

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

STREAM: Clear Creek #4 (L-311)
BASIN: Clackamas River
SURVEY TYPE: Post-Tx
DATE: 7/20/2006
SURVEY CREW: Annette Garrigues, Jeff Snyder
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 185 km²
USGS MAPS: Redland
ECOREGION: Willamette Valley Plains

GENERAL DESCRIPTION:

The Clear Creek #4 habitat survey extended 624 meters. The channel was constrained by terraces within a broad valley floor. The average valley width index was 5.1 (range: 2.8-6.7). Land uses for the reach were green way and rural residential. The average unit gradient was 0.8 percent. Scour pools (33%), rapids (25%) and cascades (25%) dominated stream habitat. Cobble (41%), gravel (28%) and fines (22%) dominated stream substrate. Wood volume was high at 40.9 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.

The crew identified hardpan clay in unit 11 (227.1 meters) and recorded it using the bedrock substrate category.

The crew observed a number of unknown fish, a red legged frog, and a rough-skinned newt.

REACH 1

T02S-R03E-S58SE

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	5.1	VWI Range:	2.8 - 6.7

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	624	7,413	0
Secondary Channel	67	549	0
Off-Channel Units	159	1,224	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 9.7	Width: 15.6	18.6 (15.9 - 20.1)	25.5 (17.1 - 34.8)
Depth: 0.49	Height: 0.5	1.0 (0.8 - 1.2)	1.7 (1.45 - 1.9)

W:D ratio: 33.3

Entrenchment (ACW:FPW ratio): 1.2

Stream Flow Type: MF

Habitat Units/100m (total channel length): 3.9

Average Unit Gradient: 0.8%

Habitat Units/100m (primary channel length): 5.3

Water temperature (°C): 18.0 - 18.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	GN	RR
Riparian Vegetation:	M30	G

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	19%	Reach avg: 67%
Undercut Banks:	2%	Range: 40 - 94

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	111	17.8
Volume (m ³):	256	40.9
Key pieces (>=12m x 0.60m):	23	3.7

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/20/2006

REACH 1		T02S-R03E-S58SE					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
GLIDE	5	133	13.2	0.42	1,757	0	0	23	31	35	11	0
POOL-BACKWATER	2	154	7.5	0.68	1,220	0	93	8	0	0	0	0
POOL-LATERAL SCOUR	7	282	10.8	1.00	3,610	0	14	22	25	26	1	12
RIFFLE	11	188	9.1	0.34	1,869	15	0	16	34	47	4	0
STEP/BEDROCK	1	9	3.5	0.30	32	0	0	0	0	30	0	70
STEP/COBBLE	7	85	8.7	0.26	698	5	0	2	32	64	1	0
Total:	33	850	9.7	0.49	9,185	20	Avg: 8	14	28	41	3	5

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	154	7.5	0.68	1,220	13.28%	0	0.0	
Scour Pools	7	282	10.8	1.00	3,610	39.30%	0	0.0	
Glides	5	133	13.2	0.42	1,757	19.13%	0	0.0	
Riffles	11	188	9.1	0.34	1,869	20.34%	15	0.8	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	8	94	8.1	0.26	730	7.95%	5	0.7	
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:	9	10.6	14.4
Pools >=1m deep:	4	4.7	6.4
Complex pools (LWD pieces>=3):	2	2.4	3.2
Pool frequency (channel widths/pool):	6.1		
Residual pool depth (avg):	0.81		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

CLEAR CREEK #4 POST-TX
GCG: 7-L SITE ID: 311

Survey Date 7/20/2006

RIPARIAN ZONE

Report Date: 3/5/2007

VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	386
Total conifers/1000 ft	0
Total conifers >20" dbh/1000 ft	0
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	0.7	0.0	0.0	0.0	0.3	0.0
15-30cm	0.0	0.0	0.0	1.0	0.0	0.3	0.0	1.3
30-50cm	0.0	0.0	0.0	1.7	0.0	2.0	0.0	3.7
50-90cm	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	0.7	0.0	2.7	0.0	3.0	0.0	2.1

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	Conifer (%)		Conifer (%)		Conifer (%)	
	Canopy closure	33	47	46		
Shrub cover	17	17	18			
Grass/forb cover	75	67	70			

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	Conifer (%)		Conifer (%)		Conifer (%)	
	Hillslope	0	0	0		
High terrace	100	100	100			
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 (%)	36	2	2			

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	386
Total conifers/1000 ft	0
Total conifers >20" dbh/1000 ft	0
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	0.0	1.0
15-30cm	0.0	1.3
30-50cm	0.0	3.7
50-90cm	0.0	0.3
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1 Reach 1

