

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

STREAM: Coal Creek (N-16)
BASIN: Nehalem River
SURVEY TYPE: Post-Tx
DATE: August 7, 2007
SURVEY CREW: Trevor Diemer, Nathan Wilson
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 9.5 km²
USGS MAPS: Vernonia
ECOREGION: Coast Range Willapa Hills

GENERAL DESCRIPTION:

The Coal Creek habitat survey extended 507 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 7.4 (range: 6.0-8.0). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 2.1 percent. Scour pools (43%) and riffles (27%) dominated stream habitat. Gravel (42%) and sand (32%) dominated stream substrate. Wood volume was high at 36.8 m³/100m.

COMMENTS:

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

The crew noted several habitat structures as well as beaver activity during the survey.

REACH 1

T04N-R04W-S23SW

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	7.4	VWI Range:	6 - 8

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	507	1,745	0
Secondary Channel	37	32	0
Off-Channel Units	14	22	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 3.4	Width: 6.0	6.9 (5.5 - 8.5)	8.8 (8 - 9.75)
Depth: 0.30	Height: 0.2	0.4 (0.4 - 0.5)	1.5 (1 - 2.5)

W:D ratio: 29.0
 Stream Flow Type: LF
 Average Unit Gradient: 2.1%
 Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.2
 Habitat Units/100m (total channel length): 7.9
 Habitat Units/100m (primary channel length): 8.7

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	0%	Reach avg: 89%
Undercut Banks:	1%	Range: 67 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	162	32.0
Volume (m ³):	186	36.8
Key pieces (>=12m x 0.60m):	5	1.0

HABITAT INVENTORY

Report Date: 11/14/2007

Survey Date:

8/7/2007

REACH 1		T04N-R04W-S23SW					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
POOL-BACKWATER	1	4	3.0	0.30	12	0	0	45	35	20	0	0
POOL-BEAVER DAM	1	26	6.0	0.85	156	0	30	35	25	10	0	0
POOL-LATERAL SCOUR	18	197	3.9	0.58	768	0	7	42	36	14	0	2
RAPID/BOULDERS	6	94	2.8	0.10	295	13	0	17	46	34	2	0
RIFFLE	13	222	2.0	0.07	486	0	0	31	48	21	0	0
STEP/BEAVER DAM	1	2	9.0	0.05	18	0	0	9	45	45	0	0
STEP/COBBLE	2	11	5.0	0.06	58	0	0	10	44	46	0	0
STEP/LOG	2	2	3.5	0.05	6	0	0	14	47	39	0	0
Total:	44	558	3.4	0.30	1,799	13	Avg: 3	32	42	22	0	1

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	2	30	4.5	0.58	168	9.34%	0	0.0	
Scour Pools	18	197	3.9	0.58	768	42.70%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	13	222	2.0	0.07	486	26.99%	0	0.0	
Rapids	6	94	2.8	0.10	295	16.40%	13	4.4	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	5	15	5.2	0.05	82	4.56%	0	0.0	
Dry	0	0			0	0.00%	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:	20	35.9	39.5
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	13	23.3	25.7
Pool frequency (channel widths/pool):	4.6		
Residual pool depth (avg):	0.54		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

COAL CREEK POST-TX
GCG: 1-NC SITE ID: 16

Survey Date 8/7/2007
Report Date: 11/7/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 5 transects

Total hardwoods/1000	1036
Total conifers/1000 ft	49
Total conifers >20" dbh/1000 ft	12
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	1.2	0.0	2.2	0.0	2.8	0.0	6.2
15-30cm	0.0	2.4	0.0	2.8	0.2	1.6	0.2	6.8
30-50cm	0.0	2.0	0.2	1.0	0.2	1.0	0.4	4.0
50-90cm	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.2	5.6	0.2	6.0	0.4	5.4	0.3	5.7

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	72		64		58	
Shrub cover	83		83		70	
Grass/forb cover	17		18		25	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	40		40		40	
High terrace	60		60		50	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		10	
Riprap	0		0		0	
Surface slope (%)	17		15		16	

