

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

STREAM: Knife Creek Upper (MS-164)
BASIN: Millicoma River
SURVEY TYPE: Post-Tx
DATE: March 1, 2004
SURVEY CREW: Michael Scheu, Jeremiah Bernier
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 6.2 km²
USGS MAPS: Elk Peak
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Knife Creek habitat survey extended 632 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 1.9 (range: 1.0-4.2). Land use for the reach was young (3-15 cm dbh) and mature (50-90 cm dbh) trees. The average unit gradient was 2.8 percent. Rapids (31%) and scour pools (29%) dominated stream habitat. Gravel (37%) and cobble (25%) dominated stream substrate. Wood volume was very high at 43.5 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-S01SE

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	1.9	VWI Range:	1 - 4.2

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	632	2,853	0
Secondary	59	163	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 1
Width: 4.2	Width: 9.8	13.5 (10.3 - 18.5)	16.0 (16 - 16)
Depth: 0.42	Height: 0.5	1.1 (1 - 1.2)	2.2 (2.2 - 2.2)

W:D ratio: 18.3
Stream Flow Type: MF
Avg. Unit Gradient: 2.8%

Entrenchment (ACW:FPW ratio): 1.4
Water temp (°C): 8.0 - 8.0
Habitat Units/100m: 8.2

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	YT	MT
Riparian Vegetation:	D15	C50

Bank Condition and Shade

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

Large Wood Debris

	<u>Total</u>	<u>Total / 100m</u>
All pieces (>=3m x 0.15m):	183	29.0
Volume (m ³):	275	43.5
Key pieces (>=10m x 0.60m):	18	2.8

OREGON DEPARTMENT OF FISH AND WILDLIFE

KNIFE CREEK UPPER POST-TX (MS-164)

HABITAT INVENTORY

Report Date: 6/16/2004

Survey Date:

3/1/2004

REACH 1

T23S-R11W-S01SE

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/BEDROCK	3	85	4.7	0.20	406	0	0	2	0	0	3	95
POOL-BACKWATER	4	17	3.6	0.58	62	0	11	47	28	9	0	5
POOL-DAMMED	2	24	4.9	0.65	118	0	5	46	25	18	3	5
POOL-ISOLATED	1	6	1.4	0.30	8	0	5	5	30	60	0	0
POOL-LATERAL SCOUR	17	178	4.2	0.63	748	0	0	15	40	14	3	28
POOL-PLUNGE	4	24	5.0	0.78	124	0	1	19	51	20	1	9
RAPID/BEDROCK	3	61	4.8	0.17	293	0	0	0	10	10	2	78
RAPID/BOULDERS	8	166	3.9	0.26	645	0	0	4	37	56	3	0
RIFFLE	2	55	4.1	0.30	227	0	0	8	63	30	0	0
STEP/BEDROCK	1	16	4.5	0.15	74	0	0	0	0	0	0	100
STEP/COBBLE	8	51	3.9	0.15	252	0	3	5	44	46	2	0
STEP/LOG	3	8	6.1	0.18	52	0	0	12	67	22	0	0
STEP/STRUCTURE	1	2	4.0	0.30	8	0	10	70	20	0	0	0
Total:	57	691	4.2	0.42	3,016	0	Avg: 2	14	37	25	2	20

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	7	47	3.7	0.56	189	6.26%	0	0.0
Scour Pools	21	201	4.3	0.66	872	28.91%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	2	55	4.1	0.30	227	7.51%	0	0.0
Rapids	11	226	4.1	0.24	938	31.10%	0	0.0
Cascades	3	85	4.7	0.20	406	13.45%	0	0.0
Step/Falls	13	77	4.5	0.17	385	12.77%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	# / Km	
All Pools:	28	40.5	59
Pools >=1m deep:	2	2.9	
Complex pools (LWD pieces>=3):	13	18.8	
Pool frequency (channel widths/pool):	2.5		
Residual pool depth (avg):	0.42		

STREAM SUMMARY

KNIFE CREEK UPPER POST-TX (MS-164)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Substrate						Large Boulders (#>0.5m)
					Percent Wetted Area						
					S/O	Snd	Grvl	Cbl	Bldr	Bdrk	
57	691	4.2	0.42	3,016	2	14	37	25	2	20	

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	(m ²)	Percent
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Step/Falls	385	12.77%
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Culverts	0	0.00%

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: **3-MS** SITE ID: **164** KNIFE CREEK UPPER POST-TX (MS-

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	SR	00	16.4			PHOTO 80
4	LP	00	63.3	HS		5 HAB LOGS
5	SC	00	69.9			SG=6M
6	LP	00	82.2	HS		
13	RB	02	151.9	LS/		
14	LP	00	161.2	HS		
15	RR	00	180.