

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

STREAM: Clear Creek #5 (L-328)
BASIN: Clackamas River
SURVEY TYPE: Pre-Tx
DATE: 7/27/2006
SURVEY CREW: Brian Cannon, Eric Brown
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 185 km²
USGS MAPS: Redland
ECOREGION: Willamette Valley Plains

GENERAL DESCRIPTION:

The Clear Creek #5 habitat survey extended 930 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 8.2 (range: 6-10). Land use for the reach was second growth timber (15-30 cm dbh) and young timber (3-15 cm dbh). The average unit gradient was 1.2 percent. Scour pools (44%) and rapids (25%) dominated stream habitat. Cobble (33%), gravel (21%), boulders (19%) and bedrock (18%) dominated stream substrate. Wood volume was moderate at 10.4 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.

Beaver activity was noted throughout the surveyed distance. The crew also encountered a tree frog and another unknown species of frog, a red-sided shiner and a crayfish within the survey as well.

The crew noted hardpan clay in unit 9 (262.9 meters) and noted it using the bedrock substrate type for that unit.

REACH 1

T03S-R03E-S36NE

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	8.2	VWI Range:	6 - 10

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	930	10,041	0
Secondary Channel	0	0	0
Off-Channel Units	0	0	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 10.4	Width: 14.7	21.0 (12 - 29)	24.8 (14.5 - 35)
Depth: 0.49	Height: 0.8	1.6 (1.5 - 1.7)	4.3 (2.2 - 6)

W:D ratio: 18.5
 Stream Flow Type: MF
 Average Unit Gradient: 1.2%
 Water temperature (°C): 17.0 - 17.0

Entrenchment (ACW:FPW ratio): 1.5
 Habitat Units/100m (total channel length): 3.1
 Habitat Units/100m (primary channel length): 3.1

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:		Reach avg: 79%
Undercut Banks:	2%	Range: 56 - 92

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	90	9.7
Volume (m ³):	97	10.4
Key pieces (>=12m x 0.60m):	6	0.6

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/27/2006

REACH 1		T03S-R03E-S36NE					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	13	6.5	0.25	85	10	0	5	15	40	25	15
GLIDE	2	79	11.0	0.24	918	38	0	8	40	30	18	5
POOL-LATERAL SCOUR	13	425	9.8	0.86	4,450	72	2	11	26	30	12	19
RAPID/BOULDERS	8	312	11.6	0.17	3,696	264	0	6	17	43	28	7
RIFFLE	2	78	8.0	0.23	609	20	0	5	20	48	23	5
STEP/BEDROCK	1	8	10.0	0.12	80	2	0	0	0	10	30	60
STEP/BOULDERS	1	12	12.0	0.22	140	11	0	0	10	30	40	20
STEP/STRUCTURE	1	4	16.0	0.07	64	0	0	0	0	0	0	100
Total:	29	930	10.4	0.49	10,041	417	Avg: 1	7	21	33	19	18

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	13	425	9.8	0.86	4,450	44.32%	72	1.6	
Glides	2	79	11.0	0.24	918	9.14%	38	4.1	
Riffles	2	78	8.0	0.23	609	6.06%	20	3.3	
Rapids	8	312	11.6	0.17	3,696	36.81%	264	7.1	
Cascades	1	13	6.5	0.25	85	0.84%	10	11.8	
Step/Falls	3	24	12.7	0.14	284	2.83%	13	4.6	
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	Primary Channel Length
		<u># / Km</u>	<u># / Km</u>
All Pools:	13	14.0	14.0
Pools >=1m deep:	4	4.3	4.3
Complex pools (LWD pieces>=3):	6	6.5	6.5
Pool frequency (channel widths/pool):	4.9		
Residual pool depth (avg):	0.57		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

CLEAR CREEK #5 PRE-TX
GCG: 7-L SITE ID: 328

Survey Date 7/27/2006
Report Date: 3/5/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	792
Total conifers/1000 ft	467
Total conifers >20" dbh/1000 ft	61
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	0.7	0.7	0.3	2.0	0.0	4.0	1.0	6.7
15-30cm	1.3	0.0	1.0	2.7	0.7	0.7	3.0	3.3
30-50cm	0.0	2.0	1.0	0.0	1.7	1.0	2.7	3.0
50-90cm	0.3	0.0	0.3	0.0	0.3	0.0	1.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	2.3	2.7	2.7	4.7	2.7	5.7	2.6	4.3

