

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

STREAM: Coal Creek (NC-16)
BASIN: Nehalem River
SURVEY TYPE: Pre-Tx
DATE: July 18, 2000
SURVEY CREW: Todd Boswell, Sean Allen
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 8.5 km²
USGS MAPS: Vernonia
ECOREGION: Coast Range Astoria Willapa

GENERAL DESCRIPTION:

The Coal Creek habitat survey extended 551 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 5.8 (range: 3.0 – 7.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 0.6 percent. Scour pools (58%) and riffles (37%) dominated stream habitat. Sand (35%) and cobble (26%) dominated stream substrate. Wood volume was moderate at 23.3 m³/100m.

COMMENTS:

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

REACH 1

T4N-R4W-23SW

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 avg: 5.8 range: 3.0-7.0

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	551	2,187	0
Secondary	120	187	2

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u>	<u>First Terrace</u>
Width 3.4	Width 7.3	12.5	14.7
Depth 0.36	Height 0.4	0.8	1.0
	W:D ratio 18.2	Entrenchment 1.7	

Stream Flow Type: LF Water Temp: 12.5-12.5°C
Avg. Unit Gradient: 0.6% Habitat Units/100m: 5.5

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	35%	Reach avg: 85%
Undercut Banks	16%	Range: 50-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces (≥3m x 0.15m)	128	23.2
Volume (m ³)	128	23.3
Key pieces (≥10m x 0.6m)	0	0.0

REACH 1

T4N-R4W-23SW

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	Cbbl	Bldr	Bdrk
DRY UNITS	1	36	2.0	0.00	72	0	40	40	10	10	0	0
POOL-BACKWATER	1	4	1.6	0.25	7	0	5	60	15	20	0	0
POOL-LATERAL SCOUR	15	272	4.3	0.59	1,239	5	20	41	10	26	2	1
POOL-STRAIGHT SCOUR	2	38	4.5	0.40	158	0	43	35	15	5	3	0
PUDDLED CHANNEL	1	14	2.0	0.30	27	0	40	40	10	10	0	0
RIFFLE	12	177	2.8	0.14	527	5	7	22	31	31	5	4
RIFFLE W/ POCKETS	5	130	2.7	0.28	345	0	21	41	9	29	0	0
Total:	37	671	3.4	0.36	2,374	10	Avg:18	35	17	26	3	2

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m ²)	Percent	Large Boulders Number	#/100m ²
Dammed & BW Pools	1	4	1.6	0.25	7	0.28	0	0.0
Scour Pools	17	311	4.3	0.57	1,396	58.81	5	0.4
Glides	0	0	-	-	0	0.00	0	0.0
Riffles	17	307	2.8	0.18	872	36.74	5	0.6
Rapids	0	0	-	-	0	0.00	0	0.0
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	0	0	-	-	0	0.00	0	0.0
Dry	2	50	2.0	0.15	99	4.17	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	18	26.8
Pools $\geq 1m$ deep:	0	0.0
Complex pools (LWD pieces ≥ 3):	7	10.4
Pool Frequency (channel widths/pool):	5.1	
Residual pool depth (avg)	0.45m	

STREAM SUMMARY

COAL CREEK (PRE-TX)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Substrate Percent Wetted Area						Total Large Boulder
					S/O	Sand	Grvl	Cbbl	Bldr	Bdrk	
37	671	3.4	0.36	2,374	18	35	17	26	3	2	10

Wetted Area

Habitat Group	(m ²)	Percent
Scour Pool	1,396	58.8
Backwater Pools	7	0.3
Glide	0	0.0
Riffle	872	36.7
Rapid	0	0.0
Cascade	0	0.0
Step	0	0.0
Dry	99	4.2

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	650
Total conifers/1000 ft	61
Total conifers >20" dbh/1000 ft	41
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	0.0	0.0	0.0
15-30cm	0.0	1.3	0.0	2.0	0.3	2.0	0.3	5.3
30-50cm	0.0	1.0	0.0	2.0	0.0	2.0	0.0	5.0
50-90cm	0.0	0.0	0.0	0.0	0.7	0.0	0.7	0.0
>90cm	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3
Total/100m ²	0.0	2.7	0.0	4.0	1.0	4.0	0.3	3.6

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	63		63		62	
Shrub cover	72		82		85	
Grass/forb cover	28		18		15	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	0		50		50
High terrace	100		50		50	
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 (%)	1		7		12	

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

Summary of riparian zone (0-100ft) extrapolated to 1,000 feet along stream

Total hardwoods/1000 ft	650
Total conifers/1000 ft	61
Total conifers >20" dbh/1000 ft	41

Average number of trees in a 5-meter wide band

<u>Diameter</u> <u>class (cm)</u>	<u>Zones 1-3</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	0.0	0.0
15-30cm	0.3	5.3
30-50cm	0.0	5.0
50-90cm	0.7	0.0
>90cm	0.0	0.3

