

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

STREAM: Elk Creek (MS-285)
BASIN: Millicoma River
SURVEY TYPE: Pre-Tx
DATE: June 28, 2005
SURVEY CREW: Kevin Cellura, Eric Himmelreich
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 17.6 km²
USGS MAPS: Elk Peak
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Elk Creek habitat survey extended 3,365 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 3.3 (range: 2.1-6.0). Land use for the reach was mature (50-90 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 0.5 percent. Scour pools (52%) and riffles (43%) dominated stream habitat. Gravel (36%) and sand (20%) dominated stream substrate. Wood volume was very low at 8.1 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

T23S-R11W-S24NE

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	3.3	VWI Range:	2.1 - 6

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	3,365	18,237	0
Secondary Channel	0	0	0
Off-Channel Units	143	413	2

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 5.1	Width: 12.9	15.3 (11.1 - 24)	16.3 (11.3 - 24.2)
Depth: 0.47	Height: 0.7	1.3 (1 - 1.6)	1.7 (1.2 - 1.9)

W:D ratio: 19.7

Entrenchment (ACW:FPW ratio): 1.2

Stream Flow Type: MF

Habitat Units/100m (total channel length): 4.0

Average Unit Gradient: 0.5%

Habitat Units/100m (primary channel length): 4.2

Water temperature (°C): 12.5 - 12.5

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	2%	Reach avg: 78%
Undercut Banks:	16%	Range: 50 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	313	9.3
Volume (m ³):	272	8.1
Key pieces (>=12m x 0.60m):	4	0.1

OREGON DEPT OF FISH AND WILDLIFE

ELK CREEK PRE-TX (3-MS, 285)

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

6/28/2005

REACH 1		T23S-R11W-S24NE					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	5	2.2	0.05	10	0	0	10	60	30	0	0
DRY CHANNEL	2	9	1.7	0.00	15	0	0	10	48	38	5	0
POOL-BACKWATER	12	107	3.0	0.51	347	6	39	32	21	5	0	3
POOL-LATERAL SCOUR	58	1,603	5.7	0.80	8,935	104	9	22	31	15	5	18
POOL-STRAIGHT SCOUR	4	113	6.5	0.58	728	30	8	22	23	17	8	23
RAPID/BOULDERS	5	73	4.9	0.10	389	80	2	16	44	18	20	0
RIFFLE	45	1,437	5.0	0.18	7,148	241	2	18	43	24	7	7
RIFFLE W/ POCKETS	2	103	7.8	0.28	795	65	5	15	20	20	20	20
STEP/BOULDERS	2	8	3.8	0.19	31	8	0	0	15	30	55	0
STEP/COBBLE	9	50	4.7	0.13	254	6	0	9	67	20	2	3
Total:	140	3,509	5.1	0.47	18,650	540	Avg: 8	20	36	18	6	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	12	107	3.0	0.51	347	1.86%	6	1.7	
Scour Pools	62	1,716	5.8	0.78	9,663	51.81%	134	1.4	
Glides	0	0			0	0.00%	0	0.0	
Riffles	47	1,540	5.1	0.18	7,942	42.59%	306	3.9	
Rapids	5	73	4.9	0.10	389	2.09%	80	20.6	
Cascades	1	5	2.2	0.05	10	0.05%	0	0.0	
Step/Falls	11	58	4.5	0.14	284	1.52%	14	4.9	
Dry	2	9	1.7	0.00	15	0.08%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths	
		<u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	74	21.1	22.0
Pools >=1m deep:	10	2.9	3.0
Complex pools (LWD pieces>=3):	27	7.7	8.0
Pool frequency (channel widths/pool):	3.7		
Residual pool depth (avg):	0.64		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

ELK CREEK PRE-TX
GCG: 3-MS SITE ID: 285

Survey Date 6/28/2005
Report Date: 4/26/2006

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	894
Total conifers/1000 ft	20
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	1.7	0.0	3.0	0.3	1.7	0.3	6.3
15-30cm	0.0	0.0	0.0	1.7	0.0	0.0	0.0	1.7
30-50cm	0.0	2.7	0.0	1.0	0.0	1.7	0.0	5.3
50-90cm	0.0	0.7	0.0	0.0	0.0	0.7	0.0	1.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	5.0	0.0	5.7	0.3	4.0	0.1	4.9

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	73		70		69	
Shrub cover	58		45		48	
Grass/forb cover	30		31		33	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	50		50		67	
High terrace	50		33		17	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		17		17	
Riprap	0		0		0	
Surface slope (%)	22		30		28	

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	894
Total conifers/1000 ft	20
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	0.3	6.3
15-30cm	0.0	1.7
30-50cm	0.0	5.3
50-90cm	0.0	1.3
>90cm	0.0	0.0

