

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

STREAM: Pebble Creek (N-257)  
BASIN: Nehalem River  
SURVEY TYPE: Pre-Tx  
DATE: July 12, 2004  
SURVEY CREW: Scott Young, Ben Walczak  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 55.5 km<sup>2</sup>  
USGS MAPS: Vernonia  
ECOREGION: Coast Range Astoria Willapa

**GENERAL DESCRIPTION:**

The Pebble Creek habitat survey extended 1,233 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 8.3 (range: 5.0-10.0). 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 (53%) and riffles (29%) dominated stream habitat. Sand (50%), fines (23%) and gravel (22%) dominated stream substrate. Wood volume was low at 13.3 m<sup>3</sup>/100m.

**COMMENTS:**

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

REACH 1

T04N-R04W-S16SE

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	8.3	VWI Range:	5 - 10

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary	1,233	5,538	0
Secondary	20	20	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 8	<u>First Terrace</u> n = 8
Width: 4.5	Width: 10.2	12.4 ( 8 - 18.1 )	17.2 ( 9.5 - 32 )
Depth: 0.53	Height: 0.8	1.6 ( 1.4 - 1.7 )	4.0 ( 1.5 - 12.5 )

W:D ratio: 12.9  
Stream Flow Type: MF  
Average Unit Gradient: 0.5%  
Water temperature (°C): 12.0 - 12.0

Entrenchment (ACW:FPW ratio): 1.2  
Habitat Units/100m (total channel length): 3.8  
Habitat Units/100m (primary channel length): 3.9

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	ST
Riparian Vegetation:	D30	C15

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	8%	Reach avg: 82%
Undercut Banks:	4%	Range: 44 - 94

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	209	17.0
Volume (m <sup>3</sup> ):	164	13.3
Key pieces (>=12m x 0.60m):	2	0.2

OREGON DEPARTMENT OF FISH AND WILDLIFE

PEBBLE CREEK PRE-TX (N-257)

HABITAT INVENTORY

Report Date: 10/27/2004

Survey Date:

7/12/2004

REACH 1

T04N-R04W-S16SE

REACH 1

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
GLIDE	5	107	6.9	0.39	715	0	23	39	17	0	0	22
POOL-BACKWATER	1	5	2.0	0.50	9	10	29	57	10	0	0	5
POOL-DAMMED	1	17	7.0	1.30	119	0	30	50	10	0	0	10
POOL-LATERAL SCOUR	19	634	4.6	0.91	2,975	0	24	51	20	0	0	5
RIFFLE	21	481	3.5	0.20	1,634	0	21	51	26	0	0	1
STEP/LOG	1	9	12.0	0.25	106	0	25	45	30	0	0	0
<b>Total:</b>	<b>48</b>	<b>1,252</b>	<b>4.5</b>	<b>0.53</b>	<b>5,558</b>	<b>10</b>	<b>Avg: 23</b>	<b>50</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>5</b>

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )
Dammed & BW Pools	2	22	4.5	0.90	128	2.30%	10	7.8
Scour Pools	19	634	4.6	0.91	2,975	53.53%	0	0.0
Glides	5	107	6.9	0.39	715	12.86%	0	0.0
Riffles	21	481	3.5	0.20	1,634	29.40%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	1	9	12.0	0.25	106	1.90%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	21	16.8	17.0
Pools >=1m deep:	10	8.0	8.1
Complex pools (LWD pieces>=3):	15	12.0	12.2
Pool frequency (channel widths/pool):	5.9		
Residual pool depth (avg):	0.82		

**RIPARIAN ZONE VEGETATION SUMMARY**

REACH 1

REACH 1

**Summary of Riparian Zone (0-30m) 4 transects**

Total hardwoods/1000	351
Total conifers/1000 ft	213
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	0.5	0.0	0.0	0.0	0.5
15-30cm	0.0	1.3	0.8	0.0	1.3	0.5	2.0	1.8
30-50cm	0.3	3.0	1.0	0.0	0.3	0.5	1.5	3.5
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	0.3	4.3	1.8	0.5	1.5	1.0	1.2	1.9