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

5 transects

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

Total hardwoods/1000	1036
Total conifers/1000 ft	49
Total conifers >20" dbh/1000 ft	12
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	6.2
15-30cm	0.2	6.8
30-50cm	0.4	4.0
50-90cm	0.2	0.0
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

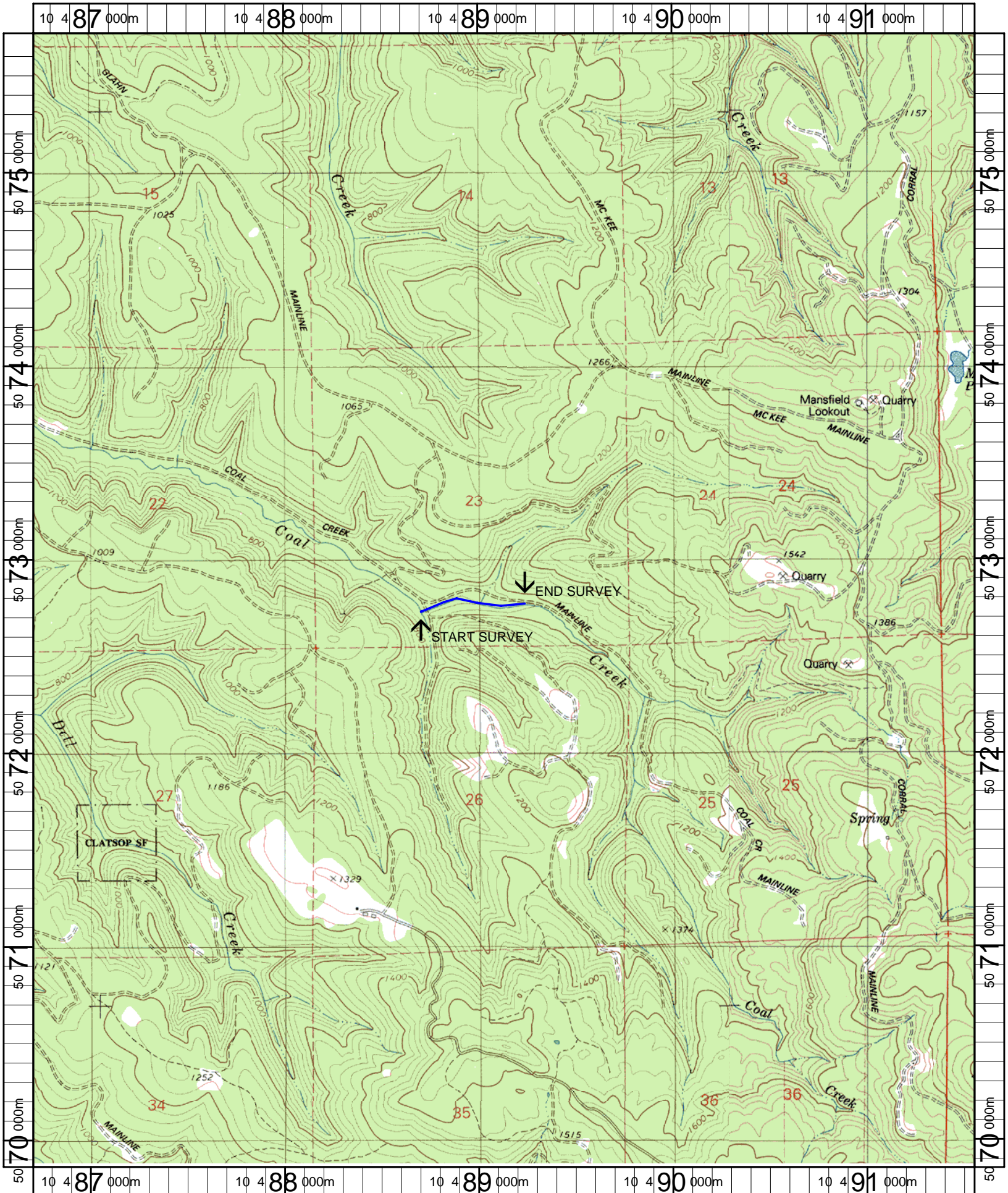
Unit	Side	Zone	Surface	Slope	Cover (percent)			Diameter class (cm)					Notes		
					Canopy	Shrub	Grass	3-15	15-30	30-50	50-90	>90			
1	LT	1	HT	0	80	60	40	Conifer							10T 0488735
								Hardwood			2				5072751, 3D
1	LT	2	HT	0	75	50	50	Conifer							
								Hardwood	5	4					
1	LT	3	RB	0	60	20	30	Conifer							
								Hardwood	2	2					
1	RT	1	HT	0	85	70	30	Conifer							
								Hardwood	1	4	1				
1	RT	2	HT	0	65	65	35	Conifer							
								Hardwood	1	2	1				
1	RT	3	HT	0	50	80	20	Conifer							
								Hardwood		1	1				
10	LT	1	HT	0	95	75	25	Conifer							
								Hardwood		4	1				
10	LT	2	HT	0	95	85	15	Conifer							
								Hardwood	1	3	1				
10	LT	3	HT	0	95	80	20	Conifer							
								Hardwood	2	2	2				
10	RT	1	HS	25	60	80	20	Conifer							
								Hardwood	2						
10	RT	2	HS	0	30	85	15	Conifer							
								Hardwood							
10	RT	3	HS	0	45	75	25	Conifer							
								Hardwood							
21	LT	1	HT	0	55	90	10	Conifer							10T 0488937
								Hardwood							5072796, 3D
21	LT	2	HT	0	75	85	15	Conifer				1			
								Hardwood	1						
21	LT	3	HT	0	80	80	20	Conifer			1	1			
								Hardwood		1	1				
21	RT	1	HS	40	65	90	10	Conifer							
								Hardwood	1						
21	RT	2	HS	45	65	90	10	Conifer							
								Hardwood		1					
21	RT	3	HS	50	55	90	10	Conifer							
								Hardwood							

