

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

STREAM: Canyon Creek (L-12)  
BASIN: Molalla River  
SURVEY TYPE: Post-Tx  
DATE: February 27, 2007  
SURVEY CREW: Matt Strickland, Sharon Tippery  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 11.3 km<sup>2</sup>  
USGS MAPS: Colton  
ECOREGION: Willamette Valley Foothills

**GENERAL DESCRIPTION:**

The Canyon Creek habitat survey extended 495 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 7.0 (range: 6.0-8.0). Land use for the reach was young (3-15 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 5.2 percent. Rapids (55%) and cascades (36%) dominated stream habitat. Gravel (36%) and cobble (33%) dominated stream substrate. Wood volume was very low at 9.2 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.

Stream Canyon Creek (L-12)  
 Basin Molalla River  
 Treatment Large Wood

	ODFW Benchmark		Pre	Post	Post		
Habitat Variable	Desirable	Undesirable	2/23/00	2/28/01	2/27/07		
% Pool Area	>35%	<10%	10.6	11.0	<b>5.2</b>		
Number of Pools			11	7	<b>5</b>		
Deep Pools/km (>1.0 m)			1.9	0.0	1.9		
% Off-Channel			1.5	1.6	1.3		
LWD – Pieces/100m	>20	<10	7.8	23.2	<b>15.6</b>		
LWD – Volume/100m	>30	<20	6.5	28.8	<b>9.2</b>		
LWD – Key Pieces/100m	>3	<1	0.6	0.9	0.0		
Large Wood Jams/km			9.8	18.6			
% Riffle Fines	<10	>20	2	0	<b>53</b>		
% Riffle Gravel	>35	<15	22	30	36		
% Bedrock			0	0	0		

**Bold** is noticeable change

Comments: Pool area as well as the number of pools have decreased with time, while there has been no long-term change in deep pools. Off-channel habitat has remained stable, while large wood values are decreasing since treatment. This loss of wood suggests that it is leaving the reach without being replenished from the riparian area or from upstream. Riffle fines are quite higher, possibly supplied from an upstream landslide or other nearby failure. The treatment appears to have been initially successful but seems to be retreating with time.

REACH 1

T05S-R03E-S24NE

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	7.0	VWI Range:	6 - 8

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	495	2,342	0
Secondary Channel	16	25	0
Off-Channel Units	8	7	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 4.3	Width: 6.5	8.2 ( 6 - 11 )	10.4 ( 7 - 13 )
Depth: 0.37	Height: 0.5	1.0 ( 0.8 - 1 )	1.4 ( 1 - 1.8 )

W:D ratio: 13.5  
 Stream Flow Type: HF  
 Average Unit Gradient: 5.2%  
 Water temperature (°C): 4.0 - 4.0

Entrenchment (ACW:FPW ratio): 1.3  
 Habitat Units/100m (total channel length): 5.8  
 Habitat Units/100m (primary channel length): 6.1

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	YT	ST
Riparian Vegetation:	D15	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):	77	15.6
Volume (m <sup>3</sup> ):	46	9.2
Key pieces (>=12m x 0.60m):	0	0.0

HABITAT INVENTORY

Report Date: 4/25/2007

Survey Date:

2/27/2007

REACH 1		T05S-R03E-S24NE					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	8	186	4.5	0.29	860	0	0	6	28	38	26	1
POOL-LATERAL SCOUR	1	5	5.5	0.85	26	0	0	32	42	21	5	0
POOL-PLUNGE	4	20	4.7	0.89	97	0	0	16	43	29	11	0
RAPID/BOULDERS	12	284	4.4	0.29	1,307	0	0	7	37	34	22	0
RIFFLE	2	22	3.0	0.13	76	0	8	45	36	10	2	0
STEP/LOG	3	2	3.5	0.20	8	0	0	5	47	39	9	0
<b>Total:</b>	<b>30</b>	<b>518</b>	<b>4.3</b>	<b>0.37</b>	<b>2,374</b>	<b>0</b>	<b>Avg: 1</b>	<b>11</b>	<b>36</b>	<b>33</b>	<b>19</b>	<b>0</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	0	0			0	0.00%	0	0.0	
Scour Pools	5	25	4.8	0.88	123	5.20%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	2	22	3.0	0.13	76	3.19%	0	0.0	
Rapids	12	284	4.4	0.29	1,307	55.05%	0	0.0	
Cascades	8	186	4.5	0.29	860	36.22%	0	0.0	
Step/Falls	3	2	3.5	0.20	8	0.34%	0	0.0	
Dry	0	0			0	0.00%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

