

## **APPENDIX K: Samish Sub-basin Report**

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## **WHATCOM COUNTY FISH PASSAGE ASSESSMENT SUB-BASIN REPORT SAMISH SUB-BASIN**

### **Description of Sub-basin**

The Samish Sub-basin includes the Tributary streams to Lake Samish, Reed and Cain Lakes, and the upper Samish River near the town of Wickersham (Figures 1 and 2). Friday Creek and its eastern tributary, Silver Creek, originate as steep gradient tributaries that have built alluvial fans around Lake Samish, Reed Lake, and Cain Lake (Figure 1). Short spawning reaches are located on these alluvial fans, but the majority of fish habitat is in the lakes and downstream in the low to moderate gradient reaches of Friday and Silver Creeks. Although the lakes are fairly urbanized, Friday and Silver Creeks are bordered by mixed deciduous/conifer forest broken occasionally by residential clearing. In-stream habitat is characterized by short gravel riffles separating pools and glides formed by numerous beaver dams. Fish use is predominantly coho salmon and cutthroat trout (Whatcom County, 1994, NWIFC, 2003).

The upper Samish River begins in a broad, marshy floodplain near Wickersham, Washington (Figure 2). Moderate to high gradient tributary streams flow from the surrounding forested slopes to build alluvial fans along the valley margins. Of these, Ennis Creek is the largest, and provides the bulk of the spawning habitat in the upper Samish River basin. Immature deciduous/conifer forests line the banks of Ennis Creek, and channel substrate is dominated by gravel and cobble. Just as the stream flows onto the Samish River floodplain, Ennis Creek makes an abrupt 90 degree turn and flows parallel to Ennis Creek Road for one thousand feet before crossing the road and entering the expansive wetland surrounding the Samish River. Rapid aggradation of sediment along Ennis Creek Road requires biannual dredging to manage flooding. Fish use in the upper Samish River basin is primarily coho salmon, cutthroat trout, and steelhead trout (Whatcom County, 1994, NWIFC, 2003).

Several other seasonal tributary streams originate on the foothills to the west and form small gravel-rich alluvial fans before flowing through marshy lowlands to join the Samish River. Streamside vegetation is conifer forest on the hill slope, and fragmented deciduous forest, beaver marsh, and wet pasture on the valley bottom. Substrate varies from gravel-rich reaches on the alluvial fans to organic mud and silt in the beaver ponds. Fish use is primarily coho salmon, and cutthroat and steelhead trout (Whatcom County, 1994, NWIFC, 2003).

Land use on the valley bottom is chiefly agricultural and rural residential with forestry dominating the surrounding foothills. Land use jurisdiction is split between Whatcom County in the low-lying areas, and the State Department of Natural Resources in the foothills (Whatcom County, 1997).

### **Data Integration from Previous Projects**

In the Samish Sub-basin, previous barrier data from Whatcom County (County roads), Washington Department of Fish and Wildlife (WDFW) inventories, and the Skagit Fisheries Enhancement Group (SFEG) is standardized and integrated into the WDFW Fish Passage and

Diversion Screening Inventory (FPDSI) data base format and is included in the final summary table.

### **Reach Prioritization Summary**

Prior to contacting landowners for access permission, inventory staff met with tribal and state biologists, and local fisheries professionals to identify priority stream reaches that had not been previously inventoried. In the interest of efficiency, we did not include areas with previously completed inventories, or where barrier inventories are required by law, and focused on reaches where information was lacking.

Similar inventories have been completed by the Washington Department of Natural Resources (DNR) and State Department of Transportation (WSDOT) for their respective ownerships. DNR will be correcting their barriers under RMAP scheduling and implementation. WSDOT and Whatcom County Public Works will be repairing barriers on roadways as part of their ongoing maintenance and repair program.

The following reaches were inventoried in the Samish Sub-basin:

#### **Lake Samish Drainage:**

- Finney Creek (WRIA 03.0042): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Roy Rd. tribs. (MP 0.07, 0.33, and 0.70): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- North Lake Samish Dr. trib (MP 0.45): SFEG has walked stream system. Minimal Habitat Gain.
- E. Lake Samish Dr. trib (MP 0.52, 2.15 and 2.25): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Wefer Cr. (WRIA 03.0041): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Barnes Creek (WRIA 03.0037, 03.0040.): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- I-5 trib (995331): SFEG has walked stream system. Minimal Habitat Gain.
- Manley Rd trib. (MP 0.19): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Nulle Road trib (MP 0.72): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Shallow Shore Road trib. (MP 0.058): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Summerland Road tribs (MP 0.090, MP 0.190, MP 0.390, and MP 1.140): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- W. Lake Samish Road tribs. (MP 0.20, MP 1.280, and 1.59): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.

### **Cain and Reed Lake Drainages:**

- Cain Lake Road tribs. (MP 0.17 and 1.34): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Rainbow Drive trib. (MP 0.73): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Summit Place tribs. (MP 0.422 and 0.511): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- West Alder Drive trib. (MP 0.04): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Glenhaven Dr trib. (0.119): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.

### **Upper Samish River Drainages:**

- Saxon Road trib.(MP 0.215): SFEG knowledge of system indicates poor habitat quality.
- HWY 9 MP 68.76: SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- HWY 9 MP 66.65: SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Ennis Creek Rd. tribs. (MP 1.320 and MP 1.280): SFEG has walked the system. ETD from confluence to anadromous limit based on SFEG Natural Point Barrier Data.
- Ennis Creek Road trib. (MP 0.033): : SFEG has walked stream system and generated a Priority Index value.

### **Barrier Assessment**

Two levels of assessment are included in this report. The first is a road inventory conducted by Whatcom County Public Works staff that identified fish blocking culverts on the County road system for known and possible fish bearing streams. Skagit Fisheries Enhancement Group (SFEG) completed the second assessment. The Cooperative inventoried all fish passage barriers in the Samish basin in 2000, and has mapped the upper limits of anadromous fish use as well. We combined this existing data with Expanded Threshold Determinations (ETD) to calculate Priority Index values for each identified barrier. All human made features in priority stream reaches were geo-referenced using GPS and evaluated for their ability to pass fish. Field evaluation and data collection followed the methodologies described in the *Fish Passage Barrier and surface Water Diversion Screening Assessment and Prioritization Manual* (WDFW 2000).

### **Summary of Results**

Figure 1 is a map of the Samish Sub-basin showing the location and site ID number of each feature inventoried. Table 1 summarizes the inventory results sequentially by site ID number for the Samish Sub-basin. Table 2 summarizes the details associated with identified fish passage barriers and is sorted by Priority Index number (PI). Due primarily to property access restrictions, some blockages did not have PI's calculated. However, this project captured the

vast majority of fish passage barriers for a reasonably complete inventory of all passage barriers to anadromous fish in this sub-basin.