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	74		73		63	
Shrub cover	34		28		25	
Grass/forb cover	63		72		73	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	13		38		38	
High terrace	88		63		50	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		13	
Riprap	0		0		0	
Surface slope (%)	9		7		8	

**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		
4	RT	1	HT	0	60	30	70	Conifer							
								Hardwood							
4	LF	1	HT	0	70	35	65	Conifer						10T 0485788	
								Hardwood		1	3			5074187 2D	
4	LF	2	HS	10	70	20	80	Conifer							
								Hardwood	2						
4	RT	2	HT	0	60	20	80	Conifer				2			
								Hardwood							
4	LF	3	HS	10	70	20	80	Conifer							
								Hardwood		1					
4	RT	3	HS	25	10	10	70	Conifer						RECENT	
								Hardwood						CLEARCUT	
11	LF	1	HS	70	80	10	80	Conifer						10T 0485893	
								Hardwood		1				5074208	
11	LF	3	HS	30	60	10	90	Conifer						ON RD FILL,	
								Hardwood		1	2			NOT RD	
11	RT	1	HT	0	80	50	50	Conifer						ITSELF	
								Hardwood			2				
11	RT	2	HT	0	85	60	40	Conifer							
								Hardwood							
11	RT	3	HT	0	80	50	50	Conifer			2				
								Hardwood							
11	LF	2	HS	30	80	15	85	Conifer							
								Hardwood							
17	LF	1	HT	0	80	10	80	Conifer						10T 0485878	
								Hardwood			3			5074110	
17	LF	2	HT	0	85	10	90	Conifer			3				
								Hardwood							
17	LF	3	HT	0	85	10	90	Conifer			3				
								Hardwood							
17	RT	1	HT	0	65	30	70	Conifer				1			
								Hardwood			1	2			
17	RT	2	HT	0	70	10	90	Conifer					1		
								Hardwood							
17	RT	3	HT	0	80	10	90	Conifer					1		
								Hardwood							
32	RT	1	HT	0	80	60	40	Conifer							
								Hardwood				1			

32	RT	2	HT	0	60	40	60	Conifer		1
								Hardwood		
32	LF	3	RB	0	60	60	40	Conifer		
								Hardwood		
32	LF	1	HT	0	80	50	50	Conifer		
								Hardwood	2	1
32	LF	2	HS	15	70	50	50	Conifer		
								Hardwood		
32	RT	3	HT	0	60	30	70	Conifer		
								Hardwood		

# Comment Summary

## Oregon Plan Monitoring Sites 2002

**MONITORING AREA: 1-NC      SITE ID: 257      PEBBLE CREEK PRE-TX (N-257)**

<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	RI	00	15.1	WL	10T 0485820 5024291 TEM	
2	LP	00	65.1			BDRK= HARDPAN
3	LP	00	115.1	BV		COHO FRY
4	GL	00	137.1			RIP T 1
9	LP	00	251.4	WL		
10	SL	00	260.2	DJ, LS/	H=.2	
11	DP	00	277.2	LS/		RIP T 2
13	LP	00	327.6			COHO FRY
17	RI	00	430.6			RIP T 3
19	RI	00	464.6	WL		
21	GL	00	520			NICE TROUT
22	RI	00	548	WL		
23	RI	00	578		FROM UNIT 17	
24	LP	00	610			10IN TROUT, COHO
25	RI	00	641			10T 0485850 5073943
28	LP	01	694.1	TJ/	TJ TEMP=17 DEG C	10T 0485993 5073738
29	RI	11	694.1			START 2546 HAB COAL CR
30	RI	00	721.1			END PEBBLE CREEK 26123
31	RI	00	741.6	WL		GAME TRAIL
32	LP	00	791.6	BV		COHO FRY, STICKS RIP T 4
33	LP	00	808.8	SS/		

