

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

STREAM: Wolf Creek (MC-108)  
BASIN: Yaquina River  
SURVEY TYPE: Post-Tx  
DATE: July 11, 1007  
SURVEY CREW: Jeff Snyder, Josh Togstad  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 6.9 km<sup>2</sup>  
USGS MAPS: Harlan  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Wolf Creek habitat survey extended 490 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 9.0 (range: 7.0-10.0). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 0.9 percent. Scour pools (44%), riffles (29%) and rapids (22%) dominated stream habitat. Sand (28%) and silt (22%) dominated stream substrate. Wood volume was moderate at 21.1 m<sup>3</sup>/100m.

**COMMENTS:**

There were no potential barriers to upstream fish migration in the surveyed length.

The crew noted several habitat structures during the survey.

REACH 1

T11S-R08W-S31NW

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	9.0	VWI Range:	7 - 10

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	490	1,743	0
Secondary Channel	0	0	0
Off-Channel Units	34	31	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 3.1	Width: 5.9	6.9 ( 6.1 - 7.7 )	9.8 ( 7.4 - 12 )
Depth: 0.24	Height: 0.3	0.7 ( 0.5 - 0.8 )	1.3 ( 0.92 - 1.8 )

W:D ratio: 18.8  
 Stream Flow Type: LF  
 Average Unit Gradient: 0.9%  
 Water temperature (°C): 17.0 - 17.0

Entrenchment (ACW:FPW ratio): 1.2  
 Habitat Units/100m (total channel length): 8.0  
 Habitat Units/100m (primary channel length): 8.6

**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:	3%	Reach avg: 88%
Undercut Banks:	7%	Range: 69 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	108	22.1
Volume (m <sup>3</sup> ):	104	21.1
Key pieces (>=12m x 0.60m):	2	0.4

OREGON DEPT OF FISH AND WILDLIFE

WOLF CREEK POST-TX (2-MC, 108)

HABITAT INVENTORY

Report Date: 11/14/2007

Survey Date:

7/9/2007

REACH 1		T11S-R08W-S31NW					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
CULVERT CROSSING	1	17	3.5	0.20	58	0	30	20	30	15	5	0
POOL-BACKWATER	1	2	3.3	0.35	7	0	60	40	0	0	0	0
POOL-ISOLATED	2	3	1.0	0.18	3	0	85	3	13	0	0	0
POOL-LATERAL SCOUR	12	172	4.0	0.48	719	1	30	43	10	9	0	8
POOL-STRAIGHT SCOUR	2	15	3.9	0.50	58	4	25	55	10	8	3	0
PUDDLED UNIT	1	10	0.5	0.05	5	0	95	0	5	0	0	0
RAPID/BEDROCK	6	89	4.5	0.12	389	0	7	14	2	3	0	75
RIFFLE	13	206	2.3	0.11	520	1	9	26	24	25	4	11
STEP/COBBLE	3	9	1.4	0.08	11	0	0	7	18	55	0	20
STEP/LOG	1	1	4.0	0.07	3	0	10	30	50	10	0	0
<b>Total:</b>	42	524	3.1	0.24	1,774	6	<b>Avg:</b> 22	28	15	16	2	18

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	3	5	1.7	0.23	10	0.57%	0	0.0	
Scour Pools	14	187	4.0	0.49	777	43.82%	5	0.6	
Glides	0	0			0	0.00%	0	0.0	
Riffles	13	206	2.3	0.11	520	29.29%	1	0.2	
Rapids	6	89	4.5	0.12	389	21.95%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	4	10	2.1	0.08	14	0.79%	0	0.0	
Dry	1	10	0.5	0.05	5	0.28%	0	0.0	
Culverts	1	17	3.5	0.20	58	3.29%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	17	32.4	34.7
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	8	15.3	16.3
Pool frequency (channel widths/pool):	5.2		
Residual pool depth (avg):	0.39		