**Table 1. Stream features inventoried in the Samish Sub-basin, sorted by Site ID number.**

SiteID	Sequencer <sup>1</sup>	Stream	Tributary To	Owner Type	Feature	Repair <sup>2</sup> Status	% Passable	Additional Barriers		Survey Type <sup>3</sup>	Total PI
								Upstream	Downstream		
03.0023 3.40	1.1	Silver Cr	Friday Cr	Private	Culvert	RR	0			TD	
03.0036 0.10		Barnes Cr	Lk Samish	County	Fishway	OK	100			LME	
03.0078 0.30	1.1	NP Cr	Samish R	Unknown	Culvert	FX	100				
1280037	1.1	Samish R	Samish Bay	Private	Culvert	OK	100				
1280307	1.1	Unnamed	Friday Cr	Private	Culvert	RR	0	0	3	ETD	4.45
370184	1.1	Unnamed	Samish R	County	Culvert	OK	100				
370204	1.1	Unnamed	Lk Samish	County	Culvert	RR	0			TD	
370298	1.1	Unnamed	Samish R	County	Culvert	OK	100				
370299	1.1	Unnamed	Samish R	County	Culvert	RR	33	0	0	RSFS	2.15
370300	1.1	Unnamed	Samish R	County	Culvert	LG	33			TD	
370359	1.1	Barnes Cr	Lk Samish	County	Culvert	RR	0	0	2	ETD	5.78
370409	1.1	Unnamed	Lk Samish	County	Culvert	RR	33			TD	
370434	1.1	Unnamed	Friday Cr	County	Culvert	RR	67	0	0	ETD	2.82
370435	1.1	Unnamed	Friday Cr	County	Culvert	OK	100				
370477	1.1	Unnamed	Lk Samish	County	Culvert	OK	100				
370488	1.1	Unnamed	Samish R	County	Culvert	RR	67			TD	
370492	1.1	Unnamed	Friday Cr	County	Culvert	RR	33	3	0	ETD	7.34
370529	1.1	Unnamed	Lk Samish	County	Culvert	RR	0	0	0	ETD	1.80
370530	1.1	Unnamed	Lk Samish	County	Culvert	RR	0	0	1	ETD	4.91
370531	1.1	Unnamed	Lk Samish	County	Culvert	RR	0	0	1	ETD	6.45
370532	1.1	Unnamed	Lk Samish	County	Culvert	RR	33	1	2	ETD	4.78
370533	1.1	Unnamed	Reed Lk	County	Culvert	RR	0	0	3	RSFS	4.54
370534	1.1	Unnamed	Reed Lk	County	Culvert	RR	0	1	2	RSFS	5.59
370581	1.1	Unnamed	Cain Lk	County	Culvert	RR	0	0	0	RSFS	4.49
370590	1.1	Unnamed	Lk Samish	County	Culvert	RR	0	2	1	ETD	7.81
370591	1.1	Unnamed	Lk Samish	County	Culvert	RR	33	1	0	ETD	5.22
370614	1.1	Unnamed	Lk Samish	County	Culvert	RR	33	1	1	ETD	6.64
370615	1.1	Silver Cr	Cain Lk	County	Culvert	RR	0	4	0	RSFS	17.10

<sup>1</sup> Sequencer: 1:2 – One culvert of two, 1:3 - One culvert of three, etc.

<sup>2</sup> Repair Status: OK – No action needed, RR – Repair required, LG – Habitat gain is less than 200 m., UD – Habitat gain undetermined, FX – Fixed, Blank – No fish use potential.

<sup>3</sup> Survey Type: TD – Threshold Determination, LME – Lineal Map Estimate, ETD – Expanded threshold determination, UETD – Unexpanded Threshold Determination, FS, PS – Full habitat Survey, RSFS – Reduced Sampling Physical Survey.

SiteID	Sequencer <sup>1</sup>	Stream	Tributary To	Owner Type	Feature	Repair <sup>2</sup> Status	% Passable	Additional Barriers		Survey Type <sup>3</sup>	Total PI
								Upstream	Downstream		
370700		Friday Cr	Samish R	County	Fishway	OK	100				
990025		Barnes Cr	Lk Samish	State	Fishway	RR	33	0	1	TD	
991080	1.2	Unnamed	Samish R	State	Culvert	OK	100				
991106	1.1	Unnamed	Samish R	State	Culvert	RR	0	0	1	UETD	
991447	1.1	Unnamed	Samish R	State	Culvert	RR	67	0	0	UETD	
991448	1.1	Unnamed	Samish R	State	Culvert	RR	33	0	1	UETD	
994501	1.1	Barnes Cr	Lk Samish	State	Culvert	RR	33	2	0	FS	10.01
995247	1.1	Unnamed	Finney Cr	State	Culvert	LG	33	0	1	UETD	
995248	1.1	Unnamed	Finney Cr	State	Culvert	LG	67	1		UETD	
995250	1.1	Unnamed	Lk Samish	State	Culvert	RR	0	0	2	UETD	
995251	1.1	Unnamed	Lk Samish	State	Culvert						
995252	1.1	Unnamed	Lk Samish	State	Culvert						
995253	1.1	Unnamed	Lk Samish	State	Culvert						
995254	1.1	Unnamed	Finney Cr	State	Culvert	OK	100				
995255	1.1	Unnamed	Finney Cr	State	Culvert	RR	0	2	1	UETD	
995256	1.1	Unnamed	Finney Cr	State	Culvert	RR	0	1	0	UETD	
995257	1.1	Unnamed	Lk Samish	State	Culvert						
995258	1.1	Unnamed	Lk Samish	State	Culvert						
995328	1.1	Unnamed	Finney Cr	State	Culvert	OK	100				
995329	1.1	Unnamed	Finney Cr	Private	Culvert	RR	33				
995330		Unnamed	Finney Cr	Unknown	Other	UD	67				
995331	1.1	Unnamed	Lk Samish	County	Culvert	RR	33	2	0	UETD	
995392	1.1	Unnamed	Samish R	State	Culvert	LG	0	0		UETD	
995393	1.1	Unnamed	Samish R	State	Culvert						
995394	1.1	Unnamed	Samish R	State	Culvert						
995395	1.1	Unnamed	Samish R	State	Culvert	LG	0	0		UETD	
995396	1.1	Unnamed	Samish R	State	Culvert	LG	0	0		UETD	
995397	1.1	Unnamed	Samish R	State	Culvert						
995398	1.1	Unnamed	Samish R	State	Culvert	RR	0	2	0	TD	

