

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

STREAM: Canyon Creek (W-12)
 BASIN: Molalla River
 SURVEY TYPE: Pre and Post-Tx
 DATE: October 22, 2003
 REPORT PREPARED BY: Paul Jacobsen

The Canyon Creek restoration project extended approximately 240 meters, with the entire project being monitored for pre- and post-treatment conditions. Five habitat structures were created and 23 key pieces (according to the ODF Large Wood Placement Guide) were used. . The intended goals of the project included increasing stream complexity, improved interaction with the floodplain, gravel retention, increased pool area, streambank stabilization, and enhanced salmonids spawning and rearing habitat. In the first seasons after restoration activities, large wood pieces, volume, and key pieces are increased as expected. In addition, there are more complex pools and more accumulated riffle gravel.

	ODFW	Benchmark	Winter	Summer	Winter	Summer	
Habitat Variable	Desirable	Undesirable	Pre	Pre	Post	Post	
			2/23/00	6/29/00	2/28/01	6/25/01	
Reach #							
Pool Area	>35	<10	10.6	14.8	10.9	12.3	
Pool Frequency	5-8	>20	9.2	7.0	14.7	7.9	
Residual Pool Depth	>0.5-1.0m	<0.2-0.5m	.42	.38	.54	.43	
Complex Pools/km	>2.5	<1.0	0.0	1.8	7.2	3.5	
Width/Depth Ratio	<15	>30	10.6	10.0	10.5	11.8	
Riffle Gravel % area	>35	<15	22	20	30	30	
Silt-Sand-Organic %	<12	>25	2	10	0	18	
Shade %	>70	< 60		85		75	
LWD - pieces/100m	>20	<10	7.8	7.9	23.2	12.9	
LWD - Volume/100m	>30	<20	6.5	6.2	28.8	25.3	
LWD - Key pieces/ 100m	>3	<1	0.2	0.0	0.9	1.5	
Riparian Conifers>20" dbh/1000ft	>300	<150		41		41	
Riparian Conifers>35" dbh/1000ft	>200	<75		0		0	

COMMENTS:

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

The survey crew recorded six habitat structures.

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: June 25, 2001
SURVEY CREW: Sara Meguffy, Rawlin Richardson
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 12.2 km²
USGS MAPS: Colton, Elwood
ECOREGION: Willamette Valley Foothills

GENERAL DESCRIPTION:

The Canyon Creek habitat survey extended 550 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 7.2 (range: 4.0 – 10.0). Land use for the reach was second growth (15-30 cm dbh) trees and timber harvest. The average unit gradient was 6.1 percent. Cascades (48%) and rapids (39%) dominated stream habitat. Cobble (37%) and gravel (33%) dominated stream substrate. Wood volume was moderate at 25.3 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.

REACH 1

T5S-R3E-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	0
Moderate V-shape	0	Multiple Terraces	100
Open V-shape	0	Wide Floodplain	0

Valley Width Index avg: 7.2 range: 4.0-10.0

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0	Single Channel	100
Bedrock	0	Multiple Channel	0
Terrace	0	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	550	2,346	0
Secondary	17	27	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	4.0	Width	8.0	20.2	11.4
Depth	0.41	Height	0.7	1.4	1.9
		W:D ratio	11.8	Entrenchment	2.4

Stream Flow Type: MF Water Temp: 9.0-9.0°C
 Avg. Unit Gradient: 6.1% Habitat Units/100m: 5.6

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	TH
Riparian Vegetation:	D15	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	1%	Reach avg: 75%
Undercut Banks	5%	Range: 41- 97

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces ($\geq 3m \times 0.15m$)	71	12.9
Volume (m ³)	139	25.3
Key pieces ($\geq 10m \times 0.6m$)	8	1.5

REACH 1

T5S-R3E-S24NE

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	Cbbl	Bldr	Bdrk
CASCADE/BOULDERS	11	242	4.7	0.36	1,150	81	3	13	33	42	8	1
POOL-LATERAL SCOUR	7	63	3.7	0.61	239	6	3	19	38	27	2	11
POOL-PLUNGE	1	5	5.8	0.80	30	6	1	10	31	52	3	3
POOL-STRAIGHT SCOUR	1	7	3.3	0.55	22	0	6	44	38	6	0	6
RAPID/BOULDERS	10	250	3.7	0.27	929	54	3	15	30	44	7	1
STEP/BOULDERS	1	1	3.1	0.85	2	5	0	0	0	0	100	0
STEP/STRUCTURE	1	0	2.2	0.01	0	2	1	12	40	40	3	3
Total:	32	567	4.0	0.41	2,373	154	Avg: 3	15	33	37	9	3

