

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

STREAM: Russell Creek (W-298)  
BASIN: Molalla River  
SURVEY TYPE: Post-Tx  
DATE: February 23, 2006  
SURVEY CREW: Scott Venables, Seth Ring  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 7.5 km<sup>3</sup>  
USGS MAPS: Wilhoit  
ECOREGION: Willamette River and Tributaries Gallery Forest

**GENERAL DESCRIPTION:**

The Russell Creek habitat survey extended 613 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 12.7 (range: 1.8-20.0). Land use for the reach was mature (50-90 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 2.5 percent. Beaver pools (95%) dominated stream habitat. Silt (30%), cobble (24%) and boulders (22%) dominated stream substrate. Wood volume was high at 33.0 m<sup>3</sup>/100m.

**COMMENTS:**

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

The upper half of the survey was dominated by one very large and several smaller beaver ponds.

REACH 1

T05S-R02E-S36NW

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	12.7	VWI Range:	1.8 - 20

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	100%	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	613	26,450	0
Secondary Channel	191	349	2
Off-Channel Units	35	56	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 12.3	Width: 57.5	66.2 ( 10.6 - 160 )	75.2 ( 16.8 - 163 )
Depth: 0.31	Height: 0.5	1.0 ( 0.4 - 1.5 )	3.4 ( 1.7 - 9.3 )

W:D ratio: 276.5

Entrenchment (ACW:FPW ratio): 2.1

Stream Flow Type: MF

Habitat Units/100m (total channel length): 5.1

Average Unit Gradient: 2.5%

Habitat Units/100m (primary channel length): 7.0

Water temperature (°C): 5.0 - 5.0

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	MT	ST
Riparian Vegetation:	D30	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):	203	33.1
Volume (m <sup>3</sup> ):	202	33.0
Key pieces (>=12m x 0.60m):	8	1.3

HABITAT INVENTORY

Report Date: 1/24/2007

Survey Date:

2/23/2006

REACH 1		T05S-R02E-S36NW					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
CASCADE/BOULDERS	5	99	3.3	0.18	335	0	0	1	8	22	69	0
POOL-BACKWATER	2	7	2.2	0.30	16	0	48	8	43	3	0	0
POOL-BEAVER DAM	4	352	52.9	1.14	25,437	0	95	3	1	0	1	0
POOL-LATERAL SCOUR	6	33	2.9	0.50	104	0	16	17	13	34	18	2
POOL-PLUNGE	1	4	3.5	0.50	12	0	0	0	5	20	70	5
PUDDLED UNIT	2	65	0.5	0.02	29	0	35	3	10	28	25	0
RAPID/BOULDERS	11	161	3.0	0.17	480	0	3	5	23	36	33	0
RIFFLE	5	112	1.9	0.17	196	0	41	16	32	9	1	1
STEP/BEAVER DAM	4	6	55.7	0.15	242	0	100	0	0	0	0	0
STEP/BEDROCK	1	1	3.1	0.05	2	0	0	0	0	0	0	100
STEP/BOULDERS	1	1	0.6	0.50	0	0	0	0	0	90	10	0
STEP/LOG	1	0	4.9	0.03	1	0	0	0	10	90	0	0
<b>Total:</b>	<b>43</b>	<b>839</b>	<b>12.3</b>	<b>0.31</b>	<b>26,855</b>	<b>0</b>	<b>Avg: 30</b>	<b>6</b>	<b>15</b>	<b>24</b>	<b>22</b>	<b>3</b>

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	6	359	36.0	0.86	25,453	94.78%	0	0.0
Scour Pools	7	36	2.9	0.50	116	0.43%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	5	112	1.9	0.17	196	0.73%	0	0.0
Rapids	11	161	3.0	0.17	480	1.79%	0	0.0
Cascades	5	99	3.3	0.18	335	1.25%	0	0.0
Step/Falls	7	8	33.1	0.17	246	0.92%	0	0.0
Dry	2	65	0.5	0.02	29	0.11%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

