the criteria above points = 0		

Rating of Value If score is: ⊠ 2 = H □ 1 = M □ 0 = L
Wetland Rating System for Western WA: 2014 Update
Rating Form – Effective January 1, 2015

Record the rating on the first page

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
$\square$ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests:</b> 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</i> ).
<b>⊠ Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☑ 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.
□ <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. ( <i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i> ).
□ <b>Caves:</b> 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.
☐ <b>Cliffs:</b> Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
$\Box$ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland EB02

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# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB03 Date of site visit: 6/3/2015, 2/27/2020 Rated by: K. Crandall Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

**OVERALL WETLAND CATEGORY** (based on functions  $\boxtimes$  or special characteristics  $\square$ )

## **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improvi	_	Hydrologic		Hydrologic		Hydrologic Habitat		
		Circle the appropriate ratings							
Site Potential	H (M)	L	Н	(M)	L	Н	M (L)		
Landscape Potential	H (M)	L	Н	M	L	Н	M (L)		
Value	H M	L	$(\pm)$	M	L	Н	M L	TOTAL	
Score Based on Ratings	7			7			4	18	

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog		I
Mature Forest		I
Old Growth Forest	I	
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		$\boxtimes$

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H, M, M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB03-1
Hydroperiods	H 1.2	EB03-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB03-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	EB03-1
(can be added to figure above)		EB03-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB03-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 33. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 34. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 35. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 36. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 **∠ YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 37. 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,  $\square$  The overbank flooding occurs at least once every 2 years.

Wet]	land	FRO	13
VVCU	ıanı	LU	J

	NOTE: The Riverine unit can contain depres flooding	Sions that are filled with water when the river is not
38.		epression in which water ponds, or is saturated to the means that any outlet, if present, is higher than the interior
	□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
39.	flooding? The unit does not pond surface w	lat area with no obvious depression and no overbank ater more than a few inches. The unit seems to be a. The wetland may be ditched, but has no obvious natural
	□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

40. 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 the wetland unit being scored.

**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 HGM 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 of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

	e than 2	2 HGM	classes
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SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
☐ Slope is 1% or less ☐ Slope is > 1%-2% points = 2	0
☐ Slope is > 2%-5% points = 1	
	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:	U
Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
oximes Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	6
☐ Dense, uncut, herbaceous plants > ½ of area points = 3	
☐ Dense, woody, plants > ½ of area points = 2	
$\Box$ Dense, uncut, herbaceous plants > $\frac{1}{4}$ of area points = 1	
☐ Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	6
Rating of Site Potential If score is: $\Box$ 12 = H $\boxtimes$ 6-11 = M $\Box$ 0-5 = L Record the rating on the same of the sa	he first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ⊠ Yes = 1 □ No = 0	1
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1 0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \( \times \text{ Yes} = 1  \text{ No} = 0 \)  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  \( \text{ Yes} = 1  \text{ No} = 0 \)  Total for S 2  Add the points in the boxes above	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 □ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 □ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M □ 0 = L  Record the rating on the sources is the source of the wetland in land uses that generate pollutants?  Add the points in the boxes above	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 □ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 □ No = 0  Total for S 2 □ Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M □ 0 = L □ Record the rating on the same of the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	0 1 The first page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is:  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is	0 1 the first page 1
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0 1 the first page  1 1

SLOPE WETLANDS				
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and stream erosi	ion			
S 4.0. Does the site have the potential to reduce flooding and stream erosion?				
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0	1			
Rating of Site Potential If score is: $\boxtimes 1 = M \square 0 = L$ Record the rating on a	the first page			
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?				
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\boxtimes$ Yes = 1 $\square$ No = 0	1			
Rating of Landscape Potential If score is:  □ 1 = M □ 0 = L				
S 6.0. Are the hydrologic functions provided by the site valuable to society?				
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  ☐ Problems anywhere downstream  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	2			
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 図 No = 0	0			
Total for S 6 Add the points in the boxes above	2			
Rating of Value If score is:				

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 0 ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 $\boxtimes$ None = 0 points $\square$ Low = 1 point ☐ Moderate = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:				
Check the habitat features that are present in the wetland. The number of checks is the	number of points.			
$\square$ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).				
☐ Standing snags (dbh > 4 in) within the wetland				
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)				
☐ Stable steep banks of fine material that might be used by beaver or muskrat for de	enning (> 30 degree	0		
slope) OR signs of recent beaver activity are present (cut shrubs or trees that hav where wood is exposed)	ve not yet weathered			
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in are permanently or seasonally inundated (structures for egg-laying by amphibians)	eas that are			
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (s strata)	see H 1.1 for list of			
Total for H 1 Add the po	oints in the boxes above	2		
Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L	Record the rating on t	he first page		
H 2.0. Does the landscape have the potential to support the habitat functions of the	site?			
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).				
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see F	Figs. 2-5			
If total accessible habitat is:				
☐ > 1/3 (33.3%) of 1 km Polygon	points = 3	0		
$\square$ 20-33% of 1 km Polygon	points = 2			
$\square$ 10-19% of 1 km Polygon	points = 1			
⊠ < 10% of 1 km Polygon	points = 0			
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.				
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see F	Figs. 2-5			
☐ Undisturbed habitat > 50% of Polygon	points = 3	1		
$\square$ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	Τ.		
☑ Undisturbed habitat 10-50% and > 3 patches	points = 1			
☐ Undisturbed habitat < 10% of 1 km Polygon	points = 0			
H 2.3. Land use intensity in 1 km Polygon: If				
☑ > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2		
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0			
	oints in the boxes above	-1		
Rating of Landscape Potential If score is: □ 4-6 = H □ 1-3 = M □ < 1 = L	Record the rating on th	ne first page		
H 3.0. Is the habitat provided by the site valuable to society?				
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose	only the highest score			
that applies to the wetland being rated.				
Site meets ANY of the following criteria:	points = 2			
$\square$ It has 3 or more priority habitats within 100 m (see next page)				
☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)				
☐ It is mapped as a location for an individual WDFW priority species		1		
☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources				
☐ It has been categorized as an important habitat site in a local or regional compre	ehensive plan, in			
a Shoreline Master Plan, or in a watershed plan ⊠ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1			
	•			
☐ Site does not meet any of the criteria above	points = 0			
<b>Rating of Value</b> If score is: $\square$ <b>2 = H</b> $\boxtimes$ <b>1 = M</b> $\square$ <b>0 = L</b>	Record the rating on a	the first page		

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

# **WDFW Priority Habitats**

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Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit:  $\it NOTE:$  This question is independent of the land use between the wetland unit and the priority habitat.

$\square$ <b>Aspen Stands:</b> Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
☐ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
☐ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests:</b> 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</i> ).
☑ <b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☑ <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
□ <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. ( <i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i> ).
□ <b>Caves:</b> 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.
$\Box$ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
□ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
□ <b>Snags and Logs:</b> 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EBO4 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB04 Date of site visit: 6/3/2015, 2/27/2020 Rated by: K. Crandall Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014

**HGM Class used for rating:** Depressional Wetland has multiple HGM classes? ⊠ Y □ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth and King County iMap

### **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- ☐ Category IV Total score = 9 15

FUNCTION	Improving	Hydrologic Habitat		
	Water Quality			
		Circle the ap	propriate ratings	
Site Potential	H (M) L	H M (L)	H M (L)	
Landscape Potential	H M L	H M L	H M L	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings	7	6	4	17

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	tion Value I	
Bog	I	
Mature Forest	I	
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		$\boxtimes$

## Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## **Depressional Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB04-1
Hydroperiods	D 1.4, H 1.2	EB04-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB04-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB04-2
Map of the contributing basin	D 4.3, D 5.3	EB04-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

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.

_				
ł1.	Are the water levels in the entir	e unit usually controlled	by tides except during floods?	
	⊠ NO – go to 2	□ <b>YES</b> – the we	etland class is <b>Tidal Fringe</b> – go to 1.1	
1	.1 Is the salinity of the water dur	ring periods of annual lov	v flow below 0.5 ppt (parts per thousan	ıd)?
		ed as a Freshwater Tidal F In <b>Estuarine</b> wetland and	☐ <b>YES – Freshwater Tidal Fringe</b> Fringe use the forms for <b>Riverine</b> wetland I is not scored. This method <b>cannot</b> be us	-
12.	The entire wetland unit is flat an and surface water runoff are NC		aly source (>90%) of water to it. Ground e unit.	dwater
	$\boxtimes$ NO – go to 3 If your wetland can be classified	as a Flats wetland, use th	☐ <b>YES</b> – The wetland class is <b>Flats</b> <i>e form for <b>Depressional</b> wetlands.</i>	
13.	Does the entire wetland unit <b>me</b> ☐ The vegetated part of the wet plants on the surface at any t ☐ At least 30% of the open wate	tland is on the shores of a time of the year) at least 2	a body of permanent open water (witho 20 ac (8 ha) in size;	out any
	⊠ NO – go to 4	☐ <b>YES</b> – The wetland cla	ss is <b>Lake Fringe</b> (Lacustrine Fringe)	
14.	Does the entire wetland unit <b>me</b> ☐ The wetland is on a slope (slo  ☐ The water flows through the seeps. It may flow subsurfac  ☐ The water leaves the wetland	ope can be very gradual), wetland in one direction ce, as sheetflow, or in a sv	(unidirectional) and usually comes fror vale without distinct banks,	m
	⊠ NO – go to 5		$\square$ <b>YES</b> – The wetland class is <b>Slope</b>	
			tlands except occasionally in very small are usually <3 ft diameter and less that	
ł5.	Does the entire wetland unit <b>me</b> ☐ The unit is in a valley, or stream or river,  ☐ The overbank flooding occurs	am channel, where it gets	s inundated by overbank flooding from	that

	<ul><li>NO − go to 6</li><li>NOTE: The Riverine unit can contain depression flooding</li></ul>	☐ <b>YES</b> – The wetland class is <b>Riverine</b> s that are filled with water when the river is not
46.		ssion in which water ponds, or is saturated to the ns that any outlet, if present, is higher than the interior
	⊠ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
<b>47</b> .	Is the entire wetland unit located in a very flat are flooding? The unit does not pond surface water maintained by high groundwater in the area. The outlet.	•
	⊠ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

48. 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 the wetland unit being scored.

**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 HGM 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	HGM class to
	being rated	use in rating
	Slope + Riverine	Riverine
$\boxtimes$	Slope + Depressional	Depressional
	Slope + Lake Fringe	Lake Fringe
	Depressional + Riverine along stream within	Donrossional
	boundary of depression	Depressional
	Depressional + Lake Fringe	Depressional
	Riverine + Lake Fringe	Riverine
	Salt Water Tidal Fringe and any other class of	Treat as
	freshwater wetland	ESTUARINE

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

	M	lore	than	2	HGM	classes
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DEPRESSIONAL AND FLATS WETLANDS			
Water Quality Functions - Indicators that the site functions to improve water quality			
D 1.0. Does the site have the potential to improve water quality?			
D 1.1. Characteristics of surface water outflows from the wetland:			
$\square$ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).			
points = 3	2		
☑ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2	2		
☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1			
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1			
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) $\square$ Yes = $4 \boxtimes$ No = 0	0		
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):			
oxtimes Wetland has persistent, ungrazed, plants > 95% of area points = 5			
☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	5		
☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1			
☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0			
D 1.4. Characteristics of seasonal ponding or inundation:			
This is the area that is ponded for at least 2 months. See description in manual.			
☐ Area seasonally ponded is > ½ total area of wetland points = 4	0		
☐ Area seasonally ponded is > ¼ total area of wetland points = 2			
$oxtimes$ Area seasonally ponded is < $\frac{1}{4}$ total area of wetland points = 0			
Total for D 1 Add the points in the boxes above	7		
Rating of Site Potential If score is: $\square$ 12-16 = H $\boxtimes$ 6-11 = M $\square$ 0-5 = L Record the rating on the firs			
D 2.0. Does the landscape have the potential to support the water quality function of the site?			
D 2.1. Does the wetland unit receive stormwater discharges? $\square$ Yes = 1 $\boxtimes$ No = 0	0		
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $\square$ Yes = 1 $\square$ No = 0	1		
D 2.3. Are there septic systems within 250 ft of the wetland? $\square$ Yes = 1 $\boxtimes$ No = 0	0		
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	0		
Source	U		
Total for D 2 Add the points in the boxes above	1		
Rating of Landscape Potential If score is: $\square$ 3 or 4 = H $\boxtimes$ 1 or 2 = M $\square$ 0 = L Record the rating on the first page			
D 3.0. Is the water quality improvement provided by the site valuable to society?			
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	1		
303(d) list? $\qquad \qquad \boxtimes \ \mbox{Yes} = 1  \Box \ \mbox{No} = 0$	1		
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? $\square$ Yes = 1 $\square$ No = 0	1		
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES	0		
if there is a TMDL for the basin in which the unit is found)? $\square$ Yes = 2 $\boxtimes$ No = 0			
Total for D 3 Add the points in the boxes above	2		
Rating of Value If score is: $\boxtimes$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the first			

DEPRESSIONAL AND FLATS WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation	on		
D 4.0. Does the site have the potential to reduce flooding and erosion?			
D 4.1. Characteristics of surface water outflows from the wetland:  ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4  ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1  ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	2		
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 □ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 □ The wetland is a "headwater" wetland points = 3 □ Wetland is flat but has small depressions on the surface that trap water points = 1 □ Marks of ponding less than 0.5 ft (6 in) points = 0	0		
D 4.3. Contribution of the wetland 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 □ The area of the basin is 10 to 100 times the area of the unit □ The area of the basin is more than 100 times the area of the unit □ Entire wetland is in the Flats class □ Entire wetland is in the Flats class	0		
Total for D 4 Add the points in the boxes above	2		
Rating of Site Potential If score is: $\Box$ 12-16 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the	first page		
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1. Does the wetland receive stormwater discharges? $\square$ Yes = 1 $\boxtimes$ No = 0	0		
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? $\boxtimes$ Yes = 1 $\square$ No = 0	1		
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? $\boxtimes$ Yes = 1 $\square$ No = 0	1		
Total for D 5 Add the points in the boxes above	2		
Rating of Landscape Potential If score is: $\square$ 3 = H $\boxtimes$ 1 or 2 = M $\square$ 0 = L Record the rating on the	first page		
D 6.0. Are the hydrologic functions provided by the site valuable to society?			
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  ■ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  ■ Surface flooding problems are in a sub-basin farther down-gradient. points = 1  □ Flooding from groundwater is an issue in the sub-basin. points = 1  □ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0  □ There are no problems with flooding downstream of the wetland. points = 0	2		
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 ⋈ No = 0	0		
Total for D 6 Add the points in the boxes above	2		

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#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 2 ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ⊠ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 $\square$ None = 0 points $\boxtimes$ Low = 1 point ☐ Moderate = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)  At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by omphibians)  Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)  Total for H 1  Add the points in the boxes above  \$\frac{5}{8}\$  Rating of Site Potential if score is: \$\Begin{array}{ c c c c c c c c c c c c c c c c c c c	Check the habitat features that are present in the wetland. The number of checks is the number of points.  Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).  Standing snags (dbh > 4 in) within the wetland  Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 n over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)  Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree	
Total for H 1	<ul> <li>where wood is exposed)</li> <li>□ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)</li> <li>□ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of</li> </ul>	d
H 2.0. Does the landscape have the potential to support the habitat functions of the site?  H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).  Calculate: % undisturbed habitat + [{% moderate and low intensity land uses}/2] = see Figs. 2-5  If total accessible habitat is:    > 1/3 (33.3%) of 1 km Polygon   points = 3   1   20-33% of 1 km Polygon   points = 2   points = 1   < 10.19% of 1 km Polygon   points = 0   Points = 0     + 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate: % undisturbed habitat in 1 km Polygon around the wetland.  Calculate: % undisturbed habitat 10.50% of Polygon   points = 3   1   Pointsurbed habitat 10.50% and in 1-3 patches   points = 2   Points = 3   Points = 2   Point	,	ove 5
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).  Calculate: % undisturbed habitat + [{% moderate and low intensity land uses}/2] = see Figs. 2-5  If total accessible habitat is:  > 1/3 (33.3%) of 1 km Polygon  Doints = 2  10-19% of 1 km Polygon  Points = 1  10-10% of 1 km Polygon Points = 0  H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate: % undisturbed habitat + [{% moderate and low intensity land uses}/2] = see Figs. 2-5  Undisturbed habitat 10-50% and in 1-3 patches  Undisturbed habitat 10-50% and in 1-3 patches  Undisturbed habitat 10-50% and > 3 patches  Undisturbed habitat 10-50% and > 3 patches  Undisturbed habitat 10-50% and > 3 patches  Points = 0  H 2.3. Land use intensity in 1 km Polygon if 1 km Polygon if 1 km Polygon if 1 km Polygon if 1 km Polygon is high intensity land use  Solow of 1 km Polygon is high intensity land use  Points = 0  Total for H 2  Add the points in the boxes above  ORating of Landscape Potential If score is:	Rating of Site Potential If score is: $\Box$ 15-18 = H $\Box$ 7-14 = M $\boxtimes$ 0-6 = L Record the rate	ting on the first page
Calculate: % undisturbed habitat + [{% moderate and low intensity land uses}/2] = see Figs. 2-5   fi total accessible habitat is:	H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
20-33% of 1 km Polygon   points = 2	Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5  □ Undisturbed habitat > 50% of Polygon	$\square$ 20-33% of 1 km Polygon points $\boxtimes$ 10-19% of 1 km Polygon points	s = 2 s = 1
H 2.3. Land use intensity in 1 km Polygon: If	Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5  ☐ Undisturbed habitat > 50% of Polygon  ☐ Undisturbed habitat 10-50% and in 1-3 patches  ☐ Undisturbed habitat 10-50% and > 3 patches  ☐ points	s = 2 s = 1
Rating of Landscape Potential If score is: □ 4-6 = H □ 1-3 = M ⋈ < 1 = L Record the rating on the first page  H 3.0. Is the habitat provided by the site valuable to society?  H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated.  Site meets ANY of the following criteria: points = 2  □ It has 3 or more priority habitats within 100 m (see next page) □ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) □ It is mapped as a location for an individual WDFW priority species □ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources □ It has been categorized as an important habitat site in a local or regional comprehensive plan, in □ Shoreline Master Plan, or in a watershed plan □ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 □ Site does not meet any of the criteria above points = 0	H 2.3. Land use intensity in 1 km Polygon: If $\boxtimes$ > 50% of 1 km Polygon is high intensity land use points =	(- 2) -2
H 3.0. Is the habitat provided by the site valuable to society?  H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated.  Site meets ANY of the following criteria: points = 2  □ It has 3 or more priority habitats within 100 m (see next page) □ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) □ It is mapped as a location for an individual WDFW priority species □ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources □ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan □ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 0	·	l .
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated.  Site meets ANY of the following criteria: points = 2  It has 3 or more priority habitats within 100 m (see next page)  It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)  It is mapped as a location for an individual WDFW priority species  It is a Wetland of High Conservation Value as determined by the Department of Natural Resources  It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan  Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1  Site does not meet any of the criteria above points = 0		ng on the first page
that applies to the wetland being rated.  Site meets ANY of the following criteria: points = 2  ☐ It has 3 or more priority habitats within 100 m (see next page)  ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)  ☐ It is mapped as a location for an individual WDFW priority species  ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources  ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in  ☐ Shoreline Master Plan, or in a watershed plan  ☐ Site does not meet any of the criteria above  points = 0	H 3.0. Is the habitat provided by the site valuable to society?	
<ul> <li>☐ It is mapped as a location for an individual WDFW priority species</li> <li>☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> <li>☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in         a Shoreline Master Plan, or in a watershed plan</li> <li>☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m</li> <li>☐ Site does not meet any of the criteria above</li> </ul>	that applies to the wetland being rated. Site meets ANY of the following criteria: points	
	<ul> <li>☐ It is mapped as a location for an individual WDFW priority species</li> <li>☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> <li>☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</li> </ul>	1
Delivery value is stated at 17 and 17 table to 18 th 18 th 18 and 18 th	·	

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## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: *NOTE:* This question is independent of the land use between the wetland unit and the priority habitat.

Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish an

□ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
☐ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests</b> : 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</i> ).
⊠ <b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☑ <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
□ <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. ( <i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i> ).
□ <b>Caves:</b> 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.
☐ <b>Cliffs:</b> Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
□ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
□ <b>Snags and Logs:</b> 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EBO5 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): <u>Wetland EB05</u> Date of site visit: 6/3/2015, 2/27/2020 Rated by: <u>K. Crandall</u> Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions $\boxtimes$ or special characteristics $\square$ )

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- ☐ Category IV Total score = 9 15

FUNCTION		mprov iter Q	_	Н	ydrolo	ogic		Habita	at	
					Circle	the ap	prop	riate ra	tings	
Site Potential	Н	М	(L)	Н	(M)	L	Н	М	(L)	
Landscape Potential	Н	M	Ĺ	Н	M	L	Н	М	( <u>I</u> )	
Value	H	M	L	(H)	М	L	Н	M	Ĺ	TOTAL
Score Based on Ratings		6			7			4		17

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		$\boxtimes$

## Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB05-1
Hydroperiods	H 1.2	EB05-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB05-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	EDOE 1
(can be added to figure above)		EB05-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB05-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 49. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 50. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 51. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 52. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 **∠ YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 53. 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,  $\square$  The overbank flooding occurs at least once every 2 years.

Wet]	land	ER(	15
VVC	uuiu	$\mu\nu$	,,

	<ul><li>NO − go to 6</li><li>NOTE: The Riverine unit can contain depressio flooding</li></ul>	ns that are filled with water when the river is not
54		ression in which water ponds, or is saturated to the cans that any outlet, if present, is higher than the interior
	□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
55	flooding? The unit does not pond surface water	area with no obvious depression and no overbank r more than a few inches. The unit seems to be he wetland may be ditched, but has no obvious natural
	□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

56. 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 the wetland unit being scored.

**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 HGM 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 of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

□ Moi	e than	2 HGM	classes
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SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every	
100 ft of horizontal distance)	
☐ Slope is 1% or less ☐ Slope is > 1%-2% points = 2	0
$\Box \text{ Slope is } > 1\%-2\%$ $\Box \text{ Slope is } > 2\%-5\%$ $points = 1$	
☐ Slope is \$2%-5%  ☐ Slope is greater than 5%  ☐ points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\boxtimes$ No = 0	0
	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you</i>	
have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher	
than 6 in.	
☐ Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	3
□ Dense, uncut, herbaceous plants > ½ of area     □ points = 3	
☐ Dense, woody, plants > ½ of area points = 2	
☐ Dense, uncut, herbaceous plants > ¼ of area points = 1	
☐ Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on	the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0	1
⊠ Yes = 1 □ No = 0	1
$\boxtimes$ Yes = 1 $\square$ No = 0 S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	
<ul> <li>✓ Yes = 1 □ No = 0</li> <li>S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?</li> <li>Other sources: urban stream □ ✓ Yes = 1 ⋈ No = 0</li> </ul>	1 2
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream	1 2
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream	1 2 the first page
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S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream	1 2 the first page
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream  Total for S 2  Rating of Landscape Potential If score is: S 1-2 = M □ 0 = L  Record the rating on S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	1 2 the first page  1 1

SLOPE WETLANDS		
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and stream erosi	ion	
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0	1	
Rating of Site Potential If score is: $\boxtimes 1 = M \square 0 = L$ Record the rating on a	the first page	
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\boxtimes$ Yes = 1 $\square$ No = 0	1	
Rating of Landscape Potential If score is: $\boxtimes 1 = M \square 0 = L$ Record the rating on the		
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  ☐ Problems anywhere downstream  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	2	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 図 No = 0	0	
Total for S 6 Add the points in the boxes above	2	
Rating of Value If score is:	the first page	

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 1 □ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 2 $\square$ None = 0 points $\square$ Low = 1 point Moderate = 2 points All three diagrams in

this row are  $\square$  **HIGH** = 3 points

WAS COLUMN TO A		
H 1.5. Special habitat features:	, , ,	
Check the habitat features that are present in the wetland. <i>The number of checks is th</i>	e number of points.	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
☐ Standing snags (dbh > 4 in) within the wetland		
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants exte over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)		
☐ Stable steep banks of fine material that might be used by beaver or muskrat for o		0
slope) OR signs of recent beaver activity are present (cut shrubs or trees that ha where wood is exposed)		
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in a permanently or seasonally inundated (structures for egg-laying by amphibians)	reas that are	
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (	see H 1.1 for list of	
strata)	, , , , , ,	
Total for H 1 Add the p	oints in the boxes above	4
Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L	Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the	site?	
	Jice.	
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).	- Fin- 2 F	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = set	e Figs. 2-5	
If total accessible habitat is:	naints - 2	0
☐ > 1/3 (33.3%) of 1 km Polygon	points = 3	0
☐ 20-33% of 1 km Polygon	points = 2	
☐ 10-19% of 1 km Polygon	points = 1	
⊠ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
☐ Undisturbed habitat > 50% of Polygon	points = 3	1
☐ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	
☐ Undisturbed habitat 10-50% and > 3 patches	points = 1	
☐ Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
$\boxtimes$ > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the p	oints in the boxes above	-1
Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L	Record the rating on th	ne first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose	e only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
$\square$ It has 3 or more priority habitats within 100 m (see next page)		
☐ It provides habitat for Threatened or Endangered species (any plant or animal o	on the state or federal lists)	1
☐ It is mapped as a location for an individual WDFW priority species	Natural Posouroes	1
<ul> <li>□ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> <li>□ It has been categorized as an important habitat site in a local or regional comprehensive plan, in</li> </ul>		
a Shoreline Master Plan, or in a watershed plan	enensive pian, III	
Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
☐ Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: \(\pi 2 = H \\ \Bigsim 1 = M \\ \pi 0 = I	Record the rating on	the first nage

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
$\square$ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests:</b> 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</i> ).
<b>⊠ Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☑ <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
□ <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. ( <i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i> ).
□ <b>Caves:</b> 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.
$\Box$ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
□ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
□ <b>Snags and Logs:</b> 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EB06 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB06 Date of site visit:  $\underline{6/3/2015}$ ,  $\underline{2/27/2020}$  Rated by: K. Crandall Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training:  $\underline{9/2014}$ 

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- ☐ Category III Total score = 16 19
- **Category IV** − Total score = 9 15

FUNCTION	Improving Water Qualit	Hydrologic y	Habitat	
		Circle the ap	propriate ratings	
Site Potential	H (M) L	H (M) L	H M (L)	
Landscape Potential	H M L	H M (L)	H M (L)	
Value	H M L	H) M L	H M L	TOTAL
Score Based on Ratings	5	6	4	15

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog		I
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		$\boxtimes$

## Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB05-1
Hydroperiods	H 1.2	EB06-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB05-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	EB05-1
(can be added to figure above)		EB03-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB06-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 57. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 58. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 59. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 60. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 **∠ YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 61. 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,

 $\square$  The overbank flooding occurs at least once every 2 years.

Wet	land	FR	16
VV CL	ıanu	יעע	JU

□ NO – go to 6 <b>NOTE</b> : The Riverine unit can conflooding	tain depressions that are filled with water when the river is not
-	pographic depression in which water ponds, or is saturated to the year? This means that any outlet, if present, is higher than the interior
□ NO – go to 7	☐ <b>YES</b> – The wetland class is <b>Depressional</b>
flooding? The unit does not pon-	d in a very flat area with no obvious depression and no overbank d surface water more than a few inches. The unit seems to be r in the area. The wetland may be ditched, but has no obvious natural
□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

64. 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 the wetland unit being scored.

