

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

STREAM: Salmon Creek (MC-58)
BASIN: Yaquina River
SURVEY TYPE: Post-Tx
DATE: July 24, 2006
SURVEY CREW: Brian Bangs, Paul Jacobsen
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 6.6 km²
USGS MAPS: Harlan
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Salmon Creek habitat survey extended 369 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 7.2 (range: 5.0-9.0). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 1.7 percent. Scour pools (75%) dominated stream habitat. Bedrock (29%) and gravel (29%) dominated stream substrate. Wood volume was moderate at 23.6 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 Salmon Creek (MC-58)
 Basin Yaquina River
 Treatment Large Wood

	ODFW Benchmark		Pre 6/30/99	Post 6/20/00	Post 7/24/06		
Habitat Variable	Desirable	Undesirable					
% Pool Area	>35%	<10%	70.9	61.6	75.2		
Number of Pools			20	12	18		
Deep Pools/km (>1.0 m)			5.2	2.6	2.7		
% Off-Channel			1.6	0.3	0.1		
LWD – Pieces/100m	>20	<10	9.1	12.3	10.0		
LWD – Volume/100m	>30	<20	3.6	29.1	23.6		
LWD – Key Pieces/100m	>3	<1	0.0	2.4	1.1		
Large Wood Jams/km			5.5	10.7	8.1		
% Riffle Fines	<10	>20	10	11	12		
% Riffle Gravel	>35	<15	37	52	42		
% Bedrock			33	25	29		

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. However, large wood appears to be leaving the reach with little additional recruitment. This may be due to the riparian being dominated by relatively small alder and conifer. Deep pools were reduced, but that may be a symptom of stream flows rather than an actual change. Pool area has remained constant and may not see any increase. Substrate has also remained mostly unchanged.

REACH 1

T11S-R09W-S13SW

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	7.2	VWI Range:	5 - 9

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary Channel	369	1,303	0
Secondary Channel	0	0	0
Off-Channel Units	5	1	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 3.3	Width: 8.2	11.0 (8 - 14.5)	12.8 (10.1 - 16.9)
Depth: 0.28	Height: 0.5	0.9 (0.8 - 1)	1.0 (0.95 - 1.1)

W:D ratio: 18.4

Entrenchment (ACW:FPW ratio): 1.4

Stream Flow Type: LF

Habitat Units/100m (total channel length): 9.1

Average Unit Gradient: 1.7%

Habitat Units/100m (primary channel length): 9.2

Water temperature (°C): 14.5 - 14.5

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	4%	Reach avg: 97%
Undercut Banks:	10%	Range: 78 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	37	10.0
Volume (m ³):	87	23.6
Key pieces (>=12m x 0.60m):	4	1.1

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/24/2006

REACH 1		T11S-R09W-S13SW					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	5	0.2	0.01	1	0	5	10	50	20	15	0
GLIDE	1	11	5.5	0.15	59	7	15	30	15	10	10	20
POOL-LATERAL SCOUR	18	243	3.9	0.47	980	21	11	23	22	9	4	30
RAPID/BEDROCK	1	23	3.2	0.02	73	1	1	1	0	0	5	93
RIFFLE	3	54	1.9	0.06	99	7	2	10	42	16	5	25
STEP/BEDROCK	2	9	0.8	0.06	8	0	0	0	2	0	0	97
STEP/COBBLE	7	26	3.3	0.05	79	8	2	12	51	20	8	8
STEP/LOG	1	3	2.0	0.01	6	0	15	50	35	0	0	0
Total:	34	374	3.3	0.28	1,304	44	Avg: 8	18	29	11	5	29

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	0	0			0	0.00%	0	0.0	
Scour Pools	18	243	3.9	0.47	980	75.17%	21	2.1	
Glides	1	11	5.5	0.15	59	4.51%	7	11.9	
Riffles	3	54	1.9	0.06	99	7.57%	7	7.1	
Rapids	1	23	3.2	0.02	73	5.57%	1	1.4	
Cascades	1	5	0.2	0.01	1	0.08%	0	0.0	
Step/Falls	10	38	2.6	0.05	93	7.10%	8	8.6	
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:	18	48.2	48.8
Pools >=1m deep:	1	2.7	2.7
Complex pools (LWD pieces>=3):	4	10.7	10.9
Pool frequency (channel widths/pool):	2.5		
Residual pool depth (avg):	0.42		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