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	58	79	82
Shrub cover	41	25	23
Grass/forb cover	58	61	62

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	50	50	33
High terrace	17	50	67
Low terrace	33	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 (%)	26	22	18

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	792
Total conifers/1000 ft	467
Total conifers >20" dbh/1000 ft	61
Total conifers >35" dbh/1000 ft	0

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	1.0	6.7
15-30cm	3.0	3.3
30-50cm	2.7	3.0
50-90cm	1.0	0.0
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1 Reach 1

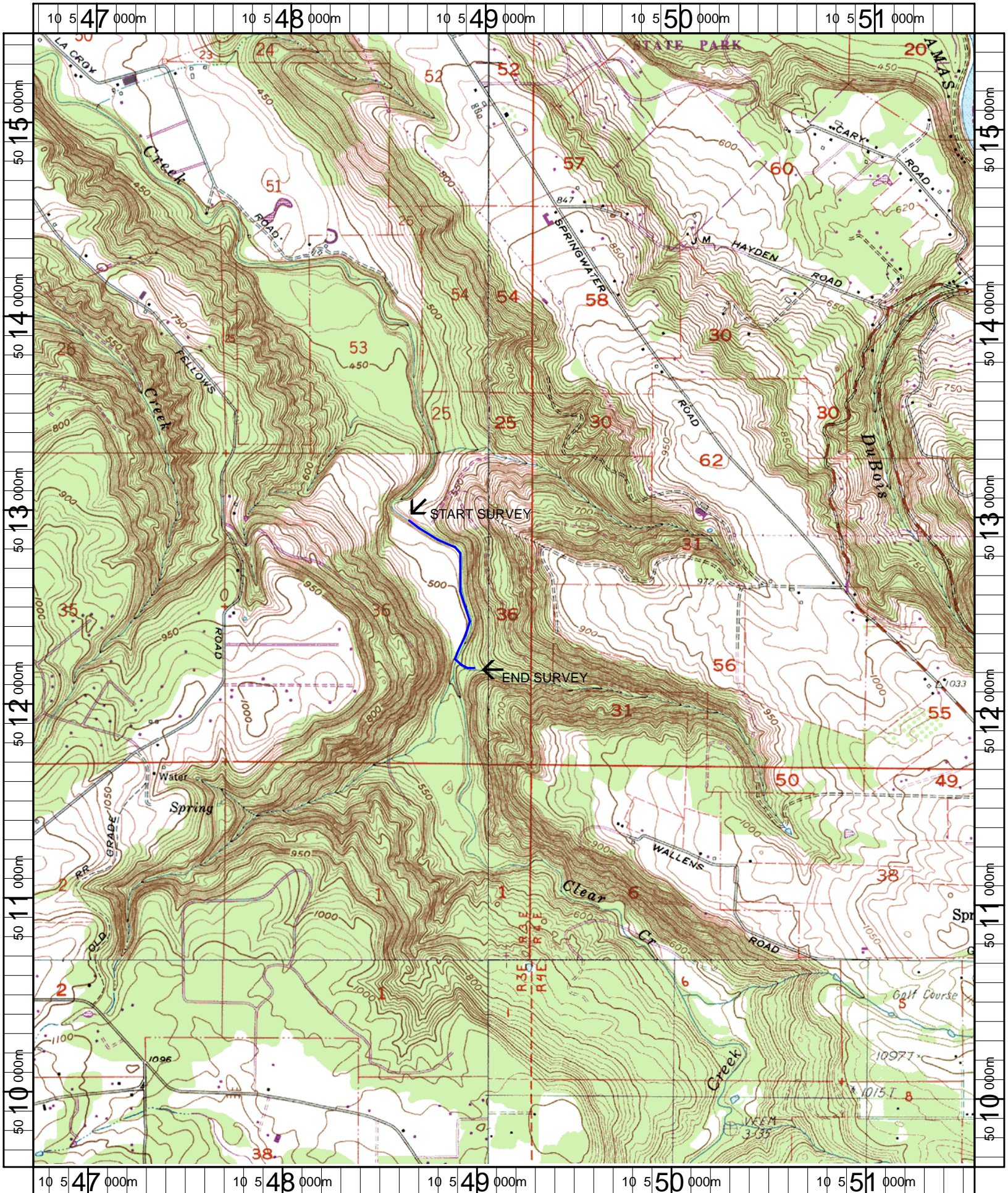
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
10	LF	2	HS	35	70	60	40	Conifer							ALDER
								Hardwood	5						
10	LF	1	LT	3	30	60	40	Conifer							UTM 0548850-5013440,
								Hardwood	1						ALDER
10	RT	3	HT	3	85	0	100	Conifer			3				DOUG FIR TREE FARM
								Hardwood							
10	RT	2	HT	1	85	2	98	Conifer				2			DOUG FIR TREE FARM
								Hardwood							
10	LF	3	HS	35	60	70	30	Conifer							ALDER
								Hardwood	4						
10	RT	1	LT	0	10	5	95	Conifer							NO TREES
								Hardwood							
15	RT	3	HT	0	80	0	30	Conifer				1			DOUG FIR, 70% DUFF
								Hardwood							
15	LF	1	HS	35	70	10	80	Conifer							UTM 0548892-5012595,
								Hardwood				2			ALDER, MA
15	RT	2	HT	3	80	2	20	Conifer		3					DOUG FIR TREE FARM,
								Hardwood							68% DUFF
15	RT	1	HT	0	90	70	30	Conifer			2		1		DOUG FIRM MAPLE, 1
								Hardwood				3			50CEDAR MAPLE, ALDER
15	LF	3	HS	70	90	10	90	Conifer							
								Hardwood	1	2	3				
15	LF	2	HS	25	80	30	70	Conifer	1						
								Hardwood							
24	RT	1	HS	55	70	70	30	Conifer	1	2					ALDER
								Hardwood				1			
24	LF	1	HS	65	80	30	70	Conifer	1						UTM 0548935-5012390
								Hardwood	1						
24	RT	3	HT	0	80	10	70	Conifer		2	1				
								Hardwood							
24	LF	3	HT	0	95	50	50	Conifer					1		
								Hardwood	7						
24	RT	2	HT	0	80	25	75	Conifer							DOUG FIR TREE FARM
								Hardwood		5					
24	LF	2	HS	65	80	30	60	Conifer				1	1		ALDER
								Hardwood	1	3					