Survey Date 7/10/2007

**RIPARIAN ZONE**

Report Date: 11/7/2007

**VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	366
Total conifers/1000 ft	427
Total conifers >20" dbh/1000 ft	122
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	1.7	0.0	0.0	0.0	0.0	0.0
15-30cm	0.7	0.7	0.7	0.3	0.3	1.7	1.7	2.7
30-50cm	1.3	1.3	1.3	0.3	0.7	0.0	3.3	1.7
50-90cm	1.0	0.0	0.0	0.0	1.0	0.0	2.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	3.0	3.7	2.0	0.7	2.0	1.7	2.3	2.0

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	Conifer (%)		Conifer (%)		Conifer (%)	
	Canopy closure	70	65	58		
Shrub cover	61	61	63			
Grass/forb cover	39	39	37			

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	Conifer (%)		Conifer (%)		Conifer (%)	
	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 (%)	15	13	13			

**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	366
Total conifers/1000 ft	427
Total conifers >20" dbh/1000 ft	122
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	0.0	1.7
15-30cm	1.7	2.7
30-50cm	3.3	1.7
50-90cm	2.0	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	
11	LT	1	HT	0	80	70	30	Conifer				2		
								Hardwood						
11	LT	2	HT	1.5	55	60	40	Conifer			1			
								Hardwood						
11	LT	3	HT	2	70	50	50	Conifer				1		
								Hardwood						
11	RT	1	HS	47	85	40	60	Conifer						
								Hardwood	1		3			
11	RT	2	HS	43	85	60	40	Conifer						LARGE BIGLEAF MAPLE
								Hardwood						
11	RT	3	HS	45	75	70	30	Conifer						
								Hardwood						
27	LT	1	HT	0	75	60	40	Conifer				1	1	
								Hardwood		1				
27	LT	2	HT	0	85	40	60	Conifer				1		
								Hardwood						
27	LT	3	HT	0	70	90	10	Conifer				2	1	
								Hardwood						
27	RT	1	HS	30	80	90	10	Conifer						
								Hardwood	4					
27	RT	2	HS	19	80	80	20	Conifer				1		
								Hardwood				1		
27	RT	3	HS	4	75	80	20	Conifer					1	
								Hardwood						
37	LT	1	HT	0	60	55	45	Conifer			1	3		
								Hardwood						
37	LT	2	HT	0	50	70	30	Conifer				1		
								Hardwood		1				
37	LT	3	HT	0	30	30	70	Conifer				1		
								Hardwood		1				
37	RT	1	HS	15	40	50	50	Conifer			1			ZONE 1-HS/HT
								Hardwood		1	1			
37	RT	2	HS	15	35	55	45	Conifer			2			
								Hardwood						
37	RT	3	HS	28	30	60	40	Conifer						
								Hardwood		4				

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 108      STREAM: WOLF CREEK POST-TX