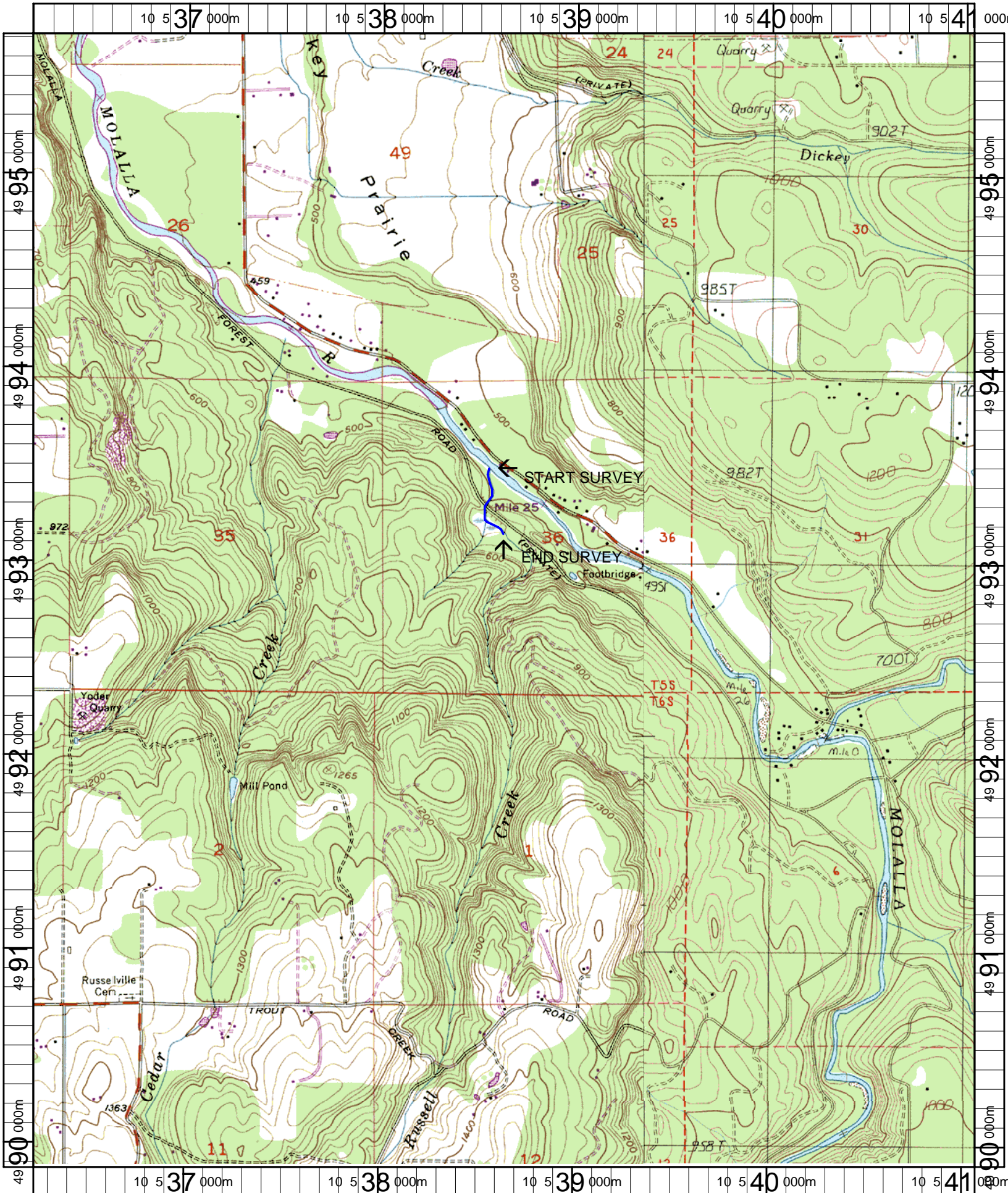
POOL SUMMARY			
	Total	Total of all Channel Lengths	Primary Channel Length
		# / Km	# / Km
All Pools:	13	15.5	21.2
Pools >=1m deep:	2	2.4	3.3
Complex pools (LWD pieces>=3):	2	2.4	3.3
Pool frequency (channel widths/pool):	1.1		
Residual pool depth (avg):	0.62		

# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **8-W**      SITE ID: **298**      **RUSSELL CREEK POST-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	19		T=5.0C AT 9:38	
2	SD	00	19.7	BD	CT-MT, MT-ST,D30-S	
3	BP	00	48	BV		
7	RI	01	99.5	/TJ		
8	RI	11	99.5		ACW=2.1M, T=8.0C AT 1010	
11	SB	01	122.1		H=0.35M	
16	SL	02	151.7		H=0.40M	
25	RB	01	171.5		US-MT,ST-MT,D45,D15	
27	CB	00	220.9	BC, CS/CS		
28	LP	00	223.8	CS/CS		
30	PP	00	240.4	/SS		
31	SR	00	241.2		H=0.40M	
36	RB	01	283.2		BLOWN OUR BEAVER DAM	
37	BP	01	304.9	BV	US-MT, D30-S,ST-MT	
39	SD	00	308.4	BD	H=1.40M	
40	BP	00	558.4	BV		
41	SD	00	559.5	BD	H=0.50M	
42	BP	00	611.7	BV	US-WF,D30,G,TH,ST	
43	SD	00	612.6	BD	US-WF,D30,G,TH,ST	



Name: WILHOIT (OR)  
 Date: 2/15/2007  
 Scale: 1 inch equals 2000 feet

Location: 10 0538631 E 4992810 N  
 Caption: RUSSELL CREEK RESTORATION SITE - MOLALLA BASIN