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m ²)	Wetted Area Percent	Large Boulders Number	Boulders #/100m ²
Dammed & BW Pools	0	0	-	-	0	0.00	0	0.0
Scour Pools	9	75	3.9	0.62	291	12.27	12	4.1
Glides	0	0	-	-	0	0.00	0	0.0
Riffles	0	0	-	-	0	0.00	0	0.0
Rapids	10	250	3.7	0.27	929	39.16	54	5.8
Cascades	11	242	4.7	0.36	1,150	48.47	81	7.0
Step/Falls	2	1	2.7	0.43	2	0.10	7	291.7
Dry	0	0	-	-	0	0.00	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	9	15.9
Pools ≥1m deep:	0	0.0
Complex pools (LWD pieces ≥3):	2	3.5
Pool Frequency (channel widths/pool):	7.9	
Residual pool depth (avg)	0.43m	

STREAM SUMMARY

CANYON CREEK POST-TX (#12)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Substrate Percent Wetted Area						Total Large Boulder
					S/O	Sand	Grvl	Cbbl	Bldr	Bdrk	
32	567	4.0	0.41	2,373	3	15	33	37	9	3	154

Wetted Area

Habitat Group	(m ²)	Percent
Scour Pool	291	12.3
Backwater Pools	0	0.0
Glide	0	0.0
Riffle	0	0.0
Rapid	929	39.2
Cascade	1,150	48.5
Step	2	0.1
Dry	0	0.0

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	1,300
Total conifers/1000 ft	427
Total conifers >20" dbh/1000 ft	41
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	6.7	4.7	3.0	0.7	6.0	5.3	15.7
15-30cm	0.0	2.7	0.0	0.3	0.7	2.0	0.7	5.0
30-50cm	0.3	0.0	0.0	0.3	0.0	0.0	0.3	0.3
50-90cm	0.3	0.3	0.0	0.0	0.3	0.0	0.7	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m ²	0.7	9.7	4.7	3.7	1.7	8.0	2.3	7.1

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	71		60		63	
Shrub cover	50		28		41	
Grass/forb cover	50		70		54	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	33		50		67
High terrace	67		33		33	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		17		0	
Riprap	0		0		0	
Surface slope (%)	8		14		22	

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

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

Total hardwoods/1000 ft	1,300
Total conifers/1000 ft	427
Total conifers >20" dbh/1000 ft	41

Average number of trees in a 5-meter wide band

<u>Diameter</u> <u>class (cm)</u>	<u>Zones 1-3</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	5.3	15.7
15-30cm	0.7	5.0
30-50cm	0.3	0.3
50-90cm	0.7	0.3
>90cm	0.0	0.0

