Bellevue Summer Electrofishing 2014

Final Report

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Executive Summary

Two urban streams in the City of Bellevue were sampled for fish presence/absence during the summer of 2014—two sites on Kelsey Creek (RM 1.4 and 1.8) and one site on Vasa Creek (RM 0.39). Results from 2014 sampling found cutthroat trout as the dominant species at all sampling sites. Length frequency analysis suggests that juvenile, subadult, and adult cutthroat were present in Kelsey Creek and young-of-the-year fish were present in Vasa Creek. Relatively low native fish diversity was found at all sites, but juvenile coho salmon abundance at the Kelsey Creek sites were considerably higher than in recent years. One non-native fish species, a pumpkinseed sunfish, was caught in Kelsey Creek.

In 2014, a large gastric lavage effort was conducted in Kelsey Creek at RM 1.8 to determine if cutthroat trout were feeding on the invasive New Zealand mudsnail. Out of 119 cutthroat trout undergoing gastric lavage in the field, 42.5 percent of fish contained mudsnails. Cutthroat feeding on mudsnails at volumes greater than 50 percent of their diets were moderately large fish between 110 and 164 millimeters (mm).

Additional studies are recommended to further evaluate the effectiveness of existing and future capital projects for improving fish habitat and the success of salmonid supplementation efforts. Below is a detailed list of recommendations for the City of Bellevue to facilitate these actions.

- Compare diversity, size, and relative abundance of fish species across all years for sites with historical data.
- Conduct electrofishing at low, middle, and upper reaches of creeks during the same sampling events to determine if priority fish are utilizing different habitats than in previous years. This may help determine more accurately the presence/absence of fish within a watershed.
- Determine fish condition index at electrofishing sites to determine relative health of priority fish species. The index could then be compared to other Western Washington urban streams where similar data have been collected.
- Collect gut content data from priority salmonid species at current BIBI sites to determine if aquatic or terrestrial prey items dominate and to further investigate New Zealand mudsnail predation. These data would help determine prey species availability and use by salmonids. Data collected can help determine if riparian and/or substrate improvements are necessary.
- Compare size of coho and cutthroat fish populations to similar Puget Sound lowland reference streams.
- Continue a consistent electrofishing program that visits the same sites during the same time of year to increase robustness of data for determination of status and trends of priority fish species and to determine the prevalence of non-native species.
- Implement a study to evaluate selected electrofishing sites that have shown historical changes in species diversity and density. The study should include key water quality parameters such as temperature and flow conditions; however, other parameters may also need evaluation.
- Include adult coho escapement data in status and trends database in order to associate coho presence or absence with run size.

Data collected for native and non-native fish species presence, status, and trends in urban streams can be a useful tool in determining the health of urban streams. Implementing the recommendations mentioned above would help the City of Bellevue continue to ascertain if changes in fish populations and density are due to regional population trends, natural environmental changes, beneficial habitat modifications, or changes in land use in their local urban streams.

1.0 Introduction

As part of annual status and trends monitoring, the City of Bellevue conducted electrofishing at two urban streams—Kelsey Creek and Vasa Creek—in June and July 2014. The Kelsey Creek basin is one of the largest stream basins draining the City, discharging into Lake Washington. Vasa Creek drains into the southern portion of Lake Sammamish (Figure 1). Historical data exist for the sampling sites on Kelsey Creek, but this is the first sampling on lower Vasa Creek.

The purpose of electrofishing at these locations was to develop a baseline for fish species presence/absence and diversity, and evaluate trends in previously sampled locations. Some of these sites were chosen to help evaluate and determine the effectiveness of habitat restoration or the significance of urban impacts. These sites can be revisited in coming years to determine if cumulative changes (habitat, public or private operations, and land use regulations) are having positive or detrimental effects on fish population structures.

This report describes the methods used for sampling, results from electrofishing in the summer of 2014, and recommendations for future actions. The data presented in this report represent a reference point from which the City can determine any possible changes in the status and trends of fish populations in response to local or larger environmental change.

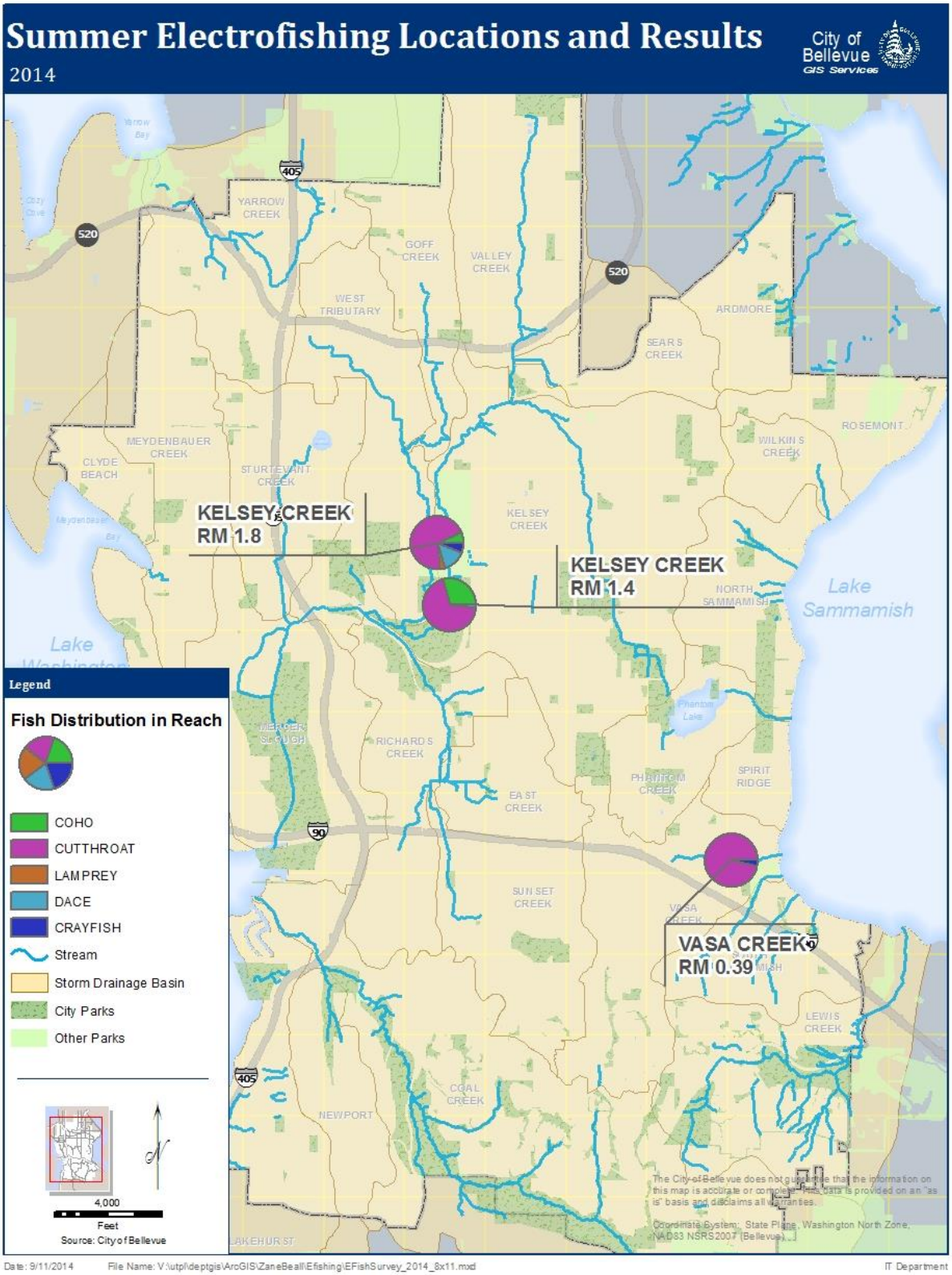

Figure 1. Map showing locations and results of electrofishing sites sampled in July 2014.

2.0 Methods

Electrofishing was performed on June 30 and July 19, 2014 (Table 1). Two sites were sampled on Kelsey Creek (RM 1.4 and 1.8), and one site was sampled on Vasa Creek (RM 0.39).

Methods of sampling in 2014 were similar to past efforts by the City. Electrofishing was conducted using a Smith-Root Backpack Electrofisher Model 12b. Settings on the electrofishing equipment for Kelsey Creek and Vasa Creek were most effective at 200 volts (v), 70 Hertz (Hz), and 6 milliseconds (ms).

At both sites on Kelsey Creek, block nets were placed at the bottom and top of each reach and a single pass was made with the electrofisher. At Vasa Creek, one block net was placed at the bottom of the reach before sampling, and a log weir was the upper limit of the reach. One of the field team utilized the electrofishing backpack and two members with long-handled dip nets followed closely alongside to capture stunned fish[1]. Other team members followed the electrofishing team with buckets of fresh stream water. Fish were tracked by habitat type (riffle or pool) and captured fish were placed in corresponding buckets. Captured fish were temporarily anesthetized on site using a dilute solution of MS-222 (Tricaine methanesulfonate) in water for identification and fork length measurements. Fish were then allowed to recover in fresh stream water supplied with an aerator until fully recovered. Once recovered, they were released upstream of the reach above the block net. Fish were captured as authorized under Washington State Scientific Collection Permit #12-231.

Temperature (° C), dissolved oxygen, and pH were recorded using an YSI 85 water quality probe deployed at each stream reach. Data for 2014 sampling were recorded on Lenovo ThinkPad computer tablets for ease in database development and analysis.

[1] Two netters were used throughout each reach. Netters were consistently swapped out and the team was comprised of a combination of experienced netters, inexperienced netters, including volunteers.

Table 1. Survey dates and site summary for 2014 electrofishing.

Date	Stream Name	River Mile (RM)	Reach Length (feet)	Site Description
June 30, 2014	Kelsey Creek	1.8	253	Located on the Glendale Golf and Country Club. Narrow, but dense riparian zone on right bank of stream with salmonberry, blackberry, ferns and alder. Left bank relatively open with some tall grasses, but golf course vegetation and fairway often to stream bank. Mostly riffles and glides with some pools in the sampled reach.
July 9, 2014	Kelsey Creek	1.4	184	Located at the habitat restoration site behind the horse pasture at Kelsey Creek Farm. Low gradient with medium velocity travelling through numerous large woody debris and boulders. Mostly riffles and glides in reach. Stream banks dominated by reed canary grass interspersed with newly planted native vegetation. Some larger alder present.
July 9, 2014	Vasa Creek	0.39	150	Smaller, shallow stream with primarily riffle habitats. Very small pool areas appear where the stream has been terraced. Relatively dense riparian vegetation, with breaks as the stream flows along residential properties. Most of the stream reach has been armored with angular rock, but stream bank vegetated with ferns within interstices of rock. Vegetation canopy is high and dense.