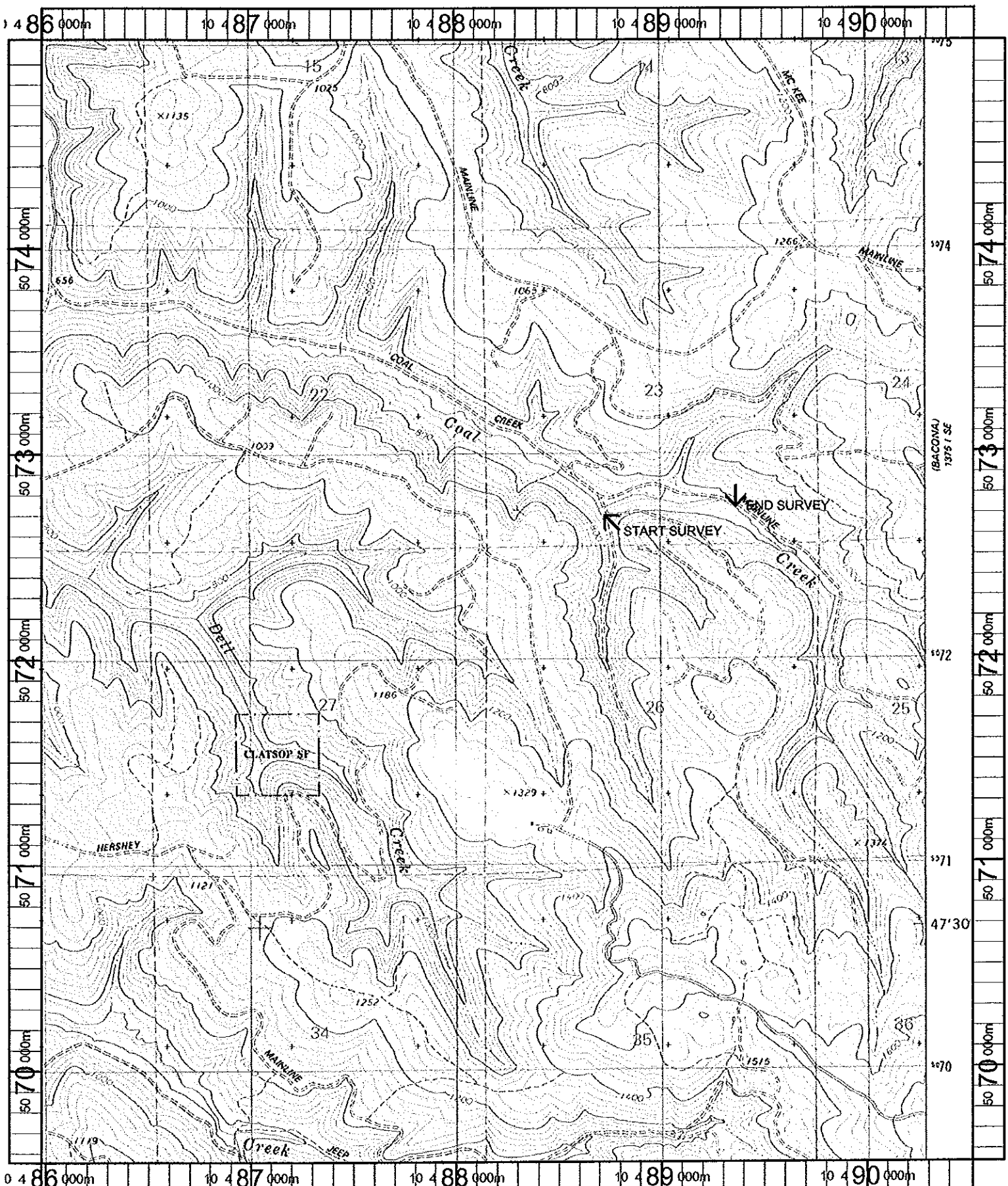
RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

VEGETATION DETAIL

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	
12	LF	1	HT	1.0	60	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	1	1	0	0	
12	LF	2	HT	0.0	60	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	0	2	0	0	
12	LF	3	HT	2.0	60	100	0	Conifer	0	0	0	1	0	
								Hardwood	0	0	1	0	0	
12	RT	1	HT	4.0	60	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
12	RT	2	HS	18.0	70	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	1	0	0	0	
12	RT	3	HS	22.0	70	100	0	Conifer	0	1	0	0	0	
								Hardwood	0	1	1	0	0	
18	LF	1	HT	1.0	70	60	40	Conifer	0	0	0	0	0	
								Hardwood	0	1	0	0	0	
18	LF	2	HT	0.0	70	60	40	Conifer	0	0	0	0	0	
								Hardwood	0	2	1	0	0	
18	LF	3	HT	0.0	75	60	40	Conifer	0	0	0	0	0	
								Hardwood	0	2	1	0	0	
18	RT	1	HT	0.0	65	40	60	Conifer	0	0	0	0	0	
								Hardwood	0	0	2	0	0	
18	RT	2	HS	8.0	50	70	30	Conifer	0	0	0	0	0	
								Hardwood	0	2	2	0	0	
18	RT	3	HS	19.0	50	90	10	Conifer	0	0	0	0	0	
								Hardwood	0	2	1	0	0	
35	LF	1	HT	0.0	60	90	10	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	1	
35	LF	2	HT	2.0	60	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
35	LF	3	HT	1.0	50	100	0	Conifer	0	0	0	1	0	
								Hardwood	0	0	0	0	0	
35	RT	1	HT	0.0	60	40	60	Conifer	0	0	0	0	0	
								Hardwood	0	2	0	0	0	
35	RT	2	HS	15.0	65	60	40	Conifer	0	0	0	0	0	
								Hardwood	0	1	1	0	0	
35	RT	3	HS	25.0	65	60	40	Conifer	0	0	0	0	0	
								Hardwood	0	1	2	0	0	



<p>Name: VERNONIA Date: 10/23/100 Scale: 1 inch equals 2000 feet</p>	<p>Location: 10 488158 E 5072264 N Caption: COAL CREEK RESTORATION SITE - NEHALEM BASIN</p>
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