SALMON CREEK POST-TX
GCG: 2-MC SITE ID: 58

Survey Date 7/24/2006
Report Date: 3/5/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	1788
Total conifers/1000 ft	305
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	8.3	1.0	7.7	1.7	8.3	3.0	24.3
15-30cm	0.7	0.7	0.3	1.0	0.3	0.7	1.3	2.3
30-50cm	0.0	1.0	0.0	0.7	0.7	0.7	0.7	2.3
50-90cm	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.0	10.0	1.3	9.3	2.7	10.0	1.7	9.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	84		87		88	
Shrub cover	42		43		24	
Grass/forb cover	49		38		59	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	50		50		50	
High terrace	50		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 (%)	36		30		28	

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	1788
Total conifers/1000 ft	305
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	3.0	24.3
15-30cm	1.3	2.3
30-50cm	0.7	2.3
50-90cm	0.0	0.3
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

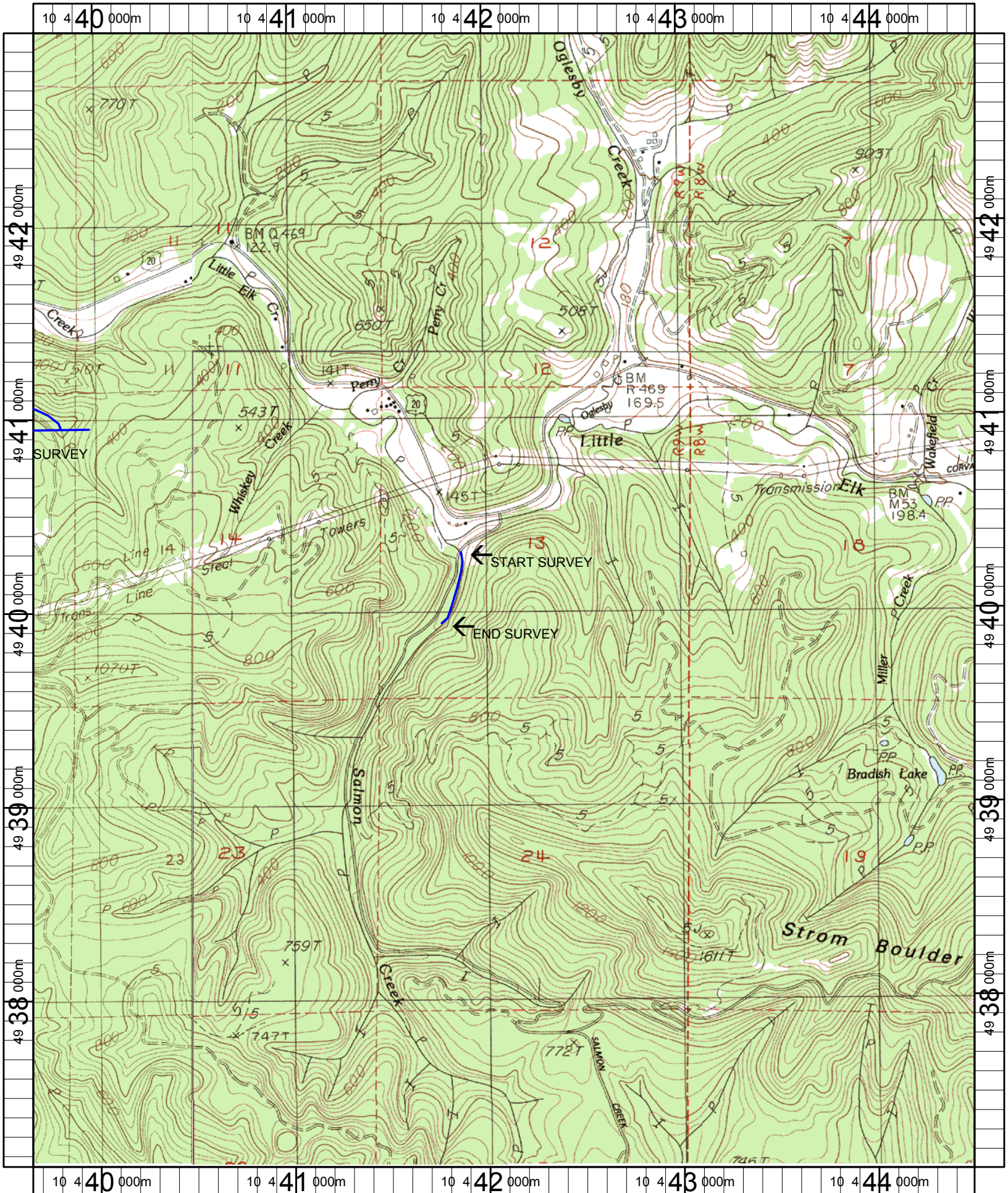
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
8	LF	1	HT	0	85	70	30	Conifer							UTM 0441904-4940354 2D
								Hardwood	5						
8	RT	3	HS	55	95	5	100	Conifer	3						
								Hardwood	15						
8	RT	2	HS	70	95	5	95	Conifer							
								Hardwood	2		1				
8	RT	1	HS	50	75	10	90	Conifer							
								Hardwood	7		1				
8	LF	2	HT	0	85	80	20	Conifer							
								Hardwood	2						
8	LF	3	HT	0	90	60	40	Conifer							
								Hardwood	2	1	1				
20	LF	1	HT	0	95	45	55	Conifer	1						UTM 0441734-4940400 2D
								Hardwood	1		1				
20	LF	2	HT	0	85	50	50	Conifer							
								Hardwood	7						
20	LF	3	HT	0	75	5	95	Conifer							
								Hardwood	1						
20	RT	1	HS	90	80	90	10	Conifer							
								Hardwood	2	2	1				
20	RT	2	HS	80	85	80	0	Conifer							20% OPEN
								Hardwood	5	2	1				
20	RT	3	HS	80	85	25	75	Conifer							
								Hardwood	3	1	1	1			
27	LF	3	HS	35	90	45	40	Conifer	2						10% OPEN
								Hardwood	4						
27	RT	1	HT	0	80	15	30	Conifer			2				55% OPEN
								Hardwood	2						
27	RT	2	HT	0	90	0	1	Conifer	1	1					100% OPEN
								Hardwood		1					
27	RT	3	HT	0	95	5	5	Conifer			1	2			90% OPEN
								Hardwood							
27	LF	1	HS	75	90	20	80	Conifer							NO GPS COVERAGE
								Hardwood	8						
27	LF	2	HS	27	80	40	60	Conifer	2						
								Hardwood	7						