3.0 Results

3.1 Habitat and Water Quality Measurements

A summary description of the habitat attributes present at sampling locations is presented in Table 1. Riffle, pool, and stream channel data for the Kelsey Creek site located at RM 1.4 are presented in Table 2. This 184-foot stream reach is composed of three pool/riffle complexes. Pool depths ranged from 1.2 to 2.7 feet with adjacent riffle depths at 0.4 and 0.6 feet. Wetted widths ranged from 12 to 19.3 feet. Pool habitats comprised 72.3 percent of the sampled stream reach (Table 2). Severe time constraints prevented the collection of these data at the Kelsey Creek sampling location at RM 1.8. The Vasa Creek reach was composed almost entirely of shallow riffles between 2 and 2.5 inches deep, with wetted widths between approximately 1.5 to 6 feet.

Table 2. Stream channel data for Kelsey Creek, RM 1.4.

Habitat unit	Wetted width (ft)	Bankfull width (ft)	Wetted depth (ft)	Length (ft)
Pool 1	19.3	19.4	1.2	38
Riffle 1	12	12	.4	30
Pool 2	12.7 – 18.5	13.2 – 18.5	1.7	71
Riffle 2	15.2	16.3	.6	21
Pool 3	15.1 – 17	17.5	2.7	24

Water quality parameters at all of the electrofishing stations showed typical values for urban streams during the summer. Temperature and dissolved oxygen values for all sites ranged from 13.6° C to 19.7° C and 8.30 milligrams per liter (mg/L) to 10.85 mg/L, respectively (Table 3). These values were characteristic for sampling during summer, though the difference in Kelsey Creek temperatures may be the result of sampling in late June at RM 1.8 vs mid-July at RM 1.4. The lower dissolved oxygen concentrations found at Kelsey Creek in July may have been the result of the warmer air temperatures experienced during this sampling event.

Table 3. Water quality parameters for electrofishing sites during July 2012.

Site	Temperature (° C)	DO (mg/L)	pH
Kelsey Creek (RM 1.8)	13.6	10.85	7.58
Kelsey Creek (RM 1.4)	19.7	8.30	7.95
Vasa Creek (RM 0.39)	14.8	10.64	7.81

3.2 Species Distribution and Density

Four species of fish were captured during the 2014 electrofishing surveys (Figure 2). These included cutthroat trout (*Oncorhynchus clarki*), juvenile coho salmon (*O. kisutch*), long-nose dace (*Rhinichthys cataractae*), western brook lamprey (*Lampetra richardsoni*), and pumpkinseed sunfish (*Lepomis gibbosus*).

Trout species less than 80 millimeters (mm) in length are difficult to identify in the field as either rainbow or cutthroat trout. However, only one adult rainbow trout was caught in Kelsey Creek; this was an adipose-clipped hatchery plant that likely escaped from a nearby planted pond. This fish was not included in survey results because it was collected outside of the established reach during gastric lavage field activities. Therefore, for the purposes of this study, trout under 80 mm were considered cutthroat and included into the total numbers captured. Other non-fish species captured during electrofishing included crayfish at Kelsey Creek (RM 1.4).

The highest density of fish species amongst all sites was found at the Kelsey Creek location at RM 1.4 (Figure 2).

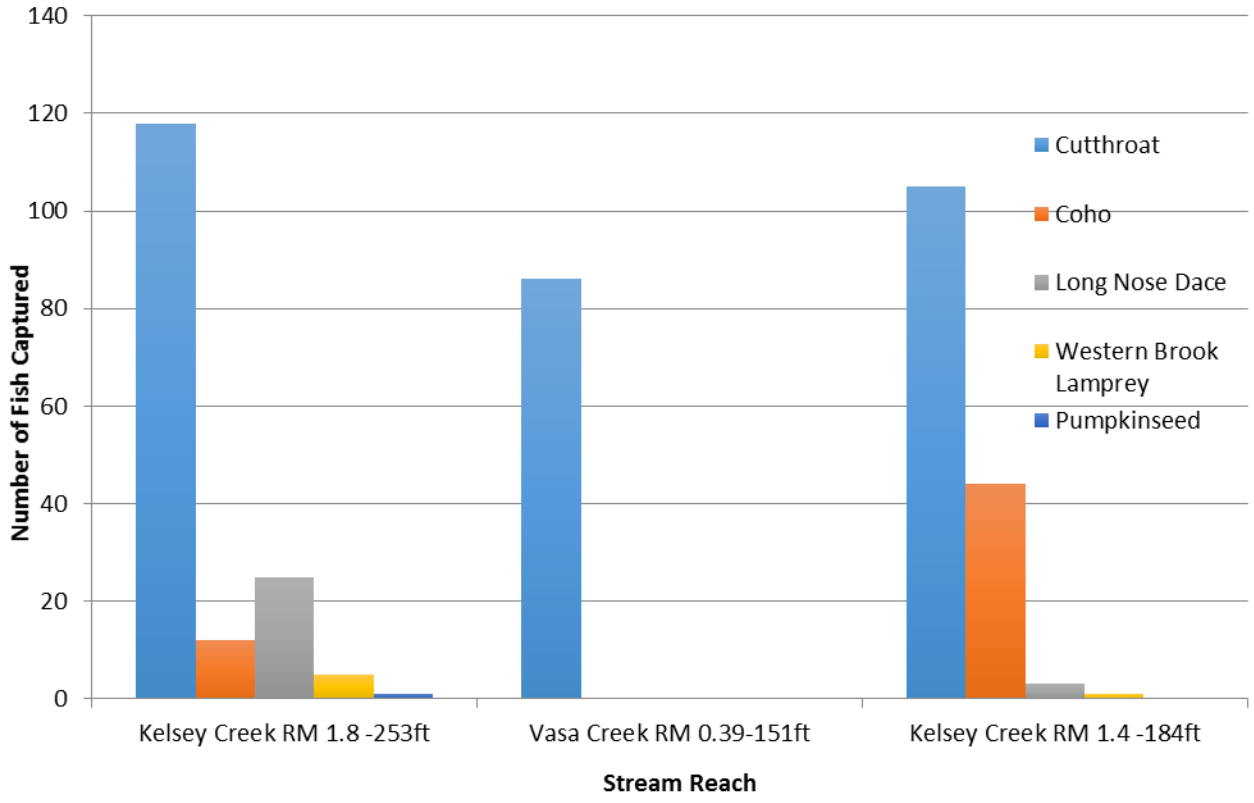

Figure 2. Species distribution by stream reach for 2014 sampling.

Relative percentage of each fish species captured by site can also be seen in Figure 2, with cutthroat trout the dominant species observed at all sites. Only cutthroat were captured in Vasa Creek. In contrast, cutthroat, juvenile coho salmon, longnose dace, and brook lamprey were caught in Kelsey Creek at RMs 1.4 and 1.8. Juvenile coho comprised 28.6 percent of fish at the lower Kelsey location (RM 1.4) and 7.1 percent at the upper location (RM 1.8). This percentage of juvenile coho salmon

represents the highest number and proportion of this species found in Bellevue streams in the last three years. In 2012 and 2013, juvenile coho, when found, comprised 5 percent or less of total catch within a stream reach. The remaining species were uncommon, making up less than 2 percent of the total number of fish captured in a stream reach.

Table 4 shows the estimated density of fish species caught for each site. Fish density analysis was determined by normalizing the total fish count per linear foot for each reach[2]. The density of the dominant cutthroat trout in the three stream reaches were quite similar, ranging from 0.47 to 0.57 fish per linear foot. The densities found in Kelsey Creek during 2014 surveys fell within those found in 2012 and 2013, which ranged from 0.19 to 0.83 fish per linear foot in this stream. The density of coho salmon in Kelsey Creek at RM 1.4 was 0.24 fish per linear foot with a coho to cutthroat ratio of 0.42. At RM 1.8, lower numbers of coho were found with a density of 0.05 fish per linear foot and a coho to cutthroat ratio of 0.10. These densities were higher than any found in 2012 and 2013 (maximum of 0.04 fish per linear foot and 0.05 coho to cutthroat ratio).

Table 4. Estimated density (fish per linear foot) of fish species caught and ratio of coho to cutthroat for all sites.

Site	Total Reach Length (feet)	Cutthroat (fish/foot)	Coho (fish/foot)	Coho to Cutthroat Ratio
Kelsey Creek (RM 1.8)	253	0.47	0.05	0.10
Kelsey Creek (RM 1.4)	184	0.57	0.24	0.42
Vasa Creek (RM 0.39)	151	0.57	0.00	0.00

3.3 Cutthroat Length Distribution

Similar numbers of cutthroat trout were captured in the three stream reaches (86 to 118); however, mean lengths of fish were larger in Kelsey Creek relative to Vasa Creek. Mean lengths in the two Kelsey Creek reaches were similar (88.4 and 94.6 mm) with the dominant size group ranging from 65 to 75 mm. While Vasa Creek also had a dominant size group in the 75 mm range, a near equal number of fish were less than 40 mm long. The mean length of Vasa cutthroat was 56.0 mm.

[2] Comparison of relative abundance data between sites should be considered only on a gross level as differences in collection technique and netting efficiency can vary.

Table 5. Number caught, mean length (mm), and length range (mm) for cutthroat across all sites sampled.

Site	Number of Cutthroat Caught	Mean Length (mm)	Range (mm)
Kelsey Creek (RM 1.8)	118	94.6	38-232
Kelsey Creek (RM 1.4)	105	88.4	79-148
Vasa Creek (RM 0.39)	86	56.0	30-145

Length frequency distributions suggest that at least four year classes of cutthroat trout were present in Kelsey and Vasa Creeks. Kelsey Creek size distributions at RM 1.8 suggest three year classes: juvenile fish under 100 mm in length, a subadult year class clustered in the 125 to 155 mm range, and an adult year class over 175 mm (Figure 3). At RM 1.4 only the juvenile and subadult year classes were present (Figure 4). At Vasa Creek, a likely young-of-the-year age class under 40 mm long was found, as well as juvenile and subadult age classes (Figure 5).

