

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

STREAM: Roaring River Tributary (W-56)
BASIN: South Santiam River
SURVEY TYPE: Post-Tx
DATE: July 27, 2006
SURVEY CREW: Annette Garrigues, Sharon Tippery, Jeff Snyder
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 4.4 km²
USGS MAPS: Jordan
ECOREGION: Willamette Valley Foothills

GENERAL DESCRIPTION:

The Roaring River Tributary habitat survey extended 442 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 7.6 (range: 3.9-11.0). Land use for the reach was young (3-15 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 3.5 percent. Riffles (63%) dominated stream habitat. Cobble (26%) and gravel (25%) dominated stream substrate. Wood volume was very high at 48.2 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 Roaring River Tributary (W-56)
 Basin South Santiam River
 Treatment Large Wood

	ODFW Benchmark		Pre 6/19/00	Post 7/17/01	Post 7/27/06		
Habitat Variable	Desirable	Undesirable					
% Pool Area	>35%	<10%	9.2	12.1	14.6		
Number of Pools			10	14	14		
Deep Pools/km (>1.0 m)			0	0	0		
% Off-Channel			10.6	7.8	29.8		
LWD – Pieces/100m	>20	<10	16.9	53.3	29.8		
LWD – Volume/100m	>30	<20	21.4	150.5	48.2		
LWD – Key Pieces/100m	>3	<1	0.8	8.3	5.2		
Large Wood Jams/km			7.9	28.9	27.1		
% Riffle Fines	<10	>20	31	33	18		
% Riffle Gravel	>35	<15	31	23	34		
% Bedrock			4	5	15		

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 following treatment. However, with time, wood seems to be leaving the reach with little additional recruitment. Pool area and the number of pools have increased, but no deep pools have formed, at least at summer flows. Substrate remains unchanged. Off channel habitat has increased with time.

REACH 1 T11S-R01E-S05SW 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	7.6	VWI Range:	3.9 - 11

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	442	1,492	0
Secondary Channel	201	613	0
Off-Channel Units	13	20	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 4
Width: 3.1	Width: 4.0	8.9 (4.45 - 15.5)	11.1 (6.45 - 19.5)
Depth: 0.20	Height: 0.4	0.8 (0.7 - 0.8)	1.6 (1.3 - 1.7)

W:D ratio: 10.7 Entrenchment (ACW:FPW ratio): 2.1
Stream Flow Type: LF Habitat Units/100m (total channel length): 7.3
Average Unit Gradient: 3.5% Habitat Units/100m (primary channel length): 10.8
Water temperature (°C): 12.0 - 12.0

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	21%	Reach avg: 99%
Undercut Banks:	7%	Range: 89 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	132	29.8
Volume (m ³):	213	48.2
Key pieces (>=12m x 0.60m):	23	5.2

OREGON DEPT OF FISH AND WILDLIFE ROARING RIVER TRIBUTARY POST-TX (8-W, 56)

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/27/2006

REACH 1		T11S-R01E-S05SW					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	13	1.5	0.20	20	0	90	10	0	0	0	0
POOL-LATERAL SCOUR	12	75	3.5	0.33	281	0	31	33	17	9	0	10
POOL-STRAIGHT SCOUR	1	6	1.6	0.40	10	0	0	0	10	0	0	90
RAPID/BEDROCK	4	37	2.8	0.10	100	2	0	0	0	8	0	93
RAPID/BOULDERS	6	109	3.1	0.16	368	153	0	12	28	37	24	0
RIFFLE	22	411	3.2	0.16	1,335	119	1	17	34	39	7	1
STEP/BEDROCK	1	1	1.1	0.10	1	0	0	0	0	0	0	100
STEP/COBBLE	1	4	2.8	0.10	10	0	0	0	60	40	0	0
Total:	48	656	3.1	0.20	2,125	274	Avg: 10	18	25	26	6	15

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	1	13	1.5	0.20	20	0.93%	0	0.0	
Scour Pools	13	81	3.4	0.33	291	13.69%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	22	411	3.2	0.16	1,335	62.83%	119	8.9	
Rapids	10	146	2.9	0.14	468	22.01%	155	33.1	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	2	5	2.0	0.10	11	0.53%	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:	14	21.3	31.6
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	2	3.0	4.5
Pool frequency (channel widths/pool):	11.6		
Residual pool depth (avg):	0.31		