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SiteID	Sequencer <sup>1</sup>	Stream	Tributary To	Owner Type	Feature	Repair <sup>2</sup> Status	% Passable	Additional Barriers		Survey Type <sup>3</sup>	Total PI
								Upstream	Downstream		
995399	1.1	Unnamed	Samish R	State	Culvert						
995418	1.1	Unnamed	Samish R	Private	Culvert	RR	0				
995419	1.1	Unnamed	Samish R	Private	Culvert	RR	0				
995993	1.1	Unnamed	Samish R	Private	Culvert	RR	0				
996171	1.1	Unnamed	Samish R	Private	Culvert	UD					
996914	1.1	Barnes Cr	Lk Samish	County	Culvert	RR	0				
997745	1.1	Unnamed	Finney Cr	County	Culvert	RR	0				
FR33	1.1	unnamed	Cain Lk	County	Culvert	RR	67	0	0	RSFS	
FR34	1.1	unnamed	Cain Lk	Private	Culvert	OK					
FR35	1.1	Silver Cr	Friday Cr	County	Culvert	OK					
FR36	1.1	Silver Cr	Reed Lk	County	Culvert	RR	33	2	1	RSFS	
FR39	1.1	unnamed	Lk Samish	County	Culvert	RR	0	1	0	ETD	
FR40	1.1	unnamed	Lk Samish	County	Culvert	RR	33	2	0	ETD	
FR43	1.1	Wefer Cr	Lk Samish	County	Culvert	LG					
FR44	1.1	Wefer Cr	Lk Samish	Private	Culvert	UD					
FR45	1.1	unnamed	Lk Samish	County	Culvert	UD					
FR47	1.1	Finney Cr	Lk Samish	County	Culvert	OK	100				
FR48		Finney Cr	Lk Samish	Private	Fishway	OK	100				
FR49	1.1	unnamed	Lk Samish	County	Culvert	UD					
FR51	1.1	unnamed	Lk Samish	County	Culvert	UD					
FR53	1.1	unnamed	Lk Samish	Private	Culvert	RR	33	0	0	ETD	
FR54	1.1	unnamed	Lk Samish	County	Culvert	RR	33	0	0	ETD	
FR56	1.1	Unnamed	Lk Samish	County	Culvert	RR	0	0	2	ETD	
FR65	1.1	unnamed	Reed Lk	County	Culvert	RR	67	0	1	RSFS	
FR66	1.1	unnamed	Reed Lk	County	Culvert	OK					
FR73	1.1	Unnamed	Lk Samish	State	Culvert	RR	0	1	1	UETD	
FR75	1.2	Unnamed	Finney Cr	State	Culvert	RR	0	0	0	UETD	
FR76		Friday Cr	Samish R	County	Fishway	OK	100				
SR81	1.1	Ennis Cr	Samish R	County	Culvert	UD					

<sup>1</sup> Sequencer: 1:2 – One culvert of two, 1:3 - One culvert of three, etc.

<sup>2</sup> Repair Status: OK – No action needed, RR – Repair required, LG – Habitat gain is less than 200 m., UD – Habitat gain undetermined, FX – Fixed, Blank – No fish use potential.

<sup>3</sup> Survey Type: TD – Threshold Determination, LME – Lineal Map Estimate, ETD – Expanded threshold determination, UETD – Unexpanded Threshold Determination, FS, PS – Full habitat Survey, RSFS – Reduced Sampling Physical Survey.

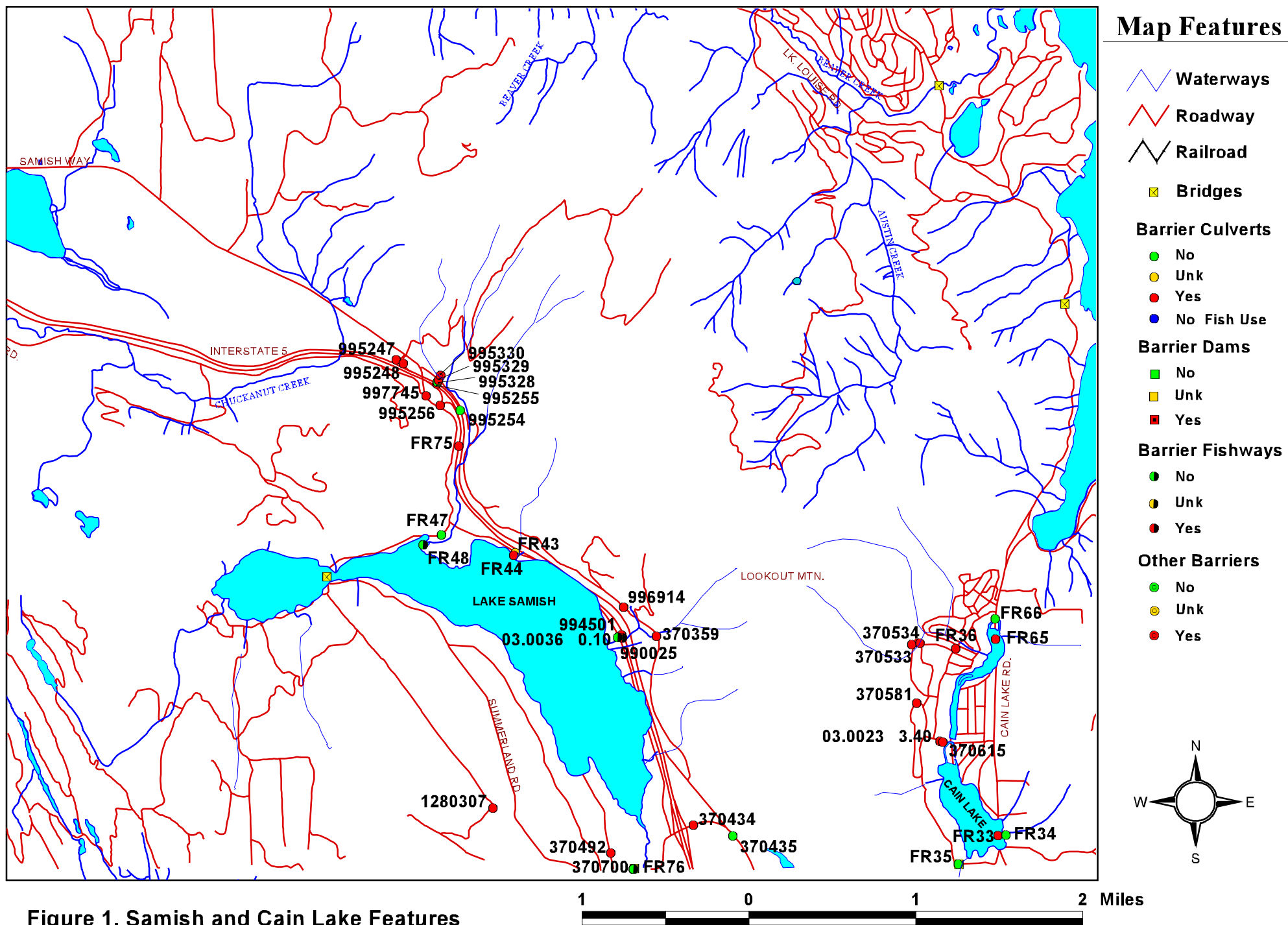


SiteID	Sequencer <sup>1</sup>	Stream	Tributary To	Owner Type	Feature	Repair <sup>2</sup> Status	% Passable	Additional Barriers		Survey Type <sup>3</sup>	Total PI
								Upstream	Downstream		
SR82	1.1	Unnamed	Samish R	County	Culvert	UD					
SR83	1.1	Unnamed	Samish R	County	Culvert	UD					
SR86	1.1	Unnamed	Samish R	State	Culvert						
SR87	1.1	Unnamed	Samish R	State	Culvert						
SR88	1.1	Unnamed	Samish R	State	Culvert						
SR90	1.1	Samish R	Samish Bay	County	Culvert	UD					
SR91	1.1	Samish R	Samish Bay	County	Culvert	UD					
SR92	1.1	Samish R	Samish Bay	County	Culvert	OK	100				
SR93	1.1	Samish R	Samish Bay	County	Culvert	OK	100				

<sup>1</sup> Sequencer: 1:2 – One culvert of two, 1:3 - One culvert of three, etc.

