

ODFW AQUATIC INVENTORY PROJECT
OREGON PLAN FOR SALMON & WATERSHEDS
STREAM RESTORATION HABITAT REPORT

STREAM: Mill Creek (S-348)
BASIN: Pacific Ocean
SURVEY TYPE: Pre-Tx
DATE: August 14, 2006
SURVEY CREW: Greg Ryder, Scott Koller
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 4.4 km²
USGS MAPS: Sixes
ECOREGION: Coast Range Coastal Lowlands

GENERAL DESCRIPTION:

The Mill Creek habitat survey extended 1,429 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 1.3 (range: 1.0-2.2). Land use for the reach was rural residential and wetland. The average unit gradient was 2.0 percent. Scour pools (42%), riffles (29%) and dammed pools (25%) dominated stream habitat. Sand (39%) and silt (35%) dominated stream substrate. Wood volume was very low at 2.3 m³/100m.

COMMENTS:

There were no potential barriers to upstream fish migration in the surveyed length.

REACH 1

T32S-R15W-S29NE

REACH 1

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	1.3	VWI Range:	1 - 2.2

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary Channel	1,429	2,149	0
Secondary Channel	0	0	0
Off-Channel Units	0	0	0

Channel Dimensions (m)

Wetted	Active	Floodprone	n = 5	First Terrace	n = 1
Width: 1.5	Width: 7.6	8.8	(3 - 15.4)	17.2	(17.2 - 17.2)
Depth: 0.23	Height: 0.5	0.9	(0.6 - 1.2)	0.7	(0.7 - 0.7)

W:D ratio: 19.0

Entrenchment (ACW:FPW ratio): 1.1

Stream Flow Type: LF

Habitat Units/100m (total channel length): 3.4

Average Unit Gradient: 2.0%

Habitat Units/100m (primary channel length): 3.4

Water temperature (°C): 13.5 - 13.5

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	RR	WL
Riparian Vegetation:	D3	M15

Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:		Reach avg: 86%
Undercut Banks:	20%	Range: 25 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	34	2.4
Volume (m ³):	33	2.3
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPT OF FISH AND WILDLIFE

MILL CREEK PRE-TX (5-SC, 348)

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

8/14/2006

REACH 1		T32S-R15W-S29NE					REACH 1					
HABITAT DETAIL												
Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CULVERT CROSSING	3	51	0.6	0.07	44	0	18	25	17	7	0	33
POOL-DAMMED	2	54	10.2	0.95	547	0	83	13	5	0	0	0
POOL-LATERAL SCOUR	7	300	1.9	0.45	845	0	65	27	8	1	0	0
POOL-PLUNGE	3	19	2.7	0.70	66	0	50	28	18	3	0	0
RAPID/BEDROCK	1	20	0.7	0.30	14	0	10	20	10	0	0	60
RAPID/BOULDERS	1	14	0.8	0.20	11	0	60	30	10	0	0	0
RIFFLE	22	928	0.7	0.11	586	0	19	55	23	3	0	0
RIFFLE W/ POCKETS	1	39	0.7	0.30	27	1	10	40	30	15	5	0
STEP/LOG	4	1	0.9	0.06	1	0	35	44	19	1	0	0
STEP/STRUCTURE	4	3	1.9	0.05	7	0	51	13	10	1	0	25
Total:	48	1,429	1.5	0.23	2,149	1	Avg: 35	39	18	3	0	5

HABITAT SUMMARY									
Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders		
					(m ²)	Percent	Number	(# / 100m ²)	
Dammed & BW Pools	2	54	10.2	0.95	547	25.46%	0	0.0	
Scour Pools	10	320	2.2	0.53	911	42.40%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	23	967	0.7	0.12	613	28.52%	1	0.2	
Rapids	2	34	0.8	0.25	25	1.19%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	8	4	1.4	0.06	8	0.38%	0	0.0	
Dry	0	0			0	0.00%	0	0.0	
Culverts	3	51	0.6	0.07	44	2.05%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths	
		<u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	12	8.4	8.4
Pools >=1m deep:	1	0.7	0.7
Complex pools (LWD pieces>=3):	2	1.4	1.4
Pool frequency (channel widths/pool):	15.6		
Residual pool depth (avg):	0.55		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

MILL CREEK PRE-TX
GCG: 5-SC SITE ID: 348

Survey Date 8/14/2006
Report Date: 3/5/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 3 transects