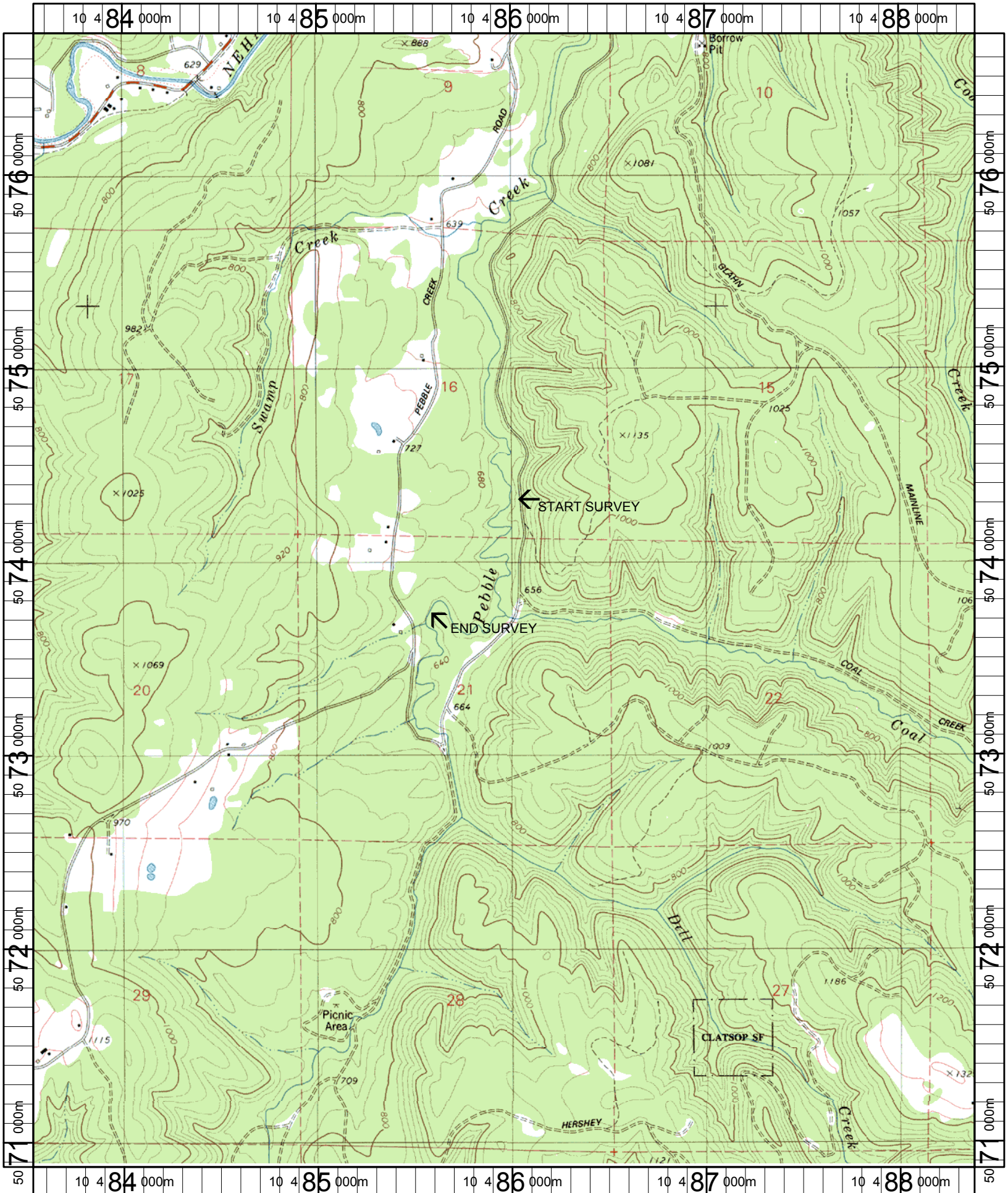
# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: 1-NC SITE ID: 257 PEBBLE CREEK PRE-TX (N-257)

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
35	LP	00	857.8	SS/		
36	RI	00	882.5	WL.		GAME TRAIL
37	LP	00	932.5	DJ		TREES FALLING IN CREEK
38	RI	00	957.5			NEW MEANDER METRICS
39	LP	00	992.5			COHO FRY
46	RI	00	1186.1			HAB SITE 4 0485602 507379
47	RI	00	1206.1	WL		
48	LP	00	1232.7			END 10T 0485746 5074158





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

Location: 10 485962 E 5073800 N  
 Caption: PEBBLE CREEK RESTORATION SITE - NEHALEM BASIN