

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

STREAM: Little Rock Creek (MC-89)
BASIN: Siletz River
SURVEY TYPE: Post-Tx
DATE: July 10, 2006
SURVEY CREW: Brian Bangs, Brian Cannon
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 4.4 km²
USGS MAPS: Summit
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Little Rock Creek habitat survey extended 526 meters. The channel was unconstrained by terraces in a broad valley floor. The average valley width index was 6.0 (range: 5.0-8.0). Land use for the reach was second growth (15-30 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 1.6 percent. Riffles (55%) and scour pools (40%) dominated stream habitat. Gravel (36%) and sand (22%) dominated stream substrate. Wood volume was low at 10.7 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.

Stream Little Rock Creek Upper (MC-89)
 Basin Siletz River
 Treatment Large Wood

	ODFW Benchmark		Pre 7/15/98	Post 6/30/99	Post 7/10/06		
Habitat Variable	Desirable	Undesirable					
% Pool Area	>35%	<10%	39.1	39.8	40.9		
Number of Pools			24	26	25		
Deep Pools/km (>1.0 m)			0	0	0		
% Off-Channel			1.6	3.1	4.9		
LWD – Pieces/100m	>20	<10	2.7	9.9	7.0		
LWD – Volume/100m	>30	<20	4.4	18.8	10.7		
LWD – Key Pieces/100m	>3	<1	0.0	0.2	0.0		
Large Wood Jams/km			0.0	4.1	3.8		
% Riffle Fines	<10	>20	11	16	22		
% Riffle Gravel	>35	<15	56	52	48		
% Bedrock			10	11	9		

Bold is noticeable change

Comments: Since the treatment was large wood assembled in complex jams, it is no surprise that there was an increase in those variables immediately following treatment. Wood values seem to be decreasing with time, however, suggesting that it is leaving the reach and little recruitment is occurring. Pool area has remained constant through time, as have substrate numbers.

REACH 1

T10S-R08W-S13NW

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	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	6.0	VWI Range:	5 - 8

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	100%
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	526	1,257	0
Secondary Channel	36	50	2
Off-Channel Units	19	15	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 4
Width: 2.2	Width: 5.5	12.6 (8.8 - 20.1)	13.5 (10.5 - 21.1)
Depth: 0.23	Height: 0.4	0.7 (0.7 - 0.7)	1.1 (0.9 - 1.6)

W:D ratio: 15.7
 Stream Flow Type: LF
 Average Unit Gradient: 1.6%
 Water temperature (°C): -

Entrenchment (ACW:FPW ratio): 2.3
 Habitat Units/100m (total channel length): 8.9
 Habitat Units/100m (primary channel length): 9.9

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	4%	Reach avg: 84%
Undercut Banks:	5%	Range: 56 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	37	7.0
Volume (m ³):	56	10.7
Key pieces (>=12m x 0.60m):	0	0.0

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/10/2006

REACH 1		T10S-R08W-S13NW					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
CASCADE/BOULDERS	1	4	1.0	0.04	4	0	1	36	31	31	0	0
DRY CHANNEL	2	25	1.3	0.00	30	0	49	8	18	15	0	10
POOL-BACKWATER	1	4	0.8	0.10	3	0	45	35	10	5	5	0
POOL-ISOLATED	1	2	2.0	0.25	4	0	70	30	0	0	0	0
POOL-LATERAL SCOUR	23	214	2.6	0.42	534	3	14	29	25	16	1	14
RIFFLE	22	325	2.1	0.09	728	6	6	16	48	22	2	6
STEP/COBBLE	2	8	2.3	0.07	19	0	1	8	66	26	0	0
Total:	52	582	2.2	0.23	1,323	9	Avg: 13	22	36	19	2	9

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	6	1.4	0.18	7	0.53%	0	0.0	
Scour Pools	23	214	2.6	0.42	534	40.40%	3	0.6	
Glides	0	0			0	0.00%	0	0.0	
Riffles	22	325	2.1	0.09	728	55.01%	6	0.8	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	1	4	1.0	0.04	4	0.33%	0	0.0	
Step/Falls	2	8	2.3	0.07	19	1.44%	0	0.0	
Dry	2	25	1.3	0.00	30	2.29%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	25	43.0	47.5
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	3	5.2	5.7
Pool frequency (channel widths/pool):	4.2		
Residual pool depth (avg):	0.34		

