

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

STREAM: Coal Creek (N-317)  
BASIN: Kilchis River  
SURVEY TYPE: Pre-Tx  
DATE: July 18, 2005  
SURVEY CREW: Scott Young, Ben Walczak  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 4.6 km<sup>2</sup>  
USGS MAPS: Kilchis River  
ECOREGION: Coast Range Volcanics

**GENERAL DESCRIPTION:**

The Coal Creek habitat survey extended 457 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 2.1 (range: 1.1-3.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 8.0 percent. Rapids (73%) and scour pools (11%) dominated stream habitat. Gravel (45%), bedrock (23%) and cobble (22%) dominated stream substrate. Wood volume was very low at 7.3 m<sup>3</sup>/100m.

**COMMENTS:**

There were three potential barriers to upstream fish migration in the surveyed length. Two were bedrock steps (1.2 and 2.5 m high), and the last was an approximately 15.0 m high dam at the end of the survey.

REACH 1

T01S-R09W-S08SW

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	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	2.1	VWI Range:	1.1 - 3

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	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	457	1,486	0
Secondary Channel	0	0	0
Off-Channel Units	0	0	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 4	<u>First Terrace</u> n = 2
Width: 4.2	Width: 5.3	7.6 ( 5.8 - 10.7 )	7.5 ( 6.8 - 8.2 )
Depth: 0.24	Height: 0.3	0.6 ( 0.6 - 0.6 )	0.8 ( 0.75 - 0.85 )

W:D ratio: 17.8      Entrenchment (ACW:FPW ratio): 1.4  
 Stream Flow Type: MF      Habitat Units/100m (total channel length): 6.8  
 Average Unit Gradient: 8.0%      Habitat Units/100m (primary channel length): 6.8  
 Water temperature (°C): -

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	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:	0%	Reach avg: 86%
Undercut Banks:	0%	Range: 72 - 89

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	56	12.3
Volume (m <sup>3</sup> ):	34	7.3
Key pieces (>=12m x 0.60m):	2	0.4

OREGON DEPT OF FISH AND WILDLIFE

COAL CREEK PRE-TX (1-NC, 317)

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

7/18/2005

REACH 1		T01S-R09W-S08SW					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
CASCADE/BOULDERS	2	25	3.6	0.10	90	0	0	3	34	26	0	37
POOL-LATERAL SCOUR	4	25	3.0	0.49	76	0	1	14	41	34	0	9
POOL-PLUNGE	4	20	4.1	0.48	83	0	0	16	47	25	0	12
POOL-TRENCH	1	6	1.8	1.10	10	0	0	0	0	0	0	100
RAPID/BEDROCK	1	25	3.0	0.10	75	0	0	0	11	6	0	83
RAPID/BOULDERS	15	343	3.0	0.11	1,014	0	0	11	57	21	0	11
STEP/BEDROCK	2	8	5.0	0.08	40	0	0	0	0	0	0	100
STEP/LOG	1	2	5.0	0.10	8	0	0	16	63	21	0	0
STEP/STRUCTURE	1	3	30.0	0.10	90	0	0	11	44	33	0	11
<b>Total:</b>	<b>31</b>	<b>457</b>	<b>4.2</b>	<b>0.24</b>	<b>1,486</b>	<b>0</b>	<b>Avg: 0</b>	<b>10</b>	<b>45</b>	<b>22</b>	<b>0</b>	<b>23</b>

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	0	0			0	0.00%	0	0.0	
Scour Pools	9	51	3.3	0.55	169	11.38%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	0	0			0	0.00%	0	0.0	
Rapids	16	368	3.0	0.11	1,089	73.29%	0	0.0	
Cascades	2	25	3.6	0.10	90	6.08%	0	0.0	
Step/Falls	4	13	11.3	0.09	138	9.25%	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:	9	19.7	19.7
Pools >=1m deep:	1	2.2	2.2
Complex pools (LWD pieces>=3):	1	2.2	2.2
Pool frequency (channel widths/pool):	9.5		
Residual pool depth (avg):	0.44		

OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY

COAL CREEK PRE-TX  
GCG: 1-NC SITE ID: 317

Survey Date 7/18/2005  
Report Date: 4/26/2006

RIPARIAN ZONE  
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	264
Total conifers/1000 ft	102
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 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	0.3	0.0	0.0	1.0	0.0	0.0	0.3	1.0
15-30cm	0.3	1.0	0.0	1.7	1.0	0.7	1.3	3.3
30-50cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.7	1.0	0.0	2.7	1.0	0.7	0.6	1.4

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	55	48	47
Shrub cover	75	72	67
Grass/forb cover	22	27	33

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	83	100	100
High terrace	17	0	0
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 (%)	71	76	70

**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	264
Total conifers/1000 ft	102
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	0.3	1.0
15-30cm	1.3	3.3
30-50cm	0.0	0.0
50-90cm	0.0	0.0
>90cm	0.0	0.0

