

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

STREAM: Clear Creek #1 (L-230)
BASIN: Clackamas River
SURVEY TYPE: Post-Tx
DATE: July 11, 2005
SURVEY CREW: Jeff Snyder, Kaylea Foster
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 185.0 km²
USGS MAPS: Estacada
ECOREGION: Willamette Valley Foothills

GENERAL DESCRIPTION:

The Clear Creek habitat survey extended 1,011 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 7.5 (range: 6.0-8.75). Land use for the reach was timber harvest and second growth (15-30 cm dbh) trees. The average unit gradient was 1.0 percent. Riffles (58%) and scour pools (37%) dominated stream habitat. Cobble (35%) and gravel (32%) dominated stream substrate. Wood volume was low at 14.6 m³/100m.

COMMENTS:

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

REACH 1

T04S-R04E-S06NW

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	7.5	VWI Range:	6 - 8.75

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	1,011	13,755	0
Secondary Channel	0	0	0
Off-Channel Units	30	30	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 12.9	Width: 15.9	17.4 (14.2 - 21.5)	22.5 (14.7 - 38)
Depth: 0.57	Height: 0.7	1.4 (1.2 - 1.76)	2.9 (1.45 - 5)

W:D ratio: 23.7

Entrenchment (ACW:FPW ratio): 1.1

Stream Flow Type: MF

Habitat Units/100m (total channel length): 3.2

Average Unit Gradient: 1.0%

Habitat Units/100m (primary channel length): 3.3

Water temperature (°C): 14.0 - 14.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	ST
Riparian Vegetation:	M30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	9%	Reach avg: 75%
Undercut Banks:	12%	Range: 53 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	83	8.2
Volume (m ³):	148	14.6
Key pieces (>=12m x 0.60m):	9	0.9

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

7/11/2005

REACH 1		T04S-R04E-S06NW					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	1	15	0.5	0.05	8	0	0	0	70	30	0	0
GLIDE	1	19	15.0	0.45	285	18	0	15	35	40	10	0
POOL-LATERAL SCOUR	9	298	13.7	1.07	4,074	3	10	20	35	19	0	16
POOL-STRAIGHT SCOUR	1	38	15.0	0.50	570	0	0	25	30	45	0	0
POOL-TRENCH	1	42	10.0	1.50	420	0	0	10	10	20	0	60
RIFFLE	18	594	13.1	0.36	7,984	617	1	11	29	41	13	5
STEP/COBBLE	2	35	13.0	0.13	445	0	0	0	25	60	0	15
Total:	33	1,041	12.9	0.57	13,785	638	Avg: 3	13	32	35	7	10

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	0	0			0	0.00%	0	0.0	
Scour Pools	11	378	13.5	1.05	5,064	36.74%	3	0.1	
Glides	1	19	15.0	0.45	285	2.07%	18	6.3	
Riffles	18	594	13.1	0.36	7,984	57.91%	617	7.7	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	1	15	0.5	0.05	8	0.05%	0	0.0	
Step/Falls	2	35	13.0	0.13	445	3.23%	0	0.0	
Dry	0	0			0	0.00%	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:	11	10.6	10.9
Pools >=1m deep:	6	5.8	5.9
Complex pools (LWD pieces>=3):	4	3.8	4.0
Pool frequency (channel widths/pool):	5.9		
Residual pool depth (avg):	0.91		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

CLEAR CREEK #1 POST-TX
GCG: 7-L SITE ID: 230

Survey Date 7/11/2005

RIPARIAN ZONE

Report Date: 4/26/2006

VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	671
Total conifers/1000 ft	406
Total conifers >20" dbh/1000 ft	122
Total conifers >35" dbh/1000 ft	41

