

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 12, 2005
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 567 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 0.5 percent. Scour pools (81%) dominated stream habitat. Gravel (50%) and sand (30%) dominated stream substrate. Wood volume was very low at 7.3 m³/100m.

COMMENTS:

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

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	567	2,954	0
Secondary Channel	0	0	0
Off-Channel Units	10	3	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 5.2	Width: 7.0	7.8 (6.9 - 9.5)	11.0 (10 - 12)
Depth: 0.63	Height: 0.4	0.8 (0.7 - 0.9)	2.0 (2 - 2)

W:D ratio: 17.6

Entrenchment (ACW:FPW ratio): 1.1

Stream Flow Type: MF

Habitat Units/100m (total channel length): 4.5

Average Unit Gradient: 0.5%

Habitat Units/100m (primary channel length): 4.6

Water temperature (°C): -

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	TH
Riparian Vegetation:	M30	

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	1%	Reach avg: 77%
Undercut Banks:	2%	Range: 64 - 89

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	92	16.2
Volume (m ³):	41	7.3
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPT OF FISH AND WILDLIFE

PEBBLE CREEK REFERENCE (1-NC, 259)

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 ²)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
GLIDE	1	19	5.5	0.25	105	0	15	30	55	0	0	0
POOL-BEAVER DAM	1	22	5.0	1.00	110	0	20	30	50	0	0	0
POOL-LATERAL SCOUR	12	422	5.3	1.07	2,289	0	20	37	39	0	0	5
POOL-PLUNGE	1	24	5.0	0.90	120	0	25	25	50	0	0	0
RAPID/BOULDERS	1	10	0.3	0.05	3	0	0	10	40	30	0	20
RIFFLE	4	70	3.9	0.19	277	0	10	23	68	0	0	0
STEP/BEAVER DAM	1	1	6.5	0.10	7	0	25	25	50	0	0	0
STEP/COBBLE	4	8	5.5	0.14	43	0	10	23	68	0	0	0
STEP/LOG	1	1	11.0	0.10	6	0	10	30	60	0	0	0
Total:	26	577	5.2	0.63	2,957	0	Avg: 16	30	50	1	0	3

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	1	22	5.0	1.00	110	3.72%	0	0.0	
Scour Pools	13	446	5.3	1.05	2,409	81.45%	0	0.0	
Glides	1	19	5.5	0.25	105	3.53%	0	0.0	
Riffles	4	70	3.9	0.19	277	9.35%	0	0.0	
Rapids	1	10	0.3	0.05	3	0.10%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	6	10	6.6	0.13	55	1.84%	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:	14	24.3	24.7
Pools >=1m deep:	9	15.6	15.9
Complex pools (LWD pieces>=3):	9	15.6	15.9
Pool frequency (channel widths/pool):	5.9		
Residual pool depth (avg):	0.95		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

PEBBLE CREEK REFERENCE
GCG: 1-NC SITE ID: 259

Survey Date 7/12/2005

RIPARIAN ZONE

Report Date: 4/26/2006

VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	244
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		Zone 2		Zone 3		Zones 1-3	
	0-10 meters		10 - 20 meters		20 - 30 meters		0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	0.7	0.0	0.0	0.0	0.3	0.0	1.0
15-30cm	0.3	0.3	0.0	0.0	0.3	0.0	0.7	0.3
30-50cm	0.0	2.0	1.3	0.7	0.7	0.0	2.0	2.7
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	3.0	1.3	0.7	1.0	0.3	0.9	1.3

Canopy closure and ground cover

	Zone 1		Zone 2		Zone 3	
	0-10 meters		10 - 20 meters		20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	68		69		67	
Shrub cover	20		18		20	
Grass/forb cover	80		82		80	

Predominant landform in each zone

	Zone 1		Zone 2		Zone 3	
	0-10 meters		10 - 20 meters		20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	17		17		33	
High terrace	83		83		67	
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 (%)	2		2		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	244
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	1.0
15-30cm	0.7	0.3
30-50cm	2.0	2.7
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	
5	RT	2	HT	0	60	20	80				2			
5	RT	3	HT	0	50	30	70							
5	RT	1	HT	0	70	10	90							
5	LF	3	HT	0	75	10	90							
5	LF	2	HT	0	75	10	90							
5	LF	1	HT	0	75	10	90							
10	LF	2	HT	0	75	20	80							
10	LF	3	HS	15	75	20	80							
10	RT	1	HT	0	70	30	70							
10	RT	2	HT	0	75	20	80							
10	RT	3	HT	0	75	20	80							
10	LF	1	HT	0	75	20	80							
18	LF	1	HT	0	60	30	70							
18	RT	2	HS	10	75	10	90							
18	LF	3	HT	0	55	30	70							
18	RT	3	HS	15	70	10	90							
18	RT	1	HS	10	60	20	80							
18	LF	2	HT	0	55	30	70							