Survey Date 7/27/2006
Report Date: 3/5/2007

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	589
Total conifers/1000 ft	183
Total conifers >20" dbh/1000 ft	41
Total conifers >35" dbh/1000 ft	41

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	3.0	0.0	0.7	0.0	0.7	0.0	4.3
15-30cm	0.0	0.7	0.7	1.0	0.3	0.7	1.0	2.3
30-50cm	0.3	0.7	0.3	1.0	0.7	0.0	1.3	1.7
50-90cm	0.0	0.3	0.0	0.3	0.0	0.3	0.0	1.0
>90cm	0.3	0.0	0.0	0.3	0.3	0.0	0.7	0.3
Total/100m2	0.7	4.7	1.0	3.3	1.3	1.7	1.0	3.2

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	73		70		66	
Shrub cover	52		47		37	
Grass/forb cover	32		17		25	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	50		83		67	
High terrace	50		17		17	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		17	
Riprap	0		0		0	
Surface slope (%)	13		26		20	

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	589
Total conifers/1000 ft	183
Total conifers >20" dbh/1000 ft	41
Total conifers >35" dbh/1000 ft	41

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	4.3
15-30cm	1.0	2.3
30-50cm	1.3	1.7
50-90cm	0.0	1.0
>90cm	0.7	0.3

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		
19	LF	1	HS	18	70	50	20	Conifer				1			HS/HT, UTM 0523600-4942668-3D
								Hardwood					1		
19	LF	2	HS	51	60	70	10	Conifer							
								Hardwood				1			
19	LF	3	RB	3	60	0	20	Conifer							HS/RB, GRAVEL RB
								Hardwood					1		
19	RT	1	HT	4	85	90	10	Conifer							
								Hardwood		2					
19	RT	3	HT	2	70	60	10	Conifer							
								Hardwood	2						
19	RT	2	HT	0	70	80	10	Conifer			2				
								Hardwood			1				
29	LF	2	HS	39	80	30	20	Conifer							UTM 0523624-4942770-3D
								Hardwood	2						
29	RT	3	HS	27	80	40	10	Conifer			1	1			
								Hardwood							
29	RT	2	HS	22	90	10	10	Conifer							
								Hardwood							
29	LF	3	HS	35	75	20	60	Conifer						1	
								Hardwood							
29	LF	1	HS	17	70	20	40	Conifer						1	HS/HT TRANS
								Hardwood							
29	RT	1	HS	16	80	50	70	Conifer							HS/HT TRANS
								Hardwood	8						
45	RT	2	HS	24	40	50	10	Conifer							
								Hardwood		2	2				
45	RT	1	HT	9	60	70	10	Conifer							TRANS
								Hardwood				1			
45	LF	3	HS	31	80	30	40	Conifer				1			
								Hardwood			1				
45	LF	2	HS	20	80	40	40	Conifer				1			UTM 0523657-4942940-3D
								Hardwood					1	1	
45	LF	1	HT	16	75	30	40	Conifer							HT TRANS/HS
								Hardwood	1		1				
45	RT	3	HS	23	30	70	10	Conifer							LOGGED AREA
								Hardwood			1				

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **8-W** SITE ID: **56** ROARING RIVER TRIBUTARY POST-

