

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

STREAM: Pebble Creek (N-259)
BASIN: Nehalem River
SURVEY TYPE: Reference
DATE: July 19, 2004
SURVEY CREW: Scott Young, Ben Walczak
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 55.5 km²
USGS MAPS: Vernonia
ECOREGION: Coast Range Astoria Willapa

GENERAL DESCRIPTION:

The Pebble Creek habitat survey extended 609 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 8.2 (range: 7.0-10.0). Land use for the reach was timber harvest and second growth (15-30 cm dbh) trees. The average unit gradient was 0.5 percent. Scour pools (73%) dominated stream habitat. Sand (57%), gravel (19%) and fines (18%) dominated stream substrate. Wood volume was low at 12.5 m³/100m.

COMMENTS:

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

The crew noted beaver activity during the survey.

REACH 1

T04N-R04W-S21NW

REACH 1

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

<u>Narrow Valley Floor</u>		<u>Broad Valley Floor</u>	
Steep V-shape	0%	Constraining Terraces	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	8.2	VWI Range:	7 - 10

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary	609	2,753	0
Secondary	10	5	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 4.4	Width: 8.0	9.7 (6.7 - 13)	13.1 (9.2 - 15.5)
Depth: 0.65	Height: 0.8	1.6 (1.6 - 1.6)	3.3 (2.2 - 4)

W:D ratio: 10.0

Entrenchment (ACW:FPW ratio): 1.2

Stream Flow Type: MF

Habitat Units/100m (total channel length): 3.2

Average Unit Gradient: 0.5%

Habitat Units/100m (primary channel length): 3.3

Water temperature (°C): 16.0 - 16.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	ST
Riparian Vegetation:	D30	G

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	6%	Reach avg: 86%
Undercut Banks:	4%	Range: 78 - 94

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	130	21.3
Volume (m ³):	76	12.5
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPARTMENT OF FISH AND WILDLIFE

PEBBLE CREEK REFERENCE (MC-259)

HABITAT INVENTORY

Report Date: 10/27/2004

Survey Date:

7/19/2004

REACH 1

T04N-R04W-S21NW

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	1	27	5.0	0.25	133	0	15	60	25	0	0	0
POOL-BEAVER DAM	1	36	4.0	0.70	144	0	20	65	10	0	0	5
POOL-DAMMED	1	31	8.0	1.20	244	0	20	60	20	0	0	0
POOL-LATERAL SCOUR	9	438	4.5	1.03	1,942	0	20	61	12	0	0	7
POOL-PLUNGE	1	25	3.2	0.80	80	0	20	70	10	0	0	0
RAPID/BOULDERS	1	10	0.5	0.01	5	0	5	5	40	0	0	50
RIFFLE	3	41	3.6	0.17	139	0	18	60	22	0	0	0
STEP/BEAVER DAM	1	2	6.0	0.05	12	0	20	70	10	0	0	0
STEP/COBBLE	1	7	8.0	0.10	55	0	10	40	50	0	0	0
STEP/LOG	1	3	1.2	0.05	4	0	15	50	35	0	0	0
Total:	20	619	4.4	0.65	2,758	0	Avg: 18	57	19	0	0	6

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	67	6.0	0.95	388	14.07%	0	0.0
Scour Pools	10	463	4.4	1.01	2,022	73.33%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	3	41	3.6	0.17	139	5.05%	0	0.0
Rapids	1	10	0.5	0.01	5	0.18%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	3	12	5.1	0.07	71	2.57%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	1	27	5.0	0.25	133	4.80%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	Total	# / Km	# / Km
All Pools:	12	19.4	19.7
Pools >=1m deep:	6	9.7	9.9
Complex pools (LWD pieces>=3):	10	16.2	16.4
Pool frequency (channel widths/pool):	6.4		
Residual pool depth (avg):	0.83		

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

REACH 1

Summary of Riparian Zone (0-30m)

3 transects

Total hardwoods/1000	528
Total conifers/1000 ft	203
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	0.0	2.3	0.3	1.7	0.0	0.3	0.3	4.3
30-50cm	0.0	2.3	1.7	1.7	1.3	0.3	3.0	4.3
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	0.0	4.7	2.0	3.3	1.3	0.7	1.1	2.9

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	75		73		64	
Shrub cover	22		14		16	
Grass/forb cover	78		86		84	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		17		67	
High terrace	100		83		33	
Low terrace	0		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 (%)	0		10		13	