32	LT	1	HT	0	90	95	5	Conifer				10T 0489024
								Hardwood	1	1	1	5072741, 3D
32	LT	2	HT	0	90	95	5	Conifer				
								Hardwood	1	2	1	
32	LT	3	HT	0	95	90	10	Conifer				
								Hardwood	1	2	1	
32	RT	1	HS	50	45	90	10	Conifer				
								Hardwood	1	1	1	
32	RT	2	HS	55	25	95	5	Conifer				
								Hardwood		1	1	
32	RT	3	HS	55	5	50	50	Conifer				
								Hardwood	3			
44	LT	1	HT	0	90	85	15	Conifer				1
								Hardwood		2	1	
44	LT	2	HT	0	85	80	20	Conifer				
								Hardwood	2			
44	LT	3	HT	0	75	85	15	Conifer				
								Hardwood	4			
44	RT	1	HS	50	50	95	5	Conifer				10T 0489131
								Hardwood			3	5072738, 3D
44	RT	2	HS	50	30	95	5	Conifer				
								Hardwood		1	1	
44	RT	3	HS	55	20	50	50	Conifer				
								Hardwood	2			

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 16 STREAM: COAL CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	RB	00	5		START SIGN ON L BANK ALDER NEXT TO CC
2	LP	00	12		LARGE CRAWDAD
8	LP	00	98	HS	
10	LP	00	126		BEE HIVE PIC#287
11	RB	00	139	HS	
20	SL	00	232	BV	
26	LP	00	319	BV	
32	RB	00	374	HS	
37	SD	00	412	BD	
38	BP	00	438	BV	
44	SL	00	506.75		END ABOUT 500 M UP FROM START SIGN ON L BANK ALDER



Name: VERNONIA
 Date: 5/9/2007
 Scale: 1 inch equals 2000 feet

Location: 10 489132 E 5072789 N
 Caption: COAL CREEK RESTORATION SITE - NEHALEM BASIN