**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 HGM 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

□ Moi	e than	2 HGM	classes
-------	--------	-------	---------

SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
☐ Slope is > 1%-2% points = 2 ☐ Slope is > 2%-5% points = 1 ☐ Slope is greater than 5% points = 0	0
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\boxtimes$ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  Dense, uncut, herbaceous plants > 90% of the wetland area  points = 6	6
<ul> <li>□ Dense, uncut, herbaceous plants &gt; ½ of area</li> <li>□ Dense, woody, plants &gt; ½ of area</li> <li>□ Dense, uncut, herbaceous plants &gt; ¼ of area</li> <li>□ Does not meet any of the criteria above for plants</li> </ul>	
Total for S 1  Add the points in the boxes above	6
Rating of Site Potential If score is: $\Box$ 12 = H $\boxtimes$ 6-11 = M $\Box$ 0-5 = L Record the rating on the same of the sa	the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
C.2.4. In 2007 of the constraint is 450 ft and he wishlift idea of the contract is land one of the contract of	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? $\Box$ Yes = 1 $\boxtimes$ No = 0	0
	0
$\square$ Yes = 1 $\boxtimes$ No = 0 S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	-
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 ⋈ No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 ☒ No = 0  Total for S 2 Add the points in the boxes above	0 0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  Total for S 2  Rating of Landscape Potential If score is:  □ 1-2 = M 図 0 = L  Record the rating on the site valuable to society?  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  □ Yes = 1 図 No = 0	0 0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  □ Yes = 1 ⋈ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M ⋈ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	0 0 the first page
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 ⋈ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M ⋈ 0 = L  Record the rating on the stream, river, lake, or marine water that is on the 303(d) list? □ Yes = 1 ⋈ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is	0 0 the first page 0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  Total for S 2  Rating of Landscape Potential If score is:  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	0 0 the first page 0

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion	
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  ☑ Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland ☐ All other conditions points = 0	1
Rating of Site Potential If score is: $\boxtimes 1 = M \square 0 = L$ Record the rating on	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? ☐ Yes = 1 ☒ No = 0	0
Rating of Landscape Potential If score is: $\square$ 1 = M $\boxtimes$ 0 = L Record the rating on to	
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  ☐ Problems anywhere downstream  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems:  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Distance to the nearest areas downstream that have flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	2
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? $\Box$ Yes = 2 $\boxtimes$ No = 0	0
Total for S 6 Add the points in the boxes above	2
Rating of Value If score is:	the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 1 ⊠ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 $\square$ None = 0 points $\boxtimes$ Low = 1 point ☐ Moderate = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:			
Check the habitat features that are present in the wetland. The number of checks is the nu	ımber of points.		
$\square$ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).			
☐ Standing snags (dbh > 4 in) within the wetland			
☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	at least 3.3 ft (1 m)		
$\square$ Stable steep banks of fine material that might be used by beaver or muskrat for denr	ning (> 30 degree	0	
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have r where wood is exposed)	not yet weathered		
$\square$ At least ¼ ac of thin-stemmed persistent plants 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 every stratum of plants (see	H 1.1 for list of		
strata)		_	
	ts in the boxes above	4	
Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L	Record the rating on t	the first page	
H 2.0. Does the landscape have the potential to support the habitat functions of the site	2?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).			
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Fig.	gs. 2-5		
If total accessible habitat is:			
$\square > 1/3 (33.3\%)$ of 1 km Polygon	points = 3	1	
20-33% of 1 km Polygon	points = 2		
☑ 10-19% of 1 km Polygon	points = 1		
$\square$ < 10% of 1 km Polygon	points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.			
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Fig.			
☐ Undisturbed habitat > 50% of Polygon	points = 3	1	
$\square$ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	<u> </u>	
☑ Undisturbed habitat 10-50% and > 3 patches	points = 1		
☐ Undisturbed habitat < 10% of 1 km Polygon	points = 0		
H 2.3. Land use intensity in 1 km Polygon: If			
	points = (- 2)	-2	
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0		
	ts in the boxes above	0	
Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L	Record the rating on th	ne first page	
H 3.0. Is the habitat provided by the site valuable to society?			
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose on	nly the highest score		
that applies to the wetland being rated.			
Site meets ANY of the following criteria:	points = 2		
☐ It has 3 or more priority habitats within 100 m (see next page)			
☐ It provides habitat for Threatened or Endangered species (any plant or animal on the	ne state or federal lists)		
☐ It is mapped as a location for an individual WDFW priority species		1	
☐ It is a Wetland of High Conservation Value as determined by the Department of Nat			
☐ It has been categorized as an important habitat site in a local or regional comprehe	nsive plan, in		
a Shoreline Master Plan, or in a watershed plan	naints - 1		
☑ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1		
☐ Site does not meet any of the criteria above	points = 0		
Rating of Value If score is: $\square$ 2 = H $\boxtimes$ 1 = M $\square$ 0 = L Record the rating on t		the first page	

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
☐ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests:</b> 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</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.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☑ 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.
□ <b>Nearshore</b> : 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 – see web link on previous page).
□ <b>Caves:</b> 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.
$\Box$ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
$\Box$ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
□ <b>Snags and Logs:</b> 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EBO7 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): <u>Wetland EB07</u> Date of site visit: <u>6/15/2015</u>, <u>2/27/2020</u> Rated by: <u>K. Crandall</u> Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: <u>9/2014</u>

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- ☐ Category III Total score = 16 19
- **Category IV** − Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic		Habitat			
			Circle the appropriate ratings					
Site Potential	Н	M (L)	Н	М	(L)	Н	M (L)	
Landscape Potential	Н	M) L	Н	M	L	Н	M (L)	
Value	Н	M L	H	M	L	Н	M L	TOTAL
Score Based on Ratings		5		6			4	15

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC		CATEGORY		
Estuarine	I	II		
Wetland of High Conservation Value		I		
Bog		I		
Mature Forest		I		
Old Growth Forest		I		
Coastal Lagoon	I	II		
Interdunal	I II	III IV		
None of the above		$\boxtimes$		

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB05-1
Hydroperiods	H 1.2	EB07-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB05-1
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	EDOE 1
(can be added to figure above)		EB05-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB07-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rate.

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 Ouestion 8.

	o to queenen e.
65. Are the water levels in t	he entire unit usually controlled by tides except during floods?
⊠ NO – go to 2	$\square$ <b>YES</b> – the wetland class is <b>Tidal Fringe</b> – go to 1.1
1.1 Is the salinity of the wa	ater during periods of annual low flow below 0.5 ppt (parts per thousand)?
If your wetland can be	al Fringe (Estuarine)
	is flat and precipitation is the only source (>90%) of water to it. Groundwater fare NOT sources of water to the unit.
$ extrm{ $\boxtimes$ NO - go to 3}$ If your wetland can be cl	$\Box$ <b>YES</b> – The wetland class is <b>Flats</b> assified as a Flats wetland, use the form for <b>Depressional</b> wetlands.
☐ The vegetated part of plants on the surface	unit <b>meet all</b> of the following criteria? the wetland is on the shores of a body of permanent open water (without any at any time of the year) at least 20 ac (8 ha) in size; een water area is deeper than 6.6 ft (2 m).
⊠ NO – go to 4	☐ <b>YES</b> – The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
<ul><li>☑ The wetland is on a s</li><li>☑ The water flows thro seeps. It may flow su</li></ul>	unit <b>meet all</b> of the following criteria? lope ( <i>slope can be very gradual</i> ), ugh the wetland in one direction (unidirectional) and usually comes from bsurface, as sheetflow, or in a swale without distinct banks, wetland <b>without being impounded</b> .
□ NO – go to 5	
	bes not pond in these type of wetlands except occasionally in very small and behind hummocks (depressions are usually <3 ft diameter and less than 1 ft
☐ The unit is in a valley, stream or river,	unit <b>meet all</b> of the following criteria? or stream channel, where it gets inundated by overbank flooding from that g occurs at least once every 2 years.

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	□ NO – go to 6 <b>NOTE</b> : The Riverine unit can contain depressions flooding	□ <b>YES</b> – The wetland class is <b>Riverine</b> that are filled with water when the river is not
70	. Is the entire wetland unit in a topographic depressurface, at some time during the year? This mean of the wetland.	ssion in which water ponds, or is saturated to the as that any outlet, if present, is higher than the interior
	□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
71	Is the entire wetland unit located in a very flat are flooding? The unit does not pond surface water maintained by high groundwater in the area. The outlet.	•
	□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

72. 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 the wetland unit being scored.

**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 HGM 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within	Depressional
boundary of depression	Бергеззіона
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of	Treat as
freshwater wetland	ESTUARINE

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

□ Moi	e than	2 HGM	classes
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## **SLOPE WETLANDS**

Water Quality Functions - Indicators that the site functions to improve water qualit	y
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
☐ Slope is 1% or less points = 3	0
☐ Slope is > 1%-2% points = 2	
☐ Slope is > 2%-5% points = 1	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = $3 \boxtimes$ No = $0$	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
☐ Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	0
☐ Dense, uncut, herbaceous plants > ½ of area points = 3	
☐ Dense, woody, plants > ½ of area points = 2	
☐ Dense, uncut, herbaceous plants > ¼ of area points = 1	
☐ Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	0
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on t	he first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? $\boxtimes$ Yes = 1 $\square$ No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1
Other sources: <u>automobiles</u> $\boxtimes$ Yes = 1 $\square$ No = 0	1
Total for S 2 Add the points in the boxes above	2
Rating of Landscape Potential If score is:	he first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? $\square$ Yes = 1 $\square$ No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. $\boxtimes$ Yes = 1 $\square$ No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES if there is a TMDL for the basin in which unit is found. $\square$ Yes = 2 $\bowtie$ No = 0	0
Total for S 3 Add the points in the boxes above	1
Rating of Value If score is: □ 2-4 = H ⊠ 1 = M □ 0 = L  Record the rating on t	he first page

SLOPE WETLANDS	
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and stream erosi	ion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, rigid plants cover > 90% of the area of the wetland □ All other conditions  points = 0	0
Rating of Site Potential If score is: $\Box$ 1 = M $\boxtimes$ 0 = L Record the rating on a	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\boxtimes$ Yes = 1 $\square$ No = 0	1
Rating of Landscape Potential If score is:  □ 1 = M □ 0 = L	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems:  □ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  □ Surface flooding problems are in a sub-basin farther down-gradient  □ No flooding problems anywhere downstream  points = 0	2
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 □ No = 0	0
Total for S 6 Add the points in the boxes above	2
Rating of Value If score is:	the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 0 ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 0 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 $\boxtimes$ None = 0 points $\square$ Low = 1 point ☐ Moderate = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:  Check the habitat features that are present in the wetland. The number of checks is the numb	it least 3.3 ft (1 m) ing (> 30 degree	0
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have no where wood is exposed)  At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas permanently or seasonally inundated (structures for egg-laying by amphibians)  Invasive plants cover less than 25% of the wetland area in every stratum of plants (see F strata)	that are	
Total for H 1 Add the points	s in the boxes above	1
Rating of Site Potential If score is: $\Box$ 15-18 = H $\Box$ 7-14 = M $\boxtimes$ 0-6 = L	Record the rating on t	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site	?	
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).  Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Fig. If total accessible habitat is:  □ > 1/3 (33.3%) of 1 km Polygon  □ 20-33% of 1 km Polygon  □ 10-19% of 1 km Polygon  ⊠ < 10% of 1 km Polygon	s. 2-5  points = 3  points = 2  points = 1  points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Fig.  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10-50% and in 1-3 patches  Undisturbed habitat 10-50% and > 3 patches  Undisturbed habitat < 10% of 1 km Polygon		1
H 2.3. Land use intensity in 1 km Polygon: If  □ > 50% of 1 km Polygon is high intensity land use □ ≤ 50% of 1 km Polygon is high intensity	points = (- 2) points = 0	-2
	in the boxes above	-1
Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L	Record the rating on th	ne first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only that applies to the wetland being rated.  Site meets ANY of the following criteria:	points = 2	
<ul> <li>☐ It provides habitat for Threatened or Endangered species (any plant or animal on the</li> <li>☐ It is mapped as a location for an individual WDFW priority species</li> <li>☐ It is a Wetland of High Conservation Value as determined by the Department of Nation</li> <li>☐ It has been categorized as an important habitat site in a local or regional compreher a Shoreline Master Plan, or in a watershed plan</li> <li>☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m</li> </ul>	ural Resources nsive plan, in points = 1	1
☐ Site does not meet any of the criteria above	points = 0	the first rese
<b>Rating of Value</b> If score is: $\square$ <b>2 = H</b> $\boxtimes$ <b>1 = M</b> $\square$ <b>0 = L</b>	Record the rating on	tne first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

☐ <b>Aspen Stands:</b> Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
☐ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
☐ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests:</b> 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</i> ).
<b>⊠ Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☑ 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.
□ <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. ( <i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i> ).
□ <b>Caves:</b> 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.
$\Box$ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
□ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
□ <b>Snags and Logs:</b> 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EBO8 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB08 Date of site visit: 6/8/2015, 2/27/2020 Rated by: K. Crandall, N. Lund Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014, 6/2014

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Imp Wate		_	Hydrologic			Habitat			
				(	Circle	the ap	oroprio	ate ra	itings	
Site Potential	Н (1	VI)	L	Н	М		Н	М	(L)	
Landscape Potential	H (1	V)	L	Н	М	( <u>I</u> )	Н	М	( <u>l</u> )	
Value	H	VI	L (	$(\pm)$	М	Ĺ	H	М	Ĺ	TOTAL
Score Based on Ratings		7			5			5		17

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	I II		
Interdunal	I II	III IV	
None of the above	$\boxtimes$		

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB08-1
Hydroperiods	H 1.2	EB08-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB08-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	EB08-1
(can be added to figure above)		EB00-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB08-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including H 2.1, H 2.2, H 2.3		2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 73. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 74. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 75. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 76. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 ✓ **YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 77. 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,  $\square$  The overbank flooding occurs at least once every 2 years.

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	NOTE: The Riverine unit can contain depreflooding	essions that are filled with water when the river is not
78.	1 0 1	depression in which water ponds, or is saturated to the is means that any outlet, if present, is higher than the interior
	□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
79.	flooding? The unit does not pond surface v	flat area with no obvious depression and no overbank vater more than a few inches. The unit seems to be ea. The wetland may be ditched, but has no obvious natural
	□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

80. 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 the wetland unit being scored.

**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 HGM 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	HGM class to
being rated		use in rating
	Slope + Riverine	Riverine
	Slope + Depressional	Depressional
	Slope + Lake Fringe	Lake Fringe
	Depressional + Riverine along stream within boundary of depression	Depressional
	Depressional + Lake Fringe	Depressional
	Riverine + Lake Fringe	Riverine
	Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

$\square$ More than	2 HGM	classes
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SLODE WETLANDS	
SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every	
100 ft of horizontal distance)	
☐ Slope is 1% or less points = 3	
$\square$ Slope is > 1%-2% points = 2	0
$\square$ Slope is > 2%-5% points = 1	
⊠ Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\boxtimes$ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:	
Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you	
have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher	
than 6 in.	
☐ Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	6
$\Box$ Dense, uncut, herbaceous plants > $\frac{1}{2}$ of area points = 3	
$\square$ Dense, woody, plants > $\frac{1}{2}$ of area points = 2	
☐ Dense, uncut, herbaceous plants > ¼ of area points = 1	
☐ Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	6
Deline of City Detection I for any in Table 11 M C 44 MA TO 5 I	
<b>Rating of Site Potential</b> If score is: $\square$ <b>12 = H</b> $\boxtimes$ <b>6-11 = M</b> $\square$ <b>0-5 = L</b> Record the rating on the score is:	the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	he first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☒ No = 0	0
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream/surface water ☐ No = 0	0 1 1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream/surface water  ☐ Yes = 1 ☐ No = 0  Total for S 2  Add the points in the boxes above	0 1 1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream/surface water  ☐ Yes = 1 ☐ No = 0  Total for S 2  Add the points in the boxes above	0 1 1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream/surface water  ☐ Yes = 1 ☐ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M ☐ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	0 1 1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream/surface water  □ Yes = 1 □ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M □ 0 = L  Record the rating on the stream of the strea	0 1 1 the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream/surface water  ☐ Yes = 1 ☐ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M ☐ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	0 1 1 the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 □ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream/surface water □ Yes = 1 □ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M □ 0 = L  Record the rating on the stream of the stream	0 1 1 the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 ⋈ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream/surface water ⋈ Yes = 1 ⋈ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ⋈ 1-2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  □ Yes = 1 □ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  □ Yes = 1 □ No = 0	0 1 1 the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 □ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream/surface water □ Yes = 1 □ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M □ 0 = L  Record the rating on the stream of the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? □ Yes = 1 □ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. □ Yes = 1 □ No = 0  S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	0 1 1 the first page

SLOPE WETLANDS	
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and stream erosi	ion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0	0
Rating of Site Potential If score is: □ 1 = M ⊠ 0 = L Record the rating on a	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\square$ Yes = 1 $\boxtimes$ No = 0	0
Rating of Landscape Potential If score is: ☐ 1 = M ⊠ 0 = L Record the rating on the score is: ☐ 1 = M ⊠ 0 = L	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  Down the flooding problems anywhere downstream  Down the flooding problems anywhere downstream	2
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 □ No = 0	0
Total for S 6 Add the points in the boxes above	1
Rating of Value If score is:	the first page

NOTES and FIELD OBSERVATIONS:

#### Wetland EB08 These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 0 ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 0 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 $\boxtimes$ None = 0 points $\square$ Low = 1 point ☐ Moderate = 2 points All three diagrams in

this row are  $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. <i>The number of checks</i>	- ·	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)		
☐ Standing snags (dbh > 4 in) within the wetland		
☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants of over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (1		
☐ Stable steep banks of fine material that might be used by beaver or muskrat		0
slope) OR signs of recent beaver activity are present (cut shrubs or trees that where wood is exposed)		
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present		
permanently or seasonally inundated (structures for egg-laying by amphibians		
☐ Invasive plants cover less than 25% of the wetland area in every stratum of pla <i>strata</i> )	nts (see H 1.1 for list of	
Total for H 1 Add t	he points in the boxes above	1
Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☒ 0-6 = L	Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of	the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2]	= see Fias 2-5	
If total accessible habitat is:	- 3cc 11g3. 2 3	
$\square > 1/3$ (33.3%) of 1 km Polygon	points = 3	0
☐ 20-33% of 1 km Polygon	points = 2	
☐ 10-19% of 1 km Polygon	points = 1	
□ 10-13 % of 1 km + olygon     □ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	points – o	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2]	- see Figs 2-5	
☐ Undisturbed habitat > 50% of Polygon	<del>-</del>	
	points = 3	1
☐ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	
☑ Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	( 2)	2
	points = (- 2)	-2
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0	4
	he points in the boxes above	-1
Rating of Landscape Potential If score is: ☐ 4-6 = H ☐ 1-3 = M ☒ < 1 = L	Record the rating on th	ne first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Ch	noose only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
☑ It has 3 or more priority habitats within 100 m (see next page)		
☐ It provides habitat for Threatened or Endangered species (any plant or anin	nal on the state or federal lists)	
☐ It is mapped as a location for an individual WDFW priority species	•	2
☐ It is a Wetland of High Conservation Value as determined by the Departme		
☐ It has been categorized as an important habitat site in a local or regional co	omprehensive plan, in	
a Shoreline Master Plan, or in a watershed plan  ☐ Site has 1 or 2 priority habitats (listed on next page) within 100 m	noints = 1	
	points = 1	
☐ Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\boxtimes 2 = H \square 1 = M \square 0 = I$	Record the rating on	the first nage

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 – see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EB09 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB09 Date of site visit: 6/8/2015, 2/27/2020 Trained by Ecology? ⊠ Y □ N Rated by: K. Crandall, N. Lund Date of training: 9/2014, 6/2014 **HGM Class used for rating:** Depressional Wetland has multiple HGM classes? ⊠ Y □ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth, King County iMap

## **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

## Category of wetland based on FUNCTIONS

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- ☐ Category IV Total score = 9 15

None of the above

FUNCTION	Improving Water Quality		Hydrologic		Habitat				
				Circle t	the app	oropri	iate ra	tings	
Site Potential	H (M)	L	Н	М		Н	(M)	L	
Landscape Potential	H (M)	L	Н	(M)	Ĺ	Н	M		
Value	н м	L (	$(\pm)$	М	L	H	М	L	TOTAL
Score Based on Ratings	7			6			6		19

# Category based on SPECIAL CHARACTERISTICS of wetland

y based on SPECIAL CHARACTERISTICS of Wetland			
CHARACTERISTIC	CATE	GORY	
Estuarine	I	II	
Wetland of High Conservation Value		I	
Bog		I	
Mature Forest		I	
Old Growth Forest	I		
Coastal Lagoon	I	II	
Interdunal	I II	III IV	
None of the above		$\boxtimes$	

## Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## <u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB09-1
Hydroperiods	D 1.4, H 1.2	EB09-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB09-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB09-2
Map of the contributing basin	D 4.3, D 5.3	EB09-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

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.

81. Are the water levels in the entire unit	usually controlled by tides except during floods?
⊠ NO – go to 2	$\square$ <b>YES</b> – the wetland class is <b>Tidal Fringe</b> – go to 1.1
1.1 Is the salinity of the water during pe	eriods of annual low flow below 0.5 ppt (parts per thousand)?
	Freshwater Tidal Fringe use the forms for <b>Riverine</b> wetlands. If it <b>varine</b> wetland and is not scored. This method <b>cannot</b> be used to
82. The entire wetland unit is flat and pre and surface water runoff are NOT sou	cipitation is the only source (>90%) of water to it. Groundwater rces of water to the unit.
extstyle  ext	$\square$ <b>YES</b> – The wetland class is <b>Flats</b> lats wetland, use the form for <b>Depressional</b> wetlands.
	s on the shores of a body of permanent open water (without any the year) at least 20 ac (8 ha) in size;
$\boxtimes$ NO – go to 4 $\square$ YES	<b>S</b> – The wetland class is <b>Lake Fringe</b> (Lacustrine Fringe)
9	n be very gradual), nd in one direction (unidirectional) and usually comes from heetflow, or in a swale without distinct banks,
⋈ NO – go to 5	$\square$ <b>YES</b> – The wetland class is <b>Slope</b>
	n these type of wetlands except occasionally in very small and locks (depressions are usually <3 ft diameter and less than 1 ft
85. Does the entire wetland unit <b>meet all</b> ☐ The unit is in a valley, or stream characteristics or river, ☐ The overbank flooding occurs at least	annel, where it gets inundated by overbank flooding from that

N	l NO – go to 6 <b>OTE</b> : The Riverine unit can contain depressions tooding	☐ <b>YES</b> – The wetland class is <b>Riverine</b> that are filled with water when the river is not
su	the entire wetland unit in a topographic depress arface, at some time during the year? <i>This means the wetland.</i>	sion in which water ponds, or is saturated to the s that any outlet, if present, is higher than the interior
	NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
flo m	the entire wetland unit located in a very flat area coding? The unit does not pond surface water m aintained by high groundwater in the area. The utlet.	•
	NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

88. 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 the wetland unit being scored.

**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 HGM 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		HGM class to	
	being rated	use in rating	
	Slope + Riverine	Riverine	
	Slope + Depressional	Depressional	
	Slope + Lake Fringe	Lake Fringe	
	Depressional + Riverine along stream within	Donrossianal	
	boundary of depression	Depressional	
	Depressional + Lake Fringe	Depressional	
	Riverine + Lake Fringe	Riverine	
	Salt Water Tidal Fringe and any other class of	Treat as	
	freshwater wetland	ESTUARINE	

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

More than	2	HCM	claccos

DEPRESSIONAL AND FLATS WETLANDS				
Water Quality Functions - Indicators that the site functions to improve water quality				
D 1.0. Does the site have the potential to improve water quality?				
D 1.1. Characteristics of surface water outflows from the wetland:				
$\square$ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).				
points = 3	4			
☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2	1			
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1				
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) $\square$ Yes = $4 \boxtimes$ No = 0	0			
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):				
☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	5			
☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1				
☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0				
D 1.4. Characteristics of seasonal ponding or inundation:				
This is the area that is ponded for at least 2 months. See description in manual.				
☐ Area seasonally ponded is > ½ total area of wetland points = 4	4			
☐ Area seasonally ponded is > ¼ total area of wetland points = 2				
$\square$ Area seasonally ponded is < $\frac{1}{2}$ total area of wetland points = 0				
Total for D 1 Add the points in the boxes above	10			
Rating of Site Potential If score is: $\square$ 12-16 = H $\boxtimes$ 6-11 = M $\square$ 0-5 = L Record the rating on the fi	irst page			
D 2.0. Does the landscape have the potential to support the water quality function of the site?				
D 2.1. Does the wetland unit receive stormwater discharges? $\boxtimes$ Yes = 1 $\square$ No = 0	1			
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $\square$ Yes = 1 $\boxtimes$ No = 0	0			
D 2.3. Are there septic systems within 250 ft of the wetland? $\square$ Yes = 1 $\boxtimes$ No = 0	0			
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	0			
Source	· ·			
Total for D 2 Add the points in the boxes above	1			
<b>Rating of Landscape Potential</b> If score is: $\square$ 3 or 4 = H $\boxtimes$ 1 or 2 = M $\square$ 0 = L Record the rating on the first page				
D 3.0. Is the water quality improvement provided by the site valuable to society?				
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	1			
303(d) list? $\qquad \qquad \boxtimes \text{ Yes} = 1  \Box \text{ No} = 0$				
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? $\square$ Yes = 1 $\square$ No = 0	1			
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES	0			
if there is a TMDL for the basin in which the unit is found)? $\square$ Yes = 2 $\boxtimes$ No = 0				
Total for D 3 Add the points in the boxes above	2			
<b>Rating of Value</b> If score is: $\boxtimes$ <b>2-4 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> Record the rating on the factors.	irst page			

DEPRESSIONAL AND FLATS WETLANDS				
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation				
D 4.0. Does the site have the potential to reduce flooding and erosion?				
D 4.1. Characteristics of surface water outflows from the wetland:  ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4  ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1  ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	0			
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 □ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 □ The wetland is a "headwater" wetland points = 3 □ Wetland is flat but has small depressions on the surface that trap water points = 1 □ Marks of ponding less than 0.5 ft (6 in) points = 0	0			
D 4.3. Contribution of the wetland 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 points = 5 □ The area of the basin is 10 to 100 times the area of the unit points = 3 □ The area of the basin is more than 100 times the area of the unit points = 0 □ Entire wetland is in the Flats class points = 5	0			
Total for D 4 Add the points in the boxes above	0			
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the	first page			
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?				
D 5.1. Does the wetland receive stormwater discharges? $\square$ Yes = 1 $\square$ No = 0	1			
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? $\square$ Yes = 1 $\square$ No = 0	0			
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	1			
Total for D 5 Add the points in the boxes above				
Rating of Landscape Potential If score is: $\square$ 3 = H $\boxtimes$ 1 or 2 = M $\square$ 0 = L Record the rating on the	first page			
D 6.0. Are the hydrologic functions provided by the site valuable to society?				
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  ■ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  ■ Surface flooding problems are in a sub-basin farther down-gradient. points = 1  □ Flooding from groundwater is an issue in the sub-basin. points = 1  □ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0  □ There are no problems with flooding downstream of the wetland. points = 0	2			
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? $\Box$ Yes = 2 $\boxtimes$ No = 0	0			
Total for D 6 Add the points in the boxes above	2			
Rating of Value If score is: $\boxtimes$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the	first page			

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#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 ☐ Emergent 3 structures: points = 2 2 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 1 ☐ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 2 $\square$ None = 0 points $\square$ Low = 1 point Moderate = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of checks is the	number of points.	
$\Box$ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
☐ Standing snags (dbh > 4 in) within the wetland		
☑ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extend over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	ds at least 3.3 ft (1 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for deal slope) OR signs of recent beaver activity are present (cut shrubs or trees that have where wood is exposed)		1
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in area permanently or seasonally inundated (structures for egg-laying by amphibians)	as that are	
<ul> <li>Invasive plants cover less than 25% of the wetland area in every stratum of plants (se strata)</li> </ul>	e H 1.1 for list of	
Total for H 1 Add the poi	ints in the boxes above	7
Rating of Site Potential If score is: ☐ 15-18 = H ⊠ 7-14 = M ☐ 0-6 = L	Record the rating on t	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the si	te?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see F	igs. 2-5	
If total accessible habitat is:		
$\square$ > 1/3 (33.3%) of 1 km Polygon	points = 3	0
$\square$ 20-33% of 1 km Polygon	points = 2	
$\square$ 10-19% of 1 km Polygon	points = 1	
⊠ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see F	igs. 2-5	
☐ Undisturbed habitat > 50% of Polygon	points = 3	2
☐ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	2
$\square$ Undisturbed habitat 10-50% and > 3 patches	points = 1	
☐ Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
$\boxtimes$ > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
$\square \le 50\%$ of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the poi	ints in the boxes above	0
Rating of Landscape Potential If score is: $\square$ 4-6 = H $\square$ 1-3 = M $\boxtimes$ < 1 = L	Record the rating on th	ne first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose of	only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
It has 3 or more priority habitats within 100 m (see next page)     ■		
☐ It provides habitat for Threatened or Endangered species (any plant or animal on	the state or federal lists)	
☐ It is mapped as a location for an individual WDFW priority species		2
☐ It is a Wetland of High Conservation Value as determined by the Department of N		
☐ It has been categorized as an important habitat site in a local or regional compreh	nensive plan, in	
a Shoreline Master Plan, or in a watershed plan □ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
	•	
☐ Site does not meet any of the criteria above	points = 0	the first name
Rating of Value If score is: $\boxtimes 2 = H \square 1 = M \square 0 = L$	Record the rating on	ıne jirst page

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## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EB10 Rating Form

## **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB10 Date of site visit: 6/15/2015, 2/27/2020 Rated by: K. Crandall, N. Lund Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014, 6/2014 HGM Class used for rating: Slope Wetland has multiple HGM classes?  $\square$  Y  $\boxtimes$  N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the app	propriate ratings	
Site Potential	H (M) L	H (M) L	H M (L)	
Landscape Potential	H M L	H M L	H M L	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings	7	7	5	19

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CAT	EGORY
Estuarine	I	II
Wetland of High Conservation Value		I
Bog		I
Mature Forest		I
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		$\boxtimes$

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB10-1
Hydroperiods	H 1.2	EB10-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB10-1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	EB10-1
(can be added to figure above)		EB10-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB10-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 89. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 90. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 91. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 92. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 ✓ **YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 93. 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 2 years.