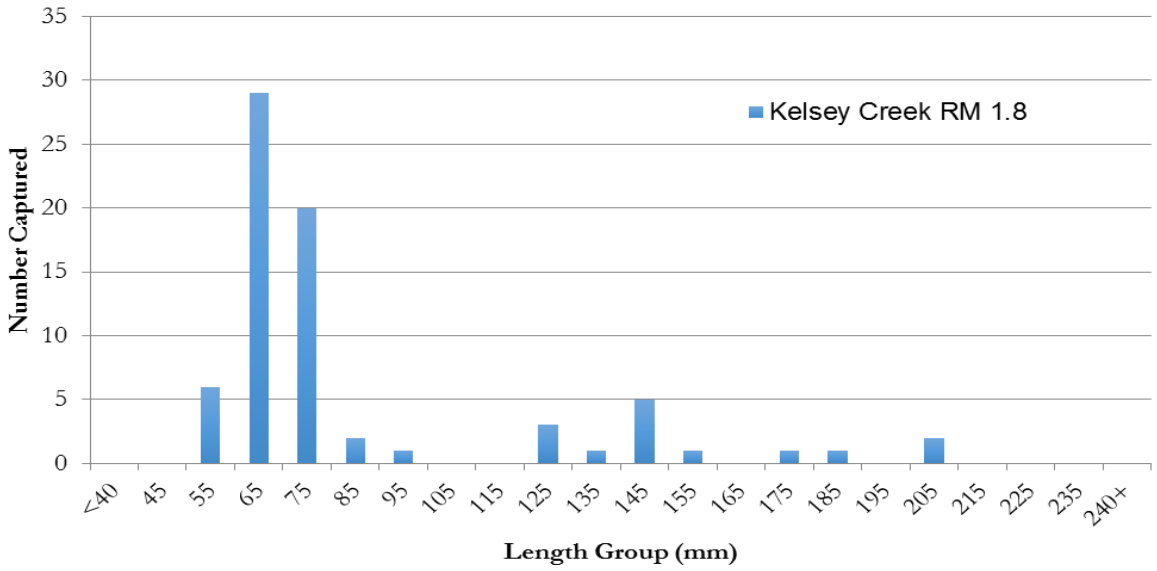

Figure 3. Length frequency distribution of cutthroat at Kelsey Creek (RM 1.8).

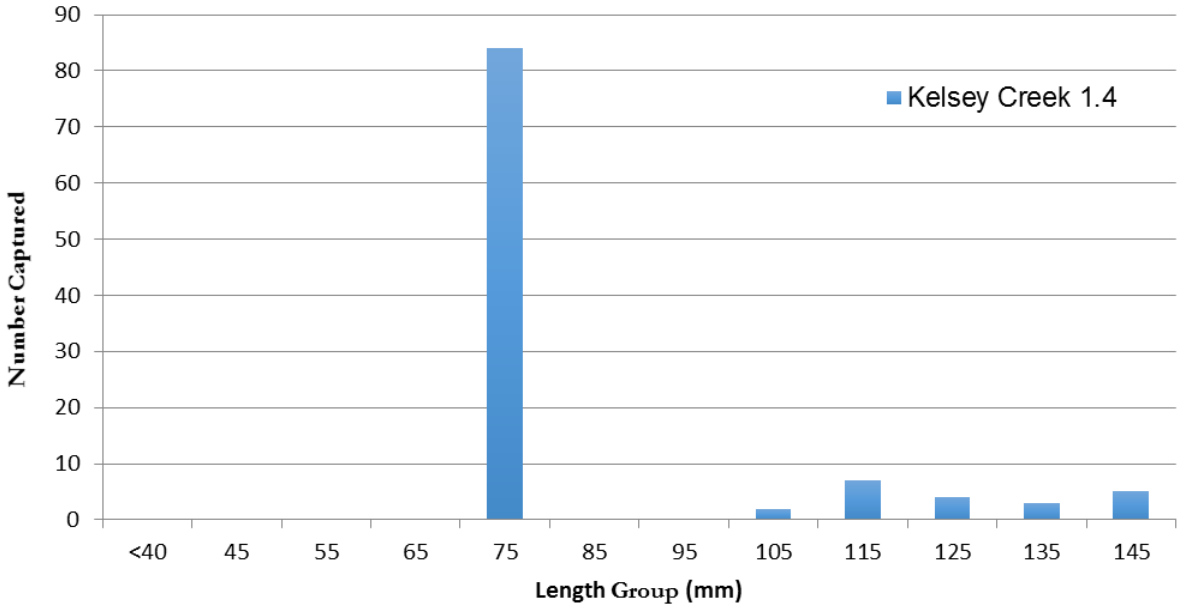

Figure 4. Length frequency distribution of cutthroat at Kelsey Creek (RM 1.4).

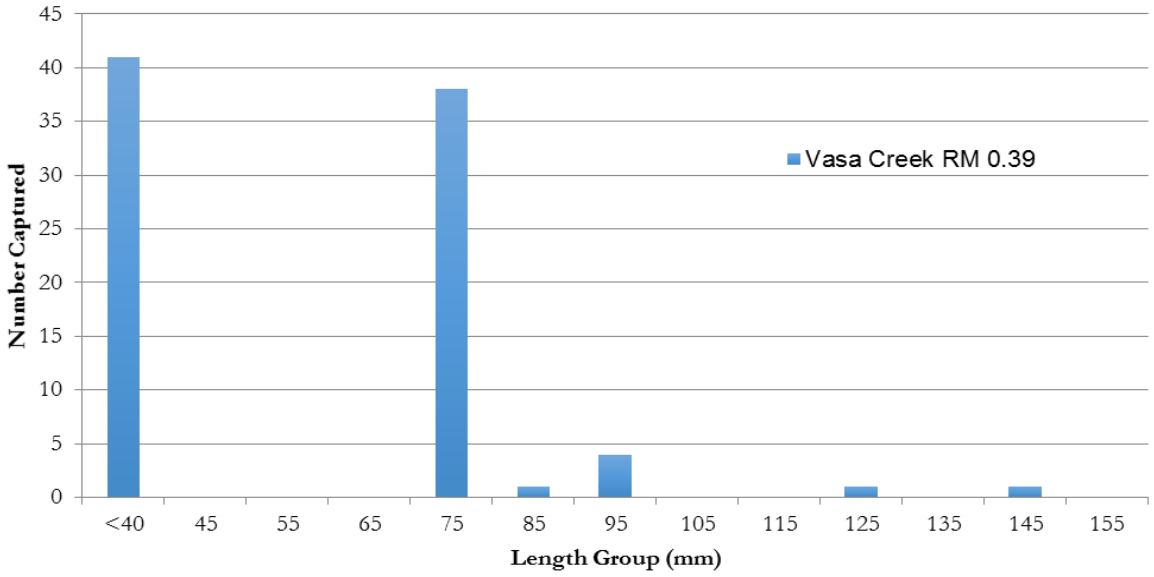

Figure 5. Length frequency distribution of cutthroat at Vasa Creek (RM 0.39).

3.4 Coho Length Distribution

A total of 44 juvenile coho salmon were caught in Kelsey Creek at RM 1.4 ranging in length from 56 to 89 mm with a mean length of 71.1 mm. Over 80 percent of all juvenile coho ranged from 60 to 80 mm,

indicating a typical age 0+ year class (Figure 6). At RM 1.8, a total of 12 coho were caught with similar size ranges (54 to 82 mm) and mean length (71.4 mm). This size range is slightly smaller, but similar to those found in 2012 (mean length 74.2 mm) and 2013 (83.0 mm), though previous sampling captured very few coho (four coho in Kelsey Creek in 2013 and six coho in the West Tributary in 2012).

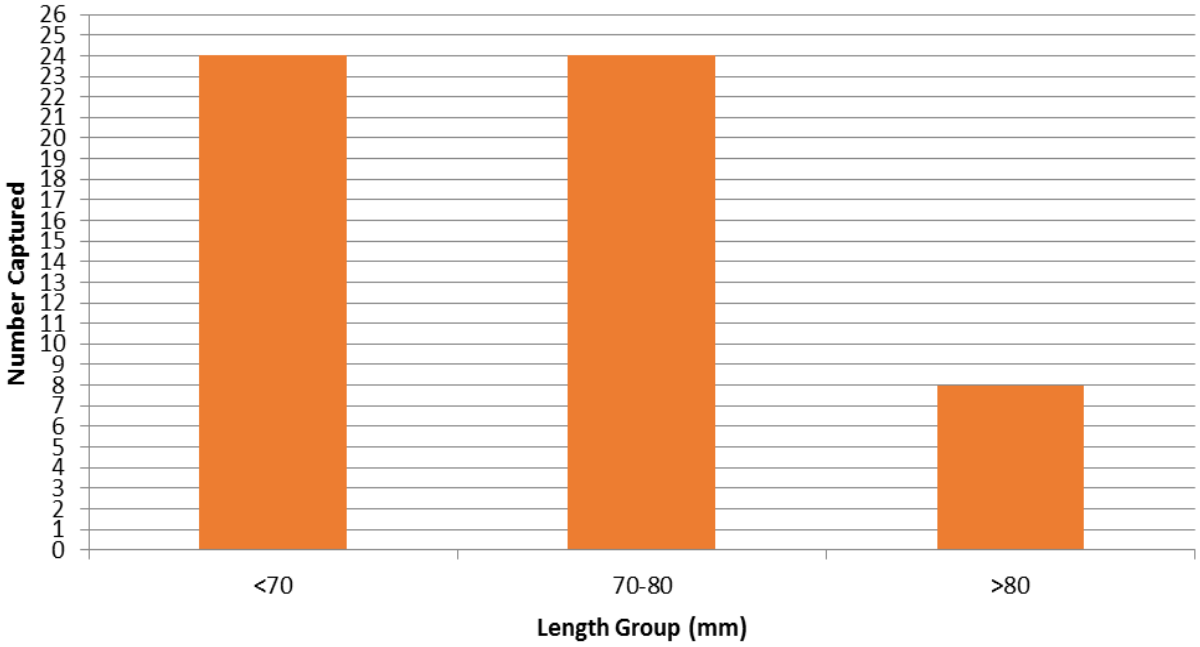

Figure 6. Length frequency distribution of coho at Kelsey Creek (RMs 1.4 and 1.8).