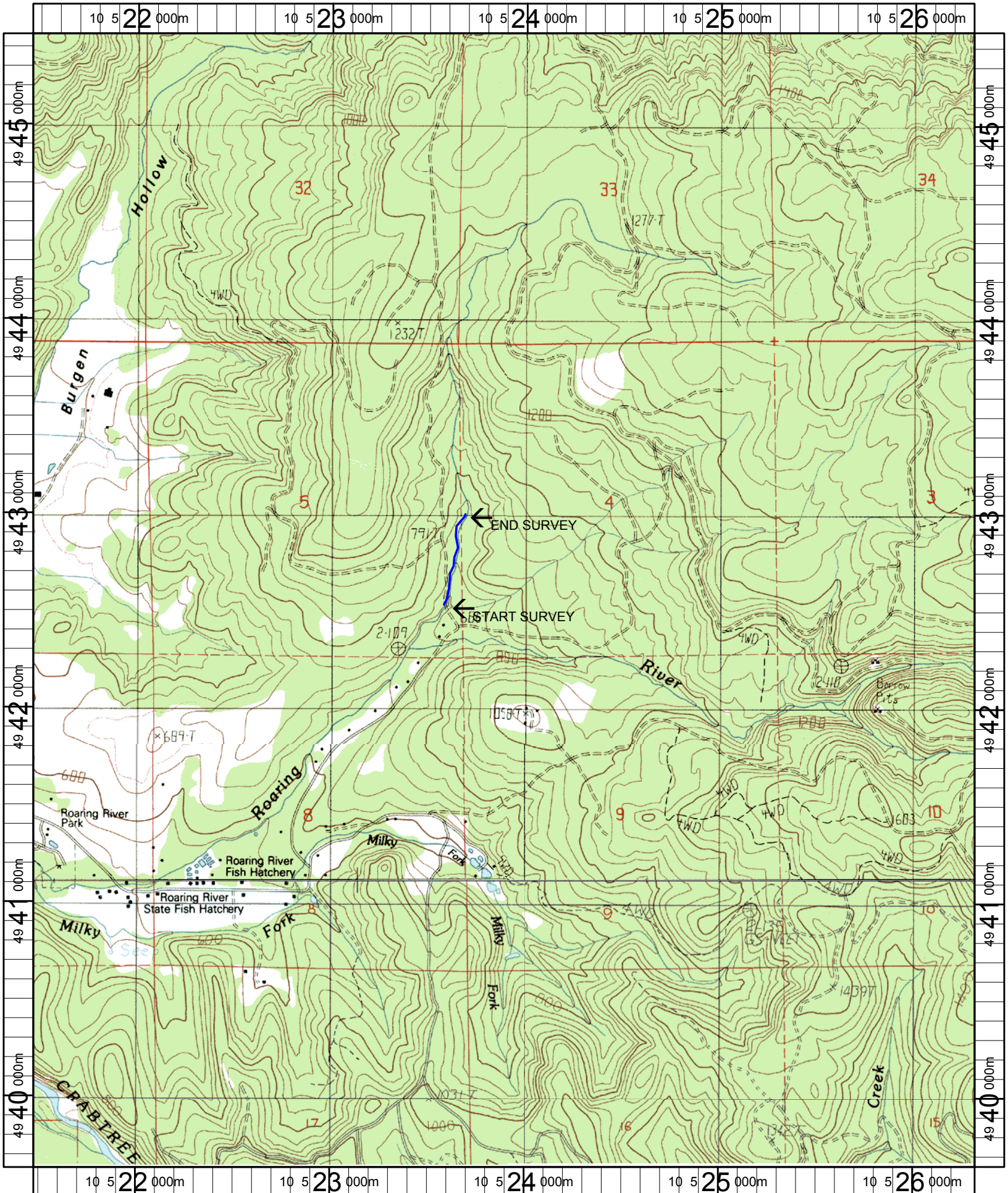
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	01	7			T=18.0C
4	SR	00	12.9		H=0.20M	HARDPAN, H=0.20M
16	RI	01	138.7	HS	HS	
18	RI	02	138.7	HS		
19	RI	00	149.8	DJ, SS/	SS/	
20	RI	00	174.9	HS		T=12.0C AT 1020 HRS
21	RI	00	199.9	HS	T=12.0C	
22	LP	00	207.8	DJ		
23	RI	01	225.9	HS		
24	RB	01	244.4	DJ		
25	RB	02	244.4	DJ		
26	RI	02	244.4	DJ		
27	LP	02	244.4	HS		
29	RI	02	244.4	HS	HS	
31	RB	00	275.8		HS	
32	RI	00	305.3	HS		
33	LP	00	310.4	HS		
35	LP	01	330	HS		
39	RI	01	351.5	HS		
40	LP	01	359	HS, SS/	SS/	
42	LP	01	370.9	HS		

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 8-W SITE ID: 56 ROARING RIVER TRIBUTARY POST-

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
44	LP	00	400.4			FISH
48	LP	00	442.4			END SURVEY AT 1430 HR



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

Location: 10 523888 E 4942557 N
 Caption: ROARING RIVER TRIBUTARY RESTORATION SITE - SOUTH
 SANTIAM BASIN