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

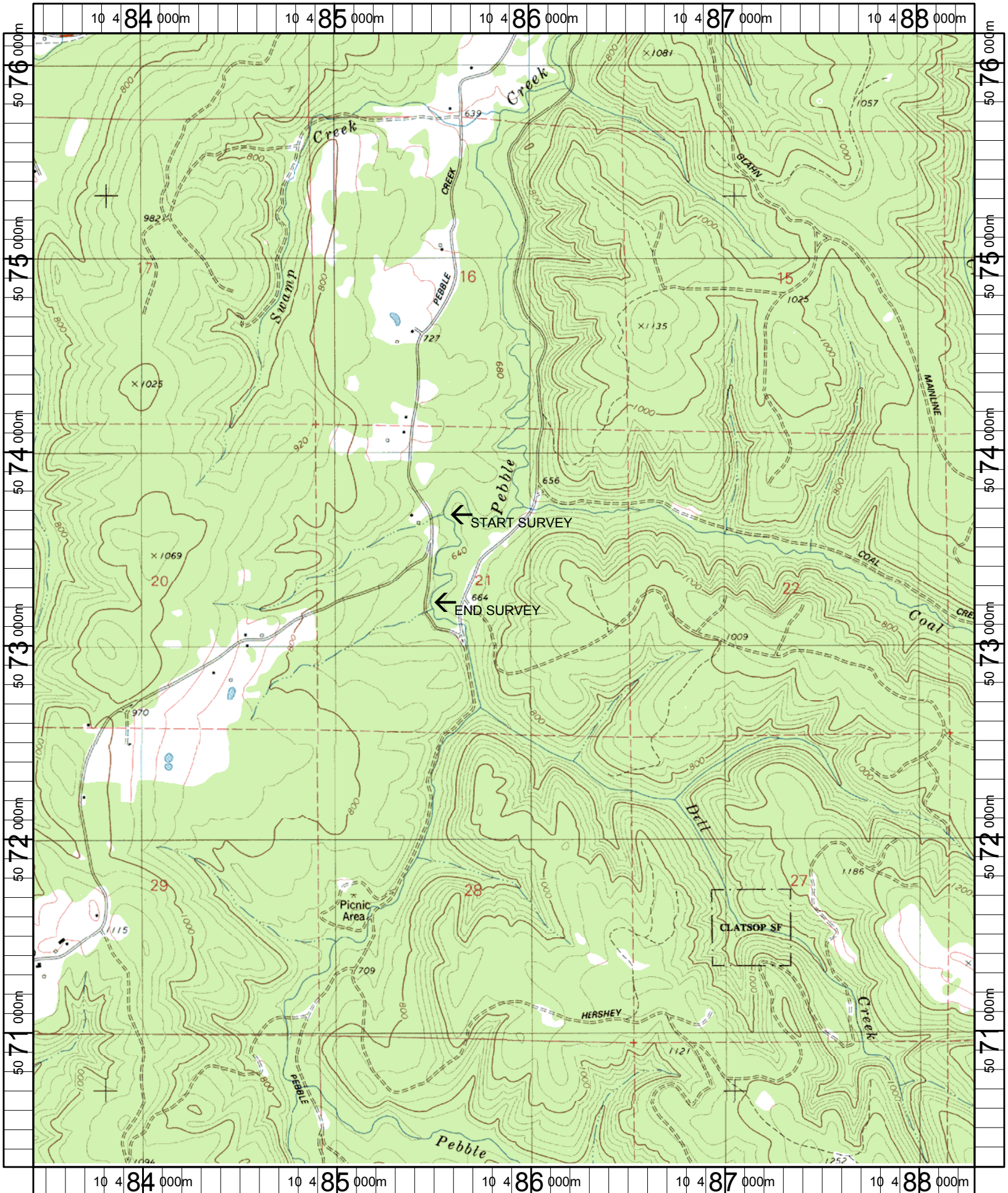
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
5	LF	2	HT	0	85	20	80	Conifer							
								Hardwood		3	2				
5	LF	1	HT	0	80	30	70	Conifer							POOR COVERAGE
								Hardwood		2					
5	LF	3	HT	0	85	20	80	Conifer							
								Hardwood		1	1				
5	RT	2	HT	0	80	5	95	Conifer					2		
								Hardwood							
5	RT	3	HS	10	80	10	90	Conifer				1			
								Hardwood							
5	RT	1	HT	0	80	5	95	Conifer							
								Hardwood		2	2				
9	LF	3	HS	20	10	20	80	Conifer							CLEARCUT
								Hardwood							
9	RT	3	HT	0	80	5	95	Conifer					2		
								Hardwood							
9	RT	1	HT	0	80	20	80	Conifer							
								Hardwood				2			
9	LF	2	HS	35	50	10	90	Conifer							
								Hardwood		1	1				
9	LF	1	HT	0	80	10	90	Conifer							10T 0485664 5073402
								Hardwood				1			
9	RT	2	HT	0	70	20	80	Conifer			1	1			
								Hardwood							
14	RT	3	HS	25	80	10	90	Conifer				1			
								Hardwood							
14	LF	1	HT	0	70	25	75	Conifer							POOR COVERAGE
								Hardwood			3	2			
14	LF	2	HT	25	75	20	80	Conifer							
								Hardwood			1	2			
14	LF	3	HS	20	50	30	70	Conifer							CLEAR CUT
								Hardwood							
14	RT	1	HT	0	60	40	60	Conifer							
								Hardwood							
14	RT	2	HT	0	80	10	90	Conifer					2		
								Hardwood							

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: **1-NC** SITE ID: **259** **PEBBLE CREEK REFERENCE (MC-2)**

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
1	LP	01	74.4	TJ/	TEMP=16 DEG C	10T 0485575 5073717 TEMP=
3	SL	00	77.4	BV	H=.4	BV STICKS ON TOP OF LOG
4	DP	00	107.9	BV, WL		STICKS
5	LP	00	160.9			RIP T 1
7	LP	00	244.1	WL, BV		STICKS
8	CC	00	270.6	CC		
9	LP	00	338.6	BV		STICKS & SLIDES RIP 2
11	LP	00	378.2	DJ		
12	SC	00	385.1		H=.5	
14	LP	00	472.1	BV		RIP T 3, SLIDES
16	LP	00	525.1	BV		STICKS & SLIDES
18	PP	00	570.9			PHOTO
19	SD	00	572.9	BV, BD	H=.8	
20	BP	00	608.9	BV		10T 0485465 5073478



Name: VERNONIA
 Date: 11/1/2004
 Scale: 1 inch equals 2000 feet

Location: 10 485866 E 5073232 N
 Caption: PEBBLE CREEK REFERENCE SITE - NEHALEM BASIN