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **58** **SALMON CREEK POST-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	SC	00	5		CT-MT,ST/RR,D15/S	T=14.5C
2	LP	00	30.7		FRY, ROOSTER	JUVENILE FISH
3	SR	00	35.4		BAND-TAILED PIGEON	
4	LP	00	46.9		SONG SPARROW	
5	RI	00	79.6		STELLARS JAR	
6	LP	00	91.7	HS	HS, PACIFIC SLOPE FLYCAT	JUVENILE FISH
8	LP	00	103.6		CA-CT,ST/YT,D30/S	JUVENILE FISH
10	LP	00	117.1			JUVENILE FISH
12	LP	00	126.6			JUVENILE FISH
16	LP	00	165.1	HS, BV	HS	
18	LP	00	181.7			JUVENILE FISH
19	LP	00	198.7			JUVENILE FISH
20	LP	00	213.2	HS	CA-MT,ST/YT,D30/S; HS	SITE #3
22	LP	00	249.5		FRY	
27	RI	01	304.7	TJ/	CA-MT, ST/YT,D30/S	
28	CB	11	304.7		ACW=0.50M	
31	GL	00	321.5		FRY	
32	SL	00	324.5	HS	H=0.60M, HS, DJ	H=0.60M
33	LP	00	345.8		FRY, BV	
34	RR	00	368.5		CA-MT, ST/YT,D30/S	



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

Location: 10 442094 E 4940050 N
 Caption: SALMON CREEK RESTORATION SITE - YAQUINA BASIN