

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

STREAM: Little Rock Creek Lower (MC-44)
BASIN: Siletz River
SURVEY TYPE: Post-Tx
DATE: February 8, 2006
SURVEY CREW: Paul Jacobsen, Jon Nott
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 4.4 km³
USGS MAPS: Nortons
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Little Rock Creek habitat survey extended 552 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 5.5 (range: 3.2-10.0). Land use for the reach was second growth (15-30 cm dbh) trees and light grazing. The average unit gradient was 1.4 percent. Riffles (69%) and scour pools (28%) dominated stream habitat. Gravel (39%) and bedrock (21%) dominated stream substrate. Wood volume was low at 13.2 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 Lower (MC-44)
 Basin Siletz River
 Treatment Large Wood

	ODFW Benchmark		Pre 1/27/00	Post 2/6/01	Post 2/8/06		
Habitat Variable	Desirable	Undesirable					
% Pool Area	>35%	<10%	41.7	39.2	29.0		
Number of Pools			19	14	15		
Deep Pools/km (>1.0 m)			0	1.9	0		
% Off-Channel			2.9	0.3	2.2		
LWD – Pieces/100m	>20	<10	5.0	10.4	9.4		
LWD – Volume/100m	>30	<20	6.1	19.9	13.2		
LWD – Key Pieces/100m	>3	<1	0.6	1.5	0.4		
Large Wood Jams/km			0	11.4	7.2		
% Riffle Fines	<10	>20	11	10	14		
% Riffle Gravel	>35	<15	56	69	43		
% Bedrock			17	21	21		

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. However, over time, large wood seems to be leaving the reach and additional recruitment has not occurred. Pool area, the number of pools and deep pools were reduced, suggesting that either the treatment has not been effective for pool creation and retention, or that as wood has been depleted, pool habitat has decreased. Substrate has remained relatively stable over time.

REACH 1 T10S-R08W-S14SE 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	5.5	VWI Range:	3.2 - 10

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	552	1,840	0
Secondary Channel	0	0	0
Off-Channel Units	44	42	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 1
Width: 3.0	Width: 6.9	26.1 (22.8 - 33.2)	25.4 (25.4 - 25.4)
Depth: 0.37	Height: 0.5	1.1 (1 - 1.1)	1.4 (1.4 - 1.4)

W:D ratio: 13.2 Entrenchment (ACW:FPW ratio): 4.4
Stream Flow Type: MF Habitat Units/100m (total channel length): 6.0
Average Unit Gradient: 1.4% Habitat Units/100m (primary channel length): 6.5
Water temperature (°C): 8.5 - 8.5

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LG
Riparian Vegetation:	D3	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 primary channel</u>
All pieces (>=3m x 0.15m):	52	9.4
Volume (m ³):	73	13.2
Key pieces (>=12m x 0.60m):	2	0.4

OREGON DEPT OF FISH AND WILDLIFE LITTLE ROCK CREEK LOWER POST-TX (2-MC, 44)

HABITAT INVENTORY

Report Date: 12/6/2006

Survey Date:

2/8/2006

REACH 1		T10S-R08W-S14SE					REACH 1					
HABITAT DETAIL												
Habitat Type	Number	Total	Avg	Avg	Total	Large	Substrate					
	Units	Length	Width	Depth	Area	Boulders	Percent Wetted Area					
		(m)	(m)	(m)	(m ²)	(#>0.5m)	S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BOULDERS	3	29	0.7	0.05	18	0	0	8	65	20	0	7
POOL-ISOLATED	3	15	1.5	0.24	23	0	60	40	0	0	0	0
POOL-LATERAL SCOUR	11	139	3.4	0.66	477	0	1	21	40	10	0	29
POOL-PLUNGE	1	10	4.5	0.70	45	0	0	5	29	7	1	58
RIFFLE	16	394	3.3	0.25	1,291	0	0	14	43	27	0	16
STEP/COBBLE	1	8	3.0	0.30	25	0	0	0	30	20	0	50
STEP/LOG	1	1	2.4	0.20	2	0	0	40	0	0	0	60
Total:	36	596	3.0	0.37	1,882	0	Avg: 5	18	39	17	0	21

HABITAT SUMMARY									
Habitat Group	Number	Total	Avg	Avg	Wetted Area		Large Boulders		
	Units	Length	Width	Depth	(m ²)	Percent	Number	(# / 100m ²)	
		(m)	(m)	(m)					
Dammed & BW Pools	3	15	1.5	0.24	23	1.24%	0	0.0	
Scour Pools	12	149	3.5	0.67	523	27.77%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	16	394	3.3	0.25	1,291	68.61%	0	0.0	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	3	29	0.7	0.05	18	0.96%	0	0.0	
Step/Falls	2	9	2.7	0.25	27	1.41%	0	0.0	
Dry	0	0			0	0.00%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