	NOTE: The Riverine unit can contain depression flooding	ons that are filled with water when the river is not
94.	1 0 1	ression in which water ponds, or is saturated to the eans that any outlet, if present, is higher than the interior
	□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
95.	flooding? The unit does not pond surface wate	area with no obvious depression and no overbank or more than a few inches. The unit seems to be The wetland may be ditched, but has no obvious natural
	□ NO – go to 8	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>

96. 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 the wetland unit being scored.

**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 HGM 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

⊔ More	than 2	HGM	classes
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SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
□ Slope is 1% or less       points = 3         □ Slope is > 1%-2%       points = 2         □ Slope is > 2%-5%       points = 1	0
☑ Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\boxtimes$ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
<ul> <li>✓ Dense, uncut, herbaceous plants &gt; 90% of the wetland area</li> <li>✓ Dense, uncut, herbaceous plants &gt; ½ of area</li> </ul> points = 3 points = 3	6
<ul> <li>□ Dense, woody, plants &gt; ½ of area</li> <li>□ Dense, uncut, herbaceous plants &gt; ¼ of area</li> <li>□ Does not meet any of the criteria above for plants</li> <li>points = 0</li> </ul>	
Total for S 1  Add the points in the boxes above	6
Rating of Site Potential If score is: $\Box$ 12 = H $\boxtimes$ 6-11 = M $\Box$ 0-5 = L Record the rating on the same of the sa	the first page
	, , ,
S 2.0. Does the landscape have the potential to support the water quality function of the site?	<i>y</i> , 5
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☑ Yes = 1 □ No = 0	1
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \times Yes = 1  No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:   Yes = 1 \times No = 0	1 0 1
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \( \text{\titt{\tex{\tex	1 0 1
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1 0 1
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1 0 1 the first page
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S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1 0 1 the first page

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion		
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0	1	
Rating of Site Potential If score is: □ 1 = M □ 0 = L  Record the rating on the first particle.		
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\boxtimes$ Yes = 1 $\square$ No = 0	1	
Rating of Landscape Potential If score is:		
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  Down the flooding problems anywhere downstream  Down the flooding problems anywhere downstream	2	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 ☑ No = 0	0	
Total for S 6 Add the points in the boxes above	2	
Rating of Value If score is: $\boxtimes$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the first p		

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 1 □ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 $\square$ None = 0 points $\boxtimes$ Low = 1 point ☐ **Moderate** = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of checks is the num	nber of points.	
$\square$ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
☐ Standing snags (dbh > 4 in) within the wetland		
☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	t least 3.3 ft (1 m)	
<ul> <li>Stable steep banks of fine material that might be used by beaver or muskrat for denniing slope) OR signs of recent beaver activity are present (cut shrubs or trees that have now where wood is exposed)</li> </ul>		0
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas t permanently or seasonally inundated (structures for egg-laying by amphibians)	hat are	
<ul> <li>Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H strata)</li> </ul>	1.1 for list of	
Total for H 1 Add the points	in the boxes above	4
Rating of Site Potential If score is: $\Box$ 15-18 = H $\Box$ 7-14 = M $\boxtimes$ 0-6 = L	Record the rating on t	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs	:. 2-5	
If total accessible habitat is:		
$\square$ > 1/3 (33.3%) of 1 km Polygon	points = 3	0
$\square$ 20-33% of 1 km Polygon	points = 2	
$\square$ 10-19% of 1 km Polygon	points = 1	
oxtimes < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs	. 2-5	
☐ Undisturbed habitat > 50% of Polygon	points = 3	2
☑ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	2
☐ Undisturbed habitat 10-50% and > 3 patches	points = 1	
☐ Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
	points = (- 2)	-2
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points	in the boxes above	0
Rating of Landscape Potential If score is: ☐ 4-6 = H ☐ 1-3 = M ☒ < 1 = L	Record the rating on th	ne first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only	the highest score	-
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
$\square$ It provides habitat for Threatened or Endangered species (any plant or animal on the	state or federal lists)	_
☐ It is mapped as a location for an individual WDFW priority species		2
☐ It is a Wetland of High Conservation Value as determined by the Department of Natu		
☐ It has been categorized as an important habitat site in a local or regional comprehen	sive plan, in	
a Shoreline Master Plan, or in a watershed plan $\square$ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
	·	
☐ Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\boxtimes$ 2 = H $\square$ 1 = M $\square$ 0 = L	Record the rating on	tne first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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### Wetland EB11 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB11 Date of site visit: 6/5/2015, 2/27/2020

Rated by: K. Crandall, R. Whitson Trained by Ecology? ⊠ Y □ N Date of training: 9/2014

HGM Class used for rating: Depressional Wetland has multiple HGM classes? ⊠ Y □ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions $\boxtimes$ or special characteristics $\square$ )

### **Category of wetland based on FUNCTIONS**

- $\Box$  Category I Total score = 23 27
- ☐ Category III Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic			Habitat				
				C	ircle	the ap	oroprio	ate ra	itings	
Site Potential	Н	(M)	L	Н	М		Н	М	(L)	
Landscape Potential	H	M	L (	$(\pm)$	М	Ĺ	Н	М	(L)	
Value	H	М	L (	$(\pm)$	М	L	H	М	L	TOTAL
Score Based on Ratings		8			7			5		20

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog		I
Mature Forest		I
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## **Depressional Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB11-1
Hydroperiods	D 1.4, H 1.2	EB11-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB11-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB11-2
Map of the contributing basin	D 4.3, D 5.3	EB11-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	8
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 97. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 98. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 99. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 100. Does the entire wetland unit **meet all** of the following criteria?  $\square$  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**.  $\boxtimes$  NO – go to 5 ☐ **YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that

101. Does the entire wetland unit **meet all** of the following criteria?

☐ The overbank flooding occurs at least once every 2 years.

deep).

stream or river.

⋈ NO – go to 6  NOTE: The Riverine unit can conta  flooding	$\Box$ <b>YES</b> – The wetland class is <b>Riverine</b> ain depressions that are filled with water when the river is not
	opographic depression in which water ponds, or is saturated to the ear? This means that any outlet, if present, is higher than the interior
⊠ NO – go to 7	☐ <b>YES</b> – The wetland class is <b>Depressional</b>
flooding? The unit does not pond	ed in a very flat area with no obvious depression and no overbank surface water more than a few inches. The unit seems to be in the area. The wetland may be ditched, but has no obvious natural
⊠ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

104. 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 the wetland unit being scored.

**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 HGM 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
Ш	Slope + Riverine	Riverine
	Slope + Depressional	Depressional
	Slope + Lake Fringe	Lake Fringe
	Depressional + Riverine along stream within	Depressional
	boundary of depression	Depressional
	Depressional + Lake Fringe	Depressional
	Riverine + Lake Fringe	Riverine
	Salt Water Tidal Fringe and any other class of	Treat as
	freshwater wetland	ESTUARINE

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

✓ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS				
Water Quality Functions - Indicators that the site functions to improve water quality				
D 1.0. Does the site have the potential to improve water quality?				
D 1.1. Characteristics of surface water outflows from the wetland:				
points = 3  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2	1			
<ul> <li>✓ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1</li> <li>✓ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1</li> </ul>				
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) $\square$ Yes = $4 \boxtimes$ No = $0$	0			
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  ☑ Wetland has persistent, ungrazed, plants > 95% of area  ☐ Wetland has persistent, ungrazed, plants > 1/2 of area  ☐ Wetland has persistent, ungrazed plants > 1/10 of area  ☐ Wetland has persistent, ungrazed plants < 1/10 of area  ☐ points = 0	5			
D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland points = 4	0			
☐ Area seasonally ponded is > ¼ total area of wetland  ☐ Area seasonally ponded is < ¼ total area of wetland  ☐ points = 2  ☐ points = 0				
Total for D 1 Add the points in the boxes above	6			
<b>Rating of Site Potential</b> If score is: $\square$ <b>12-16 = H</b> $\boxtimes$ <b>6-11 = M</b> $\square$ <b>0-5 = L</b> Record the rating on the file	rst page			
D 2.0. Does the landscape have the potential to support the water quality function of the site?				
D 2.1. Does the wetland unit receive stormwater discharges? $\boxtimes$ Yes = 1 $\square$ No = 0	1			
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $ ext{ }  ext$	1			
D 2.3. Are there septic systems within 250 ft of the wetland?* $\boxtimes$ Yes = 1 $\square$ No = 0	1			
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source Yes = 1 🖾 No = 0	0			
Total for D 2 Add the points in the boxes above	3			
Rating of Landscape Potential If score is: $\boxtimes$ 3 or 4 = H $\square$ 1 or 2 = M $\square$ 0 = L Record the rating on the first	st page			
D 3.0. Is the water quality improvement provided by the site valuable to society?				
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	1			
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? $\square$ Yes = 1 $\square$ No = 0	1			
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	0			
Total for D 3 Add the points in the boxes above	2			
<b>Rating of Value</b> If score is: $\boxtimes$ <b>2-4 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> Record the rating on the fine	rst page			
*13610 SE 10th St, septic = private, per KC assessor				

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradat	on
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland:  ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4  ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1  ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	0
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 □ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 □ The wetland is a "headwater" wetland points = 3 □ Wetland is flat but has small depressions on the surface that trap water points = 1 □ Marks of ponding less than 0.5 ft (6 in) points = 0	0
D 4.3. Contribution of the wetland 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 □ The area of the basin is 10 to 100 times the area of the unit □ The area of the basin is more than 100 times the area of the unit □ Entire wetland is in the Flats class □ The area of the basin is more than 100 times the area of the unit □ Entire wetland is in the Flats class	3
Total for D 4 Add the points in the boxes above	3
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the	first page
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? $\square$ Yes = 1 $\square$ No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? $\square$ Yes = 1 $\square$ No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? $\  \  \  \  \  \  \  \  \  \  \  \  \ $	1
Total for D 5 Add the points in the boxes above	3
Rating of Landscape Potential If score is: $\boxtimes$ 3 = H $\square$ 1 or 2 = M $\square$ 0 = L Record the rating on the	first page
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  ■ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  ■ Surface flooding problems are in a sub-basin farther down-gradient. points = 1  □ Flooding from groundwater is an issue in the sub-basin. points = 1  □ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0  □ There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? $\Box$ Yes = 2 $\boxtimes$ No = 0	0
Total for D 6 Add the points in the boxes above	2
Rating of Value If score is: $\boxtimes$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the	first page

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#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 1 □ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 $\square$ None = 0 points $\boxtimes$ Low\* = 1 point ☐ Moderate = 2 points \*Stream not meandering All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. <i>The number of checks is the number of poin</i>	nts.	
oxtimes Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
☐ Standing snags (dbh > 4 in) within the wetland		
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 f over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	t (1 m)	
<ul> <li>Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 d slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weat where wood is exposed)</li> </ul>	_	1
☐ At least ¼ ac of thin-stemmed persistent plants 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 every stratum of plants (see H 1.1 for list strata)	of	
Total for H 1 Add the points in the boxe	es above	5
Rating of Site Potential If score is: $\Box$ 15-18 = H $\Box$ 7-14 = M $\boxtimes$ 0-6 = L Record the	e rating on t	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:		
$\square$ > 1/3 (33.3%) of 1 km Polygon	oints = 3	0
$\square$ 20-33% of 1 km Polygon p	oints = 2	
$\square$ 10-19% of 1 km Polygon p	oints = 1	
	oints = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
☐ Undisturbed habitat > 50% of Polygon p	oints = 3	
	oints = 2	2
· · · · · · · · · · · · · · · · · · ·	oints = 1	
·	oints = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
	n+c = / 2\	-2
	nts = (- 2)	-2
	oints = 0	0
Total for H 2 Add the points in the boxe Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L Record the	rating on th	
H 3.0. Is the habitat provided by the site valuable to society?	rating on tr	ie jirst page
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highes that applies to the wetland being rated.</i>	st score	
	aints – 2	
·	oints = 2	
<ul><li>☑ It has 3 or more priority habitats within 100 m (see next page)</li><li>☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or fe</li></ul>	deral lists	
	derai iists)	2
☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resource	res	2
☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in		
a Shoreline Master Plan, or in a watershed plan	''	
	oints = 1	
☐ Site does not meet any of the criteria above p	oints = 0	
= 0.12 does not interest any or the streeth doore	51110 - 0	

Rating of Value If score is: **△2 = H □1 = M □0 = L**Wetland Rating System for Western WA: 2014

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Record the rating on the first page

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 – see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

(6 m) long.

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## Wetland EB12 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): <u>Wetland EB12</u> Date of site visit: 6/5/2015, 2/27/2020 Rated by: <u>K. Crandall</u> Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic		Habitat				
				Circle	the ap	propri	ate ro	atings	
Site Potential	Н	M (L)	Н	М		Н	М	(L)	
Landscape Potential	Н	(M) L	Н	M	Ĺ	Н	М	(1)	
Value	Н	M L	H	М	L	H	М	Ĺ	TOTAL
Score Based on Ratings		5		6			5		16

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	I	II	
Interdunal	I II	III IV	
None of the above		$\boxtimes$	

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L 7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M,L,L

3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB12-1
Hydroperiods	H 1.2	EB12-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB12-3
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	EB12-3
(can be added to figure above)		EB12-3
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB12-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 105. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 106. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 107. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 108. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 **∠ YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 109. 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,  $\square$  The overbank flooding occurs at least once every 2 years.

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	□ NO – go to 6 <b>NOTE</b> : The Riverine unit can contain depit flooding	☐ <b>YES</b> – The wetland class is <b>Riverine</b> ressions that are filled with water when the river is not
11		whic depression in which water ponds, or is saturated to the his means that any outlet, if present, is higher than the interior
	□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
11	flooding? The unit does not pond surface	rery flat area with no obvious depression and no overbank water more than a few inches. The unit seems to be rea. The wetland may be ditched, but has no obvious natural
	□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

112. 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 the wetland unit being scored.

**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 HGM 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

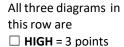
□ Moi	e than	2 HGM	classes
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SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality			
S 1.0. Does the site have the potential to improve water quality?			
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)  □ Slope is 1% or less □ Slope is > 1%-2% □ Slope is > 2%-5% □ Slope is greater than 5% □ Slope is greater than 5%	0		
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): ☐ Yes = 3 ☒ No = 0	0		
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.  □ Dense, uncut, herbaceous plants > 90% of the wetland area □ Dense, uncut, herbaceous plants > ½ of area □ Dense, woody, plants > ½ of area □ Dense, uncut, herbaceous plants > ¼ of area □ Dense, uncut, herbaceous plants > ¼ of area □ Dense, uncut, herbaceous plants > ¼ of area □ Does not meet any of the criteria above for plants □ Does not meet any of the criteria above for plants	2		
Total for S 1 Add the points in the boxes above	2		
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the			
S 2.0. Does the landscape have the potential to support the water quality function of the site?			
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? $\boxtimes$ Yes = 1 $\square$ No = 0	1		
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:   Yes = 1  No = 0	0		
Total for S 2 Add the points in the boxes above	1		
Rating of Landscape Potential If score is:  □ 1-2 = M □ 0 = L	he first page		
S 3.0. Is the water quality improvement provided by the site valuable to society?			
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? $\square$ Yes = 1 $\square$ No = 0	0		
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.	1		
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found.	0		
Total for S 3 Add the points in the boxes above	1		
	, T		

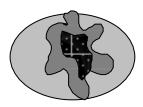
SLOPE WETLANDS	
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and stream erosi	on
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0	0
Rating of Site Potential If score is: $\Box$ 1 = M $\boxtimes$ 0 = L Record the rating on the same states $\Box$ 1 = M $\boxtimes$ 0 = L	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\boxtimes$ Yes = 1 $\square$ No = 0	1
Rating of Landscape Potential If score is:  □ 1 = M □ 0 = L	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems:  □ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  □ Surface flooding problems are in a sub-basin farther down-gradient  □ No flooding problems anywhere downstream  □ Problems anywhere downstream	2
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 □ No = 0	0
Total for S 6 Add the points in the boxes above	2
Rating of Value If score is:	he first page

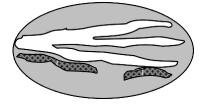
NOTES and FIELD OBSERVATIONS:

#### Wetland EB12 These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 1 2 structures: points = 1 □ Scrub-shrub (areas where shrubs have > 30% cover) ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 $\square$ None = 0 points $\boxtimes$ Low = 1 point ☐ Moderate = 2 points









H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of checks is the r	number of points.	
oxtimes Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
$\square$ Standing snags (dbh > 4 in) within the wetland		
☐ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extend over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	s at least 3.3 ft (1 m)	
☐ Stable steep banks of fine material that might be used by beaver or muskrat for der slope) OR signs of recent beaver activity are present (cut shrubs or trees that have where wood is exposed)		1
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in area permanently or seasonally inundated (structures for egg-laying by amphibians)	as that are	
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see strata)	e H 1.1 for list of	
Total for H 1 Add the poin	nts in the boxes above	5
Rating of Site Potential If score is:   15-18 = H  7-14 = M  0-6 = L	Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the sit	te?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Fig.	gs. 2-5	
If total accessible habitat is:	,	
$\square > 1/3$ (33.3%) of 1 km Polygon	points = 3	0
☐ 20-33% of 1 km Polygon	points = 2	
☐ 10-19% of 1 km Polygon	points = 1	
	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	<b>P</b> • · · · · · ·	
Calculate: % undisturbed habitat + $[(\% \text{ moderate and low intensity land uses})/2] = see Fig.$	ıs. 2-5	
☐ Undisturbed habitat > 50% of Polygon	points = 3	_
☐ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	2
☐ Undisturbed habitat 10-50% and > 3 patches	points = 1	
☐ Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	points – o	
	points = (- 2)	-2
$\square \le 50\%$ of 1 km Polygon is high intensity	points = 0	_
	nts in the boxes above	0
Rating of Landscape Potential If score is: ☐ 4-6 = H ☐ 1-3 = M ☒ < 1 = L	Record the rating on th	
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose of</i>	only the highest score	
that applies to the wetland being rated.	. 5	
Site meets ANY of the following criteria:	points = 2	
☑ It has 3 or more priority habitats within 100 m (see next page)	•	
☐ It provides habitat for Threatened or Endangered species (any plant or animal on	the state or federal lists)	
☐ It is mapped as a location for an individual WDFW priority species	,	2
☐ It is a Wetland of High Conservation Value as determined by the Department of N	atural Resources	
$\square$ It has been categorized as an important habitat site in a local or regional compreh	ensive plan, in	
a Shoreline Master Plan, or in a watershed plan		
☐ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
$\square$ Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\boxtimes 2 = H \square 1 = M \square 0 = I$	Record the rating on	the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 – see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EB13 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): <u>Wetland EB13</u> Date of site visit: <u>6/15/2015</u>, <u>2/27/2020</u> Rated by: <u>K. Crandall</u> Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: <u>9/2014</u>

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions $\boxtimes$ or special characteristics $\square$ )

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the app	propriate ratings	
Site Potential	H (M) L	H M (L)	H M (L)	
Landscape Potential	H M L	H M (L)	H M (L)	
Value	H) M L	H) M L	H M L	TOTAL
Score Based on Ratings	6	5	5	16

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog		I
Mature Forest		I
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		$\boxtimes$

## Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H, M, M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB12-1
Hydroperiods	H 1.2	EB12-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB12-3
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	EB12-3
(can be added to figure above)		EB12-3
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB12-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 113. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 114. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 115. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 116. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 ✓ **YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 117. 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,  $\square$  The overbank flooding occurs at least once every 2 years.

T A 7 - 4	.1	CD1	1
vvei	land	EB I	1.3

■ NO – go to 6 <b>NOTE</b> : The Riverine unit can contain depression flooding	□ <b>YES</b> – The wetland class is <b>Riverine</b> s that are filled with water when the river is not
	oression in which water ponds, or is saturated to the ns that any outlet, if present, is higher than the interior
□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
flooding? The unit does not pond surface water	area with no obvious depression and no overbank more than a few inches. The unit seems to be e wetland may be ditched, but has no obvious natural
□ NO – go to 8	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
□ NO – go to 8	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>

120. 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 the wetland unit being scored.

**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 HGM 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 of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

		More than	2	HCM	classa
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SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
□ Slope is 1% or less points = 3 $□$ Slope is > 1%-2% points = 2 $□$ Slope is > 2%-5% points = 1	0
☑ Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\square$ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
☐ Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	6
☐ Dense, uncut, herbaceous plants > ½ of area points = 3	
☐ Dense, woody, plants > ½ of area points = 2	
☐ Dense, uncut, herbaceous plants > ¼ of area points = 1	
☐ Does not meet any of the criteria above for plants points = 0	6
Total for S 1 Add the points in the boxes above	
Rating of Site Potential If score is: $\Box$ 12 = H $\boxtimes$ 6-11 = M $\Box$ 0-5 = L Record the rating on the same of the sa	he first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 ⋈ No = 0	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \[ \sum \text{Yes} = 1 \sum \text{No} = 0 \]  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	-
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \[ \sum \text{Yes} = 1 \sum \text{No} = 0 \]  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  \[ \sum \text{Yes} = 1 \sum \text{No} = 0 \]	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \[ \sum \text{Yes} = 1 \sum \text{No} = 0 \]  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  \[ \sum \text{Yes} = 1 \sum \text{No} = 0 \]  Total for S 2  Add the points in the boxes above	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \[ \textsup \text{Yes} = 1  \text{No} = 0 \]  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  \[ \text{Yes} = 1  \text{No} = 0 \]  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: \( \text{1-2} = M  \text{O} = L \)  Record the rating on the sources of pollutants coming into the wetland that are not listed in question S 2.1?  Add the points in the boxes above	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: ☐ Yes = 1 ☑ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ☐ 1-2 = M ☑ 0 = L  Record the rating on the stream of the stre	0 0 The first page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: ☐ Yes = 1 ☑ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ☐ 1-2 = M ☑ 0 = L  Record the rating on the sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: ☐ Yes = 1 ☑ No = 0  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☑ Yes = 1 ☐ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is	0 0 The first page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 ⋈ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 ⋈ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M ⋈ 0 = L  Record the rating on the stream of the strea	0 0 the first page 1

SLOPE WETLANDS	
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and stream eros	ion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, rigid plants cover > 90% of the area of the wetland □ All other conditions □ Dense, uncut, rigid plants cover > 90% of the area of the wetland □ Dense, uncut, rigid plants cover > 90% of the area of the wetland	0
Rating of Site Potential If score is: $\square$ 1 = M $\boxtimes$ 0 = L Record the rating on	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0
Rating of Landscape Potential If score is: □ 1 = M ⊠ 0 = L Record the rating on a	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  Down the flooding problems are in a sub-basin farther down-gradient  ☐ Property of the flooding problems anywhere downstream	2
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 ☑ No = 0	0
Total for S 6 Add the points in the boxes above	2
Rating of Value If score is:	the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 1 ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 $\square$ None = 0 points $\boxtimes$ Low = 1 point ☐ Moderate = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. <i>The number of checks i</i>		
$\square$ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
$\square$ Standing snags (dbh > 4 in) within the wetland		
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants e over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 contiguous)		
☐ Stable steep banks of fine material that might be used by beaver or muskrat f	or denning (> 30 degree	0
slope) OR signs of recent beaver activity are present (cut shrubs or trees that where wood is exposed)	t have not yet weathered	
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present		
permanently or seasonally inundated (structures for egg-laying by amphibians)		
<ul> <li>Invasive plants cover less than 25% of the wetland area in every stratum of plan strata)</li> </ul>	nts (see H 1.1 for list of	
Total for H 1 Add th	ne points in the boxes above	4
Rating of Site Potential If score is:	Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of	the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =	see Fias 2-5	
If total accessible habitat is:	3cc / 1g3. 2 3	
$\square > 1/3$ (33.3%) of 1 km Polygon	points = 3	0
☐ 20-33% of 1 km Polygon	points = 2	
☐ 10-19% of 1 km Polygon	points = 1	
$\boxtimes$ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	politis – o	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = :	see Fias 2-5	
☐ Undisturbed habitat > 50% of Polygon	=	
<u> </u>	points = 3	2
☑ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	
☐ Undisturbed habitat 10-50% and > 3 patches	points = 1	
Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	nainta - ( 2)	-2
	points = (- 2)	-2
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0	0
	ne points in the boxes above	0
Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L	Record the rating on th	ne first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Ch	oose only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
☑ It has 3 or more priority habitats within 100 m (see next page)		
☐ It provides habitat for Threatened or Endangered species (any plant or anim	nal on the state or federal lists)	
☐ It is mapped as a location for an individual WDFW priority species		2
☐ It is a Wetland of High Conservation Value as determined by the Departmen		
☐ It has been categorized as an important habitat site in a local or regional co	mprehensive plan, in	
a Shoreline Master Plan, or in a watershed plan ☐ Site has 1 or 2 priority habitats (listed on next page) within 100 m	noints = 1	
	points = 1	
☐ Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\boxtimes 2 = H \square 1 = M \square 0 = I$	Record the rating on	the first nage

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 – see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

(6 m) long.

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## Wetland EB14 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB14 Date of site visit:  $\underline{6/15/2015}$ ,  $\underline{2/27/2020}$  Rated by: K. Crandall Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training:  $\underline{9/2014}$ 

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

## **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic			Habitat				
				C	ircle	the ap	propri	ate ra	tings	
Site Potential	Н	M (	1)	Н	М		Н	(M)	L	
Landscape Potential	н (	M)	Ĺ	Н	М	<u>(l)</u>	Н	M	(L)	
Value	H	M	L	H	М	Ĺ	H	М	Ĺ	TOTAL
Score Based on Ratings		6			5			6		17

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC		CATEGORY		
Estuarine	I	II		
Wetland of High Conservation Value		I		
Bog		I		
Mature Forest		I		
Old Growth Forest		I		
Coastal Lagoon	I	II		
Interdunal	I II	III IV		
None of the above				

## Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB12-1
Hydroperiods	H 1.2	EB12-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB12-3
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	EB12-3
(can be added to figure above)		EB12-3
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB12-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 121. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 122. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 123. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 124. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 ✓ **YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 125. 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,  $\square$  The overbank flooding occurs at least once every 2 years.

V	V	et]	b	n	1	F۱	$R^{1}$	1 4	L
v	v	t:u	а	111	J I	1	1)	-	۲

□ NO – go to 6 <b>NOTE</b> : The Riverine unit can coflooding	$\square$ <b>YES</b> – The wetland class is <b>Riverine</b> ontain depressions that are filled with water when the river is not
	a topographic depression in which water ponds, or is saturated to the e year? This means that any outlet, if present, is higher than the interior
□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
flooding? The unit does not po	rated in a very flat area with no obvious depression and no overbank and surface water more than a few inches. The unit seems to be er in the area. The wetland may be ditched, but has no obvious natural
□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

128. 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 the wetland unit being scored.