3.5 Native and Non-Native Species

Four native fish species—cutthroat, coho, dace, and lamprey—were captured during the survey. Kelsey Creek showed the highest diversity of native species with all four species while only cutthroat trout were captured in Vasa Creek. The total diversity of fish found during the 2014 survey was comparable to that found in 2013, but lower than that found in 2012. However, this difference was the result of sampling in the West Tributary in 2012, where relatively large numbers of long-nose dace and threespine stickleback were found. This stream was not surveyed in 2014. Sculpin were absent in 2014, but this species was only observed in the lowest reaches of Kelsey Creek (RM 0.2) in 2012. Many Puget Sound lowland streams contain other native species including, but not limited to, sculpin, dace, lamprey, largescale suckers, and possibly other salmonid species (Table 6).

Native species composition between 2014 sampling and past sampling events were quite similar. Some differences in abundance were observed and may be due netting efficiency or increases in the number of fish (e.g., cutthroat trout). Greater abundances in coho salmon may be due to increased access to Kelsey Creek by spawning adults.

Only one non-native fish species, a pumpkinseed sunfish, was found in Kelsey Creek in 2014 sampling. Non-native species were captured at Kelsey Creek in previous years, all warm water Centrarchids (sunfish and bass) or carp (*Cypinus carpio*). None have been found in Kelsey Creek since 2010 (Table 7).

Table 6. Native species documented in Bellevue streams during 1983, 1996–1997, 2002, 2007, and 2010–2014 summer fish surveys.

Species Name	Year	Kelsey Creek									Valley Creek		Richards Creek	Yarrow Creek		Newport Creek	Vasa Creek
	RM	0.2	1.06	1.4	1.8	2.1	2.59	3.81	3.83	3.97	0.2	0.82	0.9	1.13	1.8	0.06	0.39
Coho Salmon *(Oncorhynchus kisutch)*	1983	x			x	x											
	1996	x		x		x				x	x	x					
	1997	x								x		x	x				
	2002					x											
	2007		x			x					x	x					
	2010										x						
	2011							x	x								
	2012													x			
	2013									x	x						
	2014			x													
Cutthroat Trout *(Oncorhynchus clarki)*	1983	x			x	x											
	1996	x		x		x	x			x	x	x	x			x	
	1997	x								x		x	x				
	2002		x	x		x					x						
	2007		x		x	x		x	x		x	x					
	2010			x	x	x					x						
	2011							x	x					x			
	2012	x		x													
	2013									x	x		x		x	x	
	2014			x	x												x
Rainbow Trout *(Oncorhynchus mykiss)*	1983	x			x	x											
	1996																
	1997	x											x				
	2002																
	2007																
	2010																
	2011																
	2012																
	2013																
	2014																

Species Name	Year	Kelsey Creek									Valley Creek		Richards Creek	Yarrow Creek		Newport Creek	Vasa Creek
	RM	0.2	1.06	1.4	1.8	2.1	2.59	3.81	3.83	3.97	0.2	0.82	0.9	1.13	1.8	0.06	0.39
Sculpin *(Cottus spp.)*	1983																
	1996	x															
	1997	x										x	x				
	2002																
	2007																
	2010																
	2011																
	2012	x															
	2013																
	2014																
Three-spine stickleback *(Gasterosteus aculeatus)*	1983	x			x	x											
	1996																
	1997												x				
	2002		x														
	2007		x														
	2010																
	2011																
	2012																
	2013																
	2014																
Western Brook Lamprey *(Lampetra richardsoni)*	1983																
	1996						x						x				
	1997											x	x				
	2002		x								x						
	2007		x		x			x	x		x						
	2010				x						x						
	2011																
	2012	x		x													
	2013									x	x		x				
	2014			x													

Species Name	Year	Kelsey Creek									Valley Creek		Richards Creek	Yarrow Creek		Newport Creek	Vasa Creek
	RM	0.2	1.06	1.4	1.8	2.1	2.59	3.81	3.83	3.97	0.2	0.82	0.9	1.13	1.8	0.06	0.39
Largescale Sucker *(Catostomus macrocheilus)*	1983																
	1996			x		x											
	1997																
	2002																
	2007		x														
	2010																
	2011																
	2012																
	2013																
	2014																
Dace (longnose or speckled) *(Rhinichthys spp.)*	1983																
	1996	x		x													
	1997	x															
	2002			x		x											
	2007		x		x	x											
	2010				x												
	2011																
	2012	x		x													
	2013												x				
	2014																x
Trout Fry (<80 mm)	1983																
	1996	x									x	x					
	1997	x								x		x	x				
	2002		x	x		x					x						
	2007		x		x	x		x	x		x	x					
	2010			x	x	x					x						
	2011							x	x					x			
	2012																
	2013									x	x		x			x	
	2014			x	x												x

= did not sample
= sampled, no fish seen
x = sampled, fish seen

Table 7. Non-native species documented in Bellevue streams during 1983, 1996–1997, 2002, 2007, and 2010–2014 summer fish surveys.

		Kelsey Creek									Valley Creek		Richards Creek	Yarrow Creek		Newport Creek	Vasa Creek
Species Name	Year / RM	0.2	1.06	1.4	1.8	2.1	2.59	3.81	3.83	3.97	0.2	0.82	0.9	1.13	1.8	0.06	0.39
Bluegill *(Lepomis macrochirus)*	1983																
	1996	x				x				x	x						
	1997																
	2002					x											
	2007																
	2010				x	x											
	2011																
	2012																
	2013																
	2014																
Largemouth Bass *(Micropterus salmoides)*	1983																
	1996																
	1997									x							
	2002																
	2007																
	2010			x													
	2011																
	2012																
	2013																
	2014																
Pumpkinseed *(Lepomis gibbosus)*	1983																
	1996																
	1997																
	2002					x											
	2007																
	2010																
	2011																
	2012																
	2013																
	2014				x												

Species Name	Year / RM	Kelsey Creek 0.2	1.06	1.4	1.8	2.1	2.59	3.81	3.83	3.97	Valley Creek 0.2	0.82	Richards Creek 0.9	Yarrow Creek 1.13	1.8	Newport Creek 0.06	Vasa Creek 0.39
Crappie (black or white) *(Pomoxis spp.)*	1983																
	1996																
	1997																
	2002																
	2007																
	2010			x	x												
	2011																
	2012																
	2013																
	2014																
Carp *(Cyprinus carpio)*	1983																
	1996																
	1997																
	2002																
	2007																
	2010			x													
	2011																
	2012																
	2013																
	2014																

= did not sample
= sampled, no fish seen
x = sampled, fish seen

3.6 Cutthroat Trout Stomach Analysis for New Zealand Mudsnails (*Potamopyrgus antipodarum*)

The invasive species, New Zealand mudsnail (*Potamopyrgus antipodarum*) has been documented in the Kelsey Creek drainage, as well as several others within the City of Bellevue. When fed upon by fish, this species can pass through the intestinal tract intact without providing any nutrient value. On June 30, 2014 during the fish survey on Kelsey Creek (RM 1.8), 119 cutthroat trout were subject to gastric lavage while anesthetized to flush the stomach contents and determine if fish were feeding on this invasive species. In total, 42.5 percent of cutthroat trout examined for stomach contents contained New Zealand mudsnails. Cutthroat feeding on mudsnails at volumes greater than 50 percent of their diets were moderately large fish between 110 and 164 mm. Only one fish under 100 mm contained mudsnails. Data appear to suggest that fish were not targeting the species, rather mudsnails were found with several other invertebrate taxa, usually midges and amphipods. Only two cutthroat had only mudsnails in their stomachs (Figure 7). Additional numeric and volumetric analysis of prey species, such as calculating percent index of relative importance and conducting a conditions analysis of fish may provide additional insights in determining the prevalence and potential effects of mudsnails in the diet of cutthroat trout.

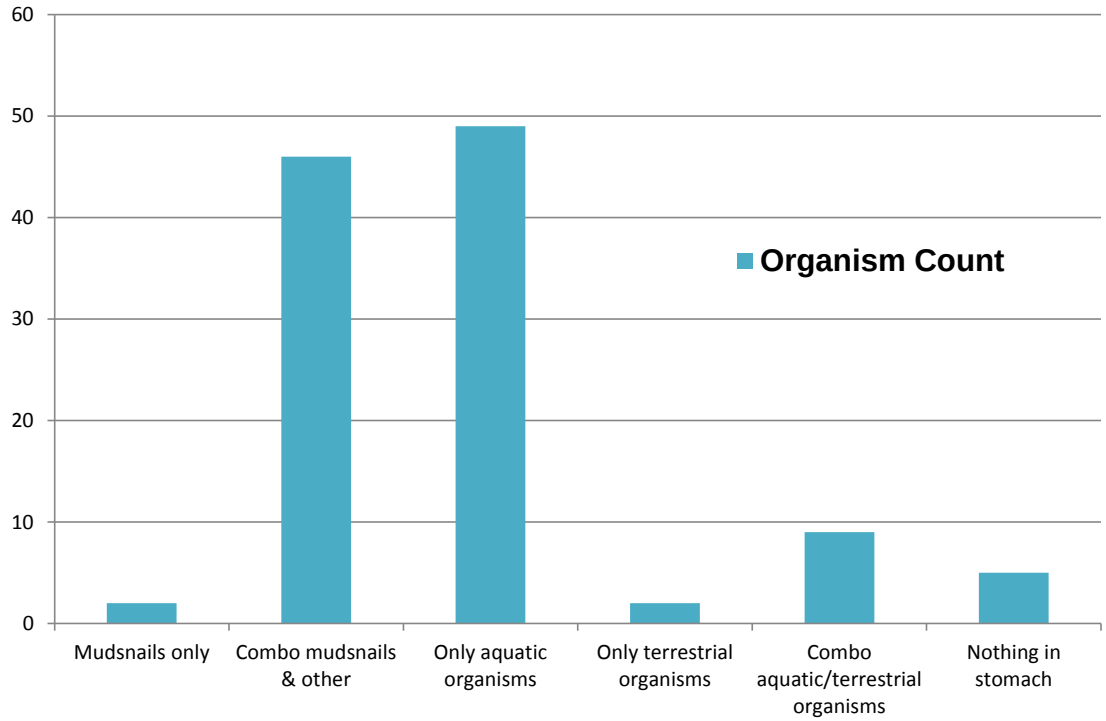

Figure 7. Diet of cutthroat trout at Kelsey Creek (RM 1.8).

Twelve juvenile coho salmon were also collected for gastric lavage. Of this small sample size, one had New Zealand mudsnails in its stomach. Most of the juvenile coho fed heavily on dipteran insects.