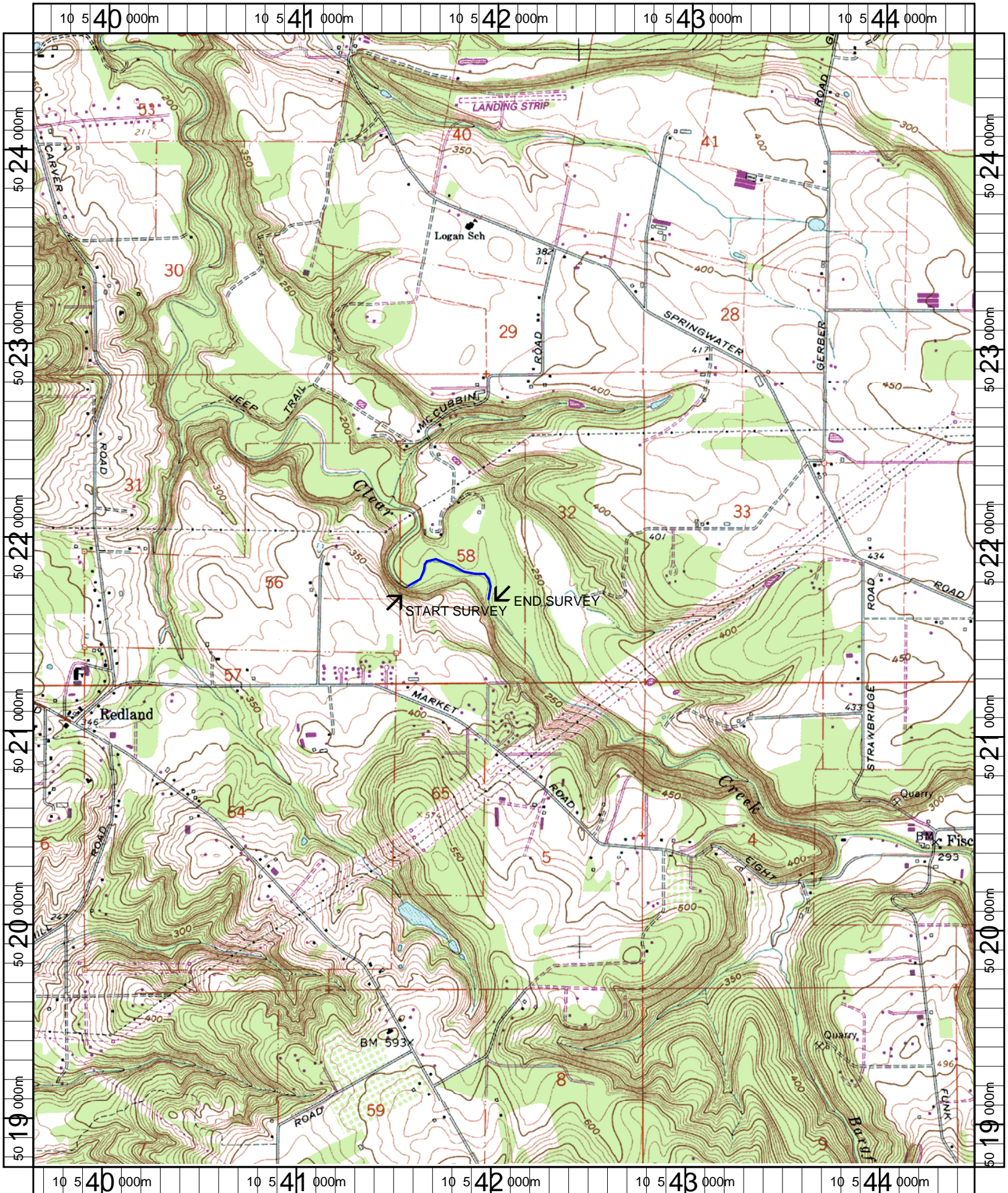
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
6	RT	3	HT	4	70	40	40	Conifer							HT/HS
								Hardwood	1		1				
6	RT	2	HT	0	60	20	70	Conifer							
								Hardwood		1	1				
6	RT	1	HT	56	0	10	90	Conifer							TRANS
								Hardwood							
6	LF	2	HT	7	0	0	100	Conifer							UTM 0541639-5021807-3D
								Hardwood							
6	LF	1	HT	8	50	0	100	Conifer							TRANS
								Hardwood							
6	LF	3	HT	1	0	0	100	Conifer							
								Hardwood							
18	LF	1	HT	35	50	50	40	Conifer							TRANS
								Hardwood	1						
18	RT	3	HT	4	80	20	60	Conifer							
								Hardwood		1	1	1			
18	LF	3	HT	2	85	20	60	Conifer							
								Hardwood			3				
18	LF	2	HT	4	80	30	40	Conifer							
								Hardwood		1	1				
18	RT	2	HT	1	70	20	60	Conifer							UTM 0541710-5021890-3D
								Hardwood			1				
18	RT	1	HT	47	50	10	80	Conifer							TRANS
								Hardwood							
30	LF	2	HT	1	0	20	70	Conifer							UTM 0541892-5021869-3D
								Hardwood							
30	LF	3	HT	3	40	30	60	Conifer							
								Hardwood			1				
30	RT	1	HT	37	50	20	50	Conifer							TRANS
								Hardwood	1						
30	RT	3	HT	0	0	0	100	Conifer							ESTIMATED
								Hardwood							
30	RT	2	HT	0	70	10	60	Conifer							FENCE
								Hardwood		1	2				
30	LF	1	HT	31	0	10	90	Conifer							TRANS
								Hardwood							

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 7-L SITE ID: 311 CLEAR CREEK #4 POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	25		ALGAE, FISH	T=18.0C
3	RI	00	58.3			FISH
7	RI	01	144.1			FISH
8	LP	01	155.3			FISH
11	LP	00	227.1			HARDPAN, FISH
13	LP	01	287	DJ, TJ/	FISH, DJ	
14	BW	10	287			FISH
15	RI	11	287			T=14.0C
16	RI	00	311.9			FISH
19	GL	00	356.2			FISH
20	GL	00	381.8			FISH
21	RI	00	396.4			FISH
22	GL	00	422			FISH
23	GL	00	452.9			FISH
25	LP	02	484			FISH
27	LP	02	484			FISH
31	BW	10	576.3	HS, WL	NEWTS	RLF, RSN, FISH
33	RI	00	624.2			METRIC BELOW LOG ON SID



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

Location: 10 542047 E 5021692 N
 Caption: CLEAR CREEK #4 RESTORATION SITE - CLACKAMAS BASIN