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	0.3	1.7	2.0	2.3	0.7	0.7	3.0	4.7
15-30cm	0.0	1.0	0.7	1.3	0.0	0.3	0.7	2.7
30-50cm	0.3	0.3	0.3	2.0	0.3	0.0	1.0	2.3
50-90cm	0.3	0.0	0.7	0.3	0.3	0.0	1.3	0.3
>90cm	0.0	0.0	0.0	1.0	0.7	0.0	0.7	1.0
Total/100m2	1.0	3.0	3.7	7.0	2.0	1.0	2.2	3.7

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	71		83		38	
Shrub cover	22		17		10	
Grass/forb cover	63		60		75	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	17		17		17	
High terrace	83		83		83	
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 (%)	8		6		5	

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	671
Total conifers/1000 ft	406
Total conifers >20" dbh/1000 ft	122
Total conifers >35" dbh/1000 ft	41

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	3.0	4.7
15-30cm	0.7	2.7
30-50cm	1.0	2.3
50-90cm	1.3	0.3
>90cm	0.7	1.0

RIPARIAN ZONE VEGETATION

Reach 1 Reach 1

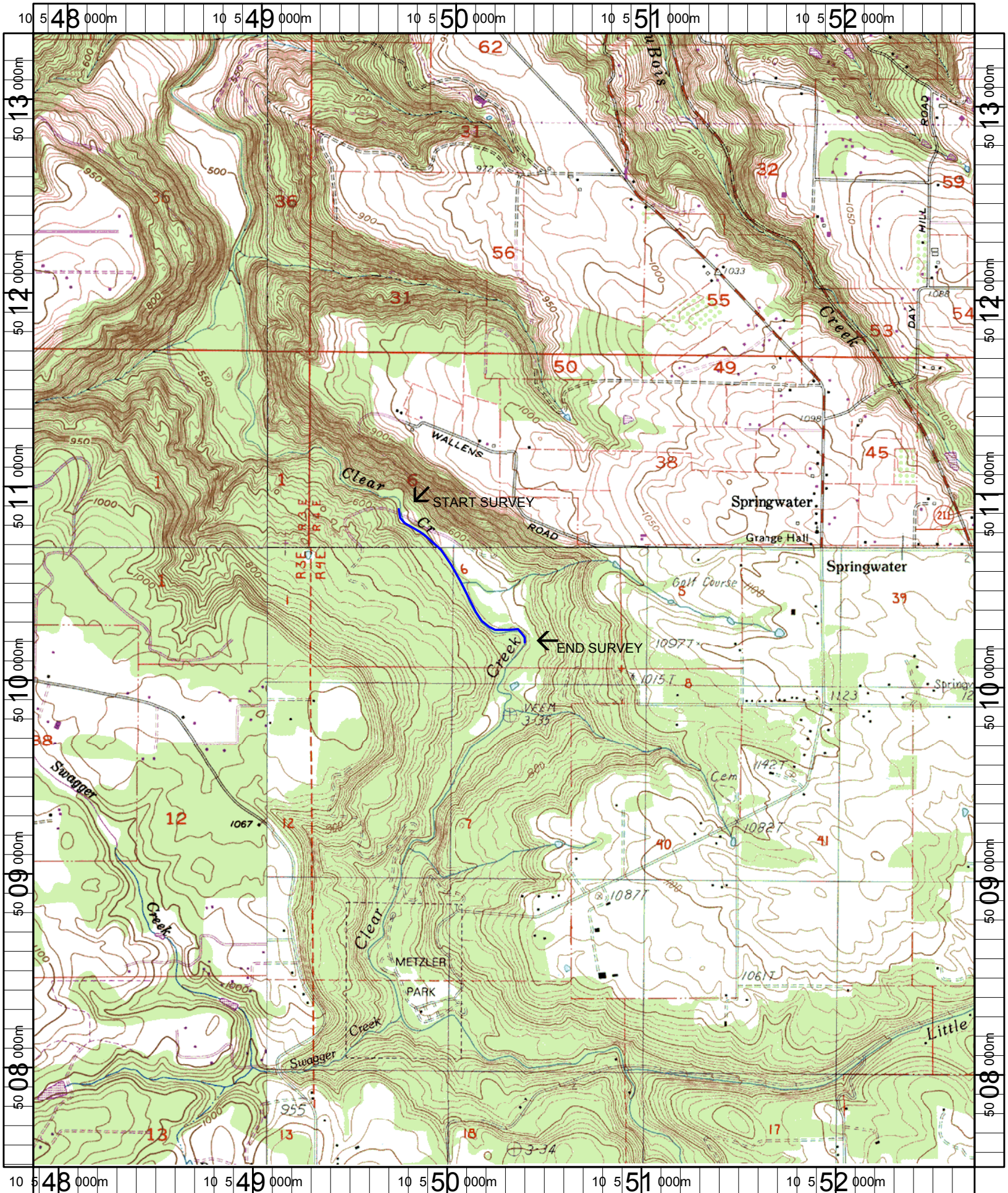
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
9	RT	3	HT	0	0	0	100	Conifer							
								Hardwood							
9	RT	2	HT	0	80	20	80	Conifer	1						
								Hardwood	3	1					
9	LF	1	HT	0	75	20	80	Conifer				1		ACTIVE LOGGING	
								Hardwood	1						
9	RT	1	HT	0	50	20	70	Conifer							
								Hardwood	2	1	1				
9	LF	3	HT	0	50	10	60	Conifer	1						
								Hardwood							
9	LF	2	HT	0	95	10	70	Conifer	4	1					
								Hardwood	4						
15	LF	1	HT	0	70	20	70	Conifer							
								Hardwood	1	1					
15	RT	3	HT	0	0	20	70	Conifer						ACTIVE LOGGING	
								Hardwood							
15	RT	2	HT	0	60	10	60	Conifer			1	2			
								Hardwood							
15	LF	2	HT	0	100	0	40	Conifer	1	1					
								Hardwood		1	2	1	3		
15	RT	1	HT	0	75	10	60	Conifer	1		1				
								Hardwood	1						
15	LF	3	HT	0	0	0	100	Conifer							
								Hardwood							
23	LF	1	HT	0	85	40	40	Conifer							
								Hardwood		1					
23	LF	2	HT	0	70	50	50	Conifer							
								Hardwood			3				
23	LF	3	HT	0	90	10	60	Conifer	1			1	2		
								Hardwood	1	1					
23	RT	1	HS	45	70	20	60	Conifer							
								Hardwood							
23	RT	2	HS	38	90	10	60	Conifer							
								Hardwood		2	1				
23	RT	3	HS	32	85	20	60	Conifer				1			
								Hardwood	1						