Survey Date 7/10/2006
Report Date: 3/5/2007

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	1118
Total conifers/1000 ft	81
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	0.0	5.3	0.0	3.7	0.3	3.7	0.3	12.7
15-30cm	0.0	1.3	0.0	2.7	0.7	1.0	0.7	5.0
30-50cm	0.0	0.0	0.0	0.0	0.3	0.7	0.3	0.7
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	0.0	6.7	0.0	6.3	1.3	5.3	0.4	6.1

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	52		49		53	
Shrub cover	32		43		57	
Grass/forb cover	67		52		42	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		50		83	
High terrace	67		33		17	
Low terrace	17		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	17		17		0	
Riprap	0		0		0	
Surface slope (%)	3		11		33	

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	1118
Total conifers/1000 ft	81
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	12.7
15-30cm	0.7	5.0
30-50cm	0.3	0.7
50-90cm	0.0	0.0
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

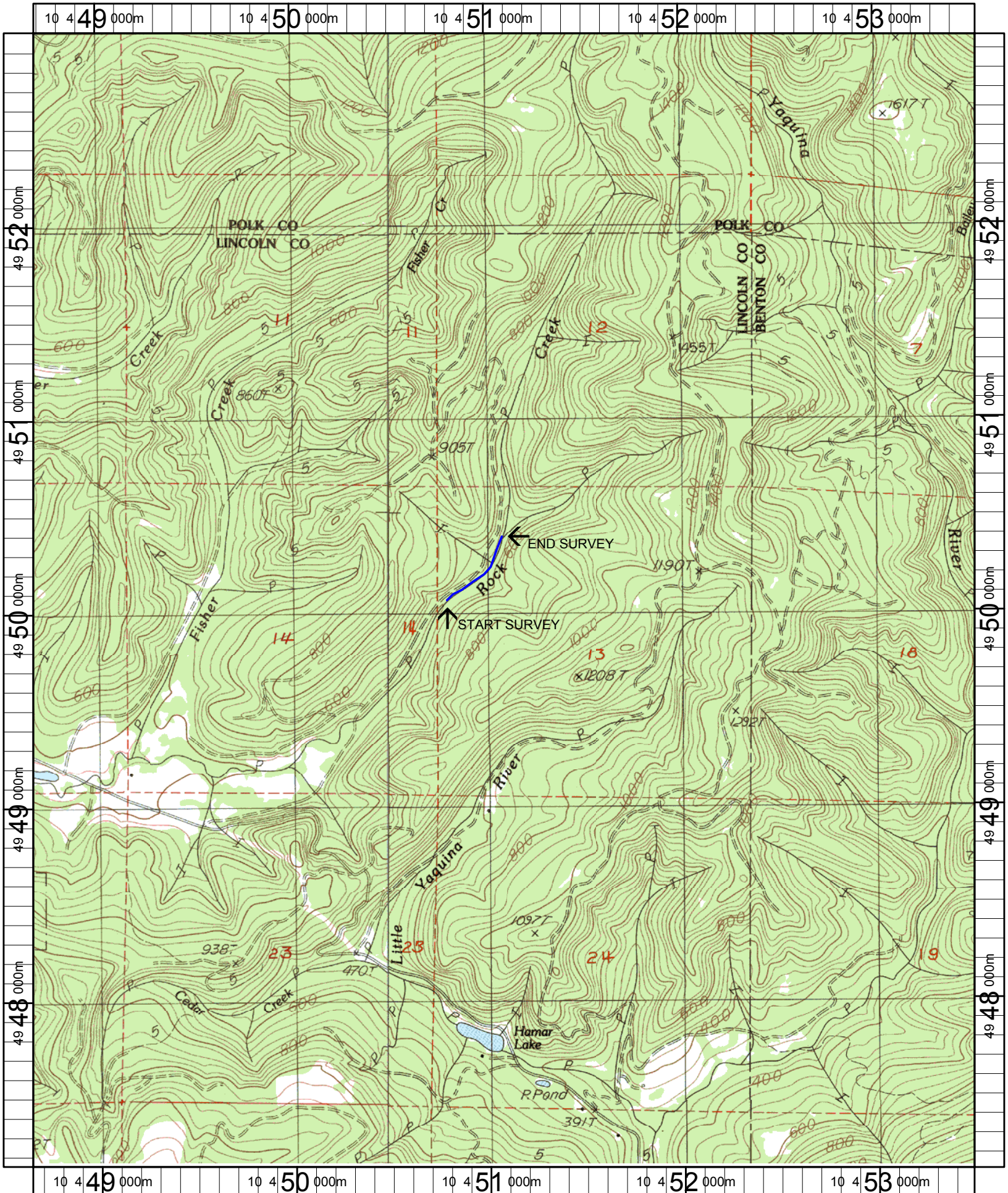
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
18	RT	3	HS	10	30	60	40	Conifer							
								Hardwood	2						
18	LF	1	HT	0	40	40	60	Conifer							UTM 0450973-4950199
								Hardwood	2	1					
18	LF	2	HS	5	80	35	65	Conifer							
								Hardwood	1	1					
18	LF	3	HS	25	85	30	70	Conifer							
								Hardwood	1						
18	RT	1	HT	0	80	35	65	Conifer							
								Hardwood	7	1					
18	RT	2	HS	17	75	40	55	Conifer							
								Hardwood	3	2					
33	LF	2	RB	0	20	20	80	Conifer							NO TREES
								Hardwood							
33	RT	1	LT	0	30	20	80	Conifer							
								Hardwood	3	2					
33	LF	3	HS	70	80	40	60	Conifer	1						
								Hardwood	1	3	2				
33	LF	1	HT	20	50	15	85	Conifer							TRANS, NO GPS COVERAGE
								Hardwood	4						
33	RT	2	HT	0	15	80	20	Conifer							
								Hardwood	5						
33	RT	3	HS	35	15	90	10	Conifer							
								Hardwood	7						
44	LF	1	RB	0	80	10	80	Conifer							NO TREES, NO GPS COVERAGE
								Hardwood							
44	LF	2	HS	45	85	10	60	Conifer							
								Hardwood	2	5					
44	LF	3	HS	60	85	30	60	Conifer			2	1			
								Hardwood							
44	RT	3	HT	0	20	90	10	Conifer							NO TREES
								Hardwood							
44	RT	2	HT	0	20	70	30	Conifer							NO TREES
								Hardwood							
44	RT	1	HT	0	30	70	30	Conifer							NO TREES
								Hardwood							