4.0 Discussion and Recommendations for Future Actions

Non-native fish were absent at both Kelsey Creek sampling sites and Vasa Creek in 2014. Native cutthroat were found at all sites (Tables 6 and 7), while juvenile coho were relatively abundant at the lower Kelsey location (Figure 2). This abundance of coho was the highest observed in any location over the past three years of sampling. This reflects the supplementation in 2013 of 1,150 adult coho and possibly improvements in habitat quality within Kelsey Creek. Even with supplementation, the ratio of juvenile coho to cutthroat was low (0.42) relative to healthy stream habitats. Lucchetti and Fuerstenberg (1993) reported that a coho-to-cutthroat ratio of >2 indicates excellent habitat, 1 to 2 indicates good habitat, and < 1 indicates urban impacts and/or limited access for anadromous fish. In healthy streams, juvenile coho account for 2 to 10 times the number of juvenile cutthroat. As urbanization continues, juvenile and adult resident cutthroat become more dominant and eventually surpass coho in both total numbers and biomass, which appears to be the case for these sites (Anderson 2011). However, 2014 survey results could be viewed as encouraging, since results in 2012 and 2013 found only a handful of coho with larger survey efforts.

Although Kelsey Creek provides what appears to be excellent rearing habitat for juvenile coho, other factors may contribute to the lack of coho captured during the study, including low escapement in previous years, flow regimes, natural variances in water chemistry, or juvenile coho may simply have been utilizing other areas of the stream. Comparing 2014 results to past data on Kelsey Creek on a gross watershed scale shows that juvenile coho presence is higher, and cutthroat presence has been very consistent (Table 6). However, further monitoring needs to be conducted to determine whether the increase in coho abundance observed in 2014 represents an increasing trend in coho production.

This was the first survey conducted in Vasa Creek. Although this stream found similar densities of fish relative to Kelsey Creek, a predominant number of young-of-the-year fish under 40 mm in length was observed. This was a smaller size distribution than found in Kelsey Creek; additional surveying of this stream is warranted to determine why these differences were found. The channel size of Vasa Creek was smaller, having an average 4-foot wetted width compared with 11- to 14-foot wetted widths at the Kelsey Creek sites. In addition, the Vasa reach had minimal pools, which would provide greater habitat for larger fish. Movement of larger fish to other reaches of the stream or out into Lake Sammamish may be occurring.

It is recommended that the City continue studies on the reaches sampled this year and in previous years, as well as on selected reaches in which capital projects have been conducted to measure the health of City streams and the effectiveness of existing and future capital projects for improving fish habitat and passage. Data will also be useful in assessing the success of salmonid supplementation efforts. Continued studies to track the diversity, size, and abundance of native and non-native fish species for use as an indicator of overall stream health is also advised. In addition, it is advised that the City continue stomach content studies to determine if New Zealand mudsnails are an increasing component of the diet of cutthroat trout and juvenile coho salmon. In addition, it is recommended that fish condition assessments, including weight and health observations, be included to evaluate interim impacts on fish health.

Below is a detailed list of recommendations for the City of Bellevue to facilitate these actions.

- Compare diversity, size, and abundance of fish species across all years for sites with historical data.
- Conduct electrofishing at low, middle, and upper reaches of creeks during the same sampling events to determine if salmonids and native fish are utilizing different habitats than in previous years. This may help determine more accurately the presence/absence of fish within a watershed.
- Determine fish condition index at electrofishing sites to determine relative health of priority fish species. The index could then be compared to other Western Washington urban streams where this particular data has been collected.
- Collect gut content data from priority salmonid species at current BIBI sites to determine if aquatic or terrestrial prey items dominate and to further investigate New Zealand mudsnail predation. These data will help determine prey species availability and use by salmonids. Data collected can help determine if riparian and/or substrate improvements are necessary.
- Compare size of coho and cutthroat fish populations to other Puget Sound lowland reference streams.
- Continue a consistent electrofishing program that visits the same sites during the same time of year to increase robustness of data for determination of status and trends of priority fish species and to determine the prevalence of non-native species.
- Implement a study to evaluate selected electrofishing sites that have shown historical changes in species diversity and density. The study should include key water quality parameters such as temperature and flow conditions; however, other parameters may also need evaluation.
- Include adult coho escapement data in the status and trends database in order to associate coho presence or absence with run size.

Data collected for native and non-native fish species presence, status, and trends in urban streams can be a useful tool in determining the health of urban streams. Changes in these attributes can also be used to determine if cumulative alterations in land use, habitat restoration activities, and supplementation efforts are influencing fish populations. However, fish use (or lack thereof) in urban streams can be due to many variables, including temporal and spatial changes, habitat type and condition, water quality, and climate. Changes to any one of these variables, without collecting data on each of them, make it difficult to determine what might be causing changes in fish densities and species composition. However, collecting consistent data on habitat change, fish use, and diets (both temporally and spatially), would help ascertain if changes in fish populations and density are due to natural environmental changes, beneficial habitat modifications, or changes in land use. Implementing the recommendations mentioned above would help the City of Bellevue further answer these questions about its local, urban streams.

5.0 Literature Cited

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Kerwin, J. 2001. Salmon and Steelhead Habitat Limiting Factors Report for the Cedar – Sammamish Basin (Water Resource Inventory Area 8). Washington Conservation Commission. Olympia, Washington.

Lucchetti, G., and R. Fuerstenberg. 1993. Management of coho salmon habitat in urbanizing landscapes of King County, Washington, USA. Pages 308–317 in L. Berg and P. Delaney, editors. Proceedings of a workshop on coho salmon. Canadian Dept. of Fisheries and Oceans, Vancouver, British Columbia.

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Appendix A – 2014 Raw Data

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Date:	6/30/2014		
Stream:	Kelsey Creek		
Site:	Kelsey Creek/Glendale		
River Mile:	1.8		
Latitude:			
Longitude:			
Visibility:			
Air:			
Water:	13.6 °C		
pH:	7.58		
Turbidity	35.8 NTU		
Conductivity:	438.7 µs/cm	0.4387 mS/cm	
DO:	10.85 mg/L		
Total Reach Length:	253 ft		
Pool Length:	20 ft	43 ft	37 ft
Riffle Length:	17 ft	90 ft	46 ft
Wetted Width:	11.02 ft		
Bank Full Width:	14.4 ft		
Electrofishing Setting:	200 v, 50 Hz, 6 mS		
Start Time	12:00 AM		
End Time	8:30 AM		
Fishing Time:	11:00 AM		
Netter Success:	moderate/high		

Sampling done by: Kit Paulsen (employee - fish ID)
Jim Starkes (consultant - electrofishing)
Laurie Devereaux (employee)

Katie Jensen (former employee)
Kay (volunteer)
Ashley Mihle (watershed planning intern)

Fish #	Species	Length (mm)	Habitat Type	Comment
1	Cutthroat	232		
2	Cutthroat	62		
3	Cutthroat	63		
4	Cutthroat	143		
5	Cutthroat	132		
6	Cutthroat	62		
7	Cutthroat	63		
8	Cutthroat	76		
9	Cutthroat	59		
10	Cutthroat	61		
11	Cutthroat	55		
12	Cutthroat	54		
13	Cutthroat	123		
14	Cutthroat	140		
15	Cutthroat	138		
16	Cutthroat	145		
17	Cutthroat	69		
18	Cutthroat	60		
19	Cutthroat	113		
20	Cutthroat	101		
21	Cutthroat	68		
22	Cutthroat	59		
23	Cutthroat	64		
24	Cutthroat	147		
25	Cutthroat	95		
26	Cutthroat	50		
27	Cutthroat	45		
28	Cutthroat	112		
29	Cutthroat	120		
30	Cutthroat	116		
31	Cutthroat	59		
32	Cutthroat	118		
33	Cutthroat	60		
34	Cutthroat	61		
35	Cutthroat	71		
36	Cutthroat	62		
37	Cutthroat	73		
38	Cutthroat	117		

Fish #	Species	Length (mm)	Habitat Type	Comment
39	Cutthroat	162		
40	Cutthroat	126		
41	Cutthroat	139		
42	Cutthroat	138		
43	Cutthroat	160		
44	Cutthroat	71		
45	Cutthroat	63		
46	Cutthroat	61		
47	Cutthroat	154		
48	Cutthroat	111		
49	Cutthroat	72		
50	Cutthroat	169		
51	Cutthroat	52		
52	Cutthroat	54		
53	Cutthroat	53		
54	Cutthroat	114		
55	Cutthroat	66		
56	Cutthroat	64		
57	Cutthroat	148		
58	Cutthroat	68		
59	Cutthroat	62		
60	Cutthroat	55		
61	Cutthroat	56		
62	Cutthroat	194		
63	Cutthroat	119		
64	Cutthroat	55		
65	Cutthroat	105		
66	Cutthroat	124		
67	Cutthroat	104		
68	Cutthroat	122		
69	Cutthroat	66		
70	Cutthroat	59		
71	Cutthroat	124		
72	Cutthroat	90	Pool	
73	Cutthroat	124	Pool	
74	Cutthroat	140	Pool	
75	Cutthroat	125	Pool	Empty
76	Cutthroat	65	Pool	
77	Cutthroat	65	Pool	

Fish #	Species	Length (mm)	Habitat Type	Comment
78	Cutthroat	66	Riffle	
79	Cutthroat	66	Riffle	
80	Cutthroat	117	Riffle	
81	Cutthroat	43	Riffle	Not pumped
82	Cutthroat	48	Riffle	Not pumped
83	Cutthroat	52	Riffle	
84	Cutthroat	85	Pool	
85	Cutthroat	72	Pool	
86	Cutthroat	61	Pool	
87	Cutthroat	135	Pool	
88	Cutthroat	64	Pool	
89	Cutthroat	66	Pool	
90	Cutthroat	135	Pool	
91	Cutthroat	143	Pool	
92	Cutthroat	62	Pool	
93	Cutthroat	112	Riffle	
94	Cutthroat	106	Riffle	
95	Cutthroat	76	Riffle	
96	Cutthroat	122	Riffle	
97	Cutthroat	41	Riffle	Not pumped
98	Cutthroat	71	Riffle	
99	Cutthroat	131	Riffle	
100	Cutthroat	72	Riffle	
101	Cutthroat	120	Riffle	
102	Cutthroat	38	Riffle	Not pumped
103	Cutthroat	72	Riffle	
104	Cutthroat	142	Riffle	
105	Cutthroat	110	Riffle	
106	Cutthroat	139	Riffle	
107	Cutthroat	56	Riffle	
108	Cutthroat	164	Pool	
109	Cutthroat	133	Pool	
110	Cutthroat	133	Pool	
111	Cutthroat	138	Pool	
112	Cutthroat	131	Pool	
113	Cutthroat	100	Pool	
114	Cutthroat	66	Pool	
115	Cutthroat	61	Pool	
116	Cutthroat	145	Pool	

