

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

STREAM: Russell Creek (L-298)
BASIN: Molalla River
SURVEY TYPE: Post-Tx
DATE: June 23, 2006
SURVEY CREW: Annette Garrigues, Jeff Snyder
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 7.5 km²
USGS MAPS: Wilhoit
ECOREGION: Willamette River and Tributaries Gallery Forest

GENERAL DESCRIPTION:

The Russell Creek habitat survey extended 462 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 15.3 (range: 10.0-20.0). Land use for the reach was mature (50-90 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 3.3 percent. Beaver pools (95%) dominated stream habitat. Silt (33%) and boulders (23%) dominated stream substrate. Wood volume was very low at 9.3 m³/100m.

COMMENTS:

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

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	15.3	VWI Range:	10 - 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	462	18,796	0
Secondary Channel	104	132	1
Off-Channel Units	0	0	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 3	<u>First Terrace</u> n = 3
Width: 11.8	Width: 6.0	10.4 (6.2 - 12.7)	17.1 (11.8 - 23)
Depth: 0.26	Height: 0.4	0.9 (0.6 - 1)	2.8 (2.1 - 3.5)

W:D ratio: 14.0
 Stream Flow Type: MF
 Average Unit Gradient: 3.3%
 Water temperature (°C): 12.0 - 12.0

Entrenchment (ACW:FPW ratio): 2.2
 Habitat Units/100m (total channel length): 3.5
 Habitat Units/100m (primary channel length): 4.3

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:	5%	Reach avg: 62%
Undercut Banks:	5%	Range: 0 - 94

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	50	10.8
Volume (m ³):	43	9.3
Key pieces (>=12m x 0.60m):	2	0.4

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

6/23/2006

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 ²)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BOULDERS	3	78	1.8	0.13	142	255	0	0	5	13	73	8
DRY UNIT	1	6	1.5	0.00	10	0	100	0	0	0	0	0
POOL-BEAVER DAM	2	228	52.3	1.40	18,025	0	95	5	0	0	0	0
RAPID/BOULDERS	6	152	1.5	0.15	242	185	0	8	24	29	38	0
RIFFLE	6	96	1.7	0.18	144	5	29	20	29	19	3	0
STEP/BEAVER DAM	2	6	53.0	0.01	366	0	100	0	0	0	0	0
Total:	20	566	11.8	0.26	18,928	445	Avg: 33	9	17	17	23	1

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	2	228	52.3	1.40	18,025	95.23%	0	0.0	
Scour Pools	0	0			0	0.00%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	6	96	1.7	0.18	144	0.76%	5	3.5	
Rapids	6	152	1.5	0.15	242	1.28%	185	76.4	
Cascades	3	78	1.8	0.13	142	0.75%	255	179.4	
Step/Falls	2	6	53.0	0.01	366	1.93%	0	0.0	
Dry	1	6	1.5	0.00	10	0.05%	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:	2	3.5	4.3
Pools >=1m deep:	1	1.8	2.2
Complex pools (LWD pieces>=3):	1	1.8	2.2
Pool frequency (channel widths/pool):	47.2		
Residual pool depth (avg):	1.35		

Survey Date 6/23/2006
Report Date: 3/5/2007

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

Summary of Riparian Zone (0-30m) 2 transects

Total hardwoods/1000	762
Total conifers/1000 ft	823
Total conifers >20" dbh/1000 ft	122
Total conifers >35" dbh/1000 ft	61

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	1.0	1.0	1.5	1.0	3.5	6.5	6.0	8.5
15-30cm	1.0	0.5	3.0	0.0	1.0	1.5	5.0	2.0
30-50cm	0.0	0.0	0.5	0.0	0.0	1.0	0.5	1.0
50-90cm	0.0	0.5	0.5	0.5	0.5	0.0	1.0	1.0
>90cm	0.5	0.0	0.5	0.0	0.0	0.0	1.0	0.0
Total/100m2	2.5	2.0	6.0	1.5	5.0	9.0	4.5	4.2

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	58	80	50
Shrub cover	38	15	33
Grass/forb cover	60	40	43

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	25	25	25
High terrace	75	75	75
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 (%)	33	10	7

Summary of Riparian Zone (0-30m) for all reaches

2 transects

Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream

Total hardwoods/1000	762
Total conifers/1000 ft	823
Total conifers >20" dbh/1000 ft	122
Total conifers >35" dbh/1000 ft	61

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	6.0	8.5
15-30cm	5.0	2.0
30-50cm	0.5	1.0
50-90cm	1.0	1.0
>90cm	1.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