Total hardwoods/1000	203
Total conifers/1000 ft	163
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-30cm	0.7	2.3	1.0	0.3	0.3	0.3	2.0	3.0
30-50cm	0.3	0.0	0.3	0.0	0.0	0.3	0.7	0.3
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.0	2.3	1.3	0.3	0.3	0.7	0.9	1.1

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	93	93	57
Shrub cover	70	73	63
Grass/forb cover	30	27	37

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	83	100	50
High terrace	0	0	50
Low terrace	17	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	21	30	17

Summary of Riparian Zone (0-30m) for all reaches

3 transects

Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream

Total hardwoods/1000	203
Total conifers/1000 ft	163
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-m wide band

Diameter class (cm)	Zones 1-3	
	<u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	0.0	0.0
15-30cm	2.0	3.0
30-50cm	0.7	0.3
50-90cm	0.0	0.0
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
11	LF	3	HT	5	100	100	0	Conifer							
								Hardwood							
11	RT	3	HT	0	0	0	100	Conifer		1					
								Hardwood							
11	RT	1	HS	30	100	20	80	Conifer			2				
								Hardwood			1				
11	LF	2	HS	25	100	100	0	Conifer			1				
								Hardwood			1				
11	LF	1	LT	0	100	80	20	Conifer							
								Hardwood			3				
11	RT	2	HS	50	100	20	80	Conifer			1	1			
								Hardwood							
24	LF	3	HT	0	0	0	100	Conifer							
								Hardwood							
24	RT	3	HS	15	40	100	0	Conifer							
								Hardwood							
24	RT	1	HS	10	60	100	0	Conifer					1		
								Hardwood							
24	LF	2	HS	25	100	20	80	Conifer							
								Hardwood							
24	LF	1	HS	25	100	20	80	Conifer							
								Hardwood							
24	RT	2	HS	10	60	100	0	Conifer							
								Hardwood							
34	LF	1	HS	30	100	100	0	Conifer							
								Hardwood			3				
34	LF	2	HS	30	100	100	0	Conifer					1		
								Hardwood							
34	LF	3	HS	40	100	100	0	Conifer							
								Hardwood							
34	RT	1	HS	30	100	100	0	Conifer				1	1		
								Hardwood							
34	RT	2	HS	40	100	100	0	Conifer							
								Hardwood							
34	RT	3	HS	40	100	80	20	Conifer							
								Hardwood							

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **5-SC** SITE ID: **348** MILL CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	00	66.3		T=13.5C AT 900AM	
3	LP	00	100.4		AMPHIBIAN -FRG?	
6	SS	00	127.95		H=0.25M	METAL CC, CEMENT BOTT
7	CC	00	145.95	CC		DIAM=1.2M, SILVER BUTT
9	LP	00	269.45			LARGE MARSH AREA
12	SL	00	335.15	DJ	H=0.50M	DJ=BRANCHES ONLY
13	LP	00	376.75			TROUT FRY
15	SL	00	423.05	DJ	H=0.60M	
17	RI	00	516.75	FC		
18	SL	00	516.8		H=0.50M	MOSTLY MUD
21	PP	00	560.1	FC		
22	SS	00	560.6		H=0.40M	ROUND CULVERT
23	CC	00	563.6	CC		METAL BOT, DIAM=0.9M, R
25	RI	00	625.4		AMPHIBIAN=FROG	
26	PP	00	627.2			EARTH DAM/SAND BAGS
27	SS	00	628.2		H=0.60M	
28	RI	00	678.2			TROUT FRY
30	RR	00	748.6			HARDPAN=BEDROCK
32	RI	00	817	CC		HWY 101, FLAT BTM, NO D
33	CC	00	847	CC		WIDTH=1.8M, H=1.1M
35	SL	00	885.6		H=0.90M	

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 5-SC SITE ID: 348 MILL CREEK PRE-TX

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
36	RI	00	913.9	CS/CS		CUT LOGS BURIED IN CH
37	SS	00	915.1	CS/CS	H=0.40M	LOGS FORM STEP
38	RB	00	929.1	CS/CS		LOGS FORM RAPID



Name: SIXES
 Date: 5/25/2006
 Scale: 1 inch equals 2000 feet

Location: 10 378165 E 4736444 N
 Caption: MILL CREEK RESTORATION SITE - OCEAN BASIN