Fish #	Species	Length (mm)	Habitat Type	Comment
117	Cutthroat	65	Pool	
118	Cutthroat	55	Pool	
119	Coho	70		
120	Coho	74		
121	Coho	68		
122	Coho	75		
123	Coho	68		
124	Dace	96		
125	Dace	93		
126	Dace	104		
127	Dace	63		
128	Dace	67		
129	Dace	58		
130	Dace	98		
131	Dace	68		
132	Dace	63		
133	Dace	78		
134	Lamprey	90		
135	Lamprey	70		
136	Crayfish	95		
137	Crayfish	56		
138	Crayfish	48		
139	Crayfish	51		
140	Crayfish	40		
141	Coho	70	Riffle	
142	Coho	76	Riffle	
143	Coho	54	Riffle	
144	Coho	76	Pool	
145	Coho	82	Pool	
146	Coho	73	Pool	
147	Coho	71	Pool	
148	Dace	95	Riffle	
149	Dace	86	Riffle	
150	Dace	101	Riffle	
151	Dace	63	Riffle	
152	Dace	117	Riffle	
153	Dace	112	Riffle	
154	Dace	96	Riffle	
155	Dace	69	Riffle	

Fish #	Species	Length (mm)	Habitat Type	Comment
156	Dace	97	Riffle	
157	Dace	65	Riffle	
158	Dace	68	Riffle	
159	Dace	89	Riffle	
160	Dace	101	Riffle	
161	Dace	82	Riffle	
162	Dace	93	Riffle	
163	Lamprey	110	Riffle	
164	Lamprey	90	Pool	
165	Lamprey	100	Riffle	
166	Crayfish	56	Riffle	
167	Crayfish	57	Riffle	
168	Crayfish	85	Riffle	
169	Crayfish	104	Riffle	
170	Crayfish	50	Riffle	
171	Pumpkin Seed	70		

Date:	7/9/2014		
Stream:	Kelsey Creek		
Site:	Kelsey Farm		
River Mile:	1.4		
Latitude:			
Longitude:			
Visibility:	Clear		
Air:	75 °F		
Water:	19.7 °C		
pH:	7.95		
Turbidity			
Conductivity:			
DO:	8.3		
Total Reach Length:	184 ft		
Pool Length:	38 ft	71 ft	24 ft
Riffle Length:	30 ft	21 ft	
Wetted Width:	16 ft	1.9 ft	
Bank Full Width:	16.7 ft		
Electrofishing Setting:	200 v, 40 Hz, 6 mS		
Start Time	11:30 am		
End Time	1:15 PM		
Fishing Time:			
Netter Success:	Moderate-High		
Sampling done by:	Kit Paulsen (employee - fish ID) Jim Starkes (consultant - electrofishing) Laurie Devereaux (employee) Zane Beall (intern)		

Fish #	Species	Length (mm)	Habitat Type	Comment
1	Cutthroat	79	Pool	
2	Cutthroat	118	Pool	
3	Cutthroat	79	Pool	
4	Cutthroat	79	Pool	
5	Cutthroat	106	Pool	
6	Cutthroat	79	Pool	
7	Cutthroat	79	Pool	
8	Cutthroat	79	Pool	
9	Cutthroat	79	Pool	
10	Cutthroat	79	Pool	
11	Cutthroat	79	Pool	
12	Cutthroat	79	Pool	
13	Cutthroat	79	Pool	
14	Cutthroat	79	Pool	
15	Cutthroat	79	Pool	
16	Cutthroat	79	Pool	
17	Cutthroat	79	Pool	
18	Cutthroat	79	Pool	
19	Cutthroat	79	Pool	
20	Cutthroat	130	Pool	
21	Cutthroat	79	Pool	
22	Cutthroat	79	Pool	
23	Cutthroat	118	Pool	
24	Cutthroat	119	Pool	
25	Cutthroat	79	Pool	
26	Cutthroat	79	Pool	
27	Cutthroat	79	Pool	
28	Cutthroat	79	Pool	
29	Cutthroat	112	Pool	
30	Cutthroat	79	Riffle	
31	Cutthroat	79	Riffle	
32	Cutthroat	79	Riffle	
33	Cutthroat	79	Riffle	
34	Cutthroat	79	Riffle	
35	Cutthroat	79	Riffle	
36	Cutthroat	114	Riffle	
37	Cutthroat	79	Riffle	
38	Cutthroat	79	Pool	
39	Cutthroat	79	Pool	

Fish #	Species	Length (mm)	Habitat Type	Comment
40	Cutthroat	79	Pool	
41	Cutthroat	129	Pool	
42	Cutthroat	79	Pool	
43	Cutthroat	79	Pool	
44	Cutthroat	79	Pool	
45	Cutthroat	79	Pool	
46	Cutthroat	132	Pool	
47	Cutthroat	102	Pool	
48	Cutthroat	79	Pool	
49	Cutthroat	79	Pool	
50	Cutthroat	79	Pool	
51	Cutthroat	79	Pool	
52	Cutthroat	79	Pool	
53	Cutthroat	79	Pool	
54	Cutthroat	121	Pool	
55	Cutthroat	79	Pool	
56	Cutthroat	79	Pool	
57	Cutthroat	79	Pool	
58	Cutthroat	138	Pool	
59	Cutthroat	79	Pool	
60	Cutthroat	79	Pool	
61	Cutthroat	79	Pool	
62	Cutthroat	79	Pool	
63	Cutthroat	79	Pool	
64	Cutthroat	79	Pool	
65	Cutthroat	79	Pool	
66	Cutthroat	79	Pool	
67	Cutthroat	79	Pool	
68	Cutthroat	79	Pool	
69	Cutthroat	79	Pool	
70	Cutthroat	79	Pool	
71	Cutthroat	79	Pool	
72	Cutthroat	79	Pool	
73	Cutthroat	79	Pool	
74	Cutthroat	79	Pool	
75	Cutthroat	79	Pool	
76	Cutthroat	79	Pool	
77	Cutthroat	79	Pool	
78	Cutthroat	79	Pool	
79	Cutthroat	79	Pool	

Fish #	Species	Length (mm)	Habitat Type	Comment
80	Cutthroat	79	Pool	
81	Cutthroat	79	Pool	
82	Cutthroat	113	Pool	
83	Cutthroat	79	Pool	
84	Cutthroat	79	Pool	
85	Cutthroat	79	Riffle	
86	Cutthroat	79	Riffle	
87	Cutthroat	79	Riffle	
88	Cutthroat	79	Riffle	
89	Cutthroat	79	Riffle	
90	Cutthroat	79	Riffle	
91	Cutthroat	79	Riffle	
92	Cutthroat	79	Pool	
93	Cutthroat	79	Pool	
94	Cutthroat	146	Pool	
95	Cutthroat	79	Pool	
96	Cutthroat	79	Pool	
97	Cutthroat	129	Pool	
98	Cutthroat	115	Pool	
99	Cutthroat	79	Pool	
100	Cutthroat	148	Pool	
101	Cutthroat	141	Pool	
102	Cutthroat	124	Pool	
103	Cutthroat	145	Pool	
104	Cutthroat	148	Pool	
105	Cutthroat	79	Pool	
106	Coho	85	Pool	
107	Coho	70	Pool	
108	Coho	71	Pool	
109	Coho	85	Pool	
110	Coho	80	Pool	
111	Coho	68	Pool	
112	Coho	65	Pool	
113	Coho	82	Pool	
114	Coho	89	Pool	
115	Coho	70	Pool	
116	Coho	83	Pool	
117	Coho	71	Pool	
118	Coho	71	Pool	
119	Coho	60	Pool	

Fish #	Species	Length (mm)	Habitat Type	Comment
120	Coho	79	Pool	
121	Coho	75	Pool	
122	Coho	75	Pool	
123	Coho	81	Pool	
124	Coho	65	Pool	
125	Coho	72	Pool	
126	Coho	69	Pool	
127	Coho	64	Pool	
128	Coho	80	Riffle	
129	Coho	65	Riffle	
130	Coho	64	Riffle	
131	Coho	56	Riffle	
132	Coho	64	Riffle	
133	Coho	64	Riffle	
134	Coho	63	Riffle	
135	Coho	66	Riffle	
136	Coho	66	Riffle	
137	Coho	70	Riffle	
138	Coho	73	Riffle	
139	Coho	85	Riffle	
140	Coho	66	Riffle	
141	Coho	68	Riffle	
142	Coho	70	Pool	
143	Coho	68	Pool	
144	Coho	75	Pool	
145	Coho	68	Pool	
146	Coho	66	Pool	
147	Coho	64	Pool	
148	Coho	75	Pool	
149	Coho	63	Pool	
150	Dace	61	Pool	
151	Dace	97	Pool	
152	Dace	95	Pool	
153	Lamprey	105	Riffle	
154	Crayfish	25	Pool	

Date:	7/9/2014	
Stream:	Vasa Creek	
Site:		
River Mile:	0.39	
Latitude:	47.57	
Longitude:	-122.12	
Visibility:	Clear	
Air:		
Water:	14.8 °C	
pH:	7.81	
Turbidity		
Conductivity:		
DO:	10.64	
Total Reach Length:	151 ft	
Pool Length:	N/A	N/A
Riffle Length:	25 ft	
Wetted Width:	4 ft	
Bank Full Width:	5.9 ft	
Electrofishing Setting:	200 v, 50 Hz, 6 mS	
Start Time	8:45 AM	
End Time	10:30 AM	
Fishing Time:		
Netter Success:	Moderate-High	

Sampling done by: Kit Paulsen (employee - fish ID)
Jim Starkes (consultant - electrofishing)
Laurie Devereaux (employee)
Zane Beall (intern)
Betty (Volunteer)
Jim (Volunteer)