**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 HGM 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Ш	Mo	ore thar	12 H	GM c	lasses
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SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
□ Slope is 1% or less points = 3 $□$ Slope is > 1%-2% points = 2	0
□ Slope is > 2%-5% points = 1 $□$ Slope is greater than 5% points = 0	
<ul> <li>Slope is greater than 5% points = 0</li> <li>S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): ☐ Yes = 3 ☑ No = 0</li> </ul>	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
<ul> <li>□ Dense, uncut, herbaceous plants &gt; 90% of the wetland area</li> <li>□ Dense, uncut, herbaceous plants &gt; ½ of area</li> <li>□ Dense, woody, plants &gt; ½ of area</li> <li>points = 2</li> </ul>	2
<ul> <li>☑ Dense, woody, plants &gt; ½ of area</li> <li>☑ Dense, uncut, herbaceous plants &gt; ¼ of area</li> <li>☑ Does not meet any of the criteria above for plants</li> <li>☑ Does not meet any of the criteria above for plants</li> </ul>	
Total for S 1 Add the points in the boxes above	2
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on t	.l Ct
	ne jirst page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	ne jirst page
	ne jirst page 0
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☐ No = 0	0 1 1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream  ☐ Yes = 1 ☐ No = 0  Total for S 2  Add the points in the boxes above	0 1 1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 □ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream  □ Yes = 1 □ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M □ 0 = L  Record the rating on the site?	0 1 1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 ⋈ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream  □ Yes = 1 □ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ⋈ 1-2 = M □ 0 = L  Record the rating on to the society?  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  □ Yes = 1 □ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  □ Yes = 1 □ No = 0	0 1 1 the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☐ Yes = 1 ☐ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M ☐ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  ☐ Yes = 1 ☐ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is	0 1 1 the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 ⋈ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream  □ Yes = 1 □ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ⋈ 1-2 = M □ 0 = L  Record the rating on to the site valuable to society?  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  □ Yes = 1 □ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  □ Yes = 1 □ No = 0  S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	0 1 1 the first page 1 1

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosis	ion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0	0
Rating of Site Potential If score is: $\Box$ 1 = M $\boxtimes$ 0 = L Record the rating on	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\square$ Yes = 1 $\boxtimes$ No = 0	0
Rating of Landscape Potential If score is: $\Box 1 = M \boxtimes 0 = L$ Record the rating on a	the first nage
	ine jii st page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	ine jii se page
S 6.0. Are the hydrologic functions provided by the site valuable to society?  S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  D No flooding problems anywhere downstream	2
S 6.1. Distance to the nearest areas downstream that have flooding problems:  □ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  □ Surface flooding problems are in a sub-basin farther down-gradient  points = 1	
S 6.1. Distance to the nearest areas downstream that have flooding problems:  □ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  □ Surface flooding problems are in a sub-basin farther down-gradient  □ No flooding problems anywhere downstream  S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	2

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 ☐ Emergent 3 structures: points = 2 2 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 2 $\square$ None = 0 points $\square$ Low = 1 point Moderate = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:						
Check the habitat features that are present in the wetland. The number of checks is the nu	ımber of points.					
oxtimes Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).						
☑ Standing snags (dbh > 4 in) within the wetland						
☑ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)						
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)						
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas permanently or seasonally inundated (structures for egg-laying by amphibians)	that are					
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see strata)	H 1.1 for list of					
	ts in the boxes above	9				
Rating of Site Potential If score is:	Record the rating on t	the first page				
H 2.0. Does the landscape have the potential to support the habitat functions of the site	2?					
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).						
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Fig.	gs. 2-5					
If total accessible habitat is:						
$\square$ > 1/3 (33.3%) of 1 km Polygon	points = 3	0				
☐ 20-33% of 1 km Polygon	points = 2					
☐ 10-19% of 1 km Polygon	points = 1					
⊠ < 10% of 1 km Polygon	points = 0					
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	•					
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Fig.	gs. 2-5					
☐ Undisturbed habitat > 50% of Polygon	points = 3					
☑ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	2				
☐ Undisturbed habitat 10-50% and > 3 patches	points = 1					
☐ Undisturbed habitat < 10% of 1 km Polygon	points = 0					
H 2.3. Land use intensity in 1 km Polygon: If	points = 0					
$\boxtimes$ > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2				
$\square \le 50\%$ of 1 km Polygon is high intensity	points = 0	-				
	ts in the boxes above	0				
Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L	Record the rating on th					
H 3.0. Is the habitat provided by the site valuable to society?		, , , , ,				
	aly the highest seems					
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose on that applies to the wetland being rated.	ny the nighest score					
-	noints - 2					
Site meets ANY of the following criteria:	points = 2					
☑ It has 3 or more priority habitats within 100 m (see next page)	o stato on foderal list-\					
☐ It provides habitat for Threatened or Endangered species (any plant or animal on th	ie state or rederal lists)	2				
☐ It is mapped as a location for an individual WDFW priority species	tural Possuress	2				
$\square$ It is a Wetland of High Conservation Value as determined by the Department of Nat $\square$ It has been categorized as an important habitat site in a local or regional comprehe						
a Shoreline Master Plan, or in a watershed plan	moive pian, in					
☐ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1					
☐ Site does not meet any of the criteria above	points = 0					
	•	the first nees				
Rating of Value If score is: $\boxtimes$ 2 = H $\square$ 1 = M $\square$ 0 = L	Record the rating on	ıne jirst page				

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EB15 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB15 Date of site visit: 6/19/2015, 2/27/2020

Rated by: K. Crandall, R. Kahlo Trained by Ecology? ☑ Y ☐ N Date of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? ☐ Y ☑ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map: Google Earth

**OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

## **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION		nproving ter Quality	Hydrologic			Habitat			
	(	Circle	the app	oropr	iate ra	tings			
Site Potential	Н	M (L)	Н	M	L	Н	(M)	L	
Landscape Potential	Н	M (L)	Н	М	(L)	Н	М	(L)	
Value	H	M L	H	М	L	H	М	Ĺ	TOTAL
Score Based on Ratings		5		6			6		17

Category based on SPECIAL CHARACTERISTICS of wetland

Score for each function based on three ratings (order of ratings is not important)
9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

CHARACTERISTIC	CATEGORY		
Estuarine	I	II	
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	I	II	
Interdunal	I II	III IV	
None of the above			

# Maps and figures required to answer questions correctly for Western Washington

## Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB15-1
Hydroperiods	H 1.2	EB15-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB15-1
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	EB15-1
(can be added to figure above)		EB12-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB15-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 129. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 130. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 131. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 132. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 **∠ YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 133. 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

 $\square$  The overbank flooding occurs at least once every 2 years.

stream or river,

V	۸/	ρt	la	n	d	$\mathbf{F}$	<b>B</b> 1	5
v	v	Сι.	ıa	11	u	- 12	I ) I	. )

⊔ NO – go to 6 <b>NOTE</b> : The Riverine unit can contain depressions flooding	□ <b>YES</b> – The wetland class is <b>Riverine</b> s that are filled with water when the river is not
	ression in which water ponds, or is saturated to the ns that any outlet, if present, is higher than the interior
□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
flooding? The unit does not pond surface water i	area with no obvious depression and no overbank more than a few inches. The unit seems to be e wetland may be ditched, but has no obvious natural
□ NO – go to 8	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>

136. 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 the wetland unit being scored.

**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 HGM 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 of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

□ Moi	e than	2 HGM	classes
-------	--------	-------	---------

SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality			
Water Quality Functions - Indicators that the site functions to improve water quality  S 1.0. Does the site have the potential to improve water quality?			
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)			
☐ Slope is 1% or less ☐ Slope is > 1%-2% ☐ Slope is > 2%-5% ☐ Slope i	0		
☐ Slope is > 2%-5% points = 1 ☐ Slope is greater than 5% points = 0			
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\boxtimes$ No = 0	0		
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.			
<ul> <li>□ Dense, uncut, herbaceous plants &gt; 90% of the wetland area</li> <li>□ Dense, uncut, herbaceous plants &gt; ½ of area</li> <li>points = 3</li> </ul>	2		
□ Dense, woody, plants > ½ of area     □ Dense,			
☐ Dense, uncut, herbaceous plants > ¼ of area points = 1			
$\Box$ Does not meet any of the criteria above for plants points = 0			
Total for S 1 Add the points in the boxes above	2		
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the			
	ne jirst page		
S 2.0. Does the landscape have the potential to support the water quality function of the site?	ne jirst page		
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 ⋈ No = 0	0		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?			
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \[ \sum \text{Yes} = 1 \sum \text{No} = 0 \]  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  \[ \sum \text{Yes} = 1 \sum \text{No} = 0 \]	0 0 0		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \[ \subseteq \text{Yes} = 1  \text{No} = 0 \]  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  \[ \subseteq \text{Yes} = 1  \text{No} = 0 \]  Total for S 2  Add the points in the boxes above	0 0 0		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☒ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: ☐ Yes = 1 ☒ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ☐ 1-2 = M ☒ 0 = L  Record the rating on the standard points in the sources are not listed in question S 2.1?  Add the points in the boxes above	0 0 0		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: ☐ Yes = 1 ☑ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☐ 1-2 = M ☑ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	0 0 0 the first page		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: ☐ Yes = 1 ☑ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: ☐ 1-2 = M ☑ 0 = L  Record the rating on to the society?  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  ☑ Yes = 1 ☐ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is	0 0 0 the first page		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 ⋈ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 ⋈ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M ⋈ 0 = L  Record the rating on to the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  ⋈ Yes = 1 □ No = 0  S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	0 0 0 the first page		

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion		
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0	1	
Rating of Site Potential If score is:  □ 1 = M □ 0 = L	the first page	
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\square$ Yes = 1 $\boxtimes$ No = 0	0	
Rating of Landscape Potential If score is: $\Box 1 = M \boxtimes 0 = L$ Record the rating on		
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:		
natural resources (e.g., houses or salmon redds) points = 2  □ Surface flooding problems are in a sub-basin farther down-gradient points = 1  □ No flooding problems anywhere downstream points = 0	2	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  ☐ Yes = 2 ☒ No = 0	0	
Total for S 6 Add the points in the boxes above	2	
Rating of Value If score is: $\boxtimes$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on a	the first paae	

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 4 ⊠ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 3 $\square$ None = 0 points $\square$ Low = 1 point ☐ Moderate = 2 points All three diagrams in

this row are  $\boxtimes$  **HIGH** = 3 points

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of checks is the number of	f points.	
oxtimes Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).		
☑ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least	3.3 ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)		2
☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>	_	3
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet where wood is exposed)	weathered	
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that ar	Δ	
permanently or seasonally inundated (structures for egg-laying by amphibians)	C	
$\Box$ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 fc strata)	or list of	
Total for H 1 Add the points in the	boxes above	12
Rating of Site Potential If score is: $\square$ 15-18 = H $\boxtimes$ 7-14 = M $\square$ 0-6 = L Reco	ord the rating on t	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
If total accessible habitat is:	mainte - 2	0
$\square > 1/3$ (33.3%) of 1 km Polygon	points = 3	0
☐ 20-33% of 1 km Polygon	points = 2	
☐ 10-19% of 1 km Polygon	points = 1	
⊠ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
☐ Undisturbed habitat > 50% of Polygon	points = 3	2
□ Undisturbed habitat 10-50% and in 1-3 patches     □	points = 2	
$\square$ Undisturbed habitat 10-50% and > 3 patches	points = 1	
☐ Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
oxtimes > 50% of 1 km Polygon is high intensity land use	points = (- 2)	-2
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the points in the	boxes above	0
Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L Record	d the rating on th	e first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the h	ighest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
oxtimes It has 3 or more priority habitats within 100 m (see next page)		
$\square$ It provides habitat for Threatened or Endangered species (any plant or animal on the state	or federal lists)	
$\square$ It is mapped as a location for an individual WDFW priority species		2
$\square$ It is a Wetland of High Conservation Value as determined by the Department of Natural Re		
$\square$ It has been categorized as an important habitat site in a local or regional comprehensive p	lan, in	
a Shoreline Master Plan, or in a watershed plan		
$\square$ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
☐ Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\square 2 = H \square 1 = M \square 0 = L$	ord the rating on	the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 – see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EB16 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB16 Date of site visit: 6/19/2015, 2/27/2020 Rated by: K. Crandall, R. Kahlo Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014 HGM Class used for rating: Depressional Wetland has multiple HGM classes?  $\boxtimes$  Y  $\square$  N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth, King County iMap

## **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the app	propriate ratings	
Site Potential	H M L	H M (L)	H M L	
Landscape Potential	H M L	H (M) L	H M L	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings	7	6	6	19

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog		I
Mature Forest	I	
Old Growth Forest		I
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		$\boxtimes$

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## **Depressional Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB16-1
Hydroperiods	D 1.4, H 1.2	EB16-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB16-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB16-2
Map of the contributing basin	D 4.3, D 5.3	EB16-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

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.

137	'. Are the water levels in the en	ntire unit usually contro	olled by tides except during floods?
	⊠ NO – go to 2	<b>☐ YES</b> – the	wetland class is <b>Tidal Fringe</b> – go to 1.1
1.	1 Is the salinity of the water du	ring periods of annual l	ow flow below 0.5 ppt (parts per thousand)?
		ed as a Freshwater Tida an <b>Estuarine</b> wetland a	☐ <b>YES – Freshwater Tidal Fringe</b> I Fringe use the forms for <b>Riverine</b> wetlands. If it nd is not scored. This method <b>cannot</b> be used to
	<ol><li>The entire wetland unit is fla Groundwater and surface wate</li></ol>		ne only source (>90%) of water to it. es of water to the unit.
	$ extrm{ iny NO}$ – go to 3  If your wetland can be classified	l as a Flats wetland, use	☐ <b>YES</b> – The wetland class is <b>Flats</b> the form for <b>Depressional</b> wetlands.
	<ul><li>Does the entire wetland unit</li><li>☐ The vegetated part of the we plants on the surface at any form</li><li>☐ At least 30% of the open wat</li></ul>	etland is on the shores of time of the year) at leas	f a body of permanent open water (without any t 20 ac (8 ha) in size;
	⊠ NO – go to 4	☐ <b>YES</b> – The wetland o	class is <b>Lake Fringe</b> (Lacustrine Fringe)
	•	ope can be very gradual wetland in one direction ce, as sheetflow, or in a	on (unidirectional) and usually comes from swale without distinct banks,
	⊠ NO – go to 5		$\square$ <b>YES</b> – The wetland class is <b>Slope</b>
			vetlands except occasionally in very small and ns are usually <3 ft diameter and less than 1 ft
	<ul> <li>Does the entire wetland unit</li> <li>□ The unit is in a valley, or strestream or river,</li> <li>□ The overbank flooding occur</li> </ul>	eam channel, where it g	ets inundated by overbank flooding from that

<ul><li>⋈ NO – go to 6</li><li>NOTE: The Riverine unit can flooding</li></ul>	$\hfill\Box$ <b>YES</b> – The wetland class is <b>Riverine</b> contain depressions that are filled with water when the river is not
	n a topographic depression in which water ponds, or is saturated to the the year? This means that any outlet, if present, is higher than the interior
⊠ NO – go to 7	☐ <b>YES</b> – The wetland class is <b>Depressional</b>
flooding? The unit does not p	ocated in a very flat area with no obvious depression and no overbank bond surface water more than a few inches. The unit seems to be rater in the area. The wetland may be ditched, but has no obvious natural
⊠ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

144. 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 the wetland unit being scored.

**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 HGM 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		HGM class to
being rated		use in rating
	Slope + Riverine	Riverine
$\boxtimes$	Slope + Depressional	Depressional
	Slope + Lake Fringe	Lake Fringe
	Depressional + Riverine along stream within	Depressional
	boundary of depression	Depressional
	Depressional + Lake Fringe	Depressional
	Riverine + Lake Fringe	Riverine
	Salt Water Tidal Fringe and any other class of	Treat as
	freshwater wetland	ESTUARINE

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

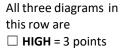
١	l N	/lore	than	2	HGM	classes

DEPRESSIONAL AND FLATS WETLANDS				
Water Quality Functions - Indicators that the site functions to improve water quality				
D 1.0. Does the site have the potential to improve water quality?				
D 1.1. Characteristics of surface water outflows from the wetland:				
$\square$ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).				
points = 3				
☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2	1			
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1				
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1				
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) $\square$ Yes = 4 $\boxtimes$ No = 0	0			
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):				
☑ Wetland has persistent, ungrazed, plants > 95% of area points = 5				
$\square$ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	5			
$\square$ Wetland has persistent, ungrazed plants > 1/10 of area points = 1				
☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0				
D 1.4. Characteristics of seasonal ponding or inundation:				
This is the area that is ponded for at least 2 months. See description in manual.				
$\square$ Area seasonally ponded is > $\frac{1}{2}$ total area of wetland points = 4	0			
$\square$ Area seasonally ponded is > $\frac{1}{4}$ total area of wetland points = 2				
☐ Area seasonally ponded is < ¼ total area of wetland points = 0				
Total for D 1 Add the points in the boxes above	6			
<b>Rating of Site Potential</b> If score is: $\square$ <b>12-16 = H</b> $\boxtimes$ <b>6-11 = M</b> $\square$ <b>0-5 = L</b> Record the rating on the first				
D 2.0. Does the landscape have the potential to support the water quality function of the site?				
D 2.1. Does the wetland unit receive stormwater discharges? $\boxtimes$ Yes = 1 $\square$ No = 0	1			
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $\square$ Yes = 1 $\boxtimes$ No = 0	0			
D 2.3. Are there septic systems within 250 ft of the wetland? $\square$ Yes = 1 $\boxtimes$ No = 0	0			
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	0			
Source □ Yes = 1 ⊠ No = 0				
Total for D 2 Add the points in the boxes above	1			
Rating of Landscape Potential If score is: $\square$ 3 or 4 = H $\boxtimes$ 1 or 2 = M $\square$ 0 = L Record the rating on the first	st page			
D 3.0. Is the water quality improvement provided by the site valuable to society?				
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	1			
303(d) list? $\qquad \qquad \boxtimes \ Yes = 1  \Box \ No = 0$	±			
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? $\square$ Yes = 1 $\square$ No = 0	1			
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES	0			
if there is a TMDL for the basin in which the unit is found)? $\square$ Yes = 2 $\boxtimes$ No = 0				
Total for D 3 Add the points in the boxes above	2			
<b>Rating of Value</b> If score is: $\boxtimes$ <b>2-4 = H</b> $\square$ <b>1 = M</b> $\square$ <b>0 = L</b> Record the rating on the fit	rst page			

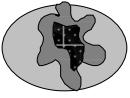
DEPRESSIONAL AND FLATS WETLANDS				
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation				
D 4.0. Does the site have the potential to reduce flooding and erosion?				
D 4.1. Characteristics of surface water outflows from the wetland:  ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4  ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1  ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	0			
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 □ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 □ The wetland is a "headwater" wetland points = 3 □ Wetland is flat but has small depressions on the surface that trap water points = 1 □ Marks of ponding less than 0.5 ft (6 in) points = 0	0			
D 4.3. Contribution of the wetland 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 □ The area of the basin is 10 to 100 times the area of the unit □ The area of the basin is more than 100 times the area of the unit □ Entire wetland is in the Flats class □ The area of the unit □ Entire wetland is in the Flats class	3			
Total for D 4 Add the points in the boxes above	3			
<b>Rating of Site Potential</b> If score is: $\square$ <b>12-16 = H</b> $\square$ <b>6-11 = M</b> $\boxtimes$ <b>0-5 = L</b> Record the rating on the	first page			
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?				
D 5.1. Does the wetland receive stormwater discharges? $\  \  \  \  \  \  \  \  \  \  \  \  \ $	1			
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? $\square$ Yes = 1 $\square$ No = 0	0			
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?				
>11esidence/ac, diban, commercial, agriculture, etc./:	0			
Total for D 5  Add the points in the boxes above	0			
	1			
Total for D 5 Add the points in the boxes above	1			
Total for D 5  Rating of Landscape Potential If score is: □ 3 = H ⋈ 1 or 2 = M □ 0 = L  Record the rating on the D 6.0. Are the hydrologic functions provided by the site valuable to society?  D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  ■ ☐ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  □ ☐ Surface flooding problems are in a sub-basin farther down-gradient. points = 1  □ Flooding from groundwater is an issue in the sub-basin. points = 1  □ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0	1			
Total for D 5  Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L  Record the rating on the D 6.0. Are the hydrologic functions provided by the site valuable to society?  D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  • □ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  • □ Surface flooding problems are in a sub-basin farther down-gradient. points = 1  □ Flooding from groundwater is an issue in the sub-basin. points = 1  □ The existing or potential outflow from the wetland is so constrained by human or natural conditions that	1 1 e first page			
Rating of Landscape Potential If score is: □ 3 = H ☑ 1 or 2 = M □ 0 = L	1 e first page			

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#### Wetland EB16 These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 1 ⊠ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). □ Permanently flooded or inundated 4 or more types present: points = 3 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 2 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 $\square$ None = 0 points $\boxtimes$ Low = 1 point ☐ Moderate = 2 points









H 1.5. Special habitat features:  Check the habitat features that are present in the wetland. The number of checks is the number of points.  □ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).  □ Standing snags (dbh > 4 in) within the wetland  □ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)  □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)  □ At least ¼ ac of thin-stemmed persistent plants 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 every stratum of plants (see H 1.1 for list of strata)		
Total for H 1 Add the	points in the boxes above	7
Rating of Site Potential If score is: $\Box$ 15-18 = H $\boxtimes$ 7-14 = M $\Box$ 0-6 = L	Record the rating on t	he first page
H 2.0. Does the landscape have the potential to support the habitat functions of the	e site?	
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).  **Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = set   If total accessible habitat is:    > 1/3 (33.3%) of 1 km Polygon   20-33% of 1 km Polygon   10-19% of 1 km Polygon   < 10% of 1 km Polygon	points = 3 points = 2 points = 1 points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = se  □ Undisturbed habitat > 50% of Polygon □ Undisturbed habitat 10-50% and in 1-3 patches □ Undisturbed habitat 10-50% and > 3 patches □ Undisturbed habitat < 10% of 1 km Polygon	pe Figs. 2-5  points = 3  points = 2  points = 1  points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If  ⊠ > 50% of 1 km Polygon is high intensity land use  □ ≤ 50% of 1 km Polygon is high intensity	points = (- 2) points = 0	-2
	points in the boxes above	-1
Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L	Record the rating on th	e first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose that applies to the wetland being rated.  Site meets ANY of the following criteria:  □ It has 3 or more priority habitats within 100 m (see next page)  □ It provides habitat for Threatened or Endangered species (any plant or animal □ It is mapped as a location for an individual WDFW priority species  □ It is a Wetland of High Conservation Value as determined by the Department of □ It has been categorized as an important habitat site in a local or regional composite has 1 or 2 priority habitats (listed on next page) within 100 m  □ Site does not meet any of the criteria above	points = 2 on the state or federal lists) of Natural Resources	2
Rating of Value If score is:	Record the rating on	the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 – see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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## Wetland EB17 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB17 Date of site visit: 6/19/2015, 2/27/2020 Rated by: K. Crandall, R. Kahlo Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014 HGM Class used for rating: Depressional Wetland has multiple HGM classes?  $\boxtimes$  Y  $\square$  N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth, King County iMap

#### **OVERALL WETLAND CATEGORY** (based on functions $\boxtimes$ or special characteristics $\square$ )

### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the app	propriate ratings	
Site Potential	H (M) L	H M (L)	H (M) L	
Landscape Potential	H M L	H (M) L	H M L	
Value	H M L	H) M L	H M L	TOTAL
Score Based on Ratings	7	6	6	19

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	64.71	FCODY	
CHARACTERISTIC	CATI	CATEGORY	
Estuarine	I	II	
Wetland of High Conservation Value		I	
Bog		I	
Mature Forest		I	
Old Growth Forest		I	
Coastal Lagoon		II	
Interdunal	I II	III IV	
None of the above		$\boxtimes$	

Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H, M, M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## **Depressional Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB17-1
Hydroperiods	D 1.4, H 1.2	EB17-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB17-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB17-2
Map of the contributing basin	D 4.3, D 5.3	EB17-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

⊠ NO – go to 4

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

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. 145. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 146. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 147. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  At least 30% of the open water area is deeper than 6.6 ft (2 m).

☐ The water leaves the wetland **without being impounded**.

☑ NO – go to 5

☐ **YES** – The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

☐ 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,

☐ **YES** - The wetland class is **Lake Fringe** (Lacustrine Fringe)

149. Does the entire wetland unit **meet all** of the following criteria?

148. Does the entire wetland unit **meet all** of the following criteria?

 $\square$  The wetland is on a slope (*slope can be very gradual*),

- $\Box$  The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
- $\Box$  The overbank flooding occurs at least once every 2 years.

<ul><li>NO − go to 6</li><li>NOTE: The Riverine unit can contain depression flooding</li></ul>	☐ <b>YES</b> – The wetland class is <b>Riverine</b> as that are filled with water when the river is not
1 0 1	pression in which water ponds, or is saturated to the ans that any outlet, if present, is higher than the interior
⊠ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
flooding? The unit does not pond surface water	t area with no obvious depression and no overbank more than a few inches. The unit seems to be ne wetland may be ditched, but has no obvious natura
⊠ NO – go to 8	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>

152. 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 the wetland unit being scored.

**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 HGM 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	HGM class to	
being rated	use in rating	
Slope + Riverine	Riverine	
Slope + Depressional	Depressional	
Slope + Lake Fringe	Lake Fringe	
Depressional + Riverine along stream within	Donrossional	
boundary of depression	Depressional	
Depressional + Lake Fringe	Depressional	
Riverine + Lake Fringe	Riverine	
Salt Water Tidal Fringe and any other class of	Treat as	
freshwater wetland	ESTUARINE	

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

DEPRESSIONAL AND FLATS WETLANDS				
Water Quality Functions - Indicators that the site functions to improve water quality				
D 1.0. Does the site have the potential to improve water quality?				
D 1.1. Characteristics of surface water outflows from the wetland:				
$\square$ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).				
points = 3	1			
☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2	1			
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1				
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) $\square$ Yes = $4 \boxtimes$ No = 0	0			
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):				
☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	5			
☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1				
☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0				
D 1.4. <u>Characteristics of seasonal ponding or inundation</u> :				
This is the area that is ponded for at least 2 months. See description in manual.				
☐ Area seasonally ponded is > ½ total area of wetland points = 4	0			
☐ Area seasonally ponded is > ¼ total area of wetland points = 2				
☐ Area seasonally ponded is < ¼ total area of wetland points = 0				
Total for D 1 Add the points in the boxes above	6			
Rating of Site Potential If score is: $\square$ 12-16 = H $\boxtimes$ 6-11 = M $\square$ 0-5 = L Record the rating on the fine				
D 2.0. Does the landscape have the potential to support the water quality function of the site?				
D 2.1. Does the wetland unit receive stormwater discharges? $\boxtimes$ Yes = 1 $\square$ No = 0	1			
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $\square$ Yes = 1 $\boxtimes$ No = 0	0			
D 2.3. Are there septic systems within 250 ft of the wetland? $\square$ Yes = 1 $\boxtimes$ No = 0	0			
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	0			
Source: $\square$ Yes = 1 $\boxtimes$ No = 0				
Total for D 2 Add the points in the boxes above	1			
Rating of Landscape Potential If score is: $\square$ 3 or 4 = H $\boxtimes$ 1 or 2 = M $\square$ 0 = L Record the rating on the first	st page			
D 3.0. Is the water quality improvement provided by the site valuable to society?				
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	1			
303(d) list? $\qquad \qquad \boxtimes \text{ Yes} = 1  \Box \text{ No} = 0$				
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? $\square$ Yes = 1 $\square$ No = 0	1			
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES	0			
if there is a TMDL for the basin in which the unit is found)? $\square$ Yes = 2 $\boxtimes$ No = 0				
Total for D 3 Add the points in the boxes above	2			
Rating of Value If score is: $\boxtimes$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the fire				

DEPRESSIONAL AND FLATS WETLANDS				
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation				
D 4.0. Does the site have the potential to reduce flooding and erosion?				
D 4.1. Characteristics of surface water outflows from the wetland:  ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4  ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1  ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	0			
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 □ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 □ The wetland is a "headwater" wetland points = 3 □ Wetland is flat but has small depressions on the surface that trap water points = 1 □ Marks of ponding less than 0.5 ft (6 in) points = 0	0			
D 4.3. Contribution of the wetland 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 □ The area of the basin is 10 to 100 times the area of the unit □ The area of the basin is more than 100 times the area of the unit □ Entire wetland is in the Flats class □ The area of the basin is more than 100 times the area of the unit □ Entire wetland is in the Flats class	3			
Total for D 4 Add the points in the boxes above	3			
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the	first page			
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?				
D 5.1. Does the wetland receive stormwater discharges? $\boxtimes$ Yes = 1 $\square$ No = 0	1			
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? $\square$ Yes = 1 $\square$ No = 0	0			
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? $\  \  \  \  \  \  \  \  \  \  \  \  \ $	1			
Total for D 5 Add the points in the boxes above	2			
Rating of Landscape Potential If score is: $\square$ 3 = H $\boxtimes$ 1 or 2 = M $\square$ 0 = L Record the rating on the	first page			
D 6.0. Are the hydrologic functions provided by the site valuable to society?				
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  ■ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  ■ Surface flooding problems are in a sub-basin farther down-gradient. points = 1  □ Flooding from groundwater is an issue in the sub-basin. points = 1  □ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0  □ There are no problems with flooding downstream of the wetland. points = 0	2			
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? $\Box$ Yes = 2 $\Box$ No = 0	0			
Total for D 6 Add the points in the boxes above	2			
Rating of Value If score is: $\boxtimes$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the	first naae			

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 ☐ Emergent 3 structures: points = 2 2 ⊠ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 □ Occasionally flooded or inundated 2 types present: points = 1 2 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 2 $\square$ None = 0 points $\square$ Low = 1 point Moderate = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:  Check the habitat features that are present in the wetland. The number of checks is the   Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).  Standing snags (dbh > 4 in) within the wetland  Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants exter over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)  Stable steep banks of fine material that might be used by beaver or muskrat for de slope) OR signs of recent beaver activity are present (cut shrubs or trees that have	nds at least 3.3 ft (1 m) enning (> 30 degree	3
<ul> <li>where wood is exposed)</li> <li>At least ¼ ac of thin-stemmed persistent plants or woody branches are present in are permanently or seasonally inundated (structures for egg-laying by amphibians)</li> <li>Invasive plants cover less than 25% of the wetland area in every stratum of plants (s strata)</li> </ul>		
Total for H 1 Add the po	oints in the boxes above	10
Rating of Site Potential If score is:   15-18 = H   7-14 = M  0-6 = L	Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the	site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see	Figs. 2-5	
If total accessible habitat is:		
$\square$ > 1/3 (33.3%) of 1 km Polygon	points = 3	0
☐ 20-33% of 1 km Polygon	points = 2	
☐ 10-19% of 1 km Polygon	points = 1	
	points = 0	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5		
☐ Undisturbed habitat > 50% of Polygon	points = 3	
☐ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	2
☐ Undisturbed habitat 10-50% and > 3 patches	points = 1	
☐ Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	<b>D</b> 0	
	points = (- 2)	-2
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2 Add the po	oints in the boxes above	0
Rating of Landscape Potential If score is: □ 4-6 = H □ 1-3 = M ⊠ < 1 = L	Record the rating on th	ne first page
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose	only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
☑ It has 3 or more priority habitats within 100 m (see next page)		
☐ It provides habitat for Threatened or Endangered species (any plant or animal or	n the state or federal lists)	2
☐ It is mapped as a location for an individual WDFW priority species	Natural Posourcos	2
<ul> <li>☐ It is a Wetland of High Conservation Value as determined by the Department of</li> <li>☐ It has been categorized as an important habitat site in a local or regional compre</li> </ul>		
a Shoreline Master Plan, or in a watershed plan	mensive plan, m	
$\square$ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
$\square$ Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\boxtimes 2 = H \square 1 = M \square 0 = I$	Record the ratina on	the first nage

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## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 – see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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#### Wetland EB18 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB18 Date of site visit: 6/24/2015, 2/27/2020

Rated by: K. Crandall, R. Kahlo Trained by Ecology? ☑ Y ☐ N Date of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? ☐ Y ☑ N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map: Google Earth

**OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the app	propriate ratings	
Site Potential	H M (L)	H M L	H (M) L	
Landscape Potential	H M L	H M (L)	H M (L)	
Value	H M L	H) M L	H M L	TOTAL
Score Based on Ratings	6	6	6	18

Category based on SPECIAL CHARACTERISTICS of wetland

Score for each function based on three ratings (order of ratings is not important)
9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

CHARACTERISTIC	CATEGORY			
Estuarine	I II			
Wetland of High Conservation Value	I			
Bog	I			
Mature Forest	I			
Old Growth Forest	I			
Coastal Lagoon I				
Interdunal	I II	III IV		
None of the above	$\boxtimes$			

# Maps and figures required to answer questions correctly for Western Washington

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB18-1
Hydroperiods	H 1.2	EB18-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB18-1
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB18-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB18-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 153. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 154. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 155. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 156. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 ✓ **YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 157. 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,  $\square$  The overbank flooding occurs at least once every 2 years.

