

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

STREAM: Clear Creek #2 (L-231)
BASIN: Clackamas River
SURVEY TYPE: Post-Tx
DATE: 7/11/2006
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 #2 habitat survey extended 511 meters. The channel was hillslope constrained within a moderate, v-shaped valley. The average valley width index was 2.6 (range: 2-4). Land uses for the reach were large timber (30-50 cm dbh) and second growth timber (15-30 cm dbh). The average unit gradient was 1.1 percent. Riffles (64%), scour pools (21%), and rapids (13%) dominated stream habitat. Stream substrate was a mix of cobble (28%), gravel (27%), boulder (24%) and fines (19%). Wood volume was low at 6.0 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

T03S-R03E-S53SE

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	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	2.6	VWI Range:	2 - 4

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	100%	Single Channel	0%
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 Channel	511	6,814	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: 13.7	Width: 15.3	17.6 (11.6 - 23.2)	31.0 (24.5 - 44)
Depth: 0.55	Height: 0.5	1.1 (0.8 - 1.2)	4.7 (1.2 - 9.8)

W:D ratio: 29.9
 Stream Flow Type: MF
 Average Unit Gradient: 1.1%
 Water temperature (°C): 15.0 - 15.0

Entrenchment (ACW:FPW ratio): 1.2
 Habitat Units/100m (total channel length): 4.1
 Habitat Units/100m (primary channel length): 4.1

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	ST
Riparian Vegetation:	C30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	19%	Reach avg: 89%
Undercut Banks:	7%	Range: 64 - 97

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	20	3.9
Volume (m ³):	30	6.0
Key pieces (>=12m x 0.60m):	3	0.6

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/11/2006

REACH 1		T03S-R03E-S53SE					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
POOL-LATERAL SCOUR	4	132	11.0	1.48	1,438	31	9	24	29	21	6	11
RAPID/BOULDERS	2	53	17.0	0.33	896	265	0	3	13	18	68	0
RIFFLE	10	229	13.9	0.35	3,199	237	0	20	33	28	19	0
RIFFLE W/ POCKETS	4	92	12.5	0.39	1,176	223	0	10	14	36	40	0
STEP/COBBLE	1	5	20.0	0.10	106	0	0	10	50	40	0	0
Total:	21	511	13.7	0.55	6,814	756	Avg: 2	17	27	28	24	2

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	4	132	11.0	1.48	1,438	21.11%	31	2.2	
Glides	0	0			0	0.00%	0	0.0	
Riffles	14	321	13.5	0.36	4,374	64.19%	460	10.5	
Rapids	2	53	17.0	0.33	896	13.14%	265	29.6	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	1	5	20.0	0.10	106	1.56%	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		Primary Channel Length
		# / Km	# / Km	# / Km
All Pools:	4	7.8		7.8
Pools >=1m deep:	4	7.8		7.8
Complex pools (LWD pieces>=3):	1	2.0		2.0
Pool frequency (channel widths/pool):	8.3			
Residual pool depth (avg):	1.25			

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

CLEAR CREEK #2 POST-TX
GCG: 7-L SITE ID: 231

Survey Date 7/11/2006

RIPARIAN ZONE

Report Date: 3/5/2007

VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	305
Total conifers/1000 ft	427
Total conifers >20" dbh/1000 ft	122
Total conifers >35" dbh/1000 ft	20

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1		Zone 2		Zone 3		Zones 1-3	
	0-10 meters		10 - 20 meters		20 - 30 meters		0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	1.3	0.0	0.3	0.0	0.0	0.0	1.7
15-30cm	0.3	1.3	0.7	0.7	1.3	1.0	2.3	3.0
30-50cm	0.3	0.0	1.3	0.0	1.0	0.3	2.7	0.3
50-90cm	0.3	0.0	0.3	0.0	1.0	0.0	1.7	0.0
>90cm	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total/100m2	1.3	2.7	2.3	1.0	3.3	1.3	2.3	1.7

Canopy closure and ground cover

	Zone 1		Zone 2		Zone 3	
	0-10 meters		10 - 20 meters		20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	61		64		60	
Shrub cover	45		45		37	
Grass/forb cover	27		25		32	

Predominant landform in each zone

	Zone 1		Zone 2		Zone 3	
	0-10 meters		10 - 20 meters		20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	17		33		50	
High terrace	83		67		33	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		17	
Riprap	0		0		0	
Surface slope (%)	47		31		50	

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	305
Total conifers/1000 ft	427
Total conifers >20" dbh/1000 ft	122
Total conifers >35" dbh/1000 ft	20

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	1.7
15-30cm	2.3	3.0
30-50cm	2.7	0.3
50-90cm	1.7	0.0
>90cm	0.3	0.0