Fish #	Species	Length (mm)	Habitat Type
1	Cutthroat	75	Riffle
2	Cutthroat	75	Riffle
3	Cutthroat	95	Riffle
4	Cutthroat	75	Riffle
5	Cutthroat	75	Riffle
6	Cutthroat	75	Riffle
7	Cutthroat	75	Riffle
8	Cutthroat	85	Riffle
9	Cutthroat	75	Riffle
10	Cutthroat	30	Riffle
11	Cutthroat	30	Riffle
12	Cutthroat	30	Riffle
13	Cutthroat	30	Riffle
14	Cutthroat	30	Riffle
15	Cutthroat	30	Riffle
16	Cutthroat	30	Riffle
17	Cutthroat	75	Riffle
18	Cutthroat	75	Riffle
19	Cutthroat	75	Riffle
20	Cutthroat	75	Riffle
21	Cutthroat	75	Riffle
22	Cutthroat	30	Riffle
23	Cutthroat	30	Riffle
24	Cutthroat	30	Riffle
25	Cutthroat	30	Riffle
26	Cutthroat	30	Riffle
27	Cutthroat	145	Riffle
28	Cutthroat	30	Riffle
29	Cutthroat	30	Riffle
30	Cutthroat	30	Riffle
31	Cutthroat	30	Riffle
32	Cutthroat	30	Riffle
33	Cutthroat	30	Riffle
34	Cutthroat	30	Riffle
35	Cutthroat	30	Riffle
36	Cutthroat	30	Riffle
37	Cutthroat	95	Riffle
38	Cutthroat	30	Riffle
39	Cutthroat	30	Riffle
40	Cutthroat	30	Riffle

Fish #	Species	Length (mm)	Habitat Type
41	Cutthroat	30	Riffle
42	Cutthroat	30	Riffle
43	Cutthroat	30	Riffle
44	Cutthroat	30	Riffle
45	Cutthroat	30	Riffle
46	Cutthroat	30	Riffle
47	Cutthroat	30	Riffle
48	Cutthroat	30	Riffle
49	Cutthroat	30	Riffle
50	Cutthroat	30	Riffle
51	Cutthroat	30	Riffle
52	Cutthroat	30	Riffle
53	Cutthroat	30	Riffle
54	Cutthroat	30	Riffle
55	Cutthroat	30	Riffle
56	Cutthroat	30	Riffle
57	Cutthroat	30	Riffle
58	Cutthroat	125	Riffle
59	Cutthroat	75	Riffle
60	Cutthroat	75	Riffle
61	Cutthroat	75	Riffle
62	Cutthroat	75	Riffle
63	Cutthroat	75	Riffle
64	Cutthroat	75	Riffle
65	Cutthroat	95	Riffle
66	Cutthroat	75	Riffle
67	Cutthroat	75	Riffle
68	Cutthroat	75	Riffle
69	Cutthroat	75	Riffle
70	Cutthroat	75	Riffle
71	Cutthroat	95	Riffle
72	Cutthroat	75	Riffle
73	Cutthroat	75	Riffle
74	Cutthroat	75	Riffle
75	Cutthroat	75	Riffle
76	Cutthroat	75	Riffle
77	Cutthroat	75	Riffle
78	Cutthroat	75	Riffle
79	Cutthroat	75	Riffle
80	Cutthroat	75	Riffle

Fish #	Species	Length (mm)	Habitat Type
81	Cutthroat	75	Riffle
82	Cutthroat	75	Riffle
83	Cutthroat	75	Riffle
84	Cutthroat	75	Riffle
85	Cutthroat	75	Riffle
86	Cutthroat	75	Riffle
87	Crayfish	47	Riffle
88	Crayfish	65	Riffle
89	Crayfish	42	Riffle

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Appendix B – Project Photos

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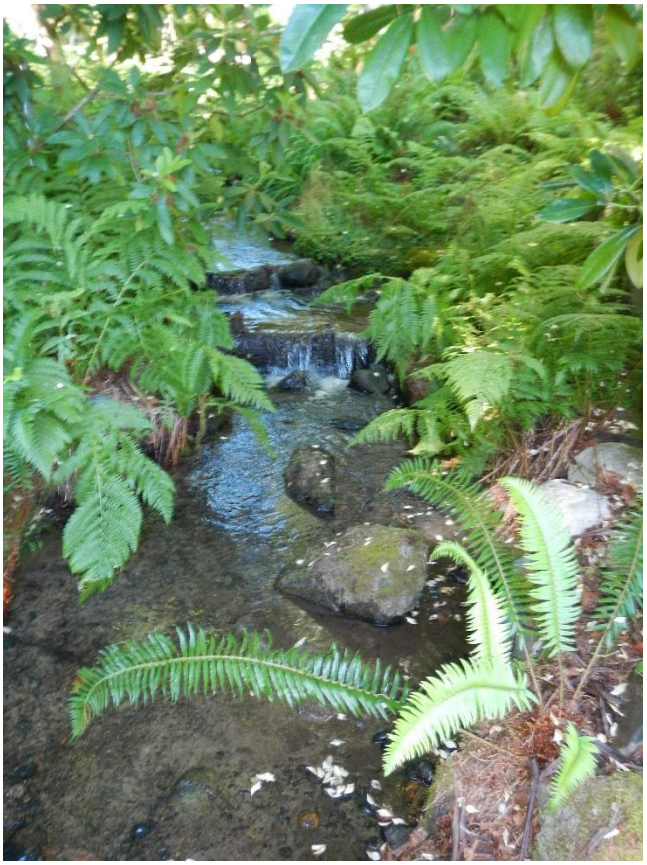
Juvenile cutthroat trout from Kelsey Creek (RM 1.8)

Juvenile coho salmon from Kelsey Creek (RM 1.4)

Young-of-the-year cutthroat trout from Vasa Creek (RM 0.39).


Vasa Creek study reach (RM 0.39)

Gastric lavage sample from cutthroat trout, Kelsey Creek (RM 1.8). New Zealand mudsnails and gammarid amphipods.

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Appendix C – 2014 Gastric Lavage Results

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2014 Gastric Lavage Results

Date Collected	Client Number	Fish Length	Fish Species	Phylum	Class	SubClass	Order	SubOrder	Family	Genus	Species
6/30/2014	1	65mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	1	65mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	1	65mm	Cutthroat								
6/30/2014	2	56mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	2	56mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	3	133mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	3	133mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	3	133mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	3	133mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	3	133mm	Cutthroat	Arthropoda	Insecta	Pterygota	Trichoptera		Hydropsychidae		
6/30/2014	3	133mm	Cutthroat	Arthropoda	Insecta	Pterygota	Plecoptera	Euholognatha	Nemouridae		
6/30/2014	3	133mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	3	133mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	3	133mm	Cutthroat								
6/30/2014	4	133mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	4	133mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	4	133mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	4	133mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	4	133mm	Cutthroat								
6/30/2014	5	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	5	61mm	Cutthroat								
6/30/2014	5	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	6	131mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	6	131mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	6	131mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	6	131mm	Cutthroat								
6/30/2014	7	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	7	71mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	7	71mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	7	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	7	71mm	Cutthroat								
6/30/2014	8	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	8	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	8	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	8	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	9	66mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	9	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	9	66mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	9	66mm	Cutthroat								
6/30/2014	10	65mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	10	65mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	10	65mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	10	65mm	Cutthroat	Arthropoda	Arachnida	Acari	Trombidiformes	Prostigmata	Hygrobatidae		
6/30/2014	10	65mm	Cutthroat								
6/30/2014	11	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	11	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	11	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	11	61mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	11	61mm	Cutthroat								
6/30/2014	11	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	12	52mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	12	52mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	12	52mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	12	52mm	Cutthroat	Arthropoda	Insecta	Pterygota	Trichoptera		Hydroptilidae		
6/30/2014	12	52mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	12	52mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		

Date Collected	Client Number	Fish Length	Fish Species	Phylum	Class	SubClass	Order	SubOrder	Family	Genus	Species
6/30/2014	12	52mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	13	62mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	13	62mm	Cutthroat								
6/30/2014	14	118mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	14	118mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	15	63mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	15	63mm	Cutthroat	Arthropoda	Arachnida	Acari	Trombidiformes	Prostigmata	Hygrobatidae		
6/30/2014	15	63mm	Cutthroat								
6/30/2014	16	73mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	16	73mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	17	50mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	17	50mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	18	69mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	18	69mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	18	69mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	18	69mm	Cutthroat								
6/30/2014	19	145mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	19	145mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	19	145mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	19	145mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	19	145mm	Cutthroat								
6/30/2014	20	76mm	Cutthroat								
6/30/2014	21	76mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	21	76mm	Coho	Nemata							
6/30/2014	21	76mm	Coho								
6/30/2014	22	63mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	22	63mm	Cutthroat								
6/30/2014	23	54mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	23	54mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	23	54mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	23	54mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	24	52mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	24	52mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	24	52mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	24	52mm	Cutthroat								
6/30/2014	24	52mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	25	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	25	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	25	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	25	66mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	25	66mm	Cutthroat								
6/30/2014	25	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	26	140mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	26	140mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	26	140mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	27	64mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	27	64mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	27	64mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	27	64mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	27	64mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	27	64mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	28	120mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	28	120mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	29	64mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	29	64mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	30	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	30	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	30	71mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		

Date Collected	Client Number	Fish Length	Fish Species	Phylum	Class	SubClass	Order	SubOrder	Family	Genus	Species
6/30/2014	30	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	30	71mm	Cutthroat								
6/30/2014	30	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	31	122mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	31	122mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	31	122mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	31	122mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	31	122mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	31	122mm	Cutthroat	Nemata							
6/30/2014	31	122mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	31	122mm	Cutthroat								
6/30/2014	32	135mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	32	135mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	32	135mm	Cutthroat	Mollusca	Gastropoda		Basommatophora		Lymnaeidae		
6/30/2014	32	135mm	Cutthroat	Arthropoda	Insecta	Pterygota	Plecoptera	Euholognatha	Nemouridae		
6/30/2014	32	135mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	32	135mm	Cutthroat								
6/30/2014	33	64mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	33	64mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	33	64mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	33	64mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	33	64mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	34	72mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	34	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	34	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	34	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	34	72mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	34	72mm	Cutthroat	Nemata							
6/30/2014	34	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	34	72mm	Cutthroat								
6/30/2014	34	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	35	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	35	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Ceratopogonidae		
6/30/2014	35	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	35	72mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	35	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	35	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	36	194mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	36	194mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	36	194mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	36	194mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	36	194mm	Cutthroat								
6/30/2014	37	169mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	37	169mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	37	169mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	37	169mm	Cutthroat								
6/30/2014	38	60mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	38	60mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	39	69mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	39	69mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	39	69mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	40	59mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	40	59mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	40	59mm	Cutthroat								
6/30/2014	41	132mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	41	132mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	41	132mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	41	132mm	Cutthroat								