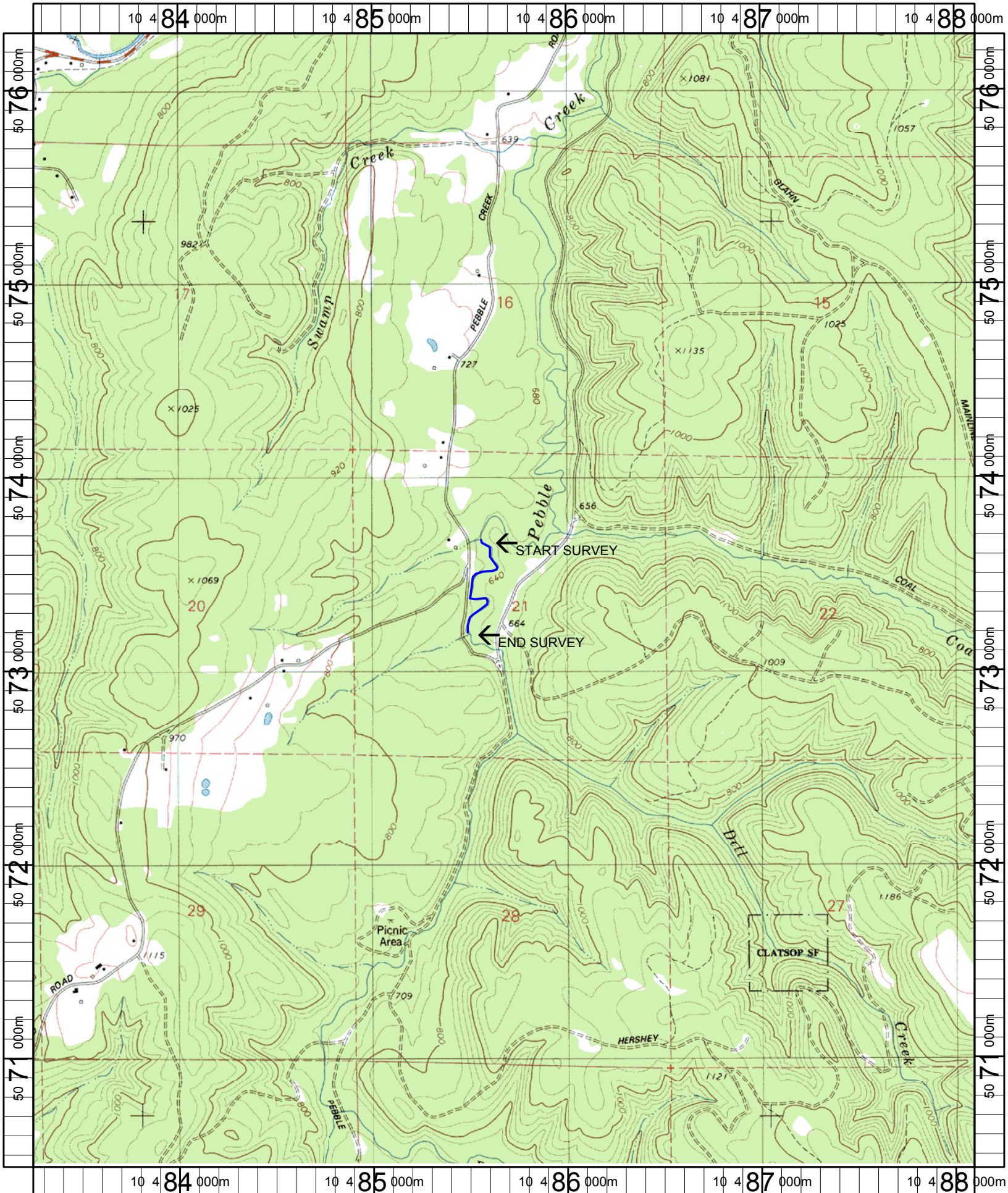
ALMOST AT
PEBBLE
CREEK ROAD

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: 1-NC SITE ID: 259 PEBBLE CREEK REFERENCE

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	01	74	/TJ		START AT END OF NC-257
2	RB	11	74		ACW 0.35M	
3	SL	00	74.5		H=0.35M	
5	GL	00	123.5			RIPARIAN 1, PHOTO
10	LP	00	241.5	WL		RIPARIAN 2
12	LP	00	310.5	WL		
16	LP	00	360.5	DJ		
18	LP	00	413.5			RIPARIAN 3
21	LP	00	475.5	BV		STICKS AND SLIDE
25	SD	00	544.5	BD, BV	H=1.0M	
26	BP	00	566.5	BV		END AT SIGN



Name: VERNONIA
 Date: 6/9/2005
 Scale: 1 inch equals 2000 feet

Location: 10 485675 E 5073364 N
 Caption: PEBBLE CREEK REFERENCE RESTORATION SITE - NEHALEM BASIN