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

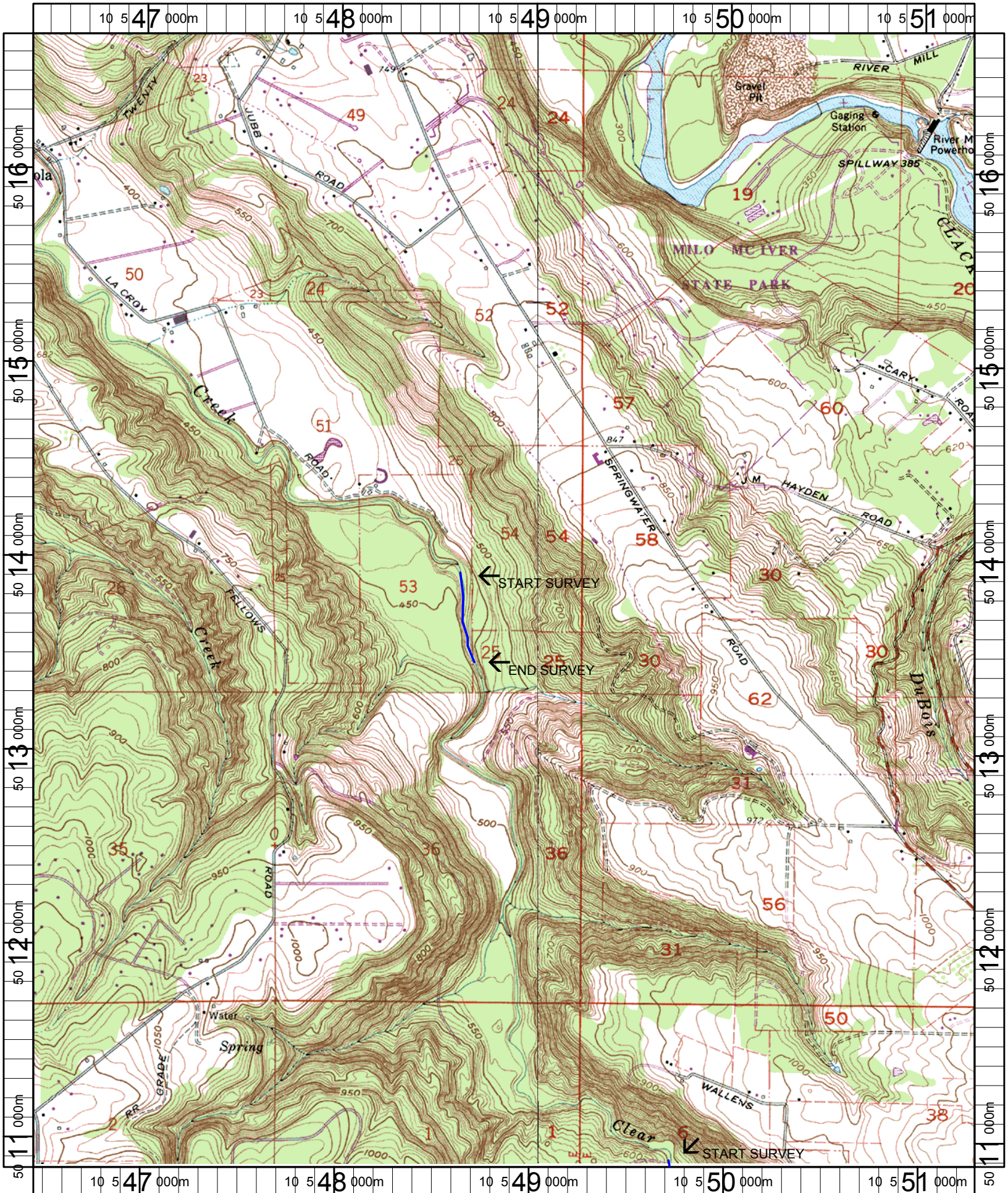
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
6	RT	2	HT	14	70	60	30	Conifer							TRANS
								Hardwood							
6	RT	3	HT	6	90	40	50	Conifer					1		
								Hardwood		2					
6	RT	1	HT	6	85	20	10	Conifer							TRANS
								Hardwood	2						
6	LF	3	HT	12	70	90	10	Conifer							HT/HS
								Hardwood							
6	LF	1	HT	18	70	90	10	Conifer							TRANS
								Hardwood	2	3					
6	LF	2	HT	6	70	90	10	Conifer							
								Hardwood	1						
11	LF	1	HT	92	50	50	50	Conifer							TRANS
								Hardwood		1					
11	LF	2	HT	11	60	80	20	Conifer					1		HT/HS
								Hardwood		2					
11	LF	3	HS	16	40	50	20	Conifer							HT/HS
								Hardwood	1	1					
11	RT	1	HT	11	30	90	10	Conifer							TRANS, HT/HS
								Hardwood							
11	RT	2	HS	34	40	20	10	Conifer							HS/RB
								Hardwood							
11	RT	3	RB	120	40	10	10	Conifer		1		1			RB/HS
								Hardwood							
16	LF	3	HS	52	40	30	40	Conifer		1	2	1			TOESLOPE
								Hardwood							
16	RT	3	HS	94	80	0	60	Conifer		2	1				PHOTO #35-36 DOWN/UP STREAM
								Hardwood							
16	LF	2	HT	18	60	20	30	Conifer		2	1				HT/HS
								Hardwood							
16	RT	1	HS	81	60	10	40	Conifer		1			1		PHOTO #33
								Hardwood							
16	RT	2	HS	102	85	0	50	Conifer			3				
								Hardwood							
16	LF	1	HT	74	70	10	40	Conifer			1	1			TRANS, PHOTO #34
								Hardwood							

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 7-L SITE ID: 231 CLEAR CREEK #2 POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	29.1		CA,MT,D30	T=15.0C AT 10:23 HRS
6	LP	00	153.4		CH,MV,D30	
11	RP	00	291.9		CH, MV,D15	
13	RP	00	344.3	RF	RF	
16	RI	00	416.1		HT ACTING AS HS	
20	LP	00	497.3		/SS	
21	RP	00	510.9	SS/	CH,MV,C30-50	END SURVEY



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

Location: 10 548850 E 5013787 N
 Caption: CLEAR CREEK #2 RESTORATION SITE - CLACKAMAS BASIN