Date Collected	Client Number	Fish Length	Fish Species	Phylum	Class	SubClass	Order	SubOrder	Family	Genus	Species
6/30/2014	42	62mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	42	62mm	Cutthroat								
6/30/2014	42	62mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	43	60mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	43	60mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	43	60mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	43	60mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	44	113mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	44	113mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	44	113mm	Cutthroat	Arthropoda	Insecta	Pterygota	Trichoptera		Hydroptilidae		
6/30/2014	44	113mm	Cutthroat	Arthropoda	Insecta	Pterygota	Trichoptera		Hydroptilidae		
6/30/2014	44	113mm	Cutthroat	Arthropoda	Arachnida	Acari	Trombidiformes	Prostigmata	Hygrobatidae		
6/30/2014	44	113mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	44	113mm	Cutthroat								
6/30/2014	44	113mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	45	147mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	45	147mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	45	147mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	45	147mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	45	147mm	Cutthroat	Nemata							
6/30/2014	45	147mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	45	147mm	Cutthroat								
6/30/2014	45	147mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	46	134mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	46	134mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	46	134mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	46	134mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	46	134mm	Cutthroat								
6/30/2014	47	164mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	47	164mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	47	164mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	48	119mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	48	119mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	48	119mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	48	119mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	48	119mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	48	119mm	Cutthroat								
6/30/2014	49	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	49	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	49	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	49	71mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	49	71mm	Cutthroat								
6/30/2014	50	54mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	50	54mm	Cutthroat								
6/30/2014	51	70mm	Coho	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	51	70mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	52	55mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	52	55mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	52	55mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	53	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	53	72mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	54	55mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	54	55mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	54	55mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	54	55mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	55	122mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	55	122mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	55	122mm	Cutthroat								

Date Collected	Client Number	Fish Length	Fish Species	Phylum	Class	SubClass	Order	SubOrder	Family	Genus	Species
6/30/2014	56	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	56	66mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	56	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	56	66mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	56	66mm	Cutthroat								
6/30/2014	57	126mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	57	126mm	Cutthroat								
6/30/2014	58	110mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	58	110mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	58	110mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	58	110mm	Cutthroat	Nemata							
6/30/2014	58	110mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	58	110mm	Cutthroat	Arthropoda	Arachnida	Acari	Trombidiformes	Prostigmata	Sperchontidae		
6/30/2014	58	110mm	Cutthroat								
6/30/2014	59	62mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	60	53mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	60	53mm	Cutthroat								
6/30/2014	61	142mm	Cutthroat	Nemata							
6/30/2014	61	142mm	Cutthroat								
6/30/2014	62	149mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	62	149mm	Cutthroat	Arthropoda	Insecta	Pterygota	Plecoptera	Euholognatha	Nemouridae		
6/30/2014	62	149mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	63	162mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	63	162mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	63	162mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	64	232mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	64	232mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	64	232mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	65	138mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	65	138mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	66	131mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	66	131mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	66	131mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	66	131mm	Cutthroat								
6/30/2014	67	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	67	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	67	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	67	66mm	Cutthroat								
6/30/2014	68	117mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	69	143mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	69	143mm	Cutthroat	Arthropoda	Arachnida	Acari	Trombidiformes	Prostigmata	Hygrobatidae		
6/30/2014	69	143mm	Cutthroat	Nemata							
6/30/2014	69	143mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	69	143mm	Cutthroat								
6/30/2014	70	59mm	Cutthroat								
6/30/2014	71	124mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda				
6/30/2014	71	124mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	71	124mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	71	124mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	71	124mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	71	124mm	Cutthroat	Arthropoda	Insecta	Pterygota	Trichoptera		Hydroptilidae		
6/30/2014	71	124mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	71	124mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	72	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	72	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	72	61mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	72	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	72	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		

Date Collected	Client Number	Fish Length	Fish Species	Phylum	Class	SubClass	Order	SubOrder	Family	Genus	Species
6/30/2014	73	116mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	73	116mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	73	116mm	Cutthroat								
6/30/2014	74	148mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	74	148mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	75	120mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	75	120mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	75	120mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	75	120mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	75	120mm	Cutthroat								
6/30/2014	76	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	76	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	76	61mm	Cutthroat								
6/30/2014	77	105mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	77	105mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	77	105mm	Cutthroat								
6/30/2014	78	68mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda				
6/30/2014	78	68mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	78	68mm	Cutthroat								
6/30/2014	78	68mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	79	101mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	79	101mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	79	101mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	79	101mm	Cutthroat								
6/30/2014	80	135mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda				
6/30/2014	80	135mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	80	135mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	80	135mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	80	135mm	Cutthroat								
6/30/2014	80	135mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	81	138mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	81	138mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	81	138mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	81	138mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	81	138mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	82	76mm	Coho	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda				
6/30/2014	83	123mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda				
6/30/2014	83	123mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	84	124mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	84	124mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	84	124mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	85	56mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	85	56mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	85	56mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae		
6/30/2014	85	56mm	Cutthroat								
6/30/2014	86	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	86	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	86	61mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	87	68mm	Cutthroat								
6/30/2014	88	138mm	Cutthroat								
6/30/2014	89	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	89	72mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	89	72mm	Cutthroat								
6/30/2014	90	140mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	90	140mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	90	140mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	90	140mm	Cutthroat	Arthropoda	Arachnida	Acari	Trombidiformes	Prostigmata	Lebertiidae		
6/30/2014	90	140mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum

Date Collected	Client Number	Fish Length	Fish Species	Phylum	Class	SubClass	Order	SubOrder	Family	Genus	Species
6/30/2014	90	140mm	Cutthroat								
6/30/2014	91	100mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	91	100mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	91	100mm	Cutthroat	Arthropoda	Insecta	Pterygota	Plecoptera	Euholognatha	Nemouridae		
6/30/2014	92	53mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	92	53mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	92	53mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	92	53mm	Cutthroat								
6/30/2014	93	73mm	Coho	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda				
6/30/2014	93	73mm	Coho	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	93	73mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	93	73mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	93	73mm	Coho								
6/30/2014	93	73mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	94	71mm	Coho	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda				
6/30/2014	94	71mm	Coho	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	94	71mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	94	71mm	Coho	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	94	71mm	Coho								
6/30/2014	95	106mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda				
6/30/2014	95	106mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	95	106mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	95	106mm	Cutthroat								
6/30/2014	95	106mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	96	45mm	Cutthroat								
6/30/2014	97	112mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	97	112mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	97	112mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	97	112mm	Cutthroat								
6/30/2014	98	95mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	98	95mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	99	62mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	99	62mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	99	62mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	99	62mm	Cutthroat	Arthropoda	Arachnida	Acari	Trombidiformes	Prostigmata	Hygrobatidae		
6/30/2014	99	62mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	99	62mm	Cutthroat								
6/30/2014	100	112mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	101	54mm	Coho	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	101	54mm	Coho	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	102	55mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	102	55mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	102	55mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	103	63mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	103	63mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	103	63mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	103	63mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	103	63mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	103	63mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	103	63mm	Cutthroat								
6/30/2014	104	59mm	Cutthroat								
6/30/2014	105	117mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	105	117mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	105	117mm	Cutthroat								
6/30/2014	105	117mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	106	149mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	106	149mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	106	149mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		

Date Collected	Client Number	Fish Length	Fish Species	Phylum	Class	SubClass	Order	SubOrder	Family	Genus	Species
6/30/2014	106	149mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	106	149mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	106	149mm	Cutthroat								
6/30/2014	107	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	107	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	107	72mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	107	72mm	Cutthroat	Nemata							
6/30/2014	107	72mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	107	72mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	108	64mm	Cutthroat								
6/30/2014	109	160mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	109	160mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	109	160mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	110	139mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	110	139mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	110	139mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	111	85mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	111	85mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	112	104mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	112	104mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	112	104mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	112	104mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	112	104mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	112	104mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	112	104mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	113	111mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	113	111mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	113	111mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	113	111mm	Cutthroat								
6/30/2014	114	66mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	114	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	114	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	114	66mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	114	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	115	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	115	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Ceratopogonidae		
6/30/2014	115	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	115	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	115	66mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Brachycera	Empididae		
6/30/2014	115	66mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	115	66mm	Cutthroat								
6/30/2014	116	59mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	116	59mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	116	59mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	116	59mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	117	139mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	117	139mm	Cutthroat	Annelida	Clitellata	Oligochaeta	Branchiobdellida		Branchiobdellidae	Branchiobdella	
6/30/2014	117	139mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	117	139mm	Cutthroat	Arthropoda	Arachnida	Acari	Trombidiformes	Prostigmata	Lebertiidae		
6/30/2014	117	139mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	117	139mm	Cutthroat								
6/30/2014	117	139mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	1	68mm	Coho	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	1	68mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	1	68mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Simuliidae		
6/30/2014	1	68mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	2	75mm	Coho	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	2	75mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Ceratopogonidae		

Date Collected	Client Number	Fish Length	Fish Species	Phylum	Class	SubClass	Order	SubOrder	Family	Genus	Species
6/30/2014	2	75mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	2	75mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	2	75mm	Coho	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	2	75mm	Coho								
6/30/2014	2	75mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	3	68mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	3	68mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	3	68mm	Coho								
6/30/2014	4	74mm	Coho	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	4	74mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	4	74mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	4	74mm	Coho								
6/30/2014	5	70mm	Coho	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda				
6/30/2014	5	70mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	5	70mm	Coho								
6/30/2014	5	70mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	6	82mm	Coho	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	6	82mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	6	82mm	Coho								
6/30/2014	6	82mm	Coho	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Tipulidae		
6/30/2014	118	114mm	Cutthroat	Arthropoda	Insecta	Pterygota	Ephemeroptera	Pisciforma	Baetidae		
6/30/2014	118	114mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	118	114mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	118	114mm	Cutthroat								
6/30/2014	119	154mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Isopoda	Asellota	Asellidae		
6/30/2014	119	154mm	Cutthroat	Arthropoda	Insecta	Pterygota	Diptera	Nematocera	Chironomidae		
6/30/2014	119	154mm	Cutthroat	Arthropoda	Malacostraca	Eumalacostraca	Amphipoda	Gammaridea	Crangonyctidae		
6/30/2014	119	154mm	Cutthroat	Mollusca	Gastropoda		Neotaenioglossa		Hydrobiidae	Potamopyrgus	antipodarum
6/30/2014	119	154mm	Cutthroat								