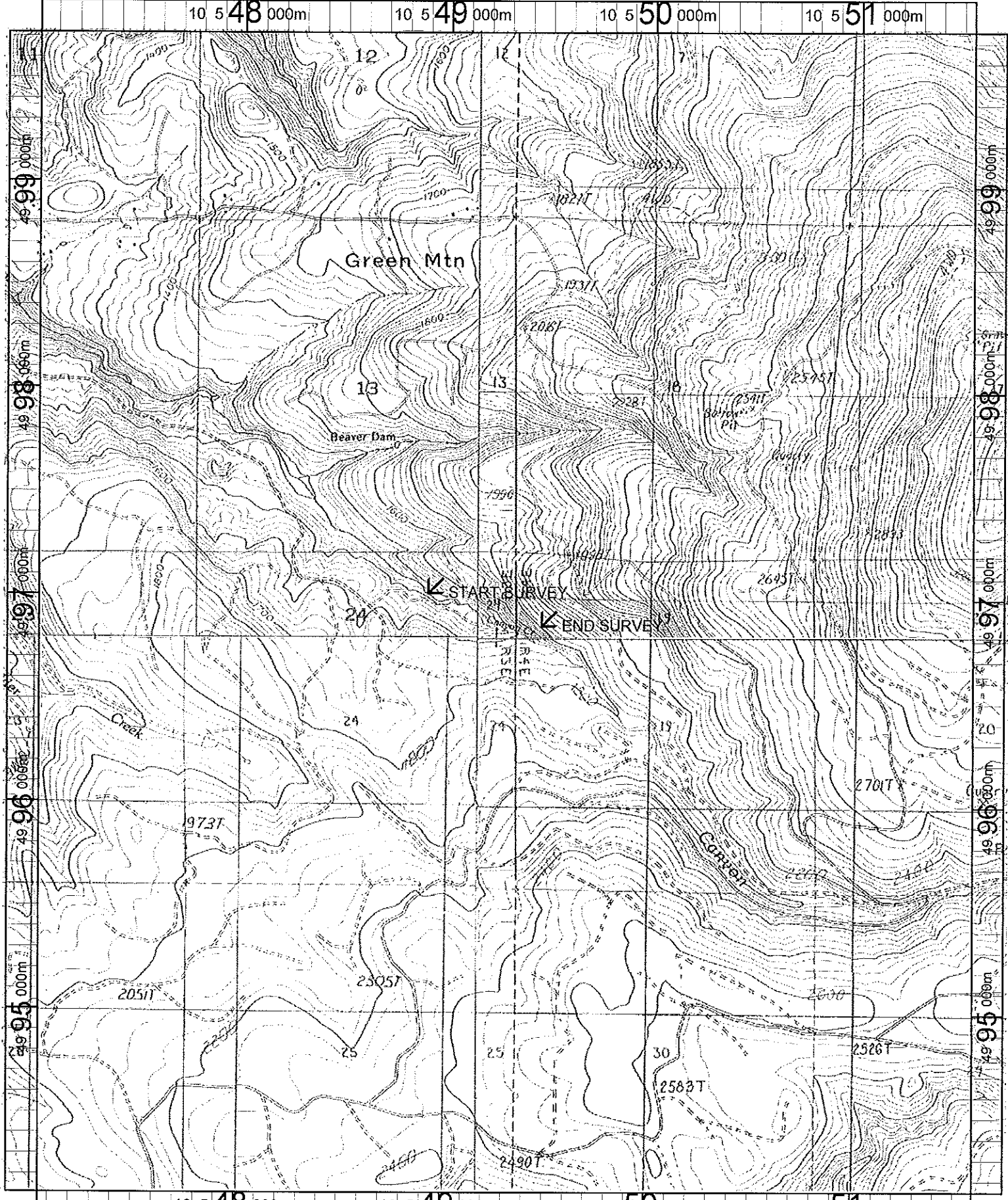
RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

VEGETATION DETAIL

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	
7	LF	1	HT	0.0	75	5	95	Conifer	0	0	0	0	0	
								Hardwood	3	1	0	0	0	
7	LF	2	HS	40.0	80	10	90	Conifer	14	0	0	0	0	
								Hardwood	3	0	0	0	0	
7	LF	3	HS	100.0	95	15	85	Conifer	0	0	0	1	0	
								Hardwood	0	0	0	0	0	
7	RT	1	HT	0.0	80	90	10	Conifer	0	0	0	0	0	
								Hardwood	9	0	0	0	0	
7	RT	2	HT	0.0	85	30	70	Conifer	0	0	0	0	0	
								Hardwood	4	0	0	0	0	
7	RT	3	HT	0.0	85	60	40	Conifer	0	0	0	0	0	
								Hardwood	7	0	0	0	0	
19	LF	1	HS	20.0	85	85	15	Conifer	0	0	0	0	0	
								Hardwood	5	5	0	0	0	
19	LF	2	RB	0.0	60	10	80	Conifer	0	0	0	0	0	
								Hardwood	1	0	1	0	0	
19	LF	3	HS	2.0	70	60	40	Conifer	0	0	0	0	0	
								Hardwood	7	6	0	0	0	
19	RT	1	HT	0.0	20	60	40	Conifer	0	0	0	0	0	
								Hardwood	1	0	0	0	0	
19	RT	2	HT	0.0	10	70	30	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
19	RT	3	HT	0.0	10	50	20	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
27	LF	1	HS	28.0	75	30	70	Conifer	0	0	0	0	0	
								Hardwood	2	2	0	1	0	
27	LF	2	HS	32.0	40	10	90	Conifer	0	0	0	0	0	
								Hardwood	1	0	0	0	0	ALL FERNS
27	LF	3	HS	32.0	40	10	90	Conifer	0	0	0	0	0	
								Hardwood	4	0	0	0	0	
27	RT	1	HT	0.0	90	30	70	Conifer	0	0	1	1	0	
								Hardwood	0	0	0	0	0	
27	RT	2	HS	12.0	85	40	60	Conifer	0	0	0	0	0	
								Hardwood	0	1	0	0	0	
27	RT	3	HS	0.0	75	50	50	Conifer	2	2	0	0	0	
								Hardwood	0	0	0	0	0	



Name: COLTON
 Date: 1/10/2002
 Scale: 1 inch equals 2000 feet

Location: 10 549297 E 4996936 N
 Caption: CANYON CREEK RESTORATION SITE -
 CLACKAMAS BASIN