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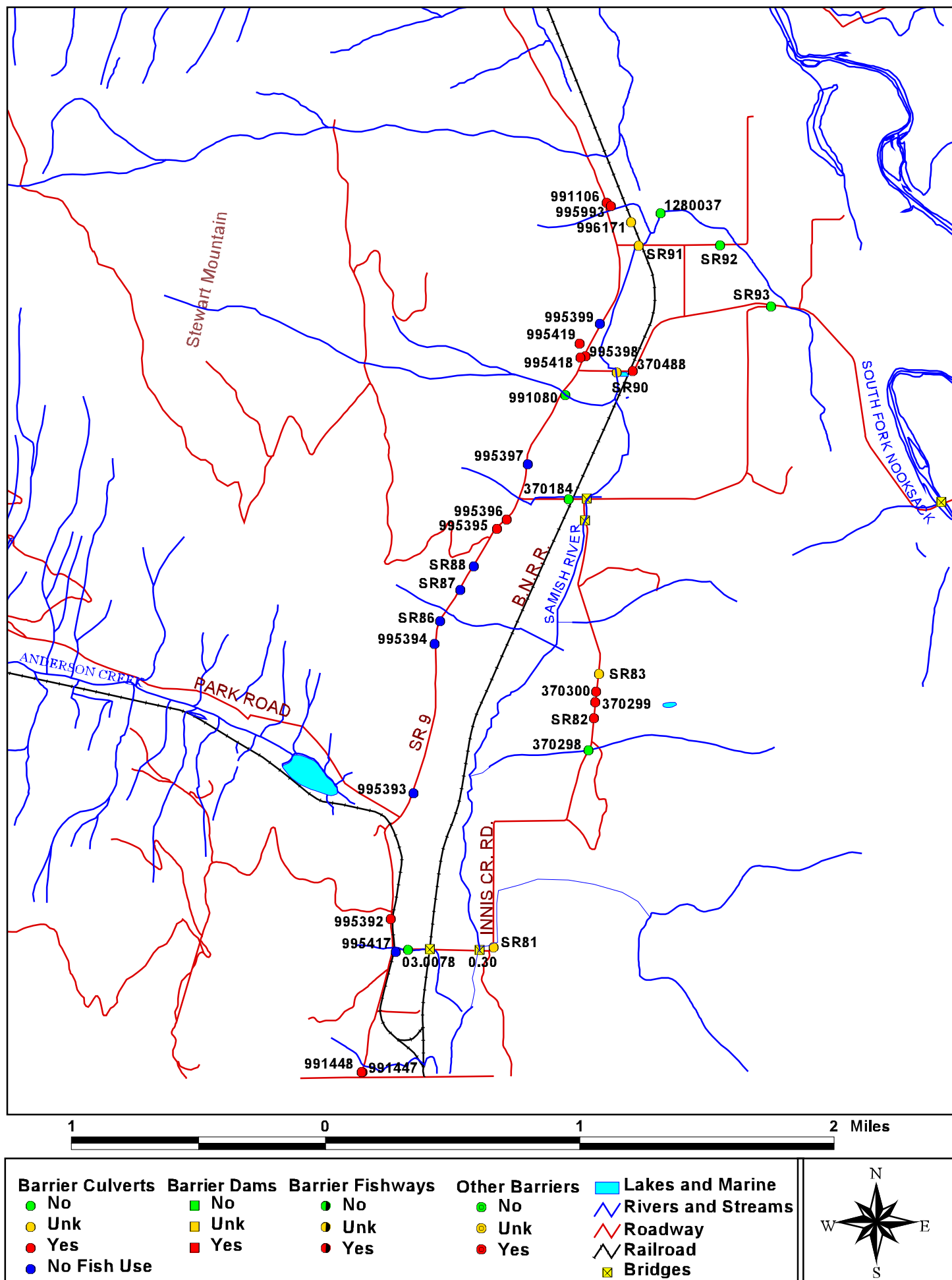








Figure 2. Samish River Features.

## Samish Culvert Barriers:

No Image Available	PI TOTAL:	17.10	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
			Site ID:	370615
			Stream:	Silver 2 Cr
			Trib To:	Cain Lk
			Owner:	County
			<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
			Problem:	Screen
			Ds Barriers:	0
			Us Barriers:	4
				Lineal Gain (m): 3,239
				Spawn Area (m2): 628
				Rear Area (m2): 16,835
No Image Available	PI TOTAL:	16.89	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
			Site ID:	03.0078 0.30
			Stream:	NP Cr
			Trib To:	Samish R
			Owner:	Unknown
			<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
			Problem:	
			Ds Barriers:	
			Us Barriers:	
				Lineal Gain (m):
				Spawn Area (m2):
				Rear Area (m2):
	PI TOTAL:	10.01	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
			Site ID:	994501
			Stream:	Barnes Cr
			Trib To:	Lk Samish
			Owner:	State
			<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
			Problem:	Slope
			Ds Barriers:	0
			Us Barriers:	2
				Lineal Gain (m): 532
				Spawn Area (m2): 234
				Rear Area (m2): 716
	PI TOTAL:	7.81	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
			Site ID:	370590
			Stream:	Unnamed
			Trib To:	Lk Samish
			Owner:	County
			<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
			Problem:	Outfall drop
			Ds Barriers:	1
			Us Barriers:	2
				Lineal Gain (m): 1,385
				Spawn Area (m2): 0
				Rear Area (m2): 733

Culvert Shape: RND = Round, BOX = Rectangular, ARCH = Bottomless arch, SQSH = Pipe arch, ELL = Ellipse, OTH = Other.  
Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
MRY = Masonry, OTH = Other





## Samish Culvert Barriers:

PI TOTAL:	7.34	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
		Site ID: 370492 Stream: Unnamed Trib To: Friday Cr Owner: County	Shape: RND Material: PVC Span (m): 0.61 Length (m): 18.90
		<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
		Problem: Slope Ds Barriers: 0 Us Barriers: 3	Lineal Gain (m): 1,728 Spawn Area (m2): 0 Rear Area (m2): 851
PI TOTAL:	6.64	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
		Site ID: 370614 Stream: Unnamed Trib To: Lk Samish Owner: County	Shape: RND Material: PCC Span (m): 1.07 Length (m):
		<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
		Problem: Slope Ds Barriers: 1 Us Barriers: 1	Lineal Gain (m): 850 Spawn Area (m2): 394 Rear Area (m2): 570
PI TOTAL:	6.45	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
		Site ID: 370531 Stream: Unnamed Trib To: Lk Samish Owner: County	Shape: RND Material: PCC Span (m): 0.61 Length (m): 13.41
		<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
		Problem: Outfall drop Ds Barriers: 1 Us Barriers: 0	Lineal Gain (m): 630 Spawn Area (m2): 0 Rear Area (m2): 342
PI TOTAL:	5.78	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
		Site ID: 370359 Stream: Barnes Cr Trib To: Lk Samish Owner: County	Shape: RND Material: PCC Span (m): 1.52 Length (m): 12.50
		<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
		Problem: Outfall drop Ds Barriers: 2 Us Barriers: 0	Lineal Gain (m): 230 Spawn Area (m2): 45 Rear Area (m2): 219

