

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

STREAM: Pebble Creek (N-257)  
BASIN: Nehalem River  
SURVEY TYPE: Post-Tx  
DATE: July 12, 2005  
SURVEY CREW: Ben Walczak, Scott Young  
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 705 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 10.0. Land use for the reach was second growth (15-30 cm dbh) trees and timber harvest. The average unit gradient was 0.6 percent. Scour pools (57%) and riffles (40%) dominated stream habitat. Gravel (54%) and sand (30%) dominated stream substrate. Wood volume was moderate at 21.0 m<sup>3</sup>/100m.

**COMMENTS:**

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

The crew noted several habitat structures during the survey.

REACH 1

T04N-R04W-S21NE

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	10.0	VWI Range:	10 - 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 Channel	705	3,245	0
Secondary Channel	40	120	2
Off-Channel Units	0	0	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: 8.1	9.3 ( 7.7 - 10.5 )	12.6 ( 10 - 14 )
Depth: 0.39	Height: 0.4	0.9 ( 0.8 - 0.9 )	2.0 ( 2 - 2 )

W:D ratio: 18.5

Entrenchment (ACW:FPW ratio): 1.1

Stream Flow Type: MF

Habitat Units/100m (total channel length): 4.0

Average Unit Gradient: 0.6%

Habitat Units/100m (primary channel length): 4.3

Water temperature (°C): -

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	TH
Riparian Vegetation:	C30	

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	7%	Reach avg: 79%
Undercut Banks:	1%	Range: 50 - 89

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	157	22.3
Volume (m <sup>3</sup> ):	148	21.0
Key pieces (>=12m x 0.60m):	3	0.4

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

7/12/2005

REACH 1		T04N-R04W-S21NE					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
DRY CHANNEL	1	10	3.0	0.00	30	0	10	70	20	0	0	0
POOL-LATERAL SCOUR	10	331	5.5	0.89	1,902	0	19	33	47	0	0	2
PUDDLED UNIT	1	30	3.0	0.05	90	0	10	70	20	0	0	0
RIFFLE	17	373	3.6	0.16	1,339	0	11	25	62	0	0	2
STEP/LOG	1	1	9.0	0.10	5	0	10	20	70	0	0	0
<b>Total:</b>	30	745	4.4	0.39	3,365	0	<b>Avg:</b> 14	30	54	0	0	2

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	0	0			0	0.00%	0	0.0	
Scour Pools	10	331	5.5	0.89	1,902	56.52%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	17	373	3.6	0.16	1,339	39.78%	0	0.0	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	1	1	9.0	0.10	5	0.13%	0	0.0	
Dry	2	40	3.0	0.03	120	3.57%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY				
	<u>Total</u>	Total of all Channel Lengths		Primary Channel Length
		<u># / Km</u>		<u># / Km</u>
All Pools:	10	13.4		14.2
Pools >=1m deep:	2	2.7		2.8
Complex pools (LWD pieces>=3):	7	9.4		9.9
Pool frequency (channel widths/pool):	9.1			
Residual pool depth (avg):	0.78			

**OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY**

**PEBBLE CREEK POST-TX  
GCG: 1-NC SITE ID: 257**

**Survey Date 7/12/2005  
Report Date: 4/26/2006**

**RIPARIAN ZONE  
VEGETATION SUMMARY**

**REACH 1**

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

Total hardwoods/1000	142
Total conifers/1000 ft	244
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	0.7	0.0	0.0	0.0	0.7
15-30cm	0.3	0.0	1.0	0.0	0.0	0.3	1.3	0.3
30-50cm	0.7	1.0	1.3	0.0	0.7	0.3	2.7	1.3
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	1.0	2.3	0.7	0.7	0.7	1.3	0.8

**Canopy closure and ground cover**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	76	76	74
Shrub cover	9	10	10
Grass/forb cover	90	90	90

**Predominant landform in each zone**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	17	17	17
High terrace	83	83	83
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 (%)	7	5	5

**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	142
Total conifers/1000 ft	244
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	0.7
15-30cm	1.3	0.3
30-50cm	2.7	1.3
50-90cm	0.0	0.0
>90cm	0.0	0.0