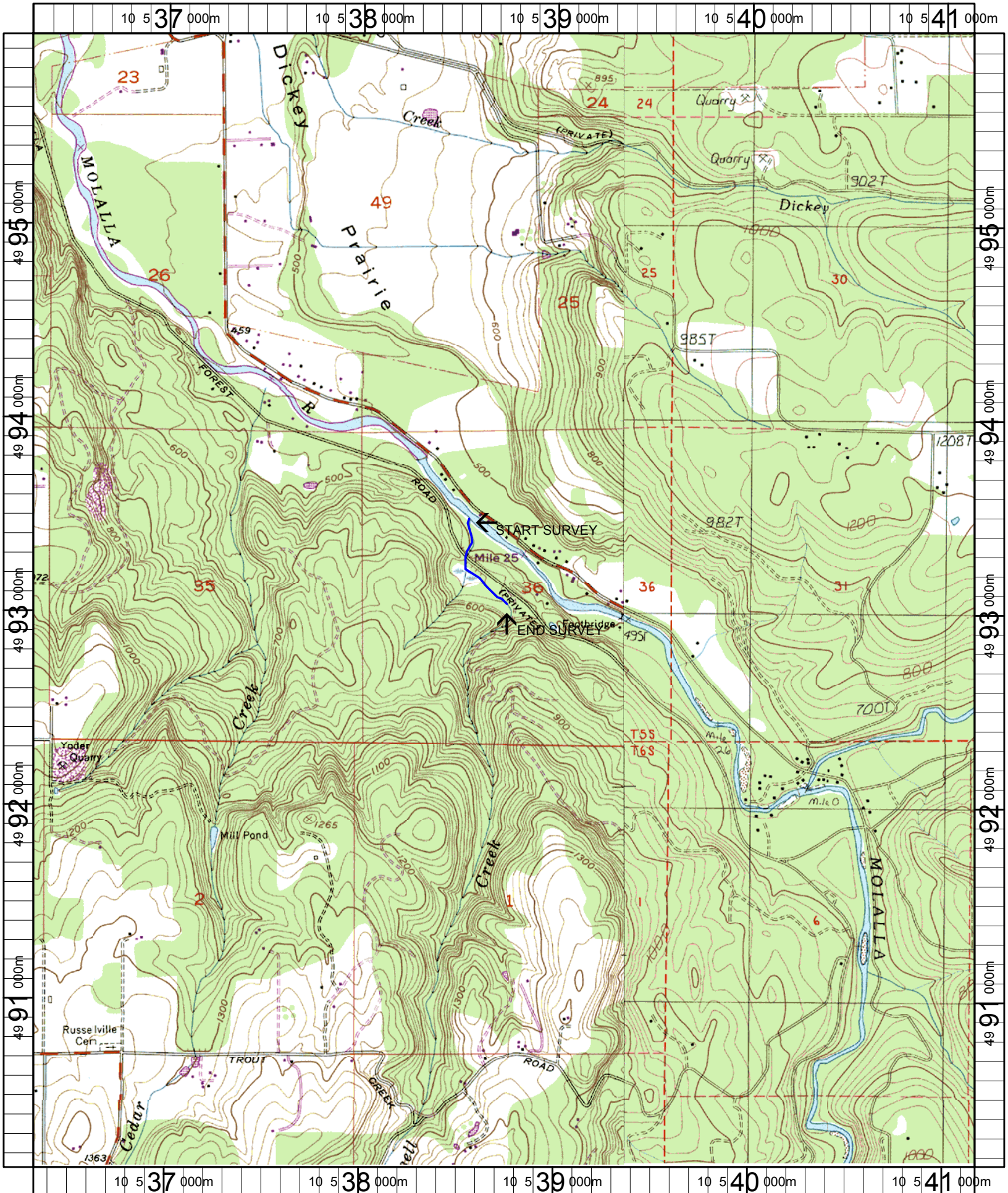
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
13	LF	1	HT	58	40	40	60	Conifer	2	1					TRANS
								Hardwood	1	1					
13	LF	2	HT	0	90	10	30	Conifer	3	5					UTM 0538545-499327-3D
								Hardwood	1						
13	LF	3	HT	2	80	40	20	Conifer	4						
								Hardwood	13						
13	RT	1	HT	7	20	40	60	Conifer						1	
								Hardwood	1						
13	RT	2	HT	8	50	40	40	Conifer							TRANS
								Hardwood							
13	RT	3	HT	2	9	20	60	Conifer	1						
								Hardwood		2	2				
17	RT	2	HT	2	90	10	60	Conifer		1	1			1	
								Hardwood	1						
17	LF	2	HS	28	90	0	30	Conifer					1		
								Hardwood					1		
17	RT	1	HT	35	90	50	60	Conifer		1					TRANS
								Hardwood							
17	LF	1	HS	33	80	20	60	Conifer							TRANS, HT/HS
								Hardwood					1		
17	RT	3	HT	6	50	60	40	Conifer							
								Hardwood		1					
17	LF	3	HS	17	60	10	50	Conifer	2	2			1		HS/RB
								Hardwood							

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 7-L SITE ID: 298 RUSSELL CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	14.7	BV		FISH
2	SD	00	17.3	BD	H=0.80M	H=0.80M
3	BP	00	67.3	BV		
4	RI	01	79.1	BV, /SS		
13	RB	00	169.9	BV	BAILS OF HAY IN STREAM	BAIL OF HAY
14	CB	00	195.6	CS/CS	CS/CS	BAILS OF HAY
15	CB	00	221.5	BC,CS/CS	BC, CS/CS	
16	CB	00	247.4	/SS	/SS	FISH
17	RB	00	273.5		RED-LEGGED FROG	
18	RI	00	280.5			BEFORE DAM
19	SD	00	284	BD	H=1.80M	H=1.80M
20	BP	00	462	BV		END SURVEY



Name: FERNWOOD
 Date: 1/6/2005
 Scale: 1 inch equals 2000 feet

Location: 10 538732 E 4993066 N
 Caption: RUSSELL CREEK RESTORATION SITE - MOLALLA BASIN