Culvert Shape: RND = Round, BOX = Rectangular, ARCH = Bottomless arch, SQSH = Pipe arch, ELL = Ellipse, OTH = Other.  
 Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
 CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
 MRY = Masonry, OTH = Other







## Samish Culvert Barriers:

<p>PI TOTAL: 5.59</p> 	<p><b>GENERAL INFORMATION</b></p> <p>Site ID: 370534 Stream: Unnamed Trib To: Reed Lk Owner: County</p> <p><b>BARRIER STATUS</b></p> <p>Problem: Outfall drop Ds Barriers: 2 Us Barriers: 1</p>	<p><b>CULVERT ATTRIBUTES</b></p> <p>Shape: RND Material: CST Span (m): 0.91 Length (m): 18.29</p> <p><b>HABITAT GAIN</b></p> <p>Lineal Gain (m): 260 Spawn Area (m2): 62 Rear Area (m2): 192</p>
<p>PI TOTAL: 5.22</p> 	<p><b>GENERAL INFORMATION</b></p> <p>Site ID: 370591 Stream: Unnamed Trib To: Lk Samish Owner: County</p> <p><b>BARRIER STATUS</b></p> <p>Problem: Slope Ds Barriers: 0 Us Barriers: 1</p>	<p><b>CULVERT ATTRIBUTES</b></p> <p>Shape: RND Material: PCC Span (m): 0.61 Length (m): 17.68</p> <p><b>HABITAT GAIN</b></p> <p>Lineal Gain (m): 811 Spawn Area (m2): 437 Rear Area (m2): 442</p>
<p>PI TOTAL: 4.91</p> 	<p><b>GENERAL INFORMATION</b></p> <p>Site ID: 370530 Stream: Unnamed Trib To: Lk Samish Owner: County</p> <p><b>BARRIER STATUS</b></p> <p>Problem: Slope Ds Barriers: 1 Us Barriers: 0</p>	<p><b>CULVERT ATTRIBUTES</b></p> <p>Shape: RND Material: PCC Span (m): 0.46 Length (m): 12.50</p> <p><b>HABITAT GAIN</b></p> <p>Lineal Gain (m): 400 Spawn Area (m2): 0 Rear Area (m2): 170</p>
<p>PI TOTAL: 4.78</p> 	<p><b>GENERAL INFORMATION</b></p> <p>Site ID: 370532 Stream: Unnamed Trib To: Lk Samish Owner: County</p> <p><b>BARRIER STATUS</b></p> <p>Problem: Slope Ds Barriers: 2 Us Barriers: 1</p>	<p><b>CULVERT ATTRIBUTES</b></p> <p>Shape: RND Material: PCC Span (m): 0.61 Length (m): 15.24</p> <p><b>HABITAT GAIN</b></p> <p>Lineal Gain (m): 700 Spawn Area (m2): 0 Rear Area (m2): 154</p>


Culvert Shape: RND = Round, BOX = Rectangular, ARCH = Bottomless arch, SQSH = Pipe arch, ELL = Ellipse, OTH = Other.  
Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
MRY = Masonry, OTH = Other


## Samish Culvert Barriers:

PI TOTAL: 4.54	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
	Site ID: 370533 Stream: Unnamed Trib To: Reed Lk Owner: County <b>BARRIER STATUS</b> Problem: Outfall drop Ds Barriers: 3 Us Barriers: 0	Shape: RND Material: CAL Span (m): 0.91 Length (m): 32.92 <b>HABITAT GAIN</b> Lineal Gain (m): 80 Spawn Area (m2): 44 Rear Area (m2): 83
PI TOTAL: 4.49	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
	Site ID: 370581 Stream: Unnamed Trib To: Cain Lk Owner: County <b>BARRIER STATUS</b> Problem: Outfall drop Ds Barriers: 0 Us Barriers: 0	Shape: RND Material: PCC Span (m): 0.46 Length (m): 17.37 <b>HABITAT GAIN</b> Lineal Gain (m): 320 Spawn Area (m2): 83 Rear Area (m2): 80
PI TOTAL: 4.45	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
	Site ID: 1280307 Stream: Unnamed Trib To: Friday Cr Owner: Private <b>BARRIER STATUS</b> Problem: Outfall drop Ds Barriers: 3 Us Barriers: 0	Shape: RND Material: PVC Span (m): 0.61 Length (m): 9.50 <b>HABITAT GAIN</b> Lineal Gain (m): 400 Spawn Area (m2): 0 Rear Area (m2): 77
PI TOTAL: 2.82	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>
	Site ID: 370434 Stream: Unnamed Trib To: Friday Cr Owner: County <b>BARRIER STATUS</b> Problem: Velocity Ds Barriers: 0 Us Barriers: 0	Shape: RND Material: PCC Span (m): 0.91 Length (m): 45.11 <b>HABITAT GAIN</b> Lineal Gain (m): 70 Spawn Area (m2): 10 Rear Area (m2): 38


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 Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
 CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
 MRY = Masonry, OTH = Other

## Samish Culvert Barriers:

PI TOTAL:	2.15	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>		
		Site ID:	370299	Shape:	RND
		Stream:	Unnamed	Material:	PCC
		Trib To:	Samish R	Span (m):	0.46
		Owner:	County	Length (m):	15.54
<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>			
Problem:		Slope	Lineal Gain (m):	48	
Ds Barriers:		0	Spawn Area (m2):	0	
Us Barriers:		0	Rear Area (m2):	6	

PI TOTAL:	1.80	<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>		
		Site ID:	370529	Shape:	RND
		Stream:	Unnamed	Material:	CAL
		Trib To:	Lk Samish	Span (m):	0.61
		Owner:	County	Length (m):	24.99
<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>			
Problem:		Outfall drop	Lineal Gain (m):	312	
Ds Barriers:		0	Spawn Area (m2):	0	
Us Barriers:		0	Rear Area (m2):	131	


PI TOTAL:		<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>		
No Image Available		Site ID:	03.0023 3.40	Shape:	BOX
		Stream:	Silver 2 Cr	Material:	CPC
		Trib To:	Friday Cr	Span (m):	2.44
		Owner:	Private	Length (m):	21.34
<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>			
Problem:			Lineal Gain (m):		
Ds Barriers:			Spawn Area (m2):		
Us Barriers:			Rear Area (m2):		

PI TOTAL:		<b>GENERAL INFORMATION</b>	<b>CULVERT ATTRIBUTES</b>		
		Site ID:	995250	Shape:	RND
		Stream:	Unnamed	Material:	CST
		Trib To:	Lk Samish	Span (m):	1.45
		Owner:	State	Length (m):	59.25
<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>			
Problem:		Slope	Lineal Gain (m):		
Ds Barriers:		2	Spawn Area (m2):		
Us Barriers:		0	Rear Area (m2):		

Culvert Shape: RND = Round, BOX = Rectangular, ARCH = Bottomless arch, SQSH = Pipe arch, ELL = Ellipse, OTH = Other.  
Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
MRY = Masonry, OTH = Other