V	V	<u>e</u> 1	-1:	ar	าด	l E	'R	1	g	
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□ NO – go to 6 <b>NOTE</b> : The Riverine unit can contain depression flooding	☐ <b>YES</b> – The wetland class is <b>Riverine</b> as that are filled with water when the river is not
1 6 1	pression in which water ponds, or is saturated to the ans that any outlet, if present, is higher than the interior
□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
flooding? The unit does not pond surface water	t area with no obvious depression and no overbank more than a few inches. The unit seems to be he wetland may be ditched, but has no obvious natural
□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

160. 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 the wetland unit being scored.

**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 HGM 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	HGM class to			
being rated	use in rating			
Slope + Riverine	Riverine			
Slope + Depressional	Depressional			
Slope + Lake Fringe	Lake Fringe			
Depressional + Riverine along stream within boundary of depression	Depressional			
Depressional + Lake Fringe	Depressional			
Riverine + Lake Fringe	Riverine			
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE			

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

☐ More than 2 HGM cla	sses
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SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality		
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)		
□ Slope is 1% or less points = 3 $□$ Slope is > 1%-2% points = 2	0	
$\square$ Slope is > 2%-5% points = 1		
☑ Slope is greater than 5% points = 0	0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\square$ No = 0	0	
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.		
$\square$ Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	2	
☐ Dense, uncut, herbaceous plants > ½ of area points = 3		
☐ Dense, woody, plants > ½ of area points = 2		
$\square$ Dense, uncut, herbaceous plants > $\frac{1}{4}$ of area points = 1		
☐ Does not meet any of the criteria above for plants points = 0		
Total for S 1 Add the points in the boxes above		
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the same of the sa	the first nage	
	ine jirst page	
S 2.0. Does the landscape have the potential to support the water quality function of the site?	The Jirst page	
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 ⋈ No = 0	0	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☑ Yes = 1 ☐ No = 0	0 1 1	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☑ Yes = 1 ☐ No = 0  Total for S 2 Add the points in the boxes above	0 1 1	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☑ Yes = 1 ☐ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M ☐ 0 = L  Record the rating on the stream ☐ 0 = L	0 1 1	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☑ Yes = 1 ☐ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M ☐ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	0 1 1 the first page	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☑ Yes = 1 ☐ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M ☐ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  ☑ Yes = 1 ☐ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is	0 1 1 the first page	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☑ Yes = 1 ☐ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M ☐ 0 = L  Record the rating on the stream Is a stream, river, lake, or marine water that is on the 303(d) list?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  ☐ Yes = 1 ☐ No = 0  S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	0 1 1 the first page	

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion						
S 4.0. Does the site have the potential to reduce flooding and stream erosion?						
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>g</sub> in), or dense enough, to remain erect during surface flows.  ☑ Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1 ☐ All other conditions  ☐ All other conditions	1					
Rating of Site Potential If score is: $\boxtimes 1 = M \boxtimes 0 = L$ Record the rating on a	the first page					
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?						
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\square$ Yes = 1 $\boxtimes$ No = 0	0					
Rating of Landscape Potential If score is: □ 1 = M ⊠ 0 = L Record the rating on to	the first page					
S 6.0. Are the hydrologic functions provided by the site valuable to society?						
S 6.1. Distance to the nearest areas downstream that have flooding problems:  □ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  □ Surface flooding problems are in a sub-basin farther down-gradient  □ No flooding problems anywhere downstream  □ Points = 0	2					
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 ☑ No = 0	0					
Total for S 6 Add the points in the boxes above	2					
Rating of Value If score is:	the first page					

**NOTES and FIELD OBSERVATIONS:** 

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 ☐ Emergent 3 structures: points = 2 2 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 2 $\boxtimes$ None = 0 points $\square$ Low = 1 point Moderate = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:  Check the habitat features that are present in the wetland. The number of checks is the number of points.  □ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).  □ Standing snags (dbh > 4 in) within the wetland  □ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)  □ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)  □ At least ¼ ac of thin-stemmed persistent plants 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 every stratum of plants (see H 1.1 for list of strata)					
Total for H 1 Add the point	ts in the boxes above	8			
Rating of Site Potential If score is: $\Box$ 15-18 = H $\boxtimes$ 7-14 = M $\Box$ 0-6 = L	Record the rating on t	the first page			
H 2.0. Does the landscape have the potential to support the habitat functions of the site	e?				
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).  **Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figure 1	gs. 2-5  points = 3  points = 2  points = 1  points = 0	0			
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Fig.  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10-50% and in 1-3 patches  Undisturbed habitat 10-50% and > 3 patches  Undisturbed habitat < 10% of 1 km Polygon	gs. 2-5  points = 3  points = 2  points = 1  points = 0	2			
H 2.3. Land use intensity in 1 km Polygon: If  ⊠ > 50% of 1 km Polygon is high intensity land use  □ ≤ 50% of 1 km Polygon is high intensity	points = (- 2) points = 0	-2			
Total for H 2 Add the point	ts in the boxes above	0			
Rating of Landscape Potential If score is: $\Box$ 4-6 = H $\Box$ 1-3 = M $\boxtimes$ < 1 = L	Record the rating on th	ne first page			
H 3.0. Is the habitat provided by the site valuable to society?					
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose or that applies to the wetland being rated.  Site meets ANY of the following criteria:  □ It has 3 or more priority habitats within 100 m (see next page) □ It provides habitat for Threatened or Endangered species (any plant or animal on the It is mapped as a location for an individual WDFW priority species □ It is a Wetland of High Conservation Value as determined by the Department of Na □ It has been categorized as an important habitat site in a local or regional comprehe a Shoreline Master Plan, or in a watershed plan □ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 2 he state or federal lists) tural Resources	1			
Rating of Value If score is: ⊠ 2 = H □ 1 = M □ 0 = L	Record the rating on	the first page			

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 – see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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#### Wetland EB19 Rating Form

# **RATING SUMMARY – Western Washington**

Source of base aerial photo/map: Google Earth

Name of wetland (or ID #): Wetland EB19 Date of site visit: 6/24/2015, 2/27/2020

Rated by: K. Crandall, R. Kahlo Trained by Ecology? ☑ Y ☐ N Date of training: 9/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes? ☐ Y ☑ N

NOTE: Form is not complete without the figures requested (figures can be combined).

**OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic			Habitat				
	Circle the appropriate ratings									
Site Potential	Н	М	(L)	Н	М		Н	(M)	L	
Landscape Potential	Н	M	L	Н	М	(L)	Н	М	(L)	
Value	H	М	L	H	М	Ĺ	H	М	L	TOTAL
Score Based on Ratings		6			5			6		17

Category based on SPECIAL CHARACTERISTICS of wetland

Score for each function based on three ratings (order of ratings is not important)
9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

CHARACTERISTIC	CATEGORY			
Estuarine	I II			
Wetland of High Conservation Value	I			
Bog	I			
Mature Forest	I			
Old Growth Forest	I			
Coastal Lagoon	I II			
Interdunal	I II	III IV		
None of the above	$\boxtimes$			

# Maps and figures required to answer questions correctly for Western Washington

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB18-1
Hydroperiods	H 1.2	EB18-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB18-1
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	EB18-1
(can be added to figure above)		EB19-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB18-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 161. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 162. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 163. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 164. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 ✓ **YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 165. 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,  $\square$  The overbank flooding occurs at least once every 2 years.

V	V	<u>e</u> 1	-1	a	n	Ы	$\mathbf{E}$	<b>B</b> 1	9

□ NO – go to 6 <b>NOTE</b> : The Riverine unit can contain depressions flooding	☐ <b>YES</b> – The wetland class is <b>Riverine</b> s that are filled with water when the river is not
	ression in which water ponds, or is saturated to the ns that any outlet, if present, is higher than the interior
□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
flooding? The unit does not pond surface water r	area with no obvious depression and no overbank nore than a few inches. The unit seems to be wetland may be ditched, but has no obvious natural
□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

168. 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 the wetland unit being scored.

**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 HGM 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

□ Moi	e than	2 HGM	classes
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SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
□ Slope is 1% or less       points = 3         □ Slope is > 1%-2%       points = 2         □ Slope is > 2%-5%       points = 1	0
oxtimes Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\square$ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
☐ Dense, uncut, herbaceous plants > 90% of the wetland area  ☐ Dense, uncut, herbaceous plants > 1/ of area.	3
☐ Dense, uncut, herbaceous plants > ½ of area  ☐ Dense, weady, plants > ½ of area	
<ul> <li>□ Dense, woody, plants &gt; ½ of area</li> <li>□ Dense, uncut, herbaceous plants &gt; ¼ of area</li> <li>points = 1</li> </ul>	
☐ Does not meet any of the criteria above for plants ☐ Does not meet any of the crit	
Total for S 1  Add the points in the boxes above	3
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on t	ha first page
	ne jirst page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	ne jirst page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☒ No = 0	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☒ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \( \text{ Yes} = 1  \text{ No} = 0 \)  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream \( \text{ Yes} = 1  \text{ No} = 0 \)	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☒ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \( \text{ Yes} = 1  \text{ No} = 0 \)  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream \( \text{ Yes} = 1  \text{ No} = 0 \)	0 1 0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  \[ \sum \text{Yes} = 1 \sum \text{No} = 0 \]  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream  \[ \sum \text{Yes} = 1 \sum \text{No} = 0 \]  Total for S 2  Add the points in the boxes above	0 1 0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☒ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☒ Yes = 1 ☐ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☒ 1-2 = M ☐ 0 = L  Record the rating on the stream ☐ 0 = L	0 1 0
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☑ Yes = 1 ☐ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M ☐ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	0 1 0 the first page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☑ Yes = 1 ☐ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M ☐ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☑ Yes = 1 ☐ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is	0 1 0 the first page
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☑ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: urban stream ☑ Yes = 1 ☐ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: ☑ 1-2 = M ☐ 0 = L  Record the rating on to the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  ☑ Yes = 1 ☐ No = 0  S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	0 1 0 the first page

SLOPE WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros	ion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1 □ All other conditions points = 0	0
Rating of Site Potential If score is: $\square$ 1 = M $\boxtimes$ 0 = L Record the rating on	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\square$ Yes = 1 $\boxtimes$ No = 0	0
Rating of Landscape Potential If score is: □ 1 = M ⊠ 0 = L Record the rating on a	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems:  □ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  □ Surface flooding problems are in a sub-basin farther down-gradient  □ No flooding problems anywhere downstream  points = 0	2
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 □ No = 0	0
Total for S 6 Add the points in the boxes above	2
Rating of Value If score is:	the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 2 ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☑ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 0 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 2 $\square$ None = 0 points $\square$ Low = 1 point Moderate = 2 points All three diagrams in

this row are

HIGH = 3 points

H 1.5. Special habitat features:  Check the habitat features that are present in the wetland. The number of checks is the number of points.	
<ul> <li>✓ Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</li> </ul>	
☐ Standing snags (dbh > 4 in) within the wetland	
☑ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
<ul> <li>Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)</li> </ul>	2
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
<ul> <li>Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)</li> </ul>	
Total for H 1 Add the points in the boxes above	7
Rating of Site Potential If score is: $\Box$ 15-18 = H $\boxtimes$ 7-14 = M $\Box$ 0-6 = L Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5	
If total accessible habitat is:	
$\square$ > 1/3 (33.3%) of 1 km Polygon points = 3	0
$\square$ 20-33% of 1 km Polygon points = 2	
$\square$ 10-19% of 1 km Polygon points = 1	
⊠ < 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5	
☐ Undisturbed habitat > 50% of Polygon points = 3	_
☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2	1
□ Undisturbed habitat 10-50% and > 3 patches     □ Undisturbed habitat 10-50%	
$\Box$ Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	
$\square$ > 50% of 1 km Polygon is high intensity land use points = (-2)	-2
$\square \le 50\%$ of 1 km Polygon is high intensity points = 0	_
Total for H 2 Add the points in the boxes above	-1
Rating of Landscape Potential If score is: $\square$ 4-6 = H $\square$ 1-3 = M $\boxtimes$ <1 = L Record the rating on the	_
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score	
that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
oxtimes It has 3 or more priority habitats within 100 m (see next page)	
$\square$ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)	
$\square$ It is mapped as a location for an individual WDFW priority species	2
$\square$ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources	
☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in	
a Shoreline Master Plan, or in a watershed plan	
☐ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1	
☐ Site does not meet any of the criteria above points = 0	
Poting of Value of source in Marine on	LL - C'L

Rating of Value If score is:  $\boxtimes 2 = H \square 1 = M \square 0 = L$ 

Record the rating on the first page

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). ☑ **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 – see web link above). ☑ **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 – see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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#### Wetland EB20 Rating Form

## **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB20 Date of site visit: 6/17/2015, 5/26/2020 Rated by: K. Crandall Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014

**HGM Class used for rating:** Slope Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

#### **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality		Hydrologic			Habitat			
Circle the appropriate ratings									
Site Potential	н м	(L)	Н	(M)	L	Н	М	(L)	
Landscape Potential	H (M)	L	Н	M	L	Н	М	(Ī)	
Value	н М	L	H	М	L	Н	M	L	TOTAL
Score Based on Ratings	5			7			4		16

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY			
Estuarine	I II			
Wetland of High Conservation Value	I			
Bog	I			
Mature Forest	I			
Old Growth Forest	I			
Coastal Lagoon	I II			
Interdunal	I II	III IV		
None of the above	$\boxtimes$			

#### Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EB20-1
Hydroperiods	H 1.2	EB20-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EB20-1
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	EB20-1
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EB20-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	8
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 169. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 170. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 171. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 172. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  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**.  $\square$  NO – go to 5 ✓ **YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 173. 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,  $\square$  The overbank flooding occurs at least once every 2 years.

Wet	land	<b>EB20</b>

□ NO – go to 6 <b>NOTE</b> : The Riverine unit can contain flooding	□ <b>YES</b> – The wetland class is <b>Riverine</b> depressions that are filled with water when the river is not
	ographic depression in which water ponds, or is saturated to the ? This means that any outlet, if present, is higher than the interior
□ NO – go to 7	$\square$ <b>YES</b> – The wetland class is <b>Depressional</b>
flooding? The unit does not pond sur	n a very flat area with no obvious depression and no overbank rface water more than a few inches. The unit seems to be the area. The wetland may be ditched, but has no obvious natural
□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

176. 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 the wetland unit being scored.

**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 HGM 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	HGM class to
being rated	use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

□ Moi	e than	2 HGM	classes
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SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
□ Slope is 1% or less       points = 3         □ Slope is > 1%-2%       points = 2         □ Slope is > 2%-5%       points = 1	0
☑ Slope is greater than 5% points = 0	•
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\square$ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
☐ Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	3
☐ Dense, uncut, herbaceous plants > ½ of area points = 3	
☐ Dense, woody, plants > ½ of area points = 2	
☐ Dense, uncut, herbaceous plants > ¼ of area points = 1	
☐ Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on	
Rating of Site Potential if score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on t	the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?	he first page
	the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ⊠ Yes = 1 □ No = 0	
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: ☐ Yes = 1 ☒ No = 0	1 0 1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	1 0 1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 □ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 □ No = 0  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M □ 0 = L  Record the rating on the site?  Record the rating on the site?	1 0 1
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ☐ Yes = 1 ☐ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  ☐ Other sources: ☐ Yes = 1 ☐ No = 0  Total for S 2  ☐ Add the points in the boxes above  Rating of Landscape Potential If score is: ☐ 1-2 = M ☐ 0 = L  ☐ Record the rating on the stream of the stream of the site valuable to society?  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	1 0 1 the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  □ Yes = 1 □ No = 0  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources: □ Yes = 1 □ No = 0  Total for S 2 Add the points in the boxes above  Rating of Landscape Potential If score is: □ 1-2 = M □ 0 = L  S 3.0. Is the water quality improvement provided by the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? □ Yes = 1 □ No = 0  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is	1 0 1 the first page
S 2.0. Does the landscape have the potential to support the water quality function of the site?  S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources:  Total for S 2  Add the points in the boxes above  Rating of Landscape Potential If score is:  S 1-2 = M □ 0 = L  Record the rating on the site valuable to society?  S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? Answer YES	1 0 1 the first page 0

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosi	ion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  ☑ Dense, uncut, rigid plants cover > 90% of the area of the wetland ☐ All other conditions points = 0	1
Rating of Site Potential If score is:  □ 1 = M □ 0 = L Record the rating on a	the first page
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\square$ Yes = 1 $\square$ No = 0	1
Rating of Landscape Potential If score is:	the first page
S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  Down the flooding problems anywhere downstream  Down the flooding problems anywhere downstream	2
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 □ No = 0	0
Total for S 6 Add the points in the boxes above	2
Rating of Value If score is:	the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 3 structures: points = 2 0 ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☐ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 ☐ Seasonally flooded or inundated 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 0 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 $\boxtimes$ None = 0 points $\square$ Low = 1 point ☐ Moderate = 2 points All three diagrams in this row are

 $\square$  **HIGH** = 3 points

H 1.5. Special habitat features:

Check the habitat features that are present in the wetland. The number of  □ Large, downed, woody debris within the wetland (> 4 in diameter and 6 □ Standing snags (dbh > 4 in) within the wetland □ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging over a stream (or ditch) in, or contiguous with the wetland, for at least □ Stable steep banks of fine material that might be used by beaver or m slope) OR signs of recent beaver activity are present (cut shrubs or to where wood is exposed) □ At least ¼ ac of thin-stemmed persistent plants or woody branches are permanently or seasonally inundated (structures for egg-laying by amp □ Invasive plants cover less than 25% of the wetland area in every strature strata)	plants extends at least 3.3 ft (1 m) 33 ft (10 m) huskrat for denning (> 30 degree hees that have not yet weathered present in areas that are hibians)	0
Total for H 1	Add the points in the boxes above	1
Rating of Site Potential If score is: ☐ 15-18 = H ☐ 7-14 = M ☐ 0-6 = L	Record the rating on t	the first page
H 2.0. Does the landscape have the potential to support the habitat funct	ions of the site?	
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).  Calculate: % undisturbed habitat + [(% moderate and low intensity land unit) of total accessible habitat is:  □ > 1/3 (33.3%) of 1 km Polygon □ 20-33% of 1 km Polygon □ 10-19% of 1 km Polygon □ < 10% of 1 km Polygon	points = 3 points = 2 points = 1 points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate: % undisturbed habitat + [(% moderate and low intensity land u  Undisturbed habitat > 50% of Polygon  Undisturbed habitat 10-50% and in 1-3 patches  Undisturbed habitat 10-50% and > 3 patches  Undisturbed habitat < 10% of 1 km Polygon	points = 3 points = 2 points = 1 points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If  □ > 50% of 1 km Polygon is high intensity land use □ ≤ 50% of 1 km Polygon is high intensity  Total for H 2	points = (-2) points = 0  Add the points in the boxes above	-2 -1
Rating of Landscape Potential If score is: ☐ 4-6 = H ☐ 1-3 = M ⊠ < 1 = L	Record the rating on th	
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or politic that applies to the wetland being rated.  Site meets ANY of the following criteria:  It has 3 or more priority habitats within 100 m (see next page)  It provides habitat for Threatened or Endangered species (any plant It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Decomplet It has been categorized as an important habitat site in a local or regular a Shoreline Master Plan, or in a watershed plan  Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 2 t or animal on the state or federal lists) partment of Natural Resources	1
Rating of Value If score is: □ 2 = H ⊠ 1 = M □ 0 = L	Record the rating on	the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

$\square$ <b>Aspen Stands:</b> Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
☐ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
☐ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests:</b> 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</i> ).
☐ <b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☐ <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
□ <b>Nearshore</b> : 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 – see web link on previous page).
□ <b>Caves:</b> 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.
$\Box$ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
□ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

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#### Wetland EB21 Rating Form

# **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland EB21 Date of site visit: 6/1/2015, 5/26/2020 Rated by: K. Crandall Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014

**HGM Class used for rating:** <u>Depressional</u> Wetland has multiple HGM classes? □ Y ⋈ N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth, King County iMap

#### **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **□** Category III Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	_	Circle the app	propriate ratings	
Site Potential	H (M) L	H M (L)	H M (L)	
Landscape Potential	H M L	H) M L	H M L	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings	7	7	3	17

## Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		$\boxtimes$

#### Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

# Maps and figures required to answer questions correctly for Western Washington

## <u>Depressional Wetlands</u>

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	EB21-1
Hydroperiods	D 1.4, H 1.2	EB21-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	EB21-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	EB21-2
Map of the contributing basin	D 4.3, D 5.3	EB21-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	7
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated. 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. 177. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 178. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 179. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 180. Does the entire wetland unit **meet all** of the following criteria?  $\square$  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**.  $\boxtimes$  NO – go to 5 ☐ **YES** - The wetland class is **Slope NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep). 181. 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

 $\Box$  The overbank flooding occurs at least once every 2 years.

stream or river.

⋈ NO – go to 6  NOTE: The Riverine unit flooding	☐ <b>YES</b> – The wetland class is <b>Riverine</b> can contain depressions that are filled with water when the river is not
	nnit in a topographic depression in which water ponds, or is saturated to the ring the year? This means that any outlet, if present, is higher than the interior
□ NO – go to 7	☑ YES – The wetland class is Depressional
flooding? The unit does	unit located in a very flat area with no obvious depression and no overbank not pond surface water more than a few inches. The unit seems to be ndwater in the area. The wetland may be ditched, but has no obvious natural
□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

184. 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 the wetland unit being scored.

**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 HGM 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 of depression	Depressional		
Depressional + Lake Fringe	Depressional		
Riverine + Lake Fringe	Riverine		
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE		

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

	More	than 1	2 F	IGM	classes
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DEPRESSIONAL AND FLATS WETLANDS							
Water Quality Functions - Indicators that the site functions to improve water quality							
D 1.0. Does the site have the potential to improve water quality?							
D 1.1. Characteristics of surface water outflows from the wetland:							
$\square$ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).							
points = 3	_						
☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.	1						
points = 2  ☑ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1							
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1							
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) $\square$ Yes = 4 $\boxtimes$ No = 0	0						
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):							
<ul> <li>✓ Wetland has persistent, ungrazed, plants &gt; 95% of area</li> </ul> points = 5							
☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	5						
☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1							
$\square$ Wetland has persistent, ungrazed plants < 1/10 of area points = 0							
D 1.4. Characteristics of seasonal ponding or inundation:							
This is the area that is ponded for at least 2 months. See description in manual.							
☐ Area seasonally ponded is > ½ total area of wetland points = 4	0						
☐ Area seasonally ponded is > ¼ total area of wetland points = 2							
☑ Area seasonally ponded is < ¼ total area of wetland  points = 0							
Total for D 1 Add the points in the boxes above	6						
<b>Rating of Site Potential</b> If score is: $\square$ <b>12-16 = H</b> $\boxtimes$ <b>6-11 = M</b> $\square$ <b>0-5 = L</b> Record the rating on the function	irst page						
D 2.0. Does the landscape have the potential to support the water quality function of the site?							
D 2.1. Does the wetland unit receive stormwater discharges? $\boxtimes$ Yes = 1 $\square$ No = 0	1						
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $\square$ Yes = 1 $\square$ No = 0	1						
D 2.3. Are there septic systems within 250 ft of the wetland? $\square$ Yes = 1 $\boxtimes$ No = 0	0						
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	0						
Source							
Total for D 2 Add the points in the boxes above	2						
Rating of Landscape Potential If score is: $\square$ 3 or 4 = H $\boxtimes$ 1 or 2 = M $\square$ 0 = L Record the rating on the first page							
D 3.0. Is the water quality improvement provided by the site valuable to society?							
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the	1						
303(d) list? $\qquad \qquad \boxtimes \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	1						
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? $\boxtimes$ Yes = 1 $\square$ No = 0	1						
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES	0						
if there is a TMDL for the basin in which the unit is found)? $\square$ Yes = 2 $\boxtimes$ No = 0							
Total for D 3 Add the points in the boxes above	2						
Rating of Value If score is: $\boxtimes$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the first							

DEPRESSIONAL AND FLATS WETLANDS			
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation			
D 4.0. Does the site have the potential to reduce flooding and erosion?			
D 4.1. Characteristics of surface water outflows from the wetland:  ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4  ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1  ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	0		
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 □ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 □ The wetland is a "headwater" wetland points = 3 □ Wetland is flat but has small depressions on the surface that trap water points = 1 □ Marks of ponding less than 0.5 ft (6 in) points = 0	0		
D 4.3. Contribution of the wetland 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 points = 5 □ The area of the basin is 10 to 100 times the area of the unit points = 3 □ The area of the basin is more than 100 times the area of the unit points = 0 □ Entire wetland is in the Flats class points = 5	0		
Total for D 4 Add the points in the boxes above	0		
Rating of Site Potential If score is: $\square$ 12-16 = H $\square$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the	first page		
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1. Does the wetland receive stormwater discharges? $\boxtimes$ Yes = 1 $\square$ No = 0	1		
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? $\square$ Yes = 1 $\square$ No = 0	1		
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? $\  \  \  \  \  \  \  \  \  \  \  \  \ $	1		
Total for D 5 Add the points in the boxes above			
Rating of Landscape Potential If score is: $\boxtimes 3 = H \square 1$ or $2 = M \square 0 = L$ Record the rating on the	first page		
D 6.0. Are the hydrologic functions provided by the site valuable to society?			
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  ■ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  ■ Surface flooding problems are in a sub-basin farther down-gradient. points = 1  □ Flooding from groundwater is an issue in the sub-basin. points = 1  □ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0  □ There are no problems with flooding downstream of the wetland. points = 0	2		
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 □ No = 0	0		
Total for D 6 Add the points in the boxes above	2		
Rating of Value If score is: $\boxtimes$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the	first page		

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## These questions apply to wetlands of all HGM classes. **Habitat Functions** - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?	
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.  □ Aquatic bed □ Emergent □ Scrub-shrub (areas where shrubs have > 30% cover) □ Scrub-shrub (areas where trees have > 30% cover) □ Structures: points = 1 □ Forested (areas where trees have > 30% cover) □ Structure: points = 0	1
If the unit has a Forested class, check if:  ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover)  that each cover 20% within the Forested polygon	
H 1.2. Hydroperiods  Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods).  ☑ Permanently flooded or inundated 4 or more types present: points = 3  ☐ Seasonally flooded or inundated 3 types present: points = 2  ☑ Occasionally flooded or inundated 2 types present: points = 1  ☐ Saturated only 1 type present: points = 0  ☐ Permanently flowing stream or river in, or adjacent to, the wetland  ☐ Seasonally flowing stream in, or adjacent to, the wetland	1
□ Lake Fringe wetland       2 points         □ Freshwater tidal wetland       2 points         H 1.3. Richness of plant species	
Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .  Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle  If you counted:   > 19 species  points = 2  > 5 - 19 species  points = 1  < 5 species  points = 0	1
H 1.4. Interspersion of habitats  Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points	2

#### Wetland EB21

H 1.5. Special habitat features:			
Check the habitat features that are present in the wetland. The number of checks is the number of points.			
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).			
☐ Standing snags (dbh > 4 in) within the wetland			
☑ Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends a company of the	at least 3.3 ft (1 m)		
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	, ,	_	
$\square$ Stable steep banks of fine material that might be used by beaver or muskrat for denn		1	
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have no where wood is exposed)	ot yet weathered		
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas permanently or seasonally inundated (structures for egg-laying by amphibians)	that are		
☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (see F	H 1 1 for list of		
strata)	, 1.1 jo, not oj		
Total for H 1 Add the points	s in the boxes above	6	
Rating of Site Potential If score is: $\Box$ 15-18 = H $\Box$ 7-14 = M $\boxtimes$ 0-6 = L	Record the rating on t	the first page	
H 2.0. Does the landscape have the potential to support the habitat functions of the site	?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).			
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs	s. 2-5		
If total accessible habitat is:			
$\square$ > 1/3 (33.3%) of 1 km Polygon	points = 3	0	
☐ 20-33% of 1 km Polygon	points = 2		
☐ 10-19% of 1 km Polygon	points = 1		
⊠ < 10% of 1 km Polygon	points = 0		
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	po		
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs. 2-5			
☐ Undisturbed habitat > 50% of Polygon	points = 3		
☐ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	1	
☐ Undisturbed habitat 10-50% and > 3 patches	points = 1		
·	·		
☐ Undisturbed habitat < 10% of 1 km Polygon points = 0  H 2.3. Land use intensity in 1 km Polygon: If			
$\square$ > 50% of 1 km Polygon is high intensity land use	naints = / 2\	-2	
	points = (- 2)	-2	
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0	1	
·	s in the boxes above	-1	
Rating of Landscape Potential If score is: □ 4-6 = H □ 1-3 = M ⋈ < 1 = L	Record the rating on th	ne first page	
H 3.0. Is the habitat provided by the site valuable to society?			
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose on	ly the highest score		
that applies to the wetland being rated.			
Site meets ANY of the following criteria:	points = 2		
$\square$ It has 3 or more priority habitats within 100 m (see next page)			
$\square$ It provides habitat for Threatened or Endangered species (any plant or animal on th	e state or federal lists)		
☐ It is mapped as a location for an individual WDFW priority species			
☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources			
$\square$ It has been categorized as an important habitat site in a local or regional comprehensive plan, in			
a Shoreline Master Plan, or in a watershed plan			
$\square$ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1		
☑ Site does not meet any of the criteria above	points = 0		
Rating of Value If score is: $\square$ 2 = H $\square$ 1 = M $\boxtimes$ 0 = L	Record the rating on	the first page	

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$\Box$ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
$\Box$ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
□ <b>Snags and Logs:</b> 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland EB21

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#### Wetland EE Rating Form

## **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): <u>Wetland EE, Lakeside Substation</u> Date of site visit: <u>2/27/2018, 5/26/2020</u>
Rated by: <u>K. Crandall, N. Lund</u> Trained by Ecology? ⊠ Y □ N Date of training: <u>9/2014, 6/2014</u> **HGM Class used for rating:** <u>Slope</u> Wetland has multiple HGM classes? □ Y ⊠ N **NOTE:** Form is not complete without the figures requested (*figures can be combined*).