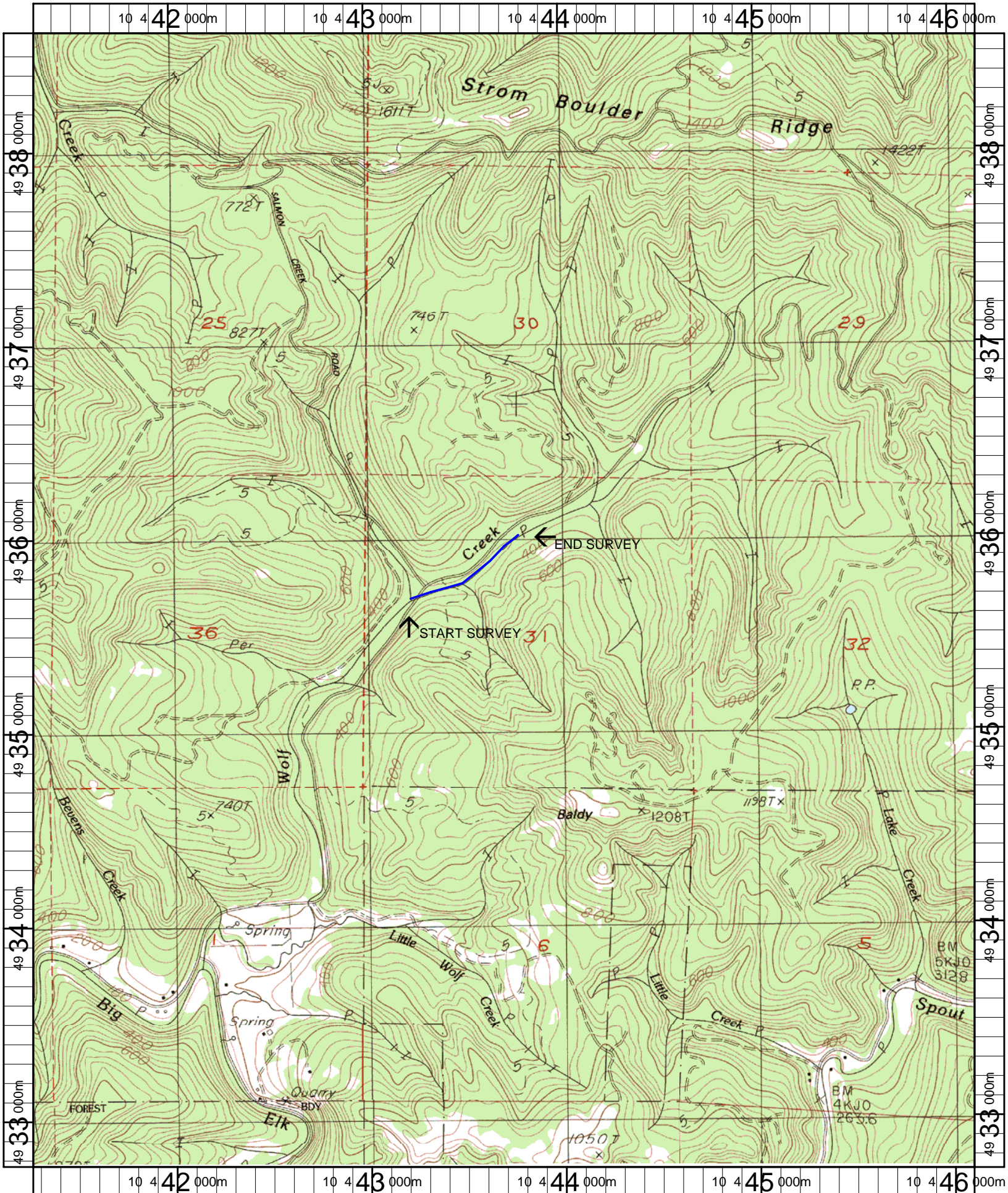
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	CC	00	16.7	CO, RSN,CC	CC HT = 2.3
2	SP	00	25.6	CO	
4	RI	00	53.1	CO, WL	DEER TRACKS
6	LP	00	80.9	CO, WL	
8	LP	00	99.7	HS, CO, WL	
9	RR	00	117	COT	
10	LP	00	129.7	RSN/CO/COT	
11	RI	00	142	CO, RSN	METRIC 2
12	RR	00	149	CO	
13	RR	01	163.8	HS, CO,RSN	
14	RI	11	163.8	RSN	10T-044390
15	RI	00	190.9	CO	
16	LP	00	208.7	HS, CO	
17	RI	00	238.5	CO, WL	
20	LP	01	252.5	CO	
21	PD	11	252.5		10T- 0443439
24	RI	11	273.4		10T- 0443448
26	LP	00	304.2	CO, WL, HS	CF
27	RI	00	327.7	WL	RIP 2
28	LP	00	336.6	CO	
30	RI	00	350.3	CO	
31	LP	00	359.2	CO	

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 108      STREAM: WOLF CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
33	LP	00	388.1	RSN, CO	
34	IP	10	388.1	RSN	
35	RI	00	416.1	CO	
36	IP	10	416.1	CO, RSN	
37	RI	00	425.8		RIP 3
38	LP	00	437.1	CO	
39	SC	00	441.6	RSN	
40	LP	00	450.4	CO	
41	RR	00	475.4	RSN	
42	RR	00	489.7	RSN	





Name: HARLAN  
 Date: 5/9/2007  
 Scale: 1 inch equals 2000 feet

Location: 10 443701 E 4935674 N  
 Caption: WOLF CREEK RESTORATION SITE - YAQUINA BASIN