## Samish Culvert Barriers:

PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: 995248	Shape: RND
	Stream: Unnamed	Material: PCC
	Trib To: Finney Cr	Span (m): 0.76
	Owner: State	Length (m): 29.55
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope	Lineal Gain (m): 137
	Ds Barriers:	Spawn Area (m2):
	Us Barriers: 1	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 995247	Shape: RND
	Stream: Unnamed	Material: PCC
	Trib To: Finney Cr	Span (m): 0.76
	Owner: State	Length (m): 21.52
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope	Lineal Gain (m): 64
	Ds Barriers: 1	Spawn Area (m2):
	Us Barriers: 0	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: 1280037	Shape: RND
	Stream: Samish R	Material: CST
	Trib To: Samish Bay	Span (m): 0.95
	Owner: Private	Length (m): 4.44
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem:	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: 995993	Shape: RND
	Stream: Unnamed	Material: CST
	Trib To: Samish R	Span (m): 0.91
	Owner: Private	Length (m): 3.50
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Buried inlet	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):





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Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
MRY = Masonary, OTH = Other

## Samish Culvert Barriers:

PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 991448	Shape: BOX
	Stream: Unnamed	Material: CPC
	Trib To: Samish R	Span (m): 2.45
	Owner: State	Length (m): 11.75
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope	Lineal Gain (m):
	Ds Barriers: 1	Spawn Area (m2):
	Us Barriers: 0	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 991447	Shape: RND
	Stream: Unnamed	Material: PCC
	Trib To: Samish R	Span (m): 0.91
	Owner: State	Length (m): 11.13
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope	Lineal Gain (m):
	Ds Barriers: 0	Spawn Area (m2):
	Us Barriers: 0	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 370204	Shape: RND
	Stream: Unnamed	Material: PCC
	Trib To: Lk Samish	Span (m): 0.61
	Owner: County	Length (m):
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Outfall drop	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 370300	Shape: RND
	Stream: Unnamed	Material: PCC
	Trib To: Samish R	Span (m): 0.46
	Owner: County	Length (m): 12.80
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):

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 Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
 CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
 MRY = Masonry, OTH = Other

## Samish Culvert Barriers:

PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 995256 Stream: Unnamed Trib To: Finney Cr Owner: State <b>BARRIER STATUS</b> Problem: Outfall;Slope Ds Barriers: 0 Us Barriers: 1	Shape: BOX Material: CPC Span (m): 2.46 Length (m): 48.77 <b>HABITAT GAIN</b> Lineal Gain (m): Spawn Area (m2): Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 370409 Stream: Unnamed Trib To: Lk Samish Owner: County <b>BARRIER STATUS</b> Problem: Outfall drop Ds Barriers: Us Barriers:	Shape: RND Material: PCC Span (m): 1.07 Length (m): 9.14 <b>HABITAT GAIN</b> Lineal Gain (m): Spawn Area (m2): Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 995329 Stream: Unnamed Trib To: Finney Cr Owner: Private <b>BARRIER STATUS</b> Problem: Slope Ds Barriers: Us Barriers:	Shape: BOX Material: CPC Span (m): 1.56 Length (m): 16.64 <b>HABITAT GAIN</b> Lineal Gain (m): Spawn Area (m2): Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 370488 Stream: Unnamed Trib To: Samish R Owner: County <b>BARRIER STATUS</b> Problem: Slope Ds Barriers: Us Barriers:	Shape: RND Material: PCC Span (m): 0.30 Length (m): 23.16 <b>HABITAT GAIN</b> Lineal Gain (m): Spawn Area (m2): Rear Area (m2):

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 Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
 CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
 MRY = Masonry, OTH = Other



## Samish Culvert Barriers:

PI TOTAL:



### GENERAL INFORMATION

Site ID: 991106  
Stream: Unnamed  
Trib To: Samish R  
Owner: State

### BARRIER STATUS

Problem: Slope;Outfall  
Ds Barriers: 1  
Us Barriers: 0

### CULVERT ATTRIBUTES

Shape: RND  
Material: OTH  
Span (m): 0.76  
Length (m): 13.72

### HABITAT GAIN

Lineal Gain (m):  
Spawn Area (m2):  
Rear Area (m2):

PI TOTAL:



### GENERAL INFORMATION

Site ID: FR75  
Stream: Unnamed  
Trib To: Finney Cr  
Owner: State

### BARRIER STATUS

Problem: Outfall  
Ds Barriers: 0  
Us Barriers: 0

### CULVERT ATTRIBUTES

Shape: RND  
Material: SPS  
Span (m): 1.83  
Length (m): 69.17

### HABITAT GAIN

Lineal Gain (m):  
Spawn Area (m2):  
Rear Area (m2):

PI TOTAL:

No Image  
Available

### GENERAL INFORMATION

Site ID: FR51  
Stream: unnamed  
Trib To: Lk Samish  
Owner: County

### BARRIER STATUS

Problem:  
Ds Barriers:  
Us Barriers:

### CULVERT ATTRIBUTES

Shape: RND  
Material: PCC  
Span (m): 0.61  
Length (m): 24.40

### HABITAT GAIN

Lineal Gain (m):  
Spawn Area (m2):  
Rear Area (m2):

PI TOTAL:



### GENERAL INFORMATION

Site ID: FR53  
Stream: unnamed  
Trib To: Lk Samish  
Owner: Private

### BARRIER STATUS

Problem: Slope  
Ds Barriers: 0  
Us Barriers: 0

### CULVERT ATTRIBUTES





Shape: RND  
Material: PCC  
Span (m): 1.22  
Length (m): 13.72

### HABITAT GAIN

Lineal Gain (m): 895  
Spawn Area (m2): 278  
Rear Area (m2): 278


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Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
MRY = Masonry, OTH = Other

## Samish Culvert Barriers:

PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: FR54 Stream: unnamed Trib To: Lk Samish Owner: County <b>BARRIER STATUS</b> Problem: Slope Ds Barriers: 0 Us Barriers: 0	Shape: RND Material: PCC Span (m): 0.61 Length (m): 24.38 <b>HABITAT GAIN</b> Lineal Gain (m): 543 Spawn Area (m2): 235 Rear Area (m2): 216
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: FR56 Stream: Unnamed Trib To: Lk Samish Owner: County <b>BARRIER STATUS</b> Problem: Outfall drop Ds Barriers: 2 Us Barriers: 0	Shape: RND Material: CST Span (m): 1.07 Length (m): 27.43 <b>HABITAT GAIN</b> Lineal Gain (m): 600 Spawn Area (m2): 372 Rear Area (m2): 477
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: FR65 Stream: unnamed Trib To: Reed Lk Owner: County <b>BARRIER STATUS</b> Problem: Depth Ds Barriers: 1 Us Barriers: 0	Shape: RND Material: PCC Span (m): 0.91 Length (m): 14.94 <b>HABITAT GAIN</b> Lineal Gain (m): 804 Spawn Area (m2): 169 Rear Area (m2): 344
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 995255 Stream: Unnamed Trib To: Finney Cr Owner: State <b>BARRIER STATUS</b> Problem: Slope;Outfall Ds Barriers: 1 Us Barriers: 2	Shape: BOX Material: CPC Span (m): 1.80 Length (m): 62.55 <b>HABITAT GAIN</b> Lineal Gain (m): Spawn Area (m2): Rear Area (m2):