**RIPARIAN ZONE VEGETATION**

Reach 1

Reach 1

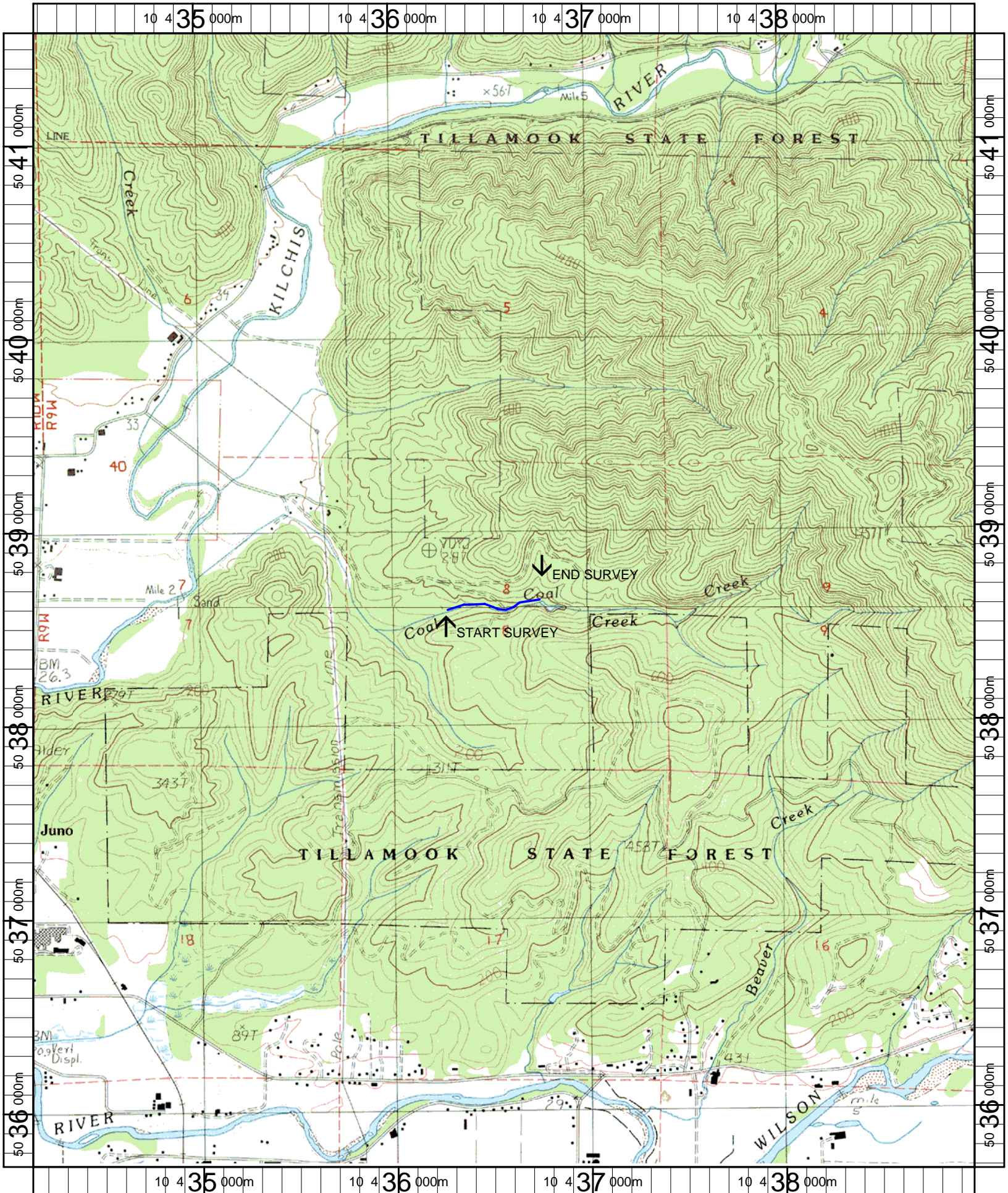
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
6	RT	2	HS	80	70	70	20	Conifer							
								Hardwood		1					
6	RT	1	HT	0	60	90	10	Conifer							
								Hardwood		3					
6	LF	3	HS	85	0	70	30	Conifer		1					
								Hardwood							
6	LF	1	HS	85	10	90	10	Conifer							POOR GPS COVERAGE
								Hardwood							
6	RT	3	HS	80	70	70	30	Conifer		1					
								Hardwood							
6	LF	2	HS	85	0	90	10	Conifer							
								Hardwood							
17	RT	2	HS	80	70	70	30	Conifer							
								Hardwood		1					
17	RT	3	HS	80	70	70	30	Conifer							
								Hardwood							
17	RT	1	HS	80	70	90	10	Conifer							
								Hardwood							
17	LF	3	HS	75	70	70	30	Conifer							
								Hardwood							
17	LF	1	HS	110	70	60	20	Conifer							20 PCT BARE SOIL
								Hardwood							
17	LF	2	HS	110	70	70	30	Conifer							2D
								Hardwood		1					0436570/50385
															92
27	LF	1	HS	30	60	70	30	Conifer							POOR GPS COVERAGE
								Hardwood							
27	LF	2	HS	25	20	80	20	Conifer							
								Hardwood	2	1					
27	LF	3	HS	25	0	80	20	Conifer							
								Hardwood		1					
27	RT	1	HS	120	60	50	50	Conifer	1	1					
								Hardwood							
27	RT	2	HS	75	60	50	50	Conifer							
								Hardwood	1	1					
27	RT	3	HS	75	70	40	60	Conifer							
								Hardwood		1					

# Comment Summary

## Restoration Monitoring Sites 2005

MONITORING AREA: 1-NC      SITE ID: 317      COAL CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RB	00	25			DISCARDED CULVERT
6	RB	00	130.7		POOR GPS COVERAGE,	
9	SL	00	148.8		H=0.65M	
11	SR	00	157.8	PN	H=1.2M	
15	RB	00	232.1		PHOTOS	
16	RB	00	257.1	/SS	RIP 2, SPAWNING SURVE	DISCARDED CULVERT
18	RB	00	307.1	SS/		
26	SR	00	395.85	PN	H=2.5M	
27	LP	00	404.35		RIPARIAN 3, POOR GPS	
31	SS	00	456.85	PA	H EST. 15M, END AT DAM	END SURVEY



Name: KILCHIS RIVER  
 Date: 5/1/2006  
 Scale: 1 inch equals 2000 feet

Location: 10 436571 E 5038632 N  
 Caption: COAL CREEK RESTORATION SITE - KILCHIS BASIN