Source of base aerial photo/map: Google Earth

**OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- ☐ Category III Total score = 16 19
- **Category IV** − Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
Site Potential	H M (L)	H M (L)	H (M) L	
Landscape Potential	H (M) L	H (M) L	H M (L)	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings	5	6	4	15

Category based on SPECIAL CHARACTERISTICS of wetland

Score for each function based on three ratings (order of ratings is not important)
9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	I	II
Interdunal	I II	III IV
None of the above		$\boxtimes$

#### Wetland EE

# Maps and figures required to answer questions correctly for Western Washington

#### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	EE-1
Hydroperiods	H 1.2	EE-2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	EE-1
Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants	S 4.1	FF-1
(can be added to figure above)		CC-T
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	EE-2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2 to 5
polygons for accessible habitat and undisturbed habitat		2 10 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	8
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

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. 185. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 186. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 187. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 188. Does the entire wetland unit **meet all** of the following criteria?  $\boxtimes$  The wetland is on a slope (slope can be very gradual),

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

☑ 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,

189. Does the entire wetland unit **meet all** of the following criteria?

☑ The water leaves the wetland **without being impounded**.

$\Box$ The unit is in a valley, or stream chann	el, where it gets inundated by	overbank flooding from that
stream or river,		

 $\Box$  The overbank flooding occurs at least once every 2 years.

✓ **YES** - The wetland class is **Slope** 

 $\square$  NO – go to 5

	□ NO – go to 6 <b>NOTE</b> : The Riverine unit can contain depressions t	☐ <b>YES</b> – The wetland class is <b>Riverine</b>
	flooding	mat are fined with water when the river is not
19	<ol> <li>Is the entire wetland unit in a topographic depressurface, at some time during the year? This means of the wetland.</li> </ol>	ession in which water ponds, or is saturated to the sthat any outlet, if present, is higher than the interior
	$\square$ NO – go to 7	☐ <b>YES</b> – The wetland class is <b>Depressional</b>
19	1. Is the entire wetland unit located in a very flat an flooding? The unit does not pond surface water me maintained by high groundwater in the area. The voutlet.	•

192. 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 the wetland unit being scored.

☐ **YES** – The wetland class is **Depressional** 

**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 HGM 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	HGM class to			
being rated	use in rating			
Slope + Riverine	Riverine			
Slope + Depressional	Depressional			
Slope + Lake Fringe	Lake Fringe			
Depressional + Riverine along stream within boundary of depression	Depressional			
Depressional + Lake Fringe	Depressional			
Riverine + Lake Fringe	Riverine			
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE			

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

☐ More than 2 HGM cla	sses
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Wetland EE

□ NO – go to 8

SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
☐ Slope is 1% or less points = 3	0
$\square$ Slope is > 1%-2% points = 2	0
$\square$ Slope is > 2%-5% points = 1	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): $\square$ Yes = 3 $\boxtimes$ No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:	
Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
☐ Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	3
☑ Dense, uncut, herbaceous plants > ½ of area points = 3	
☐ Dense, woody, plants > ½ of area points = 2	
$\Box$ Dense, uncut, herbaceous plants > $\frac{1}{4}$ of area points = 1	
$\Box$ Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	3
Rating of Site Potential If score is: $\Box$ 12 = H $\Box$ 6-11 = M $\boxtimes$ 0-5 = L Record the rating on the	
S 2.0. Does the landscape have the potential to support the water quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  ⊠ Yes = 1 □ No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	
Other sources: ☐ Yes = 1 ☒ No = 0	0
Total for S 2 Add the points in the boxes above	1
Rating of Landscape Potential If score is:  □ 1-2 = M □ 0 = L	the first page
S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. $\boxtimes$ Yes = 1 $\square$ No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found.	0
Total for S 3 Add the points in the boxes above	1
Rating of Value If score is:	the first page

SLOPE WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion		
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually >1/8 <sub>8</sub> in), or dense enough, to remain erect during surface flows.  □ Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland □ All other conditions  points = 0		
Rating of Site Potential If score is: $\Box$ 1 = M $\boxtimes$ 0 = L Record the rating on	the first page	
S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? $\square$ Yes = 1 $\square$ No = 0	1	
Rating of Landscape Potential If score is:	the first page	
S 6.0. Are the hydrologic functions provided by the site valuable to society?		
S 6.1. Distance to the nearest areas downstream that have flooding problems:  ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  ☐ Surface flooding problems are in a sub-basin farther down-gradient  ☐ No flooding problems anywhere downstream  Down the flooding problems are in a sub-basin farther down-gradient  ☐ points = 0	2	
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  □ Yes = 2 □ No = 0	0	
Total for S 6 Add the points in the boxes above	2	
Rating of Value If score is: $\square$ 2-4 = H $\square$ 1 = M $\square$ 0 = L Record the rating on the score is:		

NOTES and FIELD OBSERVATIONS:

## These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habita

Habitat Functions indicators that site functions	to provide important nabitat		
H 1.0. Does the site have the potential to provide habitat?			
H 1.1. Structure of plant community: Indicators are Cowardin classes and strata of Cowardin plant classes in the wetland. Up to 10 patches may be combined of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of 10 patches may be combined of 10 patches may be combined of 12 patches may be combined on 12 patches may be combined on 12 patches and strata of 12 patches may be combined on 12 patches and strata of 12 patches may be combined on 12 patches and strata of 12 patches may be combined on 12 patches and strata of 12 patches may be combined on 12 patches may be combined	for each class to meet the threshold		
☐ Aquatic bed	4 structures or more: points = 4		
	3 structures: points = 2	4	
Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1	1	
☐ Forested (areas where trees have > 30% cover)	1 structure: points = 0		
If the unit has a Forested class, check if:			
☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, he that each cover 20% within the Forested polygon	nerbaceous, moss/ground-cover)		
H 1.2. Hydroperiods			
Check the types of water regimes (hydroperiods) present within the wetlam more than 10% of the wetland or ¼ ac to count (see text for descriptions of	=		
☐ Permanently flooded or inundated	4 or more types present: points = 3		
☐ Seasonally flooded or inundated	3 types present: points = 2		
☑ Occasionally flooded or inundated	2 types present: points = 1	1	
Saturated only	1 type present: points = 0	_	
☐ Permanently flowing stream or river in, or adjacent to, the wetland			
☐ Seasonally flowing stream in, or adjacent to, the wetland			
☐ Lake Fringe wetland	2 points		
☐ Freshwater tidal wetland	2 points		
H 1.3. Richness of plant species			
Count the number of plant species in the wetland that cover at least 10 ft	2		
Different patches of the same species can be combined to meet the size th	reshold and you do not have to name		
the species. Do not include Eurasian milfoil, reed canarygrass, purple lo	osestrife, Canadian thistle	2	
If you counted: ⊠ > 19 species	points = 2		
$\square$ 5 - 19 species	points = 1		
□ < 5 species	points = 0		
H 1.4. Interspersion of habitats			
Decide from the diagrams below whether interspersion among Cowardin			
the classes and unvegetated areas (can include open water or mudflats)			
have four or more plant classes or three classes and open water, the rating	g is always high.		
		1	
$\square$ <b>None</b> = 0 points $\boxtimes$ <b>Low</b> = 1 point	Moderate = 2 points	-	
·	·		
All three diagrams in			
All three diagrams in this row are			
☐ HIGH = 3 points			

#### Wetland EE

H 1.5. Special habitat features:		
Check the habitat features that are present in the wetland. The number of	checks is the number of points.	
☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6	ft long).	
	<u>.</u>	
☐ Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging	nlants extends at least 3.3 ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least		_
$\square$ Stable steep banks of fine material that might be used by beaver or m	uskrat for denning (> 30 degree	2
slope) OR signs of recent beaver activity are present (cut shrubs or tr	ees that have not yet weathered	
where wood is exposed)		
☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are permanently or seasonally inundated (structures for egg-laying by amp		
☐ Invasive plants cover less than 25% of the wetland area in every stratun	n of plants (see H 1.1 for list of	
strata) Total for H 1	Add the points in the boxes above	7
Rating of Site Potential If score is: ☐ 15-18 = H ⊠ 7-14 = M ☐ 0-6 = L	Record the rating on t	
H 2.0. Does the landscape have the potential to support the habitat functi	ions of the site?	· · ·
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).	\/a1	
Calculate: % undisturbed habitat + [(% moderate and low intensity land u	ses)/2] = <i>see Figs. 2-5</i>	
If total accessible habitat is:		
$\square$ > 1/3 (33.3%) of 1 km Polygon	points = 3	0
☐ 20-33% of 1 km Polygon	points = 2	
$\square$ 10-19% of 1 km Polygon	points = 1	
⊠ < 10% of 1 km Polygon	points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.		
Calculate: % undisturbed habitat + [(% moderate and low intensity land u	ses)/2] = <i>see Figs. 2-5</i>	
☐ Undisturbed habitat > 50% of Polygon	points = 3	1
$\square$ Undisturbed habitat 10-50% and in 1-3 patches	points = 2	1
☑ Undisturbed habitat 10-50% and > 3 patches	points = 1	
$\Box$ Undisturbed habitat < 10% of 1 km Polygon	points = 0	
H 2.3. Land use intensity in 1 km Polygon: If		
	points = (- 2)	-2
☐ ≤ 50% of 1 km Polygon is high intensity	points = 0	
Total for H 2	Add the points in the boxes above	-1
Rating of Landscape Potential If score is: □ 4-6 = H □ 1-3 = M ⋈ < 1 = L	Record the rating on th	
H 3.0. Is the habitat provided by the site valuable to society?		-,,
H 3.1. Does the site provide habitat for species valued in laws, regulations, or poli	cies? Choose only the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
$\square$ It has 3 or more priority habitats within 100 m (see next page)		
$\square$ It provides habitat for Threatened or Endangered species (any plant	or animal on the state or federal lists)	
$\square$ It is mapped as a location for an individual WDFW priority species		0
$\square$ It is a Wetland of High Conservation Value as determined by the De	partment of Natural Resources	
$\square$ It has been categorized as an important habitat site in a local or reg	ional comprehensive plan, in	
a Shoreline Master Plan, or in a watershed plan		
$\square$ Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
$\square$ Site does not meet any of the criteria above	points = 0	
Rating of Value If score is: $\square$ 2 = H $\square$ 1 = M $\boxtimes$ 0 = L	Record the rating on	the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

2 rispensations. The of mixed stands of aspengicated than I at (0.11a).
☐ <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).
☐ <b>Herbaceous Balds:</b> Variable size patches of grass and forbs on shallow soils over bedrock.
□ <b>Old-growth/Mature forests:</b> 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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest.
□ <b>Oregon White Oak:</b> Woodland 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 – see web link above</i> ).
☐ <b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
□ <b>Westside Prairies:</b> 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 – see web link above</i> ).
☐ <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
□ <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. ( <i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i> ).
□ <b>Caves:</b> 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.
$\Box$ Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
$\Box$ <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
□ <b>Snags and Logs:</b> 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland EE

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#### Wetland | Rating Form

## **RATING SUMMARY – Western Washington**

Name of wetland (or ID #): Wetland I, Lakeside Substation Date of site visit: 2/27/2018, 5/26/2020 Rated by: K. Crandall, N. Lund Trained by Ecology?  $\boxtimes$  Y  $\square$  N Date of training: 9/2014, 6/2014

**HGM Class used for rating:** Depressional Wetland has multiple HGM classes?  $\square$  Y  $\boxtimes$  N

**NOTE**: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: Google Earth

#### **OVERALL WETLAND CATEGORY** (based on functions ⊠ or special characteristics □)

#### **Category of wetland based on FUNCTIONS**

- ☐ Category I Total score = 23 27
- ☐ Category II Total score = 20 22
- **Category III** − Total score = 16 19
- ☐ Category IV Total score = 9 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the app	propriate ratings	
Site Potential	H (M) L	H (M) L	H M (L)	
Landscape Potential	H M L (	H) M L	H M L	
Value	H M L	H M L	H M L	TOTAL
Score Based on Ratings	6	6	4	16

#### Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
Estuarine	I	II
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	I	
Old Growth Forest	I	
Coastal Lagoon	I	II
Interdunal	nal I II III IV	
None of the above	$\boxtimes$	

#### Score for each function based on three ratings (order of ratings is not *important)* 9 = H,H,H8 = H,H,M7 = H,H,L7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L5 = M,M,L4 = M, L, L3 = L, L, L

#### Wetland I

# Maps and figures required to answer questions correctly for Western Washington

#### **Depressional Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	I-1
Hydroperiods	D 1.4, H 1.2	I-2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	I-2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	I-2
Map of the contributing basin	D 4.3, D 5.3	I-3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2 to 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	8
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

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. 193. Are the water levels in the entire unit usually controlled by tides except during floods?  $\boxtimes$  NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? □ NO - Saltwater Tidal Fringe (Estuarine) ☐ YES - Freshwater Tidal Fringe 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 an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands. 194. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. ☐ **YES** – The wetland class is **Flats**  $\boxtimes$  NO – go to 3 If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands. 195. Does the entire wetland unit **meet all** of the following criteria? ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  $\square$  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) 196. Does the entire wetland unit **meet all** of the following criteria?  $\square$  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**.  $\boxtimes$  NO – go to 5 ☐ **YES** - The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

197. 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 2 years.

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<ul><li>⋈ NO – go to 6</li><li>NOTE: The Riverine unit can contain depressional depressions</li></ul>	$\square$ <b>YES</b> – The wetland class is <b>Riverine</b> ssions that are filled with water when the river is not
1 9 1	ic depression in which water ponds, or is saturated to the s means that any outlet, if present, is higher than the interior
□ NO – go to 7	☑ YES – The wetland class is Depressional
flooding? The unit does not pond surface w	ry flat area with no obvious depression and no overbank vater more than a few inches. The unit seems to be a. The wetland may be ditched, but has no obvious natural
□ NO – go to 8	☐ <b>YES</b> – The wetland class is <b>Depressional</b>

200. 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 the wetland unit being scored.

**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 HGM 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 of depression	Depressional
	Depressional + Lake Fringe	Depressional
	Riverine + Lake Fringe	Riverine
	Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

DEPRESSIONAL AND FLATS WETLANDS		
Water Quality Functions - Indicators that the site functions to improve water quality		
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland:		
oxtimes Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).		
points = 3	2	
☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2	3	
□ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1		
☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions) $\square$ Yes = $4 \boxtimes$ No = 0	0	
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):		
☐ Wetland has persistent, ungrazed, plants > 95% of area points = 5		
☑ Wetland has persistent, ungrazed, plants > 1/2 of area  points = 3  points = 3	3	
$\square$ Wetland has persistent, ungrazed plants > 1/10 of area points = 1		
$\square$ Wetland has persistent, ungrazed plants < 1/10 of area points = 0		
D 1.4. Characteristics of seasonal ponding or inundation:		
This is the area that is ponded for at least 2 months. See description in manual.		
☐ Area seasonally ponded is > ½ total area of wetland points = 4	2	
☑ Area seasonally ponded is > ¼ total area of wetland  points = 2		
$\square$ Area seasonally ponded is < $\frac{1}{4}$ total area of wetland points = 0		
Total for D 1 Add the points in the boxes above	8	
Rating of Site Potential If score is: $\square$ 12-16 = H $\boxtimes$ 6-11 = M $\square$ 0-5 = L Record the rating on the first		
D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland unit receive stormwater discharges? $\boxtimes$ Yes = 1 $\square$ No = 0	1	
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? $\boxtimes$ Yes = 1 $\square$ No = 0	1	
D 2.3. Are there septic systems within 250 ft of the wetland? $\square$ Yes = 1 $\boxtimes$ No = 0	0	
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?	0	
Source □ Yes = 1 ⋈ No = 0		
Total for D 2 Add the points in the boxes above	2	
<b>Rating of Landscape Potential</b> If score is: $\square$ 3 or 4 = H $\boxtimes$ 1 or 2 = M $\square$ 0 = L Record the rating on the first page		
D 3.0. Is the water quality improvement provided by the site valuable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the $303(d)$ list?	0	
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? $\boxtimes$ Yes = 1 $\square$ No = 0	1	
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES		
if there is a TMDL for the basin in which the unit is found)? $\Box$ Yes = 2 $\boxtimes$ No = 0	0	
Total for D 3 Add the points in the boxes above		
Rating of Value If score is: $\square$ 2-4 = H $\boxtimes$ 1 = M $\square$ 0 = L Record the rating on the firs		

DEPRESSIONAL AND FLATS WETLANDS			
<b>Hydrologic Functions</b> - Indicators that the site functions to reduce flooding and stream degrada	tion		
D 4.0. Does the site have the potential to reduce flooding and erosion?			
D 4.1. Characteristics of surface water outflows from the wetland:  ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet)  ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet  ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch  ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  points = 0	4		
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  □ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 □ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 □ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 □ The wetland is a "headwater" wetland points = 3 □ Wetland is flat but has small depressions on the surface that trap water points = 1 □ Marks of ponding less than 0.5 ft (6 in) points = 0	0		
D 4.3. Contribution of the wetland 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 points = 5  □ The area of the basin is 10 to 100 times the area of the unit points = 3  □ The area of the basin is more than 100 times the area of the unit points = 0  □ Entire wetland is in the Flats class points = 5	3		
Total for D 4 Add the points in the boxes above	7		
Rating of Site Potential If score is: $\square$ 12-16 = H $\boxtimes$ 6-11 = M $\square$ 0-5 = L Record the rating on the	e first page		
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?			
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?  D 5.1. Does the wetland receive stormwater discharges?   ☑ Yes = 1 ☐ No = 0	1		
	-		
D 5.1. Does the wetland receive stormwater discharges?	1		
D 5.1. Does the wetland receive stormwater discharges? $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	1		
D 5.1. Does the wetland receive stormwater discharges?	1 1 3		
D 5.1. Does the wetland receive stormwater discharges?	1 1 3		
D 5.1. Does the wetland receive stormwater discharges?  D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L  Record the rating on the Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L  D 6.0. Are the hydrologic functions provided by the site valuable to society?  D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  □ □ Flooding occurs in a sub-basin that is immediately down-gradient of unit.  □ □ Surface flooding problems are in a sub-basin farther down-gradient.  □ Flooding from groundwater is an issue in the sub-basin.  □ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.  Explain why: wetland is surrounded by a hillside and roadside curb, far from any stream  points = 0	1 1 3		
D 5.1. Does the wetland receive stormwater discharges?  D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Total for D 5  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L  D 6.0. Are the hydrologic functions provided by the site valuable to society?  D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  □ □ Flooding occurs in a sub-basin that is immediately down-gradient.  □ □ Surface flooding problems are in a sub-basin.  □ Flooding from groundwater is an issue in the sub-basin.  □ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.  Explain why: wetland is surrounded by a hillside and roadside curb, far from any stream  □ There are no problems with flooding downstream of the wetland.  □ There are no problems with flooding downstream of the wetland.	1 1 3 e first page		
D 5.1. Does the wetland receive stormwater discharges?  D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Add the points in the boxes above  Rating of Landscape Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L  Record the rating on the Potential If score is: □ 3 = H □ 1 or 2 = M □ 0 = L  D 6.0. Are the hydrologic functions provided by the site valuable to society?  D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  □ □ Flooding occurs in a sub-basin that is immediately down-gradient of unit.  □ □ Surface flooding problems are in a sub-basin farther down-gradient.  □ Flooding from groundwater is an issue in the sub-basin.  □ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.  Explain why: wetland is surrounded by a hillside and roadside curb, far from any stream  points = 0	0 1 1 3 se first page 0 0		
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Wetland Rating System for Western WA: 2014 Update

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#### These questions apply to wetlands of all HGM classes. Habitat Functions - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. ☐ Aquatic bed 4 structures or more: points = 4 ☐ Emergent 3 structures: points = 2 0 ☐ Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 ☑ Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). ☐ Permanently flooded or inundated 4 or more types present: points = 3 3 types present: points = 2 ☐ Occasionally flooded or inundated 2 types present: points = 1 1 □ Saturated only 1 type present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ Lake Fringe wetland 2 points ☐ Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: $\square > 19$ species points = 2points = 1 $\square$ < 5 species points = 0H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 0 $\boxtimes$ None = 0 points $\square$ Low = 1 point ☐ Moderate = 2 points All three diagrams in this row are $\square$ **HIGH** = 3 points

#### Wetland I

H 1.5. Special habitat features:  Check the habitat features that are present in the wetland. The number of checks is the number of points.  Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).  Standing snags (dbh > 4 in) within the wetland  Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)  Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)  At least ¼ ac of thin-stemmed persistent plants 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 every stratum of plants (see H 1.1 for list of		0
strata) Total for U.1	in the house share	
Total for H 1 Add the points	in the boxes above	2
Rating of Site Potential If score is: $\square$ 15-18 = H $\square$ 7-14 = M $\boxtimes$ 0-6 = L	Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).  **Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = see Figs.  If total accessible habitat is:  □ > 1/3 (33.3%) of 1 km Polygon  □ 20-33% of 1 km Polygon  □ 10-19% of 1 km Polygon	points = 3 points = 2 points = 1	0
		1
H 2.3. Land use intensity in 1 km Polygon: If  □ > 50% of 1 km Polygon is high intensity land use  □ ≤ 50% of 1 km Polygon is high intensity	points = (- 2) points = 0	-2
	in the boxes above	-1
Rating of Landscape Potential If score is: $\square$ 4-6 = H $\square$ 1-3 = M $\boxtimes$ < 1 = L Record the rating on the first $\mu$		
H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only that applies to the wetland being rated.  Site meets ANY of the following criteria:  ☐ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natu☐ It has been categorized as an important habitat site in a local or regional comprehension a Shoreline Master Plan, or in a watershed plan ☐ Site does not meet any of the criteria above	points = 2 estate or federal lists) eral Resources sive plan, in points = 1	1
☐ Site does not meet any of the criteria above	points = 0	41 £: :
Rating of Value If score is: □ 2 = H ⋈ 1 = M □ 0 = L Record the rating on t		the first page

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

#### **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat.  $\square$  **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). ☑ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. □ **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; 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; 80-200 years old west of the Cascade crest. □ **Oregon White Oak:** Woodland 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 - see web link above). □ **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 – see web link above). ☐ **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 – see web link on previous page). □ **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 25 ft (7.6 m) high and occurring below 5000 ft elevation. □ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland I

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## "Categorization based on special characteristics" pages for *all* wetlands rated in this document

#### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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	
Does the wetland 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 <b>SC 1.1</b> ☒ No= <b>Not an estuarine wetland</b>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area	
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	☐ Cat. I
☐ Yes = Category I ☐ No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	☐ Cat. I
than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)	
$\square$ At least $rac{\pi}{2}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	☐ Cat. II
mowed grassland.	□ Cat. II
☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = Category I ☐ No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value?   ⊠ Yes – Go to SC 2.2 □ No – Go to SC 2.3	
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
https://www.dnr.wa.gov/NHPwetlandviewer	☐ Cat. I
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="https://www.dnr.wa.gov/NHPdata">https://www.dnr.wa.gov/NHPdata</a>	
☐ Yes — Contact WNHP/WDNR and go to SC 2.4 ☐ No = Not a WHCV	
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website?	
SC 3.0. Bogs  Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or	
more of the first 32 in of the soil profile? $\Box$ Yes – Go to SC 3.3 $\boxtimes$ No – Go to SC 3.2	
SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in 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 <b>SC 3.3</b> ☑ No = <b>Is not a bog</b>	
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%	☐ Cat. I
cover of plant species listed in Table 4? ☐ Yes = <b>Is a Category I bog</b> ☐ No − Go to <b>SC 3.4</b>	□ Cat. i
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 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,	
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
☐ Yes = <b>Is a Category I bog</b> ☐ No <b>= Is not a bog</b>	

SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA 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>	
<ul> <li>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/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul>	□ Cat. I
☐ Yes = Category I ⊠ No = Not a forested wetland for this section	
SC 5.0. Wetlands in Coastal Lagoons	
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 ponded 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
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 aggressive, opportunistic plant species (see list of species on p. 100).	☐ Cat. II
$\square$ At least $rac{\pi}{2}$ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.	
$\Box$ The wetland is larger than $^1/_{10}$ ac (4350 ft $^2$ )	
☐ Yes = Category I ☐ No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.	☐ Cat I
In practical terms that means the following geographic areas:	
☐ Long Beach Peninsula: Lands west of SR 103	
☐ Grayland-Westport: Lands west of SR 105	☐ Cat. II
$\square$ Ocean Shores-Copalis: Lands west of SR 115 and SR 109 $\square$ Yes $-$ Go to SC 6.1 $\square$ No $=$ not an interdunal wetland for rating	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	
for the three aspects of function)? $\Box$ Yes = <b>Category I</b> $\Box$ No – Go to <b>SC 6.2</b>	☐ Cat. III
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
$\square$ Yes = <b>Category II</b> $\square$ No – Go to <b>SC 6.3</b> SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	☐ Cat. IV
☐ Yes = Category III ☐ No = Category IV	
Category of wetland based on Special Characteristics	NI A
If you answered No for all types, enter "Not Applicable" on Summary Form	NA

## PSE Energize Eastside Project – North Bellevue

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October 2020

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## All Wetlands

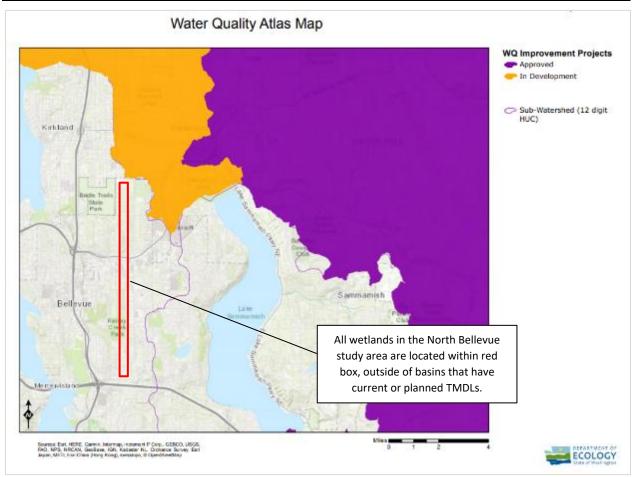


Figure 1. Screen-capture of Water Quality Improvement Projects (TMDLs) from the Water Quality Atlas Map – S3.3.