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 Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
 CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
 MRY = Masonry, OTH = Other

## Samish Culvert Barriers:

PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: FR75	Shape: RND
	Stream: Unnamed	Material: SPS
	Trib To: Finney Cr	Span (m): 1.83
	Owner: State	Length (m): 68.93
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Outfall	Lineal Gain (m):
	Ds Barriers: 0	Spawn Area (m2):
	Us Barriers: 0	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: FR45	Shape: RND
	Stream: unnamed	Material: PCC
	Trib To: Lk Samish	Span (m): 0.61
	Owner: County	Length (m): 20.70
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem:	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: SR81	Shape: RND
	Stream: Ennis Cr	Material: CST
	Trib To: Samish R	Span (m): 1.53
	Owner: County	Length (m): 30.80
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem:	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: SR82	Shape: RND
	Stream: Unnamed	Material: CST
	Trib To: Samish R	Span (m): 1.22
	Owner: County	Length (m): 10.70
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem:	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):

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 Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
 CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
 MRY = Masonary, OTH = Other




## Samish Culvert Barriers:

PI TOTAL:          No Image Available	<b>GENERAL INFORMATION</b>		<b>CULVERT ATTRIBUTES</b>	
	Site ID:	SR90	Shape:	RND
	Stream:	Samish R	Material:	CST
	Trib To:	Samish Bay	Span (m):	1.22
	Owner:	County	Length (m):	9.10
	<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>	
	Problem:		Lineal Gain (m):	
	Ds Barriers:		Spawn Area (m2):	
	Us Barriers:		Rear Area (m2):	
PI TOTAL:          No Image Available	<b>GENERAL INFORMATION</b>		<b>CULVERT ATTRIBUTES</b>	
	Site ID:	SR91	Shape:	RND
	Stream:	Samish R	Material:	CST
	Trib To:	Samish Bay	Span (m):	0.91
	Owner:	County	Length (m):	10.97
	<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>	
	Problem:		Lineal Gain (m):	
	Ds Barriers:		Spawn Area (m2):	
	Us Barriers:		Rear Area (m2):	
PI TOTAL:          No Image Available	<b>GENERAL INFORMATION</b>		<b>CULVERT ATTRIBUTES</b>	
	Site ID:	SR92	Shape:	ARCH
	Stream:	Samish R	Material:	CAL
	Trib To:	Samish Bay	Span (m):	1.77
	Owner:	County	Length (m):	9.20
	<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>	
	Problem:		Lineal Gain (m):	
	Ds Barriers:		Spawn Area (m2):	
	Us Barriers:		Rear Area (m2):	
PI TOTAL:          No Image Available	<b>GENERAL INFORMATION</b>		<b>CULVERT ATTRIBUTES</b>	
	Site ID:	SR93	Shape:	RND
	Stream:	Samish R	Material:	PCC
	Trib To:	Samish Bay	Span (m):	0.91
	Owner:	County	Length (m):	39.01
	<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>	
	Problem:		Lineal Gain (m):	
	Ds Barriers:		Spawn Area (m2):	
	Us Barriers:		Rear Area (m2):	

Culvert Shape: RND = Round, BOX = Rectangular, ARCH = Bottomless arch, SQSH = Pipe arch, ELL = Ellipse, OTH = Other.  
Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
MRY = Masonary, OTH = Other






## Samish Culvert Barriers:

PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: FR73	Shape: RND
	Stream: Unnamed	Material: CST
	Trib To: Lk Samish	Span (m): 1.37
	Owner: State	Length (m): 31.20
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope;Outfall	Lineal Gain (m):
	Ds Barriers: 1	Spawn Area (m2):
	Us Barriers: 1	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: FR33	Shape: RND
	Stream: unnamed	Material: PCC
	Trib To: Cain Lk	Span (m): 0.76
	Owner: County	Length (m): 14.94
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Depth	Lineal Gain (m): 290
	Ds Barriers: 0	Spawn Area (m2): 174
	Us Barriers: 0	Rear Area (m2): 102
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 995331	Shape: RND
	Stream: Unnamed	Material: CST
	Trib To: Lk Samish	Span (m): 1.30
	Owner: County	Length (m): 17.22
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope;Outfall	Lineal Gain (m):
	Ds Barriers: 0	Spawn Area (m2):
	Us Barriers: 2	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: 995392	Shape: RND
	Stream: Unnamed	Material: PCC
	Trib To: Samish R	Span (m): 0.61
	Owner: State	Length (m): 31.45
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope	Lineal Gain (m): 83
	Ds Barriers:	Spawn Area (m2):
	Us Barriers: 0	Rear Area (m2):

Culvert Shape: RND = Round, BOX = Rectangular, ARCH = Bottomless arch, SQSH = Pipe arch, ELL = Ellipse, OTH = Other.  
Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
MRY = Masonary, OTH = Other




## Samish Culvert Barriers:

PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 995395	Shape: RND
	Stream: Unnamed	Material: PCC
	Trib To: Samish R	Span (m): 0.76
	Owner: State	Length (m): 23.26
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope;Outfall	Lineal Gain (m): 120
	Ds Barriers:	Spawn Area (m2):
	Us Barriers: 0	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 995396	Shape: RND
	Stream: Unnamed	Material: PCC
	Trib To: Samish R	Span (m): 0.76
	Owner: State	Length (m): 22.75
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope;Outfall	Lineal Gain (m): 173
	Ds Barriers:	Spawn Area (m2):
	Us Barriers: 0	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: 995398	Shape: RND
	Stream: Unnamed	Material: PCC
	Trib To: Samish R	Span (m): 0.61
	Owner: State	Length (m): 29.78
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope	Lineal Gain (m):
	Ds Barriers: 0	Spawn Area (m2):
	Us Barriers: 2	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 995418	Shape: RND
	Stream: Unnamed	Material: CST
	Trib To: Samish R	Span (m): 0.61
	Owner: Private	Length (m): 5.14
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Outfall;Slope	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):



Culvert Shape: RND = Round, BOX = Rectangular, ARCH = Bottomless arch, SQSH = Pipe arch, ELL = Ellipse, OTH = Other.  
 Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
 CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
 MRY = Masonary, OTH = Other