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **3-MS** SITE ID: **285** **ELK CREEK PRE-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	15.5		START 424013, 4823179	KINGFISHER
2	LP	00	34.5		UNITS 1 - 19 WERE ESTI	TROUT, FRY
4	LP	00	110.3	BV	COUGAR TRACKS	COHO FRY, 04 START SIGN
5	SP	00	139.3	WL		COHO FRY
8	SP	00	263.4		WINTER STEELHEAD RE	
15	BW	10	422.4		LAMPREY REDD	
16	LP	00	486	WL		GAME TRAIL
17	RI	01	516.5	WL		ELK TRACKS
19	LP	00	547	BV		FISH
20	LP	00	573.8	WL		ELK TRACKS, RACCOON
21	RI	00	620.5	BV		
24	RI	00	714.6			COHO FRY
26	RI	00	784.7			AMERICAN GOLDFINCH
29	LP	01	871.6	/TJ, /SS		
30	DC	11	871.6		ACW = 1.8 M	TRIB 1, 423845, 4822509
32	LP	00	936.9	BV, WL		TRAIL
33	RI	00	967.2			HUMMINGBIRDS
38	LP	00	1060.1	BV		
40	RP	00	1133.8			FISH
44	LP	01	1219.4	TJ/		RSN
45	CB	11	1219.4			TRIB 2 T=11.5 C, 424096,4823

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **3-MS** SITE ID: **285** ELK CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
46	RI	00	1268.9			T = 13 C AT 1430
49	LP	01	1345.8	TJ/		
50	DC	11	1345.8			TRIB 3 424091, 4822281
54	LP	00	1489.2	WL		GAME TRAIL, KINGFISHER
60	SC	00	1643.5		JUST BELOW 4 MI MARK	
62	BW	10	1664.3			CUTTHROAT TROUT
64	LP	00	1709.8	BV, WL		FISH, BEAVER DAM
65	SC	00	1712.2		BEAVER DEN	
66	LP	00	1745.6	WL		ELK TRACKS
68	LP	00	1772.9	BV		FRY
71	LP	00	1876.8	/SS	SS	
72	RP	00	1929.8	BV		
73	LP	01	1958.3	BV,SS, /TJ		T = 12 C AT 1030
74	RB	11	1958.3			TRIB 4 T = 12 C AT 1030
76	LP	00	1994.4			BEDROCK = HARDPAN
77	LP	00	2043.5	BV		
79	LP	00	2094.8	BV, WL		BEAVER DAM
80	LP	00	2129	BV		
81	LP	00	2143.3			TROUT
84	LP	00	2201.3	BV, DJ		
87	LP	01	2312.1	TJ/		424043, 4821675

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **3-MS** SITE ID: **285** ELK CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
88	RB	11	2312.1			TRIB 5 T = 11.5 C AT 1130
89	RI	00	2327.1			T = 13 AT 1130
90	LP	01	2377.8			FISH
91	BW	10	2377.8			FRY, RSN
93	LP	00	2432			TROUT
94	RI	00	2482.5	BC, WL		SCAT
95	LP	01	2501.7			423913, 4821738
98	LP	00	2538.5	DJ		RSN
99	RI	00	2547.6	HS		
102	LP	00	2611.1	HS		
104	LP	00	2634.9	BV		BEAVER DEN, BEDROCK = H
106	LP	01	2673.9	HS, BV		FRY
107	BW	10	2673.9	BV		FRY
108	RB	00	2687.9			FRY
109	LP	00	2706.9			FRY, TROUT, RSN
111	BW	10	2748.2			FRY, RSN
112	BW	10	2748.2			FRY, RSN
113	LP	00	2776.6	HS, BV		
115	LP	00	2814.4			TROUT
117	LP	00	2853	BV		TROUT
119	BW	10	2888			RSN

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **3-MS** SITE ID: **285** ELK CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
120	LP	00	2907.3	/SS, BV	SS	
121	RI	01	2933.4	/SS		
123	LP	00	2952.4	BV		
124	LP	00	2995.6	WL		DEN, MANY CRAYFISH CAR
125	RI	00	3047.9	BV		
127	BW	10	3107.3			RSN, FRY, BDRCK = HARDP
128	LP	01	3134.7			FRY, BEDROCK = HARDPAN
129	BW	10	3134.7			10 RSN
133	LP	00	3225.6			BEDROCK = HARDPAN
134	RI	00	3273	BV		TROUT
137	LP	00	3315.3			BEDROCK = HARDPAN
138	RI	00	3344.3			BEDROCK = HARDPAN
140	SC	00	3365.1			END AT TJ/, 423980, 4821148