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: 7-L SITE ID: 230 CLEAR CREEK #1 POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	00	2	RF, BC	RF	T = 14 C AT 1045
2	RI	00	19			0549735, 5010897
3	LP	00	61	/DJ, SS	LOTS OF SM WOOD DEB	
6	LP	00	170	/DJ		BEDROCK = HARDPAN CLAY
7	RI	00	204	BV		
8	SP	00	242	BV		
11	LP	00	358	DJ/		SMALL DJ
12	RI	01	408	DJ/		SMALL DJ
13	CB	11	408	TJ		T = 13 C
15	RI	00	480	/DJ		
16	RI	01	530	TJ/	SPAWNING SURVEY END	SPAWNING SURVEY END SI
17	RI	11	530		AQ. INV. START SIGN	AQ. INV. START SIGN, T = 16
18	RI	00	548	/DJ		
20	RI	00	617	DJ,DJ, /ES		
21	RI	00	667	WL		DIPPER
24	LP	00	732	DJ		
25	SC	00	752	/SS		
26	TP	00	794	DJ/		
27	RI	00	822	/DJ		
32	RI	00	961			END = 0550368, 5010217
33	LP	00	1011			T = 14.5 C AT 1600



Name: ELWOOD
 Date: 6/9/2005
 Scale: 1 inch equals 2000 feet

Location: 10 550268 E 5010432 N
 Caption: CLEAR CREEK #1 RESTORATION SITE - CLACKAMAS BASIN