

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: March 19, 2004
SURVEY CREW: Michael Scheu, Carmen Vandyke
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 16.8 km²
USGS MAPS: Pittsburg
ECOREGION: Coast Range Astoria Willapa

GENERAL DESCRIPTION:

The Battle Creek habitat survey extended 600 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 9.6 (range: 8-12). Land use for the reach was timber harvest and second growth (15-30 cm dbh) trees. The average unit gradient was 2.1 percent. Scour pools (467) and riffles (29%) dominated stream habitat. Gravel (54%) and cobble (20%) dominated stream substrate. Wood volume was moderate at 28.8 m³/100m.

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

T05N-R08W-S20NE

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	9.6	VWI Range:	8 - 12

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	600	2,018	0
Secondary	54	72	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 3.1	Width: 4.9	6.6 (4.8 - 8.5)	8.6 (6 - 10)
Depth: 0.33	Height: 0.5	1.0 (0.9 - 1)	1.3 (1.1 - 1.6)

W:D ratio: 10.0

Stream Flow Type: LF

Avg. Unit Gradient: 2.1%

Entrenchment (ACW:FPW ratio): 1.4

Water temp (°C): 7.5 - 7.5

Habitat Units/100m: 10.9

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:		Reach avg:
Undercut Banks:		Range: -

Large Wood Debris

	<u>Total</u>	<u>Total / 100m</u>
All pieces (>=3m x 0.15m):	131	21.8
Volume (m ³):	173	28.8
Key pieces (>=10m x 0.60m):	16	2.7

OREGON DEPARTMENT OF FISH AND WILDLIFE

BATTLE CREEK POST-TX (N-209)

HABITAT INVENTORY

Report Date: 6/16/2004

Survey Date:

3/19/2004

REACH 1

T05N-R08W-S20NE

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	17	1.2	0.20	20	0	27	27	27	18	0	0
POOL-BACKWATER	1	6	1.0	0.30	6	0	60	30	10	0	0	0
POOL-DAMMED	4	40	4.8	0.45	203	0	8	11	38	17	1	25
POOL-LATERAL SCOUR	26	271	3.2	0.56	909	0	7	15	50	17	0	10
POOL-PLUNGE	2	10	6.1	0.50	63	0	3	18	50	5	0	25
RAPID/BEDROCK	1	17	1.5	0.05	25	0	0	0	0	0	0	100
RAPID/BOULDERS	4	53	2.9	0.15	159	0	0	8	65	25	0	1
RIFFLE	16	206	2.9	0.20	602	0	3	9	59	26	0	3
STEP/COBBLE	8	23	2.8	0.13	66	0	1	5	57	37	0	0
STEP/LOG	3	8	3.5	0.12	30	0	8	13	60	18	0	0
STEP/STRUCTURE	5	3	2.7	0.06	6	0	2	11	84	3	0	0
Total:	71	654	3.1	0.33	2,090	0	Avg: 6	12	54	20	0	8

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	5	47	4.0	0.42	209	10.02%	0	0.0
Scour Pools	28	282	3.4	0.55	972	46.51%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	16	206	2.9	0.20	602	28.79%	0	0.0
Rapids	5	70	2.6	0.13	184	8.82%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	16	33	2.9	0.11	102	4.90%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	1	17	1.2	0.20	20	0.95%	0	0.0

POOL SUMMARY

	Total	# / Km	
All Pools:	33	50.5	54
Pools >=1m deep:	0	0.0	
Complex pools (LWD pieces>=3):	10	15.3	
Pool frequency (channel widths/pool):	4.1		
Residual pool depth (avg):	0.40		

STREAM SUMMARY

BATTLE CREEK POST-TX (N-209)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Substrate						Large Boulders (#>0.5m)
					Percent Wetted Area						
					S/O	Snd	Grvl	Cbl	Bldr	Bdrk	
71	654	3.1	0.33	2,090	6	12	54	20	0	8	

Habitat Group	Wetted Area	
	(m ²)	Percent
Dammed & BW Pools	209	10.02%
Scour Pools	972	46.51%
Glides	0	0.00%
Riffles	602	28.79%
Rapids	184	8.82%
Cascades	0	0.00%
Step/Falls	102	4.90%
Dry	0	0.00%
Culverts	20	0.95%

Comment Summary

Oregon Plan Monitoring Sites 2002

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

<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	17.6	/TJ	ELK TRACKS, SG=8M	
2	RI	11	17.6		T=7.5C	
3	LP	11	17.6		GROUSE	
4	RR	11	17.6		ACW=2.2M	
5	RI	00	29.1	WL	GROUSE DRUMMING	
6	LP	00	37.7		ELK TRACKS, GROUSE	
10	RI	00	81.3		SG=4M	
11	LP	00	96.7	SS/	SG=4M, FISH	
19	BW	10	138.3		SG=4M	
20	LP	00	146.6	SG=4M		
23	RI	00	168.2		6" TROUT	
25	RI	00	203.9		SG=8M	
26	LP	01	222.3		SG=4M	
27	SL	01	223.9		H=.3M	
37	PP	00	310.5	WL	RSN	
39	LP	00	330.4	/SS	ORANGE FLAG, FISH	
41	LP	00	357.7		SG=4M	
44	RI	00	376.4	SS/		
45	LP	00	388.6		ELK TRACKS, SG=4M	
49	LP	00	419.7		ELK TRACKS	
51	LP	00	430.5	SS/	ELK TRACKS	

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
54	RI	00	471.5	WL./SS	ELK TRACKS	
56	RB	00	508.4	HS	ELK TRACKS, SITE 5.4, L	
57	SS	00	508.8	HS	H=.2M, OLD NOTCHED LO	
58	DP	00	520.2	HS	PINK FLAG, 4" TROUT,SG	
59	SS	00	520.6	HS	H=.25M, OLD NOTCHED L	
60	DP	00	532.6	HS	SG=6M, LOTS OF LOGS	
61	SS	00	533.1	HS	H=3M	
62	DP	00	545.3	HS	SITE 2, SG=4M	
63	SS	00	546	HS	H=.2M, OLD NOTCHED LO	
64	RI	00	551.6	HS	SITE 1-LOGS	
66	SS	00	556.2	HS	H=.2M, NOTCH LOG	
68	CC	00	577.6	CC	1.8M DIAM STEEL	
70	SL	00	587.5		H=3M	
71	LP	00	600	/TJ	END AT 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