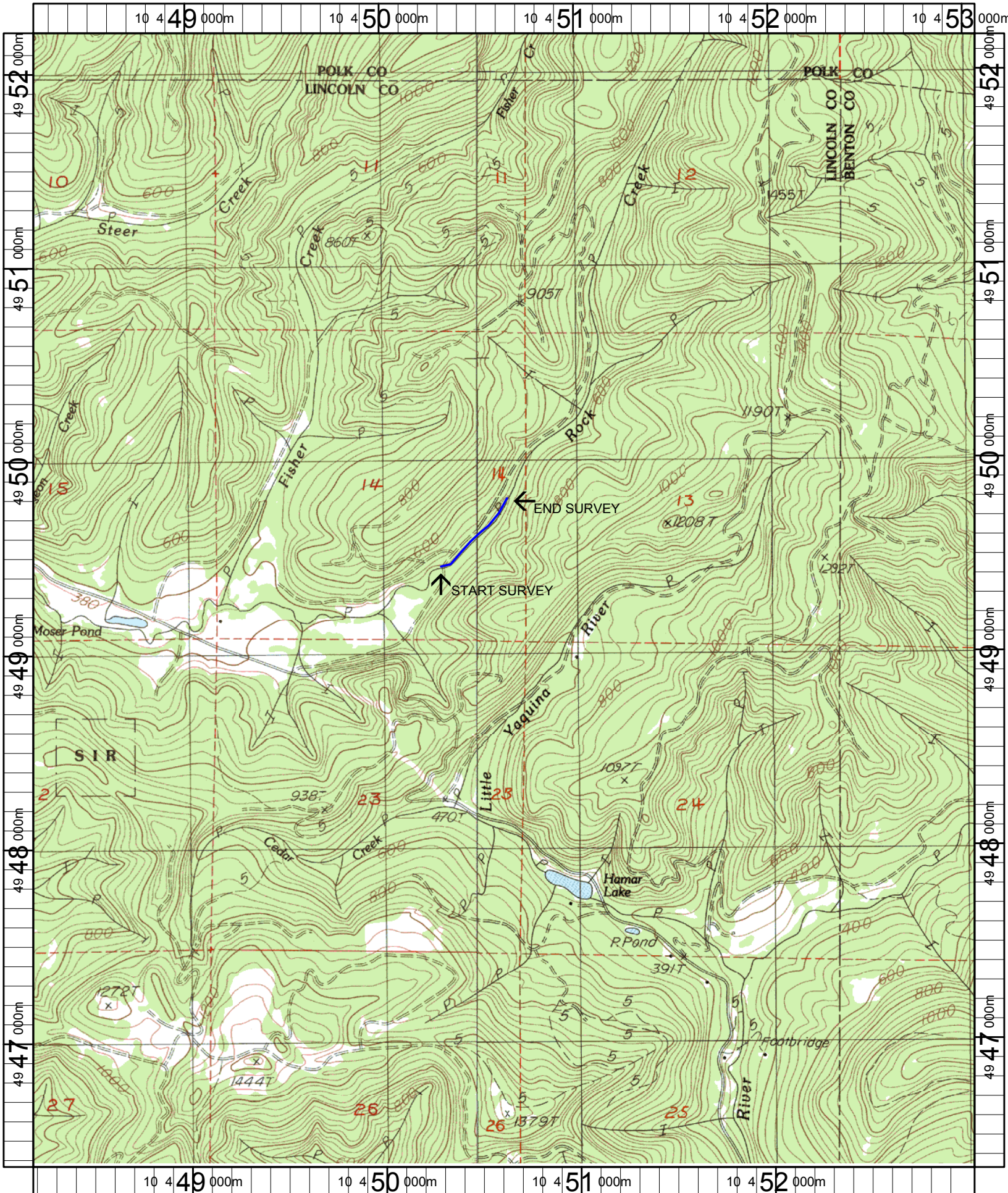
POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	15	25.2	27.2
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	4	6.7	7.3
Pool frequency (channel widths/pool):	5.8		
Residual pool depth (avg):	0.38		

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **44** LITTLE ROCK CREEK LOWER POST-

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
2	LP	00	31.2	HS		FOUR LOGS
4	IP	10	60.2			RSN
6	SL	00	71.1			H = 0.3
7	RI	00	82.3	BV		
8	LP	01	96.1	/TJ		T = 8.5
16	LP	00	211.4	HS		
17	RI	01	220.8	/TJ		
20	RI	00	270.3	SS/, HSx2		FOUR LOGS AND THREE LOGS
28	LP	00	413.8	HS		SEVEN LOGS
29	RI	00	441.3	BV		
31	RI	01	490.7	/TJ		
35	RI	01	551.6	HS, DJ		FIVE LOGS



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

Location: 10 450622 E 4949274 N
 Caption: LITTLE ROCK CREEK LOWER #44 RESTORATION SITE -
 SILETZ BASIN