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 7-L SITE ID: 328 CLEAR CREEK #5 PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	00	24.4	BV	CT-CT, M30/S,ST/RR, MF	
2	LP	00	43.4	BV	T=17.5C	
5	SS	00	104.9	SS	H=0.25M	CONCRETE (LOW WATER
6	LP	00	163.9		UT=6"	
7	RI	00	196.9	WL		FROG-SPECIES UNKNOW
8	LP	00	230.9	BV	RED-SIDE SHINER	
9	LP	00	262.9	BV, LA/	CF	HARDPAN, LANDSLIDE AC
10	RB	00	288.2	BV	CA-CT,M30/G,ST/YT	
11	LP	00	321.2	SS/, EA/		
14	RB	00	506.2	BV		UTM 0548892-5012595 (9.5
15	LP	00	555.2	BV, WL	CA-CT,M30/S,ST/YT	PACIFIC TREE FROG
16	RB	00	585.7	BV		
19	LP	00	647.4	BV		
24	SB	00	767.7		CT-CT,M30/S,ST/YT	
25	LP	00	815.7	BV		
28	LP	00	880.9		END AT TJ/	
29	RB	00	929.9	TJ/	CT-CT,M30/S,ST/YT	TRIB LEFT



Name: ESTACADA
 Date: 5/23/2006
 Scale: 1 inch equals 2000 feet

Location: 10 549115 E 5012556 N
 Caption: CLEAR CREEK #5 RESTORATION SITE - CLACKAMAS BASIN