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **89** **LITTLE ROCK CREEK POST-TX**

<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	00	13.1	HS	LF	COHO, JUVENILE TROUT
2	RI	01	22.3		US-MT, D30/S, ST/LT	CRAWDAD
4	LP	00	31	BV		TROUT FRY
6	LP	01	60.1			TROUT FRY
9	LP	01	77.6			CRAWDAD, TROUT
10	CB	11	77.6	BV, WL	ACW=1.5M	ELK TRAIL
12	LP	00	95.4			JUVENILE TROUT
13	RI	00	107.2			JUVENILE TROUT
14	LP	01	122.2	WL		ELK TRAIL
15	RI	11	122.2		ACW=1.3M	
17	LP	00	139.3		CT-MT, D3/S, ST/LT	COHO
21	LP	01	162.6	WL		RSN
24	LP	00	178.1	WL		BEAVER HOLE IN BANK
27	IP	10	193.3	WL		RSN
29	RI	00	236.6	BV		
34	RI	00	275.3		CT-MT, D15/S, YT/ST	
37	LP	00	301.3	BV, HS	HS	
43	LP	00	394	BV, HS	HS	
44	RI	00	423.5		CA-CT, D15/S	
50	LP	01	501.1	HS	HS	
52	RI	00	526.1		US, MT, D15/S, ST	END SIGN ALDER RT BEF



Name: SUMMIT
 Date: 1/23/2006
 Scale: 1 inch equals 2000 feet

Location: 10 451086 E 4950062 N
 Caption: LITTLE ROCK CREEK UPPER #89 RESTORATION SITE -
 SILETZ BASIN