

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

STREAM: Battle Creek (N-209)  
BASIN: Nehalem River  
SURVEY TYPE: Post-Tx  
DATE: August 27, 2004  
SURVEY CREW: Scott Young, Ben Walczak  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 16.8 km<sup>2</sup>  
USGS MAPS: Pittsburg  
ECOREGION: Coast Range Astoria Willapa

**GENERAL DESCRIPTION:**

The Battle Creek habitat survey extended 591 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 10.0. Land uses for the reach were timber harvest and second growth (15-30 cm dbh) trees. The average unit gradient was 2.1 percent. Riffles (52%) and scour pools (40%) dominated stream habitat. Gravel (46%) and sand (27%) dominated stream substrate. Wood volume was moderate at 22.5 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

T06W-R04W-S20SE

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	591	1,468	0
Secondary	37	42	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 2.9	Width: 5.5	6.4 ( 3.9 - 8.3 )	8.4 ( 4.2 - 13.1 )
Depth: 0.26	Height: 0.4	0.8 ( 0.7 - 0.8 )	1.1 ( 0.9 - 1.5 )

W:D ratio: 14.1

Stream Flow Type: MF

Average Unit Gradient: 2.1%

Water temperature (°C): -

Entrenchment (ACW:FPW ratio): 1.2

Habitat Units/100m (total channel length): 8.8

Habitat Units/100m (primary channel length): 9.3

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	ST
Riparian Vegetation:	D15	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	3%	Reach avg: 93%
Undercut Banks:	3%	Range: 69 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	151	25.6
Volume (m <sup>3</sup> ):	133	22.5
Key pieces (>=12m x 0.60m):	10	1.7

OREGON DEPARTMENT OF FISH AND WILDLIFE

BATTLE CREEK POST-TX (N-209)

HABITAT INVENTORY

Report Date: 10/27/2004

Survey Date:

8/27/2004

REACH 1		T06W-R04W-S20SE					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	
CULVERT CROSSING	1	13	2.0	0.15	25	0	0	11	61	28	0	0	
POOL-BACKWATER	2	6	1.1	0.23	7	0	31	36	23	10	0	0	
POOL-LATERAL SCOUR	19	189	2.8	0.46	542	0	31	33	29	5	0	1	
POOL-PLUNGE	2	9	6.1	0.43	58	0	20	36	36	3	0	5	
RAPID/BOULDERS	1	25	2.0	0.10	50	0	5	15	50	30	0	0	
RIFFLE	23	377	2.0	0.14	788	0	6	24	55	14	0	1	
STEP/COBBLE	3	6	4.2	0.10	27	0	2	27	56	15	0	0	
STEP/STRUCTURE	4	2	6.9	0.10	14	0	0	20	76	4	0	0	
<b>Total:</b>	55	627	2.9	0.26	1,510	0	<b>Avg:</b> 15	27	46	11	0	1	

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	6	1.1	0.23	7	0.45%	0	0.0	
Scour Pools	21	199	3.1	0.45	600	39.73%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	23	377	2.0	0.14	788	52.18%	0	0.0	
Rapids	1	25	2.0	0.10	50	3.32%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	7	8	5.7	0.10	40	2.67%	0	0.0	
Dry	0	0			0	0.00%	0	0.0	
Culverts	1	13	2.0	0.15	25	1.66%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	23	36.7	38.9
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	14	22.3	23.7
Pool frequency (channel widths/pool):	5.0		
Residual pool depth (avg):	0.35		

**RIPARIAN ZONE VEGETATION SUMMARY**

REACH 1

REACH 1

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

3 transects

Total hardwoods/1000	508
Total conifers/1000 ft	41
Total conifers >20" dbh/1000 ft	20
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	0.7	0.0	0.7
15-30cm	0.0	0.7	0.0	0.0	0.0	0.3	0.0	1.0
30-50cm	0.0	2.0	0.3	2.0	0.0	2.7	0.3	6.7
50-90cm	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	2.7	0.3	2.0	0.3	3.7	0.2	2.8

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	64		64		73	
Shrub cover	27		33		38	
Grass/forb cover	73		59		63	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		0		0	
High terrace	100		100		100	
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		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	1	HT	0	70	25	75	Conifer							
								Hardwood		1	2				
11	LF	2	HT	0	70	30	20	Conifer							
								Hardwood			2				
11	LF	3	HT	0	70	40	60	Conifer							
								Hardwood			1				
11	RT	1	HT	0	70	50	50	Conifer							
								Hardwood			2				
11	RT	2	HT	0	70	50	50	Conifer							
								Hardwood			2				
11	RT	3	HT	0	65	40	60	Conifer							
								Hardwood		1	1				
22	RT	2	HT	0	70	35	65	Conifer							
								Hardwood			1				
22	RT	3	HT	0	70	40	60	Conifer							
								Hardwood			1				
22	RT	1	HT	0	70	35	65	Conifer							
								Hardwood			2				
22	LF	3	HT	0	70	25	75	Conifer							
								Hardwood			3				
22	LF	2	HT	0	20	25	75	Conifer							
								Hardwood							
22	LF	1	HT	0	20	10	90	Conifer							
								Hardwood							
33	RT	2	HT	0	75	50	50	Conifer				1			
								Hardwood				1			
33	LF	1	HT	0	80	10	90	Conifer							
								Hardwood							
33	RT	3	HT	0	80	50	50	Conifer					1		
								Hardwood				1			
33	RT	1	HT	0	75	30	70	Conifer							
								Hardwood		1					
33	LF	3	HT	0	80	30	70	Conifer							
								Hardwood	2			1			
33	LF	2	HT	0	80	5	95	Conifer							
								Hardwood							

# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: **1-NC**      SITE ID: **209**      **BATTLE CREEK POST-TX (N-209)**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	01	12.5	/TJ	SPAWNING SURVEY SIG	
10	SC	00	123.35		H = 0.3	
11	LP	00	132.85		10T 0484985, 5092713	
22	LP	00	267.75		10T 0495076, 5092747	
31	SC	00	357.65		H = 0.35	
33	RI	00	391.35		10T 0485178, 5092756	
35	SC	00	401.65		H = 0.25	
41	RI	00	498.85	HS		
42	LP	00	510.85	HS		
43	SS	00	511.35	HS	H = 0.30	
44	LP	00	522.35	HS		
45	SS	00	522.85	HS	H = 0.30	
46	LP	00	531.65	HS		
47	PP	00	536.65	HS		
48	SS	00	537.15	HS	H = 0.30	
49	RI	00	543.15	HS		
50	PP	00	547.45	HS		
51	SS	00	547.95		H = 0.30	
52	RI	00	553.05		PHOTO 34	
53	CC	00	565.55	CC	BEES NEST	
54	RB	01	590.65	/TJ		



Name: PITTSBURG  
 Date: 6/14/2004  
 Scale: 1 inch equals 2000 feet

Location: 10 484931 E 5092449 N  
 Caption: BATTLE CREEK RESTORATION SITE - NEHALEM BASIN