### **Habitat Figures**

Figure 2 below, shows the majority of the area within approximately one kilometer of the North Bellevue corridor is urban and developed and would be considered high intensity for the purpose of rating wetlands. The largest habitat patches present near the Project corridor (which are visible in Figure 2) are Bridle Trails State Park and Kelsey Creek Park. Wetlands located near these features would have the greatest potential to score "Moderate" (1-3 points) or "High" (4-6 points) for Habitat Landscape Potential using the 2014 Wetland Rating Form.

Habitat figures for Wetland A (Overlake Farms), located near Bridle Trails, and Wetlands EB10 and EB17, located near Kelsey Creek Park, are provided below (Figures 3, 4 and 5, respectively). These three wetlands were selected for as examples because they are considered to have the greatest potential to generate "Moderate" or "High" Habitat Landscape Potential scores based on their proximity and connectivity to large patches of undisturbed habitat.

In all instances (Figures 3, 4, and 5) high intensity land uses represent greater than 50 percent of the area within one kilometer of the wetland units (-2 points in the rating form); this is true of all wetlands in the Project corridor. Therefore, a "High" Habitat Landscape Potential score is not possible. Accessible habitat is always limited to less than 20 percent of the 1 km polygon (Figure 4 example represents the maximum accessible habitat for any wetland rated). To generate enough points to reach a "Moderate" Habitat Landscape Potential score, accessible habitat must be 10-19 percent (1 point) and undisturbed habitat must be 10-50 percent in 1-3 patches (2 points). However, this is not possible because the following statements are always true:

- When there is accessible habitat (which never exceeds the 10-19 percent range) (1 point), undisturbed habitat is disconnected by roads and development and represented by more than 3 patches (1 point) (Figure 4). The resulting score is "Low".
- When undisturbed habitat is 10-50 percent and in 1-3 patches (2 points), accessible habitat is limited to less than 10 percent of the 1 km polygon (0 points) (Figure 3). The resulting score is "Low".

These conditions are a function of the urban setting in which the Project is located. Roads and other types of development disconnect retained habitat areas across the landscape. Most often some undisturbed habitat is present in the landscape surrounding inventoried wetlands (10-50 percent of 1 km polygon) but much of it is not accessible. Therefore, all of the wetlands rated using the 2014 Rating System for this portion of the Project received a "Low" Habitat Landscape Potential score. To save paper, minimize document size, and use time efficiently, separate "1 km Polygon" figures for each wetland have not been provided. The following figures illustrate that the Habitat Landscape Potential rating of "Low" applies to all wetlands included in the North Bellevue segment of the Energize Eastside Project because in all instances, greater than half of the area within one kilometer of the wetland includes high intensity land uses and the key points above are true.

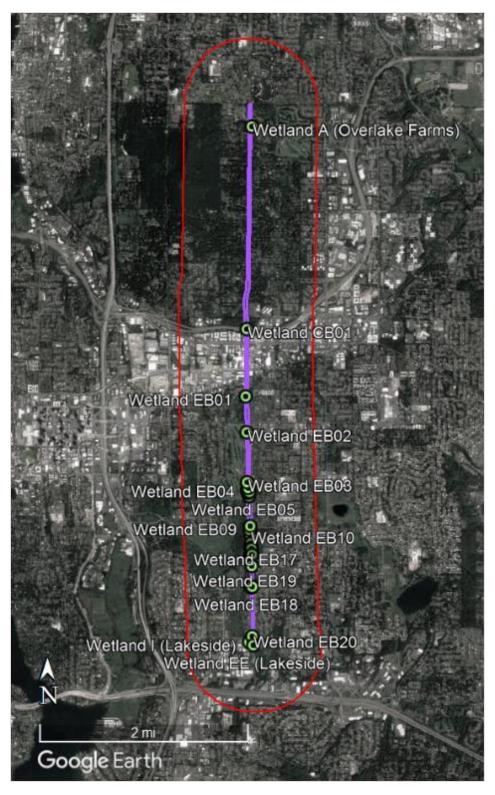


Figure 2. Approximate North Bellevue corridor segment (purple) and area within one kilometer of that segment (red).

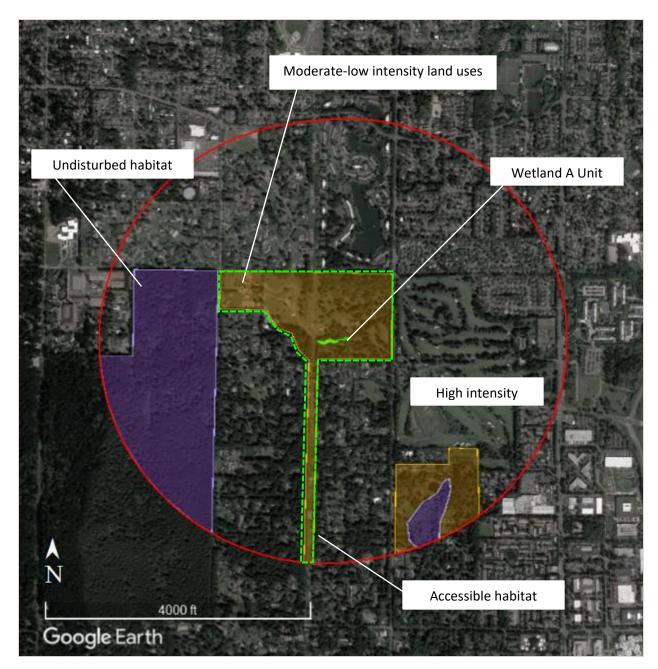


Figure 3. Undisturbed habitat and moderate-low intensity land uses within 1 km from Wetland A (Overlake Farms) edge including polygon for accessible habitat – H2.1, H2.2, H2.3

Accessible habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 0 + (8/2) =  $\underline{4\%}$ 

Undisturbed habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 14 + (11/2) = 20%

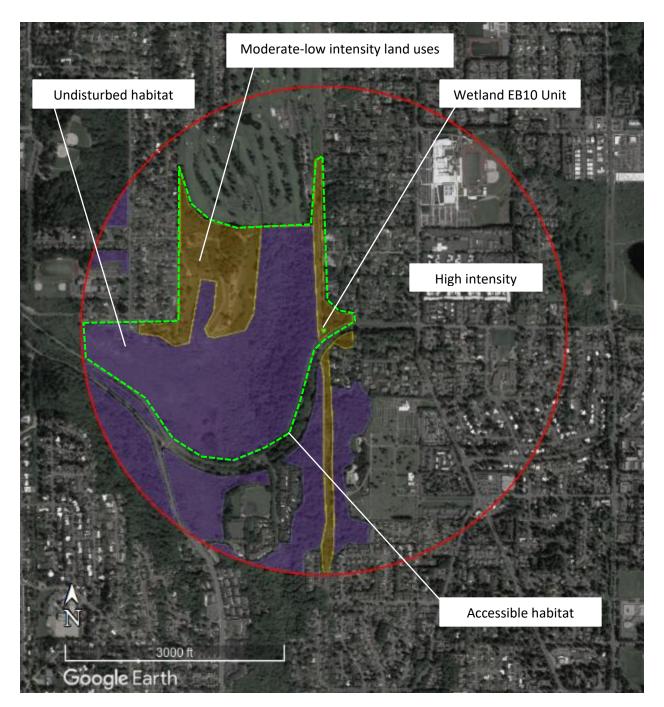


Figure 4. Undisturbed habitat and moderate-low intensity land uses within 1 km from Wetland EB10 edge including polygon for accessible habitat – H2.1, H2.2, H2.3

Accessible habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 15 + (6/2) =  $\underline{18\%}$ Undisturbed habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 24 + (7/2) =  $\underline{28\%}$ 

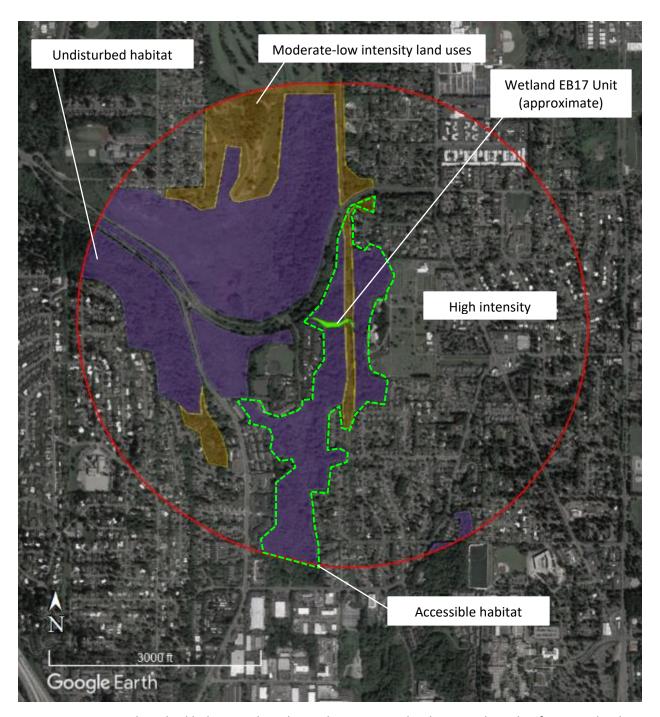


Figure 5. Undisturbed habitat and moderate-low intensity land uses within 1 km from Wetland EB17 edge including polygon for accessible habitat – H2.1, H2.2, H2.3

Accessible habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 8 + (5/2) = 11%

Undisturbed habitat = % undisturbed + [(% moderate and low intensity land uses)/2] = 28 + (3/2) = 31%

### 303d Figures

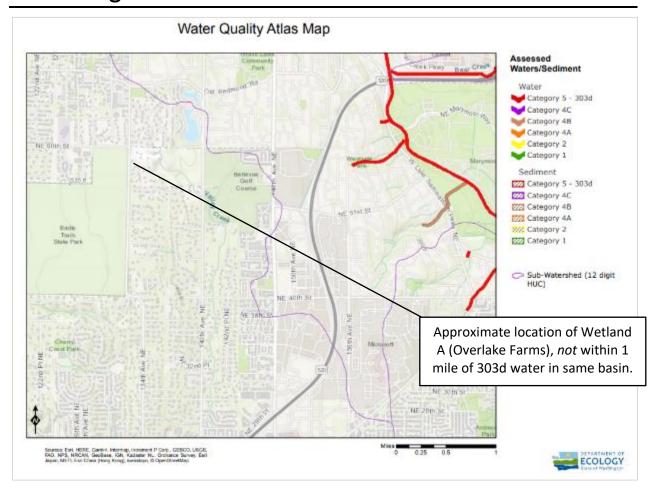


Figure 6. Screen-capture of 303(d) listed waters in basin for Wetland A (Overlake Farms) – S3.1, S3.2

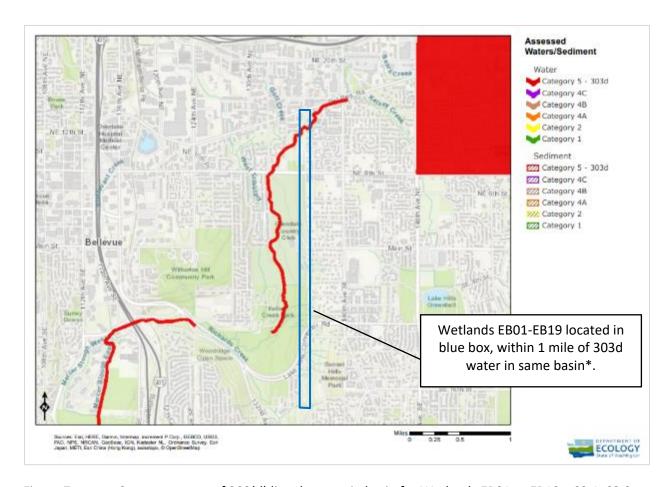


Figure 7. Screen-capture of 303(d) listed waters in basin for Wetlands EB01 to EB19 – S3.1, S3.2

\*Note: Wetlands EB01, EB06, EB07, and EB12 *do not* have a surface water connection to the nearby 303(d) listed water. A surface water connection was observed or presumed for Wetlands EB02-EB05, EB08-EB11, EB13-EB19, and EB21. For more visual information on water flow, see related hydrology figures.

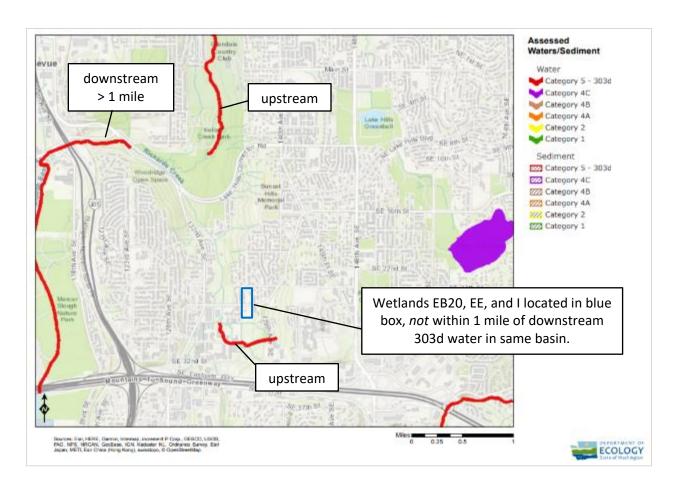


Figure 8. Screen-capture of 303(d) listed waters in basin for Wetlands EB20, EE & I – S3.1, S3.2

## Wetland A - Overlake Farms (Depressional)

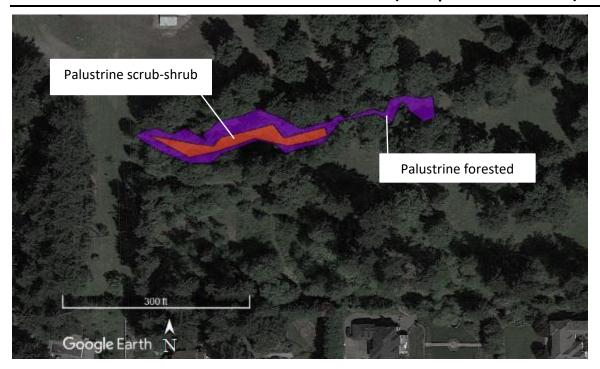


Figure A-1. Cowardin plant classes – D1.3, H1.1, H1.4



Figure A-2. Hydroperiods, outlet, and 150-foot area – H1.2, S2.1, S5.1

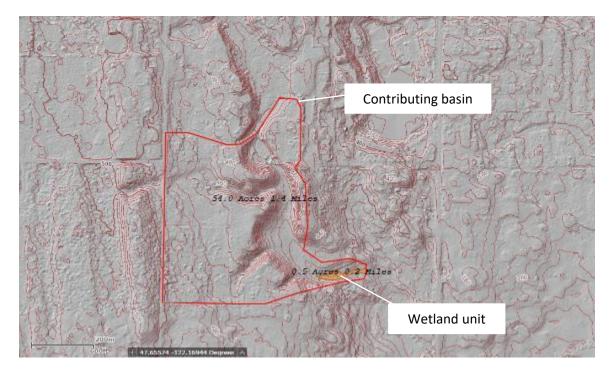


Figure A-3. Map of the contributing basin – D4.3, D5.3

# Wetland CB01 (Slope)

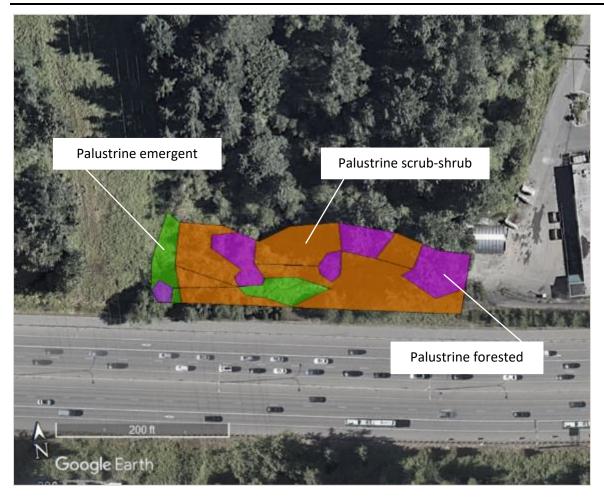


Figure CB01-1. Cowardin plant classes – H1.1, H1.4



Figure CB01-2. Plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1.

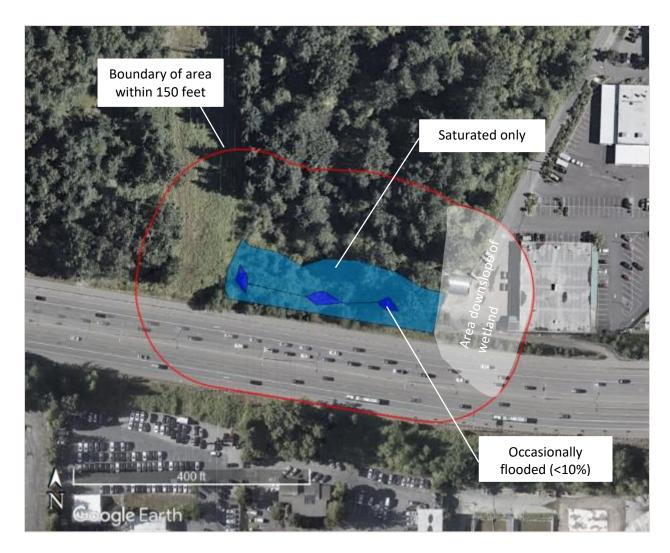


Figure CB01-3. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

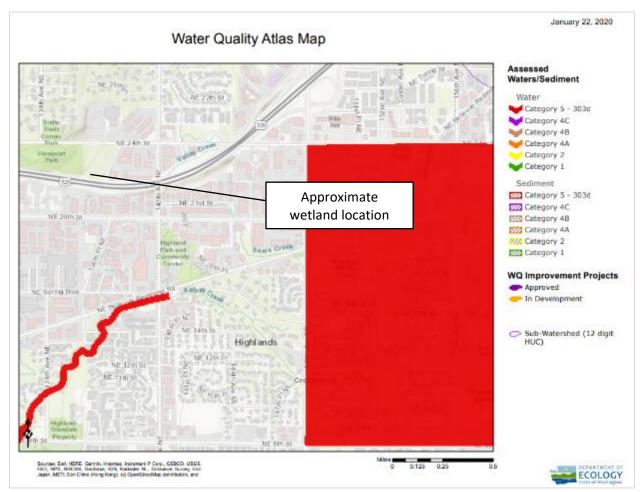


Figure CB01-4. Screen-capture of 303(d) listed waters in basin – S3.1, S3.2

## Wetland EB01 (Slope)



Figure EB01-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB01-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

## Wetland EBO2 (Slope)



Figure EB02-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4

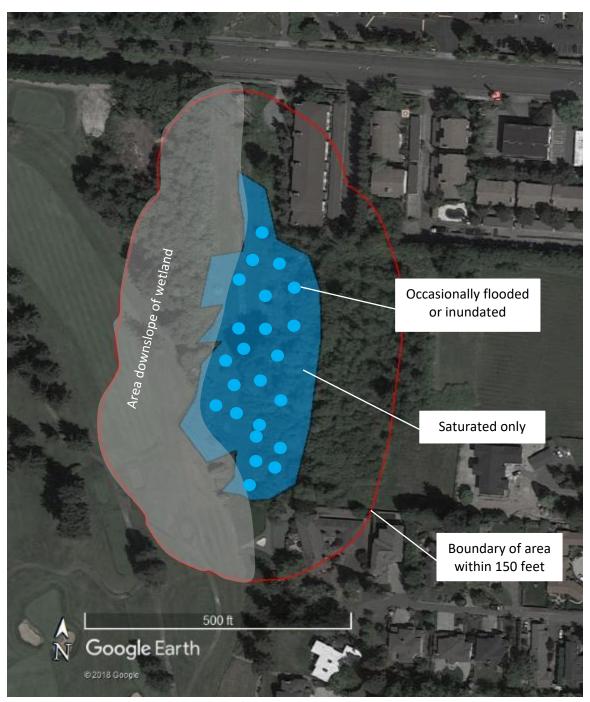


Figure EB02-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Note: Ditch/stream feature that is <10% of wetland are (not shown) is presumed to convey surface water to Kelsey Creek.

## Wetland EBO3 (Slope)



Figure EB03-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4

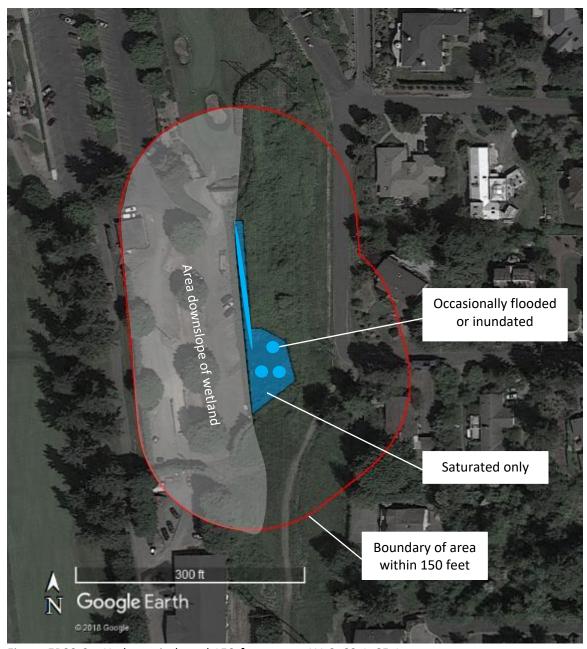


Figure EB03-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

# Wetland EB04 (Depressional)



Figure EB04-1. Cowardin plant classes – D1.3, H1.1, H1.4

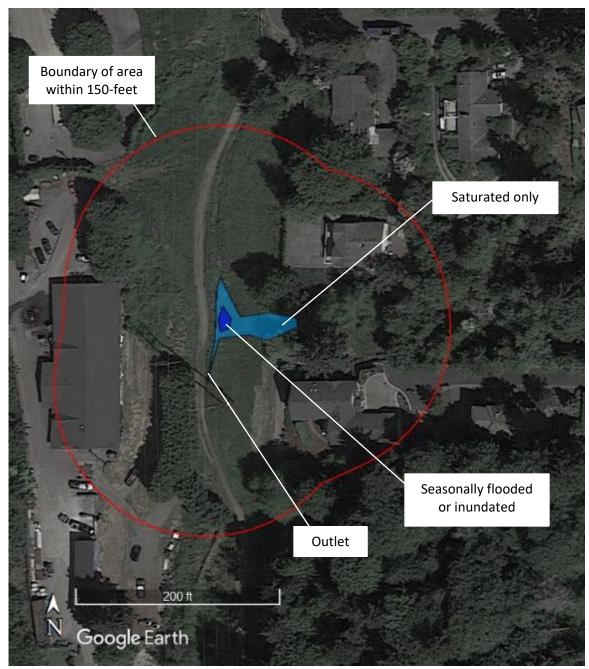


Figure EB04-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

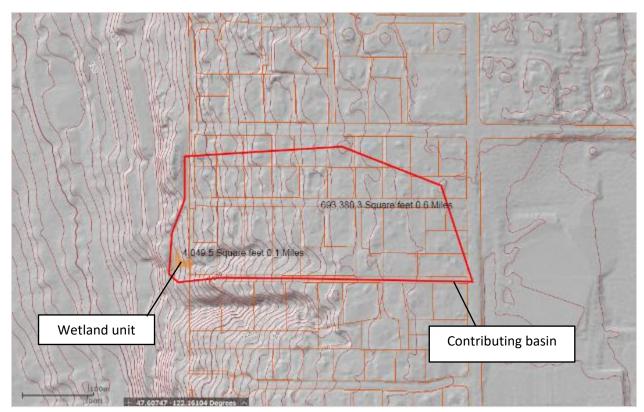


Figure EB04-3. Map of the contributing basin – D4.3, D5.3

# Wetland EBO5, EBO6, and EBO7 (Slope)



Figure EB05-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB05-2. Hydroperiods and 150-foot area for Wetland EB05 – H1.2, S2.1, S5.1



Figure EB06-2. Hydroperiods and 150-foot area for Wetland EB06 – H1.2, S2.1, S5.1

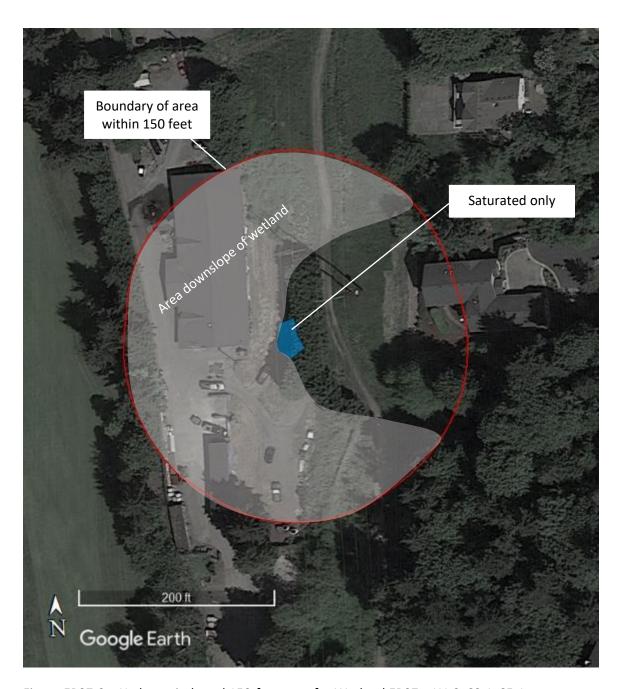


Figure EB07-2. Hydroperiods and 150-foot area for Wetland EB07 – H1.2, S2.1, S5.1

## Wetland EBO8 (Slope)

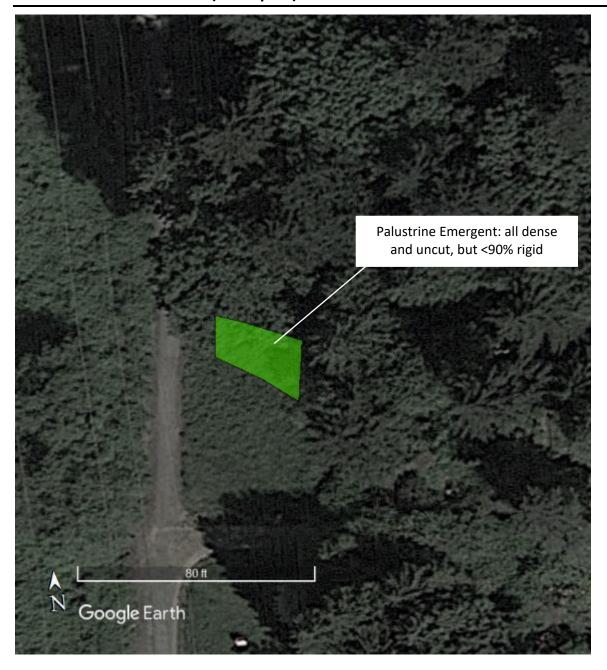


Figure EB08-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4

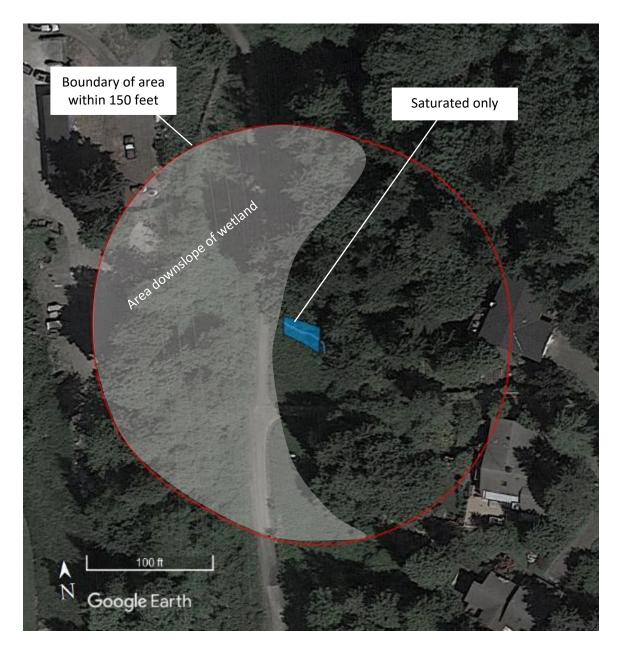


Figure EB08-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Note: Small, permanently flowing channel/stream represents less than 10 percent of wetland unit.