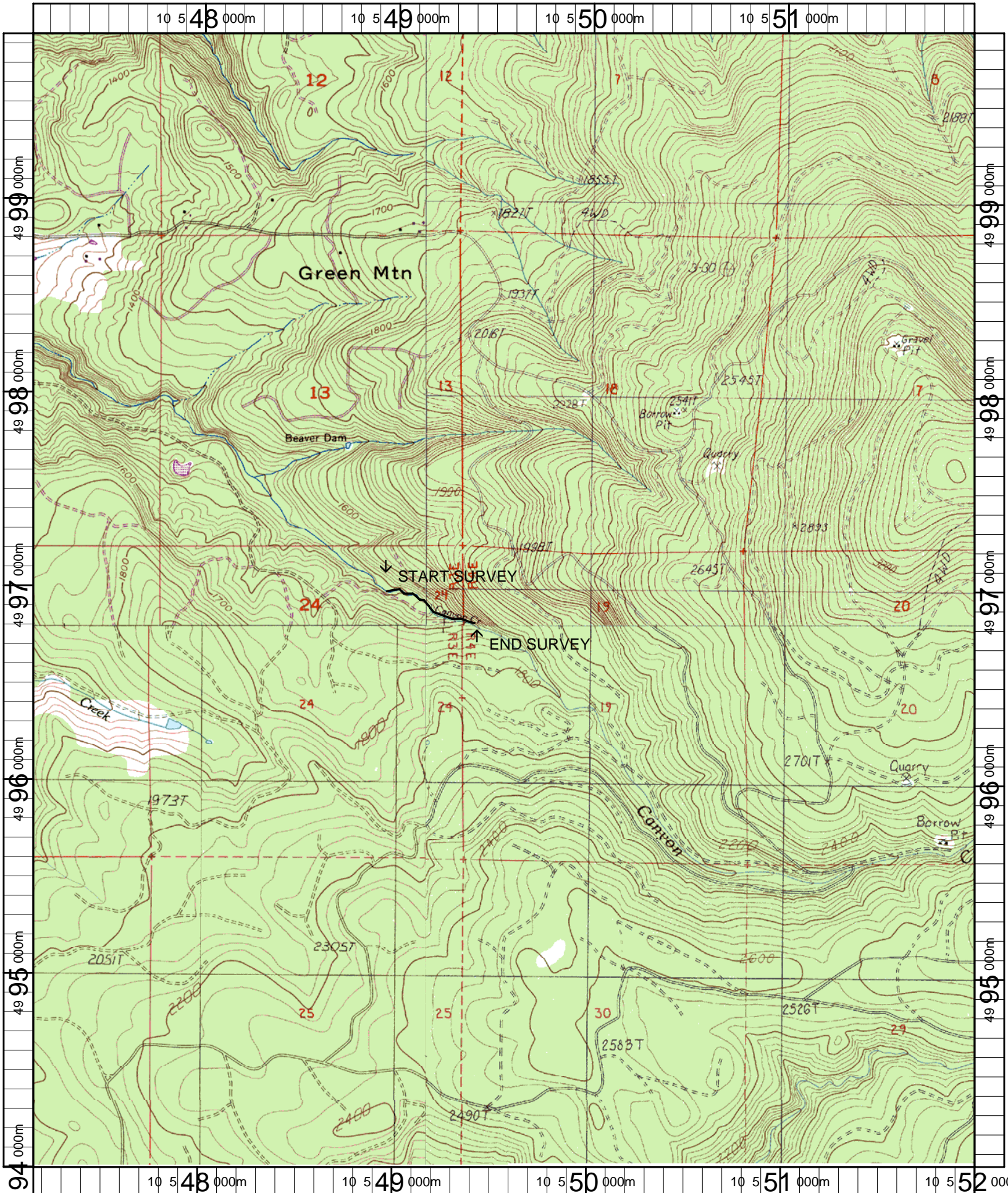
POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths	
		<u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	5	9.6	10.1
Pools >=1m deep:	1	1.9	2.0
Complex pools (LWD pieces>=3):	1	1.9	2.0
Pool frequency (channel widths/pool):	16.0		
Residual pool depth (avg):	0.59		

# Comment Summary

## Restoration Monitoring Sites 2007

MONITORING AREA: 7-L      SITE ID: 12      CANYON CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR
1	RB	00	27	SS/	
3	RB	01	76	TJ/	
4	RI	11	76		ACW=1.2, T=6.0
10	CB	00	178.2		HARDPAN
15	PP	00	223.1	HS	
17	CB	00	256.8	RF	
18	RB	00	286.8	HS	
20	RB	01	344.3	/TJ	
21	RB	00	356.3		ACW=0.7, T=5.0
22	RB	00	383.3	HS	
24	SL	00	409.1	HS	



Name: ELWOOD  
 Date: 4/25/2007  
 Scale: 1 inch equals 2000 feet

Location: 10 054955 E 4996942 N  
 Caption: CANYON CREEK RESTORATION SITE - CLACKAMAS BASIN