## Samish Culvert Barriers:

PI TOTAL:	<b>GENERAL INFORMATION</b>		<b>CULVERT ATTRIBUTES</b>	
	Site ID:	FR49	Shape:	RND
	Stream:	unnamed	Material:	PCC
	Trib To:	Lk Samish	Span (m):	1.22
No Image Available	Owner:	County	Length (m):	12.50
	<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>	
	Problem:		Lineal Gain (m):	
	Ds Barriers:		Spawn Area (m2):	
	Us Barriers:		Rear Area (m2):	
PI TOTAL:	<b>GENERAL INFORMATION</b>		<b>CULVERT ATTRIBUTES</b>	
	Site ID:	996914	Shape:	RND
	Stream:	Barnes Cr	Material:	PCC
	Trib To:	Lk Samish	Span (m):	1.22
No Image Available	Owner:	County	Length (m):	55.34
	<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>	
	Problem:	Outfall;Slope	Lineal Gain (m):	
	Ds Barriers:		Spawn Area (m2):	
	Us Barriers:		Rear Area (m2):	
PI TOTAL:	<b>GENERAL INFORMATION</b>		<b>CULVERT ATTRIBUTES</b>	
	Site ID:	FR47	Shape:	RND
	Stream:	Finney Cr	Material:	PCC
	Trib To:	Lk Samish	Span (m):	1.83
No Image Available	Owner:	County	Length (m):	26.82
	<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>	
	Problem:		Lineal Gain (m):	
	Ds Barriers:		Spawn Area (m2):	
	Us Barriers:		Rear Area (m2):	
PI TOTAL:	<b>GENERAL INFORMATION</b>		<b>CULVERT ATTRIBUTES</b>	
	Site ID:	FR36	Shape:	RND
	Stream:	Silver 2 Cr	Material:	CAL
	Trib To:	Reed Lk	Span (m):	1.83
	Owner:	County	Length (m):	14.63
	<b>BARRIER STATUS</b>		<b>HABITAT GAIN</b>	
	Problem:	Slope	Lineal Gain (m):	1,183
	Ds Barriers:	1	Spawn Area (m2):	459
	Us Barriers:	2	Rear Area (m2):	933


Culvert Shape: RND = Round, BOX = Rectangular, ARCH = Bottomless arch, SQSH = Pipe arch, ELL = Ellipse, OTH = Other.  
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CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
MRY = Masonary, OTH = Other

## Samish Culvert Barriers:

PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: FR39	Shape: RND
	Stream: unnamed	Material: PCC
	Trib To: Lk Samish	Span (m): 0.61
	Owner: County	Length (m): 16.76
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Outfall drop	Lineal Gain (m): 630
	Ds Barriers: 0	Spawn Area (m2): 0
	Us Barriers: 1	Rear Area (m2): 286
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: FR40	Shape: RND
	Stream: unnamed	Material: PCC
	Trib To: Lk Samish	Span (m): 0.91
	Owner: County	Length (m): 24.69
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Slope	Lineal Gain (m): 850
	Ds Barriers: 0	Spawn Area (m2): 394
	Us Barriers: 2	Rear Area (m2): 570
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: FR43	Shape: RND
	Stream: Wefer Cr	Material: CST
	Trib To: Lk Samish	Span (m): 0.92
	Owner: County	Length (m):
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem:	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: FR44	Shape: RND
	Stream: Wefer Cr	Material: CST
	Trib To: Lk Samish	Span (m): 1.53
	Owner: Private	Length (m): 6.20
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem:	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):

Culvert Shape: RND = Round, BOX = Rectangular, ARCH = Bottomless arch, SQSH = Pipe arch, ELL = Ellipse, OTH = Other.  
Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
MRY = Masonry, OTH = Other

## Samish Culvert Barriers:

PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
No Image Available	Site ID: 997745	Shape: RND
	Stream: Unnamed	Material: CST
	Trib To: Finney Cr	Span (m): 0.91
	Owner: County	Length (m): 130.00
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: outfall	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):
PI TOTAL:	GENERAL INFORMATION	CULVERT ATTRIBUTES
	Site ID: 995419	Shape: RND
	Stream: Unnamed	Material: CST
	Trib To: Samish R	Span (m): 0.53
	Owner: Private	Length (m): 8.09
	<b>BARRIER STATUS</b>	<b>HABITAT GAIN</b>
	Problem: Outfall;Slope	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):

Culvert Shape: RND = Round, BOX = Rectangular, ARCH = Bottomless arch, SQSH = Pipe arch, ELL = Ellipse, OTH = Other.  
 Culvert Material: PCC = Pre-cast concrete, CPC = Cast in place concrete, CST = Corrugated steel, SST = Smooth Steel,  
 CAL = Corrugated aluminum, SPS = Structural plate steel, SPA = Structural plate aluminum, PVC = Plastic, TMB = Timber,  
 MRY = Masonary, OTH = Other



## Samish Barrier Fishways:

PI TOTAL:



### GENERAL INFORMATION

Site ID: 370700  
Stream: Friday Cr  
Trib To: Samish R  
Owner: County

### BARRIER STATUS

Fish Passage(%): 100  
Ds Barriers:  
Us Barriers:

### FISHWAY ATTRIBUTES

FW Type: WP  
Attached To: Dam  
Weir No: 4  
Bed Control:

### HABITAT GAIN

Lineal Gain (m):  
Spawn Area (m2):  
Rear Area (m2):

PI TOTAL:



### GENERAL INFORMATION

Site ID: FR76  
Stream: Friday Cr  
Trib To: Samish R  
Owner: County

### BARRIER STATUS

Fish Passage(%): 100  
Ds Barriers:  
Us Barriers:

### FISHWAY ATTRIBUTES

FW Type: WP  
Attached To: Dam  
Weir No: 3  
Bed Control:

### HABITAT GAIN

Lineal Gain (m):  
Spawn Area (m2):  
Rear Area (m2):

PI TOTAL:

No Image  
Available

### GENERAL INFORMATION

Site ID: FR48  
Stream: Finney Cr  
Trib To: Lk Samish  
Owner: Private

### BARRIER STATUS

Fish Passage(%): 100  
Ds Barriers:  
Us Barriers:

### FISHWAY ATTRIBUTES

FW Type: SBC  
Attached To: Culvert  
Weir No:  
Bed Control: RC

### HABITAT GAIN

Lineal Gain (m):  
Spawn Area (m2):  
Rear Area (m2):

PI TOTAL:



### GENERAL INFORMATION

Site ID: 990025  
Stream: Barnes Cr  
Trib To: Lk Samish  
Owner: State

### BARRIER STATUS

Fish Passage(%): 33  
Ds Barriers: 1  
Us Barriers: 0

### FISHWAY ATTRIBUTES

FW Type: SBC  
Attached To: Culvert  
Weir No:  
Bed Control: LC

### HABITAT GAIN

Lineal Gain (m): 622  
Spawn Area (m2):  
Rear Area (m2):

## ***Samish Barrier Fishways:***

PI TOTAL:



### **GENERAL INFORMATION**

Site ID: 03.0036 0.10  
Stream: Barnes Cr  
Trib To: Lk Samish  
Owner: County

### **BARRIER STATUS**

Fish Passage(%): 100  
Ds Barriers:  
Us Barriers:


### **FISHWAY ATTRIBUTES**

FW Type: SBC  
Attached To: Culvert  
Weir No:  
Bed Control: RC

### **HABITAT GAIN**

Lineal Gain (m): 322  
Spawn Area (m2):  
Rear Area (m2):

***Other Miscellaneous Samish Barriers:***

PI TOTAL:	GENERAL INFORMATION	BARRIER ATTRIBUTES
	Site ID: 995330	BarrierType: Pipeline Crossing
	Stream: Unnamed	
	Trib To: Finney Cr	
	Owner: Unknown	
	BARRIER STATUS	HABITAT GAIN
	Fish Passage (%): 67	Lineal Gain (m):
	Ds Barriers:	Spawn Area (m2):
	Us Barriers:	Rear Area (m2):