## Wetland EB09 (Depressional)

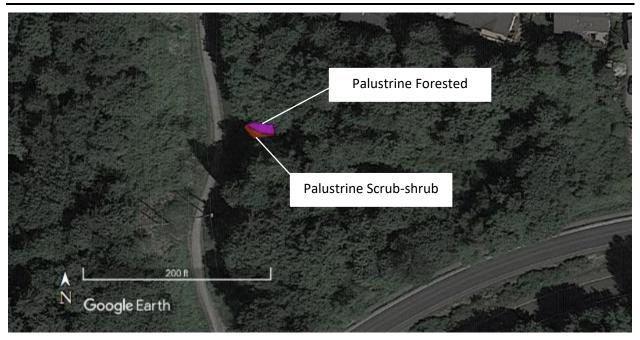


Figure EB09-1. Cowardin plant classes – D1.3, H1.1, H1.4

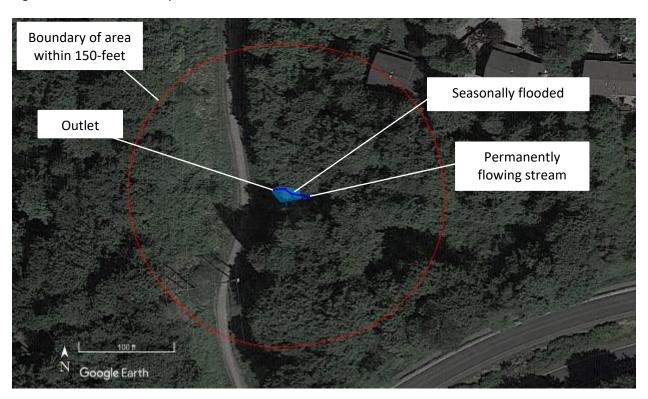


Figure EB09-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

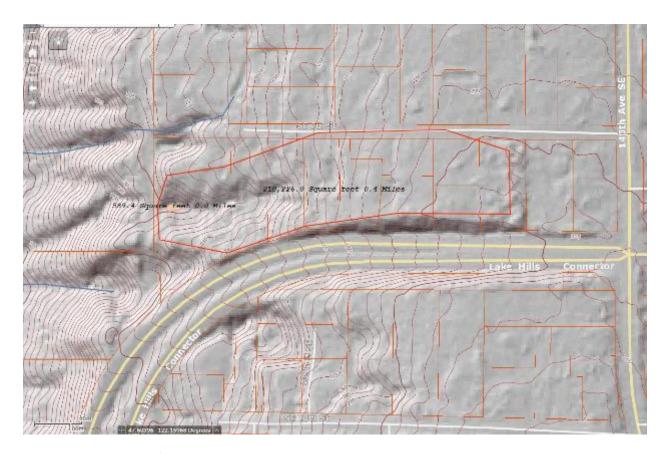


Figure EB09-3. Map of the contributing basin – D4.3, D5.3

### Wetland EB10 (Slope)

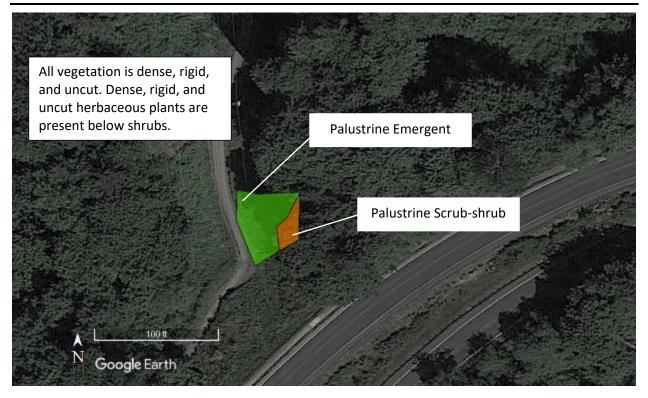


Figure EB10-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4

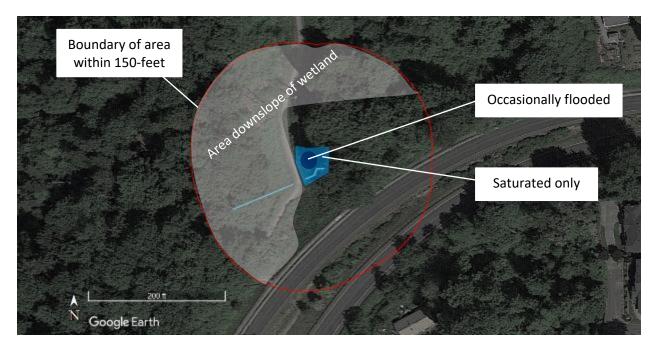


Figure EB10-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Note: Small, permanently flowing stream represents less than 10 percent of wetland unit.

# Wetland EB11 (Depressional)



Figure EB11-1. Cowardin plant classes – D1.3, H1.1, H1.4

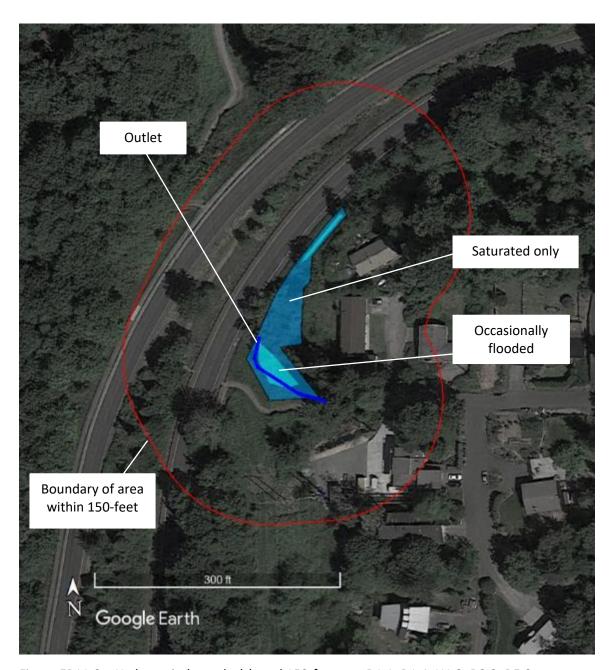


Figure EB11-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

Note: Permanently flowing stream is less than 10 percent of wetland area.

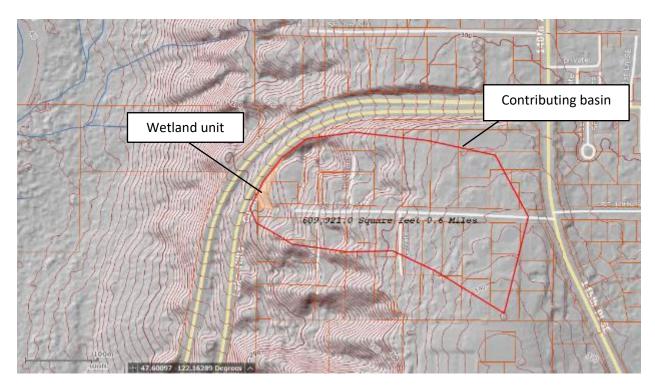


Figure EB11-3. Map of the contributing basin – D4.3, D5.3

## Wetland EB12, EB13, and EB14 (Slope)



Figure EB12-1. Cowardin plant classes – H1.1, H1.4

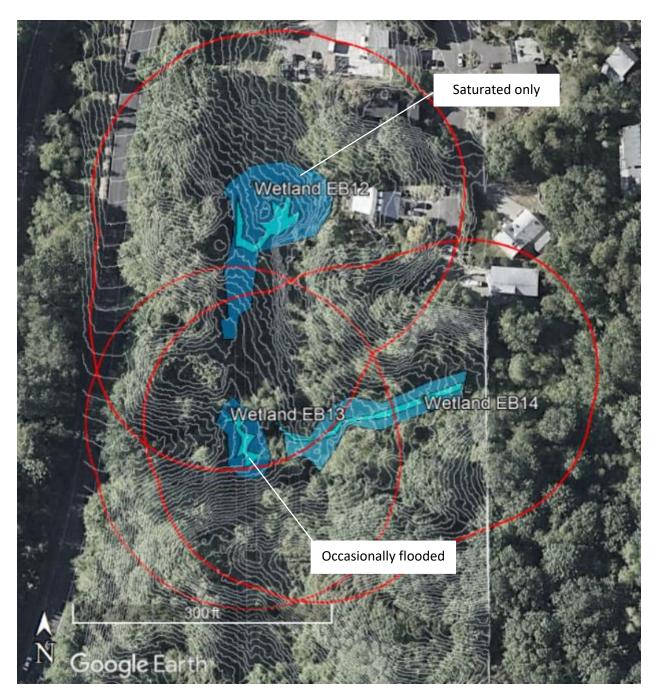


Figure EB12-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

Note: Available 2-ft contours displayed, but limited to certain distance adjacent to corridor.

- Within the uphill side of EB12, > 10% of area in land use that generates pollutants; and > 25% of area produces excess runoff.
- Within the uphill side of EB13 and EB14, over 90% area naturally vegetated (i.e., < 10% of area is pollutant-generating and < 25% of area produces excess runoff).

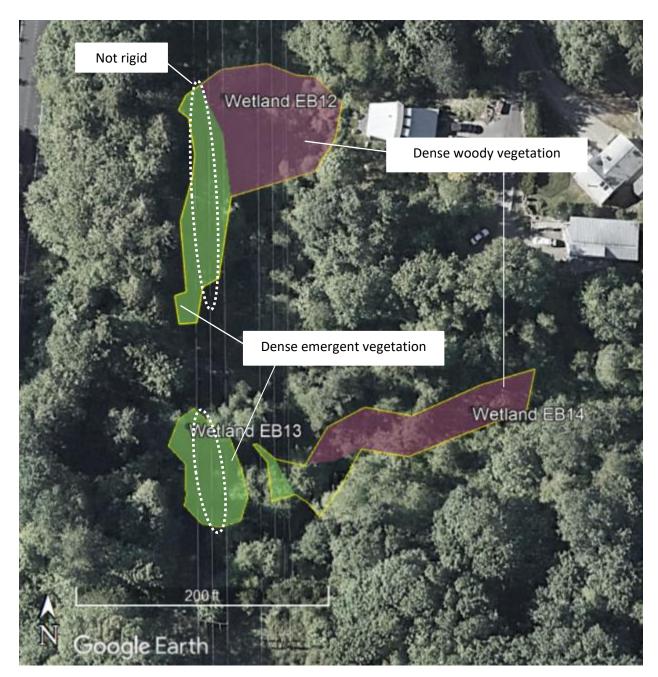


Figure EB12-3. Plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1

### Wetland EB15 (Slope)

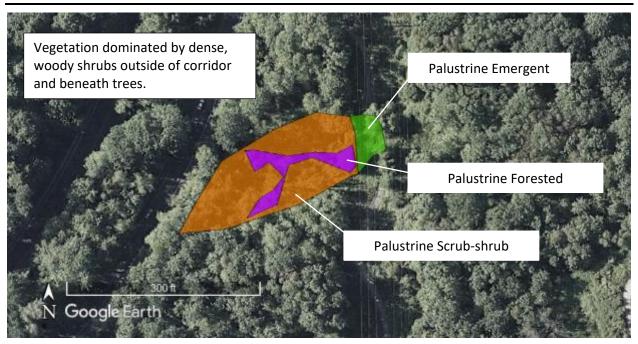


Figure EB15-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4

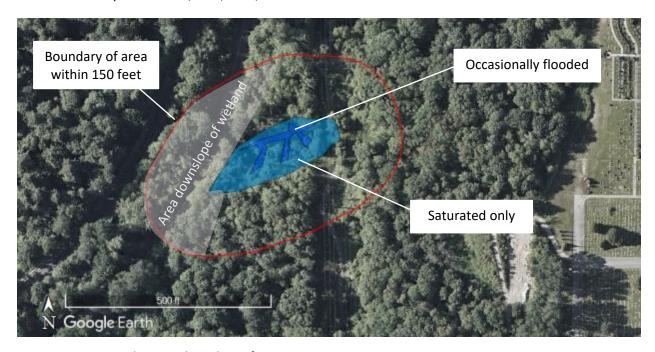


Figure EB15-2. Hydroperiods and 150-foot area - H1.2, S2.1, S5.1

Note: Stream present within wetland boundaries presumed to be less than 10 percent of wetland unit.

### Wetland EB16 (Depressional)



Figure EB16-1. Cowardin plant classes - D1.3, H1.1, H1.4

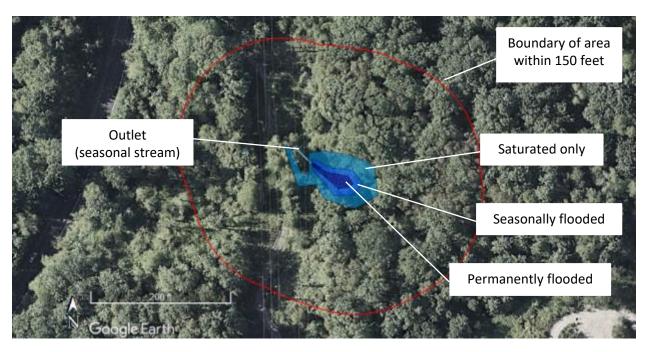


Figure EB16-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

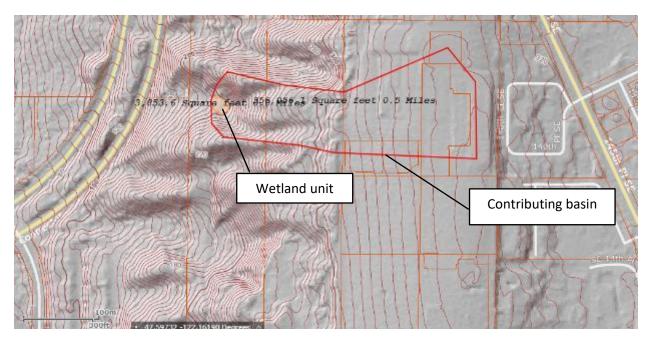


Figure EB16-3. Map of the contributing basin – D4.3, D5.3

# Wetland EB17 (Depressional)

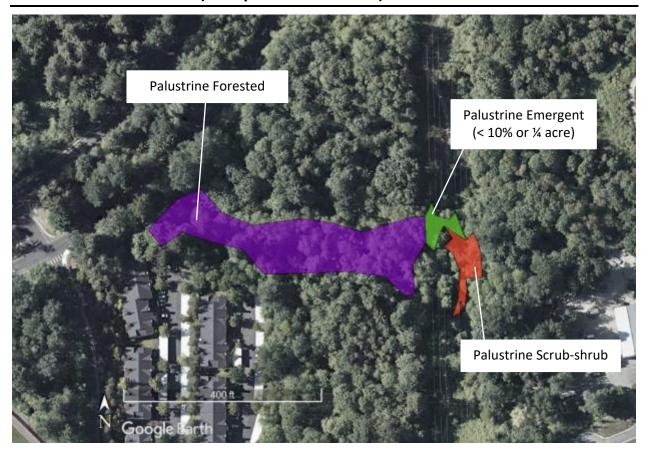


Figure EB17-1. Cowardin plant classes – D1.3, H1.1, H1.4

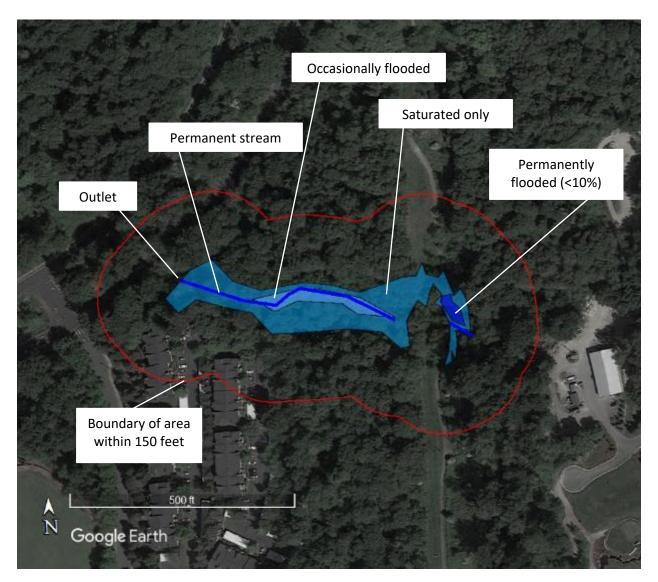


Figure EB17-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

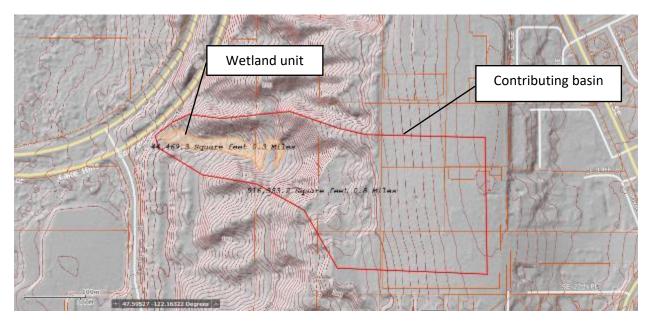


Figure EB17-3. Map of the contributing basin – D4.3, D5.3

#### Wetland EB18 and EB19 (Slope)

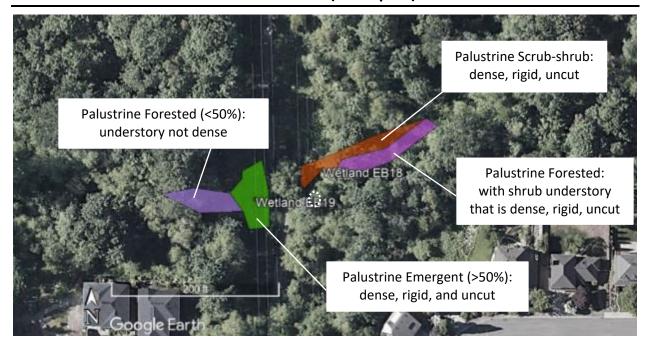


Figure EB18-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants for Wetland EB18 and EB19 – S1.3, S4.1, H1.1, H1.4

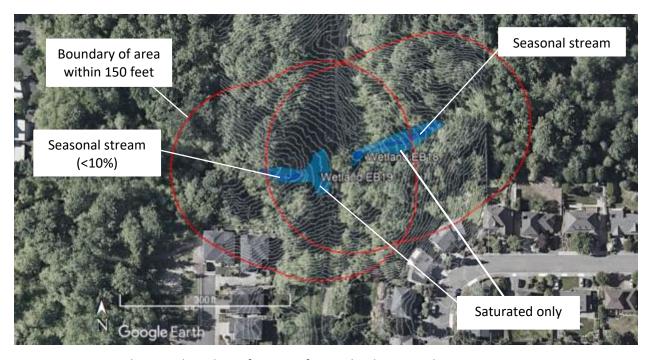


Figure EB18-2. Hydroperiods and 150-foot area for Wetland EB18 and EB19 - H1.2, S2.1, S5.1

#### Wetland EB20 (Slope)

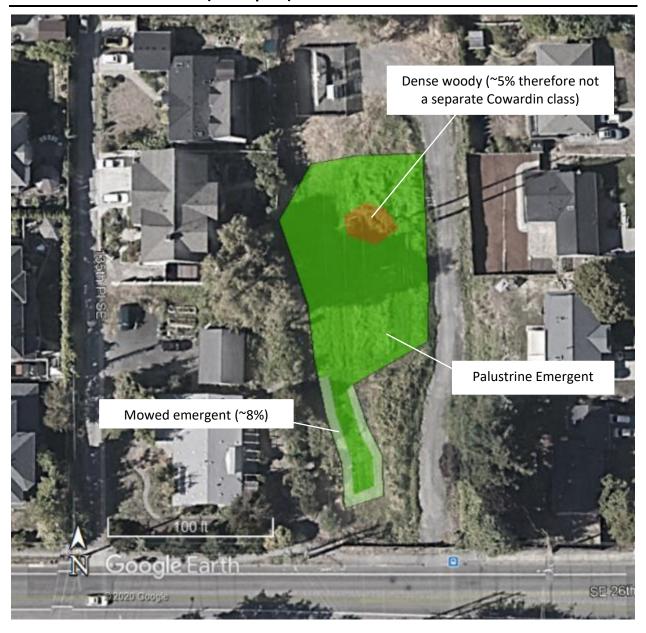


Figure EB20-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4



Figure EB20-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

# Wetland EB21 (Depressional)



Figure EB21-1. Cowardin plant classes – D1.3, H1.1, H1.4

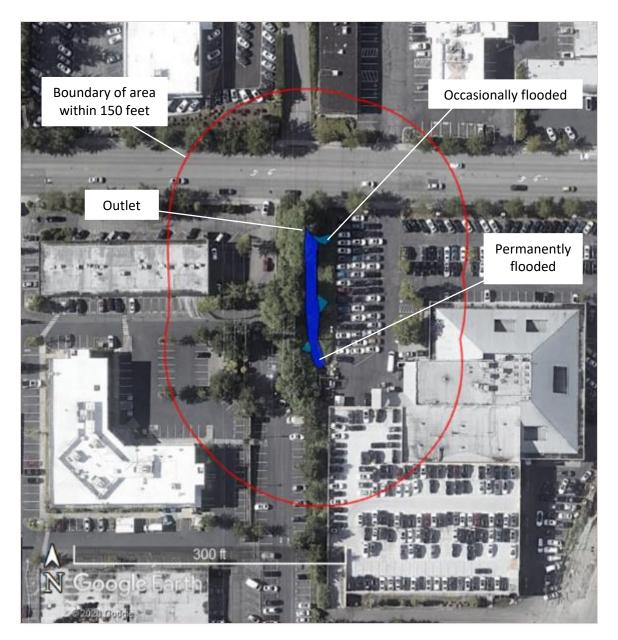


Figure EB21-2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

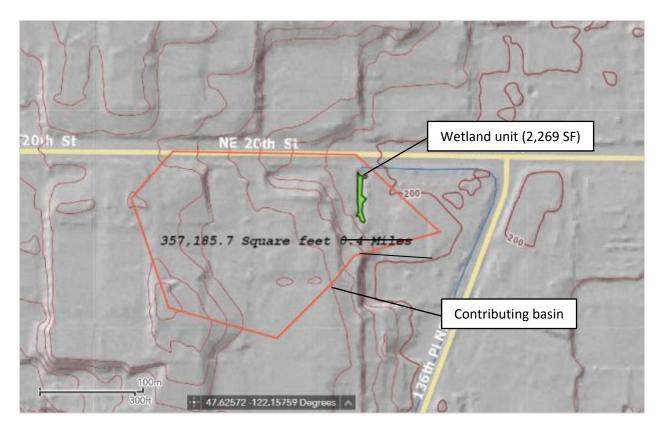


Figure EB21-3. Map of the contributing basin – D4.3, D5.3

### Wetland EE (Slope)

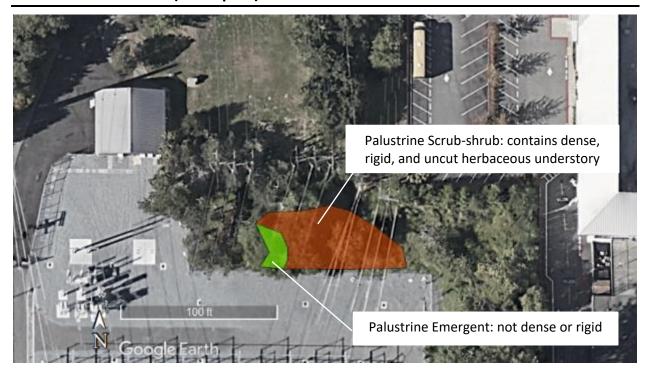


Figure EE-1. Cowardin plant classes and plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1, H1.1, H1.4

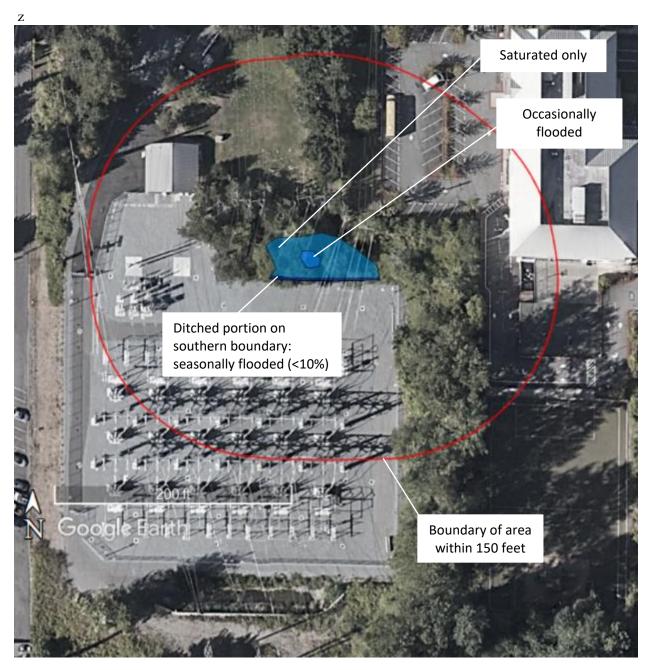


Figure EE-2. Hydroperiods and 150-foot area – H1.2, S2.1, S5.1

## Wetland I (Depressional)



Figure I-1. Cowardin plant classes – D1.3, H1.1, H1.4

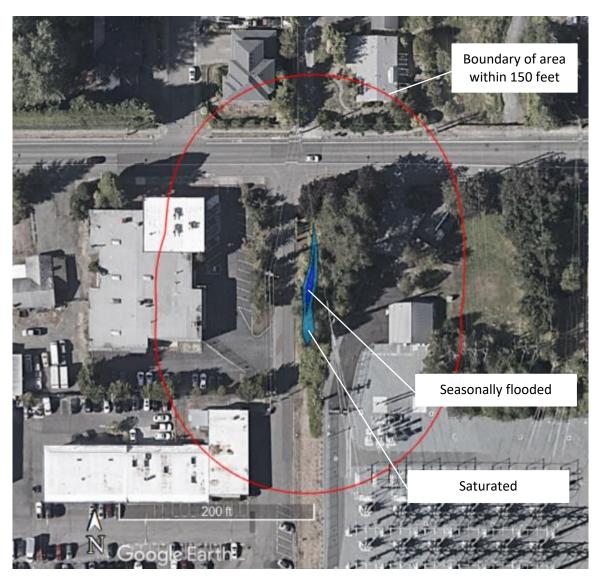


Figure I-2. Hydroperiods, outlet(s), and 150-foot area – D1.1, D1.4, H1.2, D2.2, D5.2

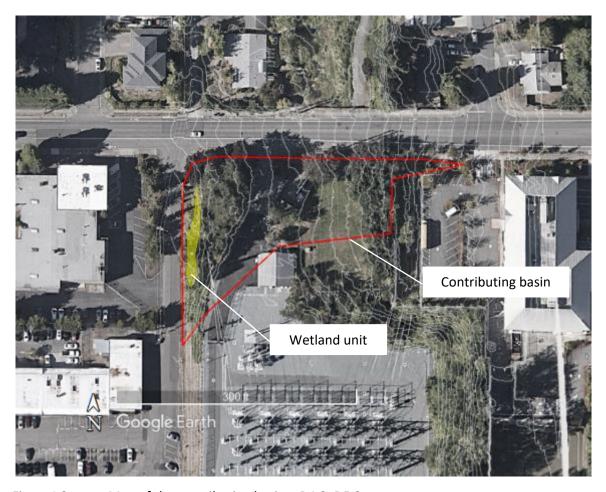


Figure I-3. Map of the contributing basin – D4.3, D5.3