

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

STREAM: Elkhorn Creek (MC-373)
BASIN: Pacific Ocean
SURVEY TYPE: Pre-Tx
DATE: August 6, 2007
SURVEY CREW: Josh Togstad, Jeff Snyder
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 10.9 km²
USGS MAPS: Tidewater
ECOREGION: Coast Range Coastal Uplands

GENERAL DESCRIPTION:

The Elkhorn Creek habitat survey extended 2,512 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 2.7 (range: 1.0-5.0). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 1.4 percent. Riffles (56%) and scour pools (39%) dominated stream habitat. Cobble (27%), gravel (27%) and sand (24%) dominated stream substrate. Wood volume was low at 12.1 m³/100m.

COMMENTS:

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

REACH 1

T12S-R11W-S27NE

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	2.7	VWI Range:	1 - 5

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	2,512	13,423	0
Secondary Channel	46	84	0
Off-Channel Units	113	124	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 6	<u>First Terrace</u> n = 4
Width: 4.8	Width: 8.2	9.4 (6.9 - 12.4)	12.2 (8 - 16.4)
Depth: 0.37	Height: 0.4	0.8 (0.8 - 0.8)	1.2 (1.1 - 1.25)

W:D ratio: 20.5

Entrenchment (ACW:FPW ratio): 1.2

Stream Flow Type: MF

Habitat Units/100m (total channel length): 5.1

Average Unit Gradient: 1.4%

Habitat Units/100m (primary channel length): 5.5

Water temperature (°C): 12.0 - 12.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	6%	Reach avg: 88%
Undercut Banks:	7%	Range: 67 - 94

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	301	12.0
Volume (m ³):	305	12.1
Key pieces (>=12m x 0.60m):	4	0.2

OREGON DEPT OF FISH AND WILDLIFE

ELKHORN CREEK PRE-TX (2-MC, 373)

HABITAT INVENTORY

Report Date: 11/14/2007

Survey Date:

8/2/2007

REACH 1		T12S-R11W-S27NE					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	5	53	1.0	0.04	50	0	21	14	16	29	20	0
CULVERT CROSSING	1	10	1.0	0.10	10	0	0	0	65	35	0	0
POOL-LATERAL SCOUR	52	865	5.5	0.69	5,032	37	10	40	23	16	3	9
POOL-STRAIGHT SCOUR	3	45	4.9	0.45	218	0	10	28	12	23	3	23
RAPID/BEDROCK	6	103	3.9	0.18	402	3	2	12	10	7	10	60
RIFFLE	53	1,385	4.6	0.17	6,737	77	3	16	34	39	6	2
RIFFLE W/ POCKETS	4	152	6.1	0.20	917	16	0	9	19	40	11	22
STEP/BEDROCK	4	12	5.1	0.09	55	0	0	0	3	5	0	93
STEP/COBBLE	9	47	4.0	0.16	210	0	3	17	48	31	2	0
Total:	137	2,671	4.8	0.37	13,632	133	Avg: 6	24	27	27	5	11

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	55	910	5.5	0.68	5,250	38.52%	37	0.7
Glides	0	0			0	0.00%	0	0.0
Riffles	57	1,537	4.7	0.17	7,654	56.15%	93	1.2
Rapids	6	103	3.9	0.18	402	2.95%	3	0.7
Cascades	5	53	1.0	0.04	50	0.37%	0	0.0
Step/Falls	13	59	4.4	0.13	266	1.95%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	1	10	1.0	0.10	10	0.07%	0	0.0

POOL SUMMARY			
	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	55	20.6	21.9
Pools >=1m deep:	6	2.2	2.4
Complex pools (LWD pieces>=3):	23	8.6	9.2
Pool frequency (channel widths/pool):	5.9		
Residual pool depth (avg):	0.52		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

ELKHORN CREEK PRE-TX
GCG: 2-MC SITE ID: 373

Survey Date 8/2/2007
Report Date: 11/7/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 4 transects

Total hardwoods/1000	472
Total conifers/1000 ft	91
Total conifers >20" dbh/1000 ft	76
Total conifers >35" dbh/1000 ft	61

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	0.3	0.0	0.0	0.0	0.3	0.3	0.5
15-30cm	0.0	2.0	0.0	0.8	0.0	0.3	0.0	3.0
30-50cm	0.0	1.5	0.0	1.8	0.0	0.5	0.0	3.8
50-90cm	0.0	0.0	0.0	0.5	0.3	0.0	0.3	0.5
>90cm	0.0	0.0	0.5	0.0	0.5	0.0	1.0	0.0
Total/100m2	0.3	3.8	0.5	3.0	0.8	1.0	0.5	2.6

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	76		81		78	
Shrub cover	54		59		45	
Grass/forb cover	36		32		39	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	75		88		100	
High terrace	25		13		0	
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 (%)	55		63		80	

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

4 transects

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

Total hardwoods/1000	472
Total conifers/1000 ft	91
Total conifers >20" dbh/1000 ft	76
Total conifers >35" dbh/1000 ft	61

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	0.3	0.5
15-30cm	0.0	3.0
30-50cm	0.0	3.8
50-90cm	0.3	0.5
>90cm	1.0	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		
32	LT	1	HS	60	75	75	25	Conifer	1						
								Hardwood		1	2				
32	LT	2	HS	85	80	55	45	Conifer							
								Hardwood							
32	LT	3	HS	88	80	35	65	Conifer							
								Hardwood							
32	RT	1	HT	0	85	70	30	Conifer							
								Hardwood		1	3				
32	RT	2	HT	0	85	80	20	Conifer							
								Hardwood			3	2			
32	RT	3	HS	88	85	90	10	Conifer							
								Hardwood							
60	LT	1	HT	0	85	40	60	Conifer							
								Hardwood		4	1				
60	LT	2	HS	47	85	60	40	Conifer							
								Hardwood							
60	LT	3	HS	106	85	15	85	Conifer					1		
								Hardwood	1	1					
60	RT	1	HS	68	85	0	30	Conifer							70 DIRT
								Hardwood							
60	RT	2	HS	65	85	0	25	Conifer						2	75 DIRT
								Hardwood							VERY LARGE
60	RT	3	HS	65	85	0	35	Conifer						1	65 DIRT
								Hardwood							
87	LT	1	HS	55	80	70	20	Conifer							10 DIRT
								Hardwood	1	2					
87	LT	2	HS	55	85	80	20	Conifer							
								Hardwood		1	3				
87	LT	3	HS	55	75	70	20	Conifer							10 DIRT
								Hardwood							
87	RT	1	HS	105	70	40	60	Conifer							
								Hardwood							
87	RT	2	HS	100	85	45	55	Conifer							
								Hardwood							
87	RT	3	HS	90	85	0	45	Conifer						1	55 DIRT
								Hardwood							

111	LT	1	HS	50	60	65	35	Conifer		
								Hardwood		
111	LT	2	HS	50	60	70	30	Conifer		
								Hardwood	1	
111	LT	3	HS	50	60	60	40	Conifer		
								Hardwood		2
111	RT	1	HS	105	70	70	30	Conifer		
								Hardwood		
111	RT	2	HS	100	80	80	20	Conifer		
								Hardwood	1	1
111	RT	3	HS	95	70	90	10	Conifer		
								Hardwood		

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 373 STREAM: ELKHORN CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	RI	00	10.1		METRIC 1
2	LP	01	66.1	TJ/	
3	RI	11	66.1		T= 11
5	RI	00	116.6	CO	
6	LP	00	151.2	CO	
8	LP	00	191.3	CO	
10	LP	01	214.9	CO, TJ/	
11	CB	11	214.9		T= 11 C
15	LP	00	262.5	CO	
17	LP	01	306.1	CO, TJ/	
18	CB	11	306.1		T= 12.5
20	LP	01	328.5	CO	
21	LP	02	328.5	CO	
24	LP	03	328.5	CO	
26	LP	00	344.7	CO	
28	LP	00	383.6	CO	
30	LP	00	416.7	CO	
31	RI	00	467.1	CO	
32	RI	00	521.5	CO	METRIC 2
33	LP	00	541.3	CO	
35	LP	01	587.4	CO	
36	CB	11	587.4		T= 11.5

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 373 STREAM: ELKHORN CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
38	LP	00	611.4	CO	
40	LP	00	626.5	CO	
41	RI	00	676.9	CO	
42	RI	00	698.3	CO	
44	SC	00	721.7	BV	
45	LP	00	740.8	CO	
47	LP	01	779.9	CO,SS,TJ/	
48	RI	11	779.9		10T- 0420801
50	LP	00	816	CO	
52	LP	01	873.3	CO, TJ/	
53	RI	11	873.3		10T- 0420839
54	RI	00	889.3	CO	
57	LP	00	928	CO	
60	RI	00	987.4		SPAWNING SURVEY SIGN ALDER RIGHT
61	LP	00	1020.4	CO	
63	LP	00	1048.3	CO	
65	CB	11	1079.9		10T- 0420977
66	LP	00	1098.9	CO	
68	RI	00	1177.4	CO	
69	LP	00	1181.9	CO	
71	LP	00	1235.7	CO	
73	LP	01	1250.3	TJ/	

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 373 STREAM: ELKHORN CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
74	RI	11	1250.3		10T- 0421152
76	LP	00	1271.4	CO	
77	RI	00	1300.3	SS/	
80	SP	00	1368.7	CO	
81	RI	00	1398	CO	
82	LP	00	1410.2	CO, SS/	
84	LP	00	1442.5	CO	
86	LP	00	1487.3	CO	
87	RI	00	1521.3		METRIC 4
88	LP	00	1536.5	CO	
90	LP	00	1556.9	CO	
92	RI	00	1614.5	CO	
93	RR	00	1635.3	CO	
95	RR	11	1678.3		10T- 0421511
96	CC	00	1688.3	CC	DIA=1
98	RI	00	1755.3	SS/	
99	LP	00	1767	CO	
101	RI	00	1817.9	CO	
102	LP	00	1829.5	CO	
106	LP	00	1904.6	CO	
107	RP	00	1941.1	CO	
108	LP	00	1961.8	CO	

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 373 STREAM: ELKHORN CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
110	SP	00	1997.3	CO	
111	RI	00	2027.6	CO	METRIC 5
112	LP	01	2040.1	CO, TJ/	
113	CB	11	2040.1		10T- 0421816
114	RI	00	2086.5	CO	
116	LP	00	2097.5	CO	
118	LP	00	2115.4	CO	
120	RR	00	2151.5	CO	
121	SP	00	2169.8	CO	
122	RP	00	2212.8	CO	
123	LP	00	2224.6	CO	
124	RI	00	2262.2	SS/	
125	LP	00	2269.5	CO	
126	RI	00	2298.1	CO	
129	LP	00	2329.2	CO	
130	RI	00	2360.8	CO	
131	LP	00	2376.6	CO	
132	RP	00	2422.2	CO	
134	LP	00	2457.7	CO	
137	RR	00	2512.3		METRIC 6