**RIPARIAN ZONE VEGETATION**

Reach 1

Reach 1

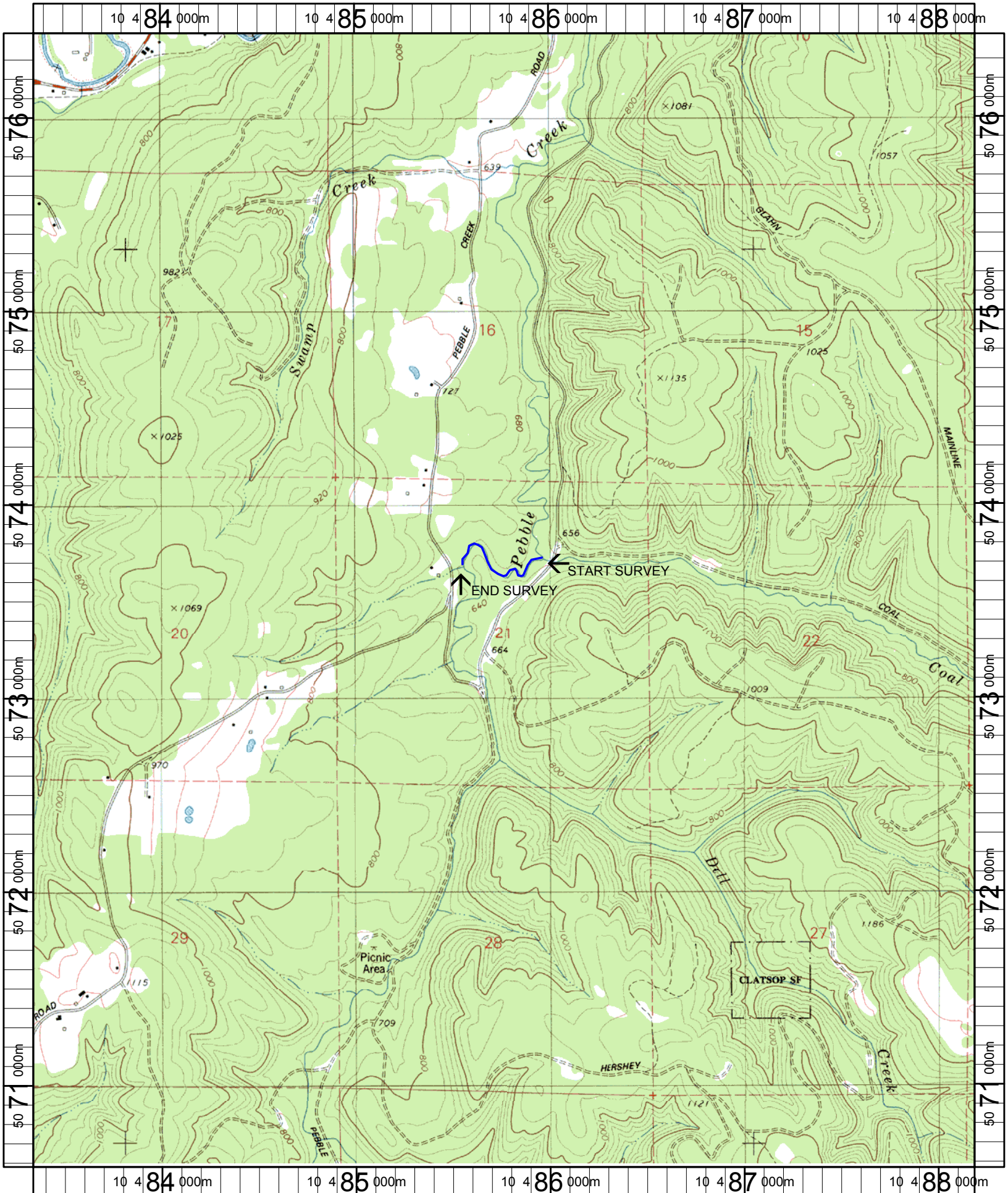
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
6	LF	3	HS	30	75	20	80	Conifer							
								Hardwood							
6	LF	2	HS	30	75	20	80	Conifer							
								Hardwood							
6	RT	1	HT	0	75	5	95	Conifer							TERRACE CLEARED DUE TO
								Hardwood							
6	RT	3	HT	0	75	5	95	Conifer							
								Hardwood							
6	LF	1	HS	40	75	20	80	Conifer							3D 0485855/50736
								Hardwood			1				25
6	RT	2	HT	0	75	5	95	Conifer		3					WHERE HAB LOGS WERE PLACE
								Hardwood							
11	RT	3	HT	0	70	10	90	Conifer				1			
								Hardwood							
11	RT	2	HT	0	70	10	90	Conifer				1			
								Hardwood							
11	LF	3	HT	0	70	10	90	Conifer							
								Hardwood		1	1				
11	LF	2	HT	0	75	10	90	Conifer							
								Hardwood	2						
11	LF	1	HT	0	70	10	90	Conifer							3D 0485801/50736
								Hardwood							08
11	RT	1	HT	0	70	5	95	Conifer				2			
								Hardwood							
17	LF	2	HT	0	85	5	95	Conifer				2			
								Hardwood							
17	RT	3	HT	0	70	10	90	Conifer				1			AT EDGE OF CLEARCUT
								Hardwood							
17	LF	3	HT	0	85	5	95	Conifer							
								Hardwood							
17	RT	2	HT	0	75	10	90	Conifer				1			
								Hardwood							
17	RT	1	HT	0	80	15	85	Conifer							
								Hardwood				2			
17	LF	1	HT	0	85	0	95	Conifer			1				2D 0485715/50736
								Hardwood							79

# Comment Summary

## Restoration Monitoring Sites 2005

MONITORING AREA: 1-NC      SITE ID: 257      PEBBLE CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	20			START UPSTREAM OF COAL
4	SL	00	61.5		H=0.3M	
5	LP	00	111.5	HS SS/		
6	LP	00	151.5	HS SS/		RIPARIAN 1
8	LP	00	219.5	DJ, /ES		PHOTO 14
11	LP	00	296.5	HS		RIPARIAN 2
13	LP	00	341.5	HS WL		PHOTO 13
17	RI	00	440.5			RIPARIAN 3
19	RI	00	465.5	HS		
20	LP	00	479.5	HS		
24	LP	01	599.5	DJ		
25	PD	02	599.5	DJ		
30	RI	00	704.5			END BELOW /TJ AT START N



Name: VERNONIA  
 Date: 1/6/2005  
 Scale: 1 inch equals 2000 feet

Location: 10 485766 E 5073505 N  
 Caption: PEBBLE CREEK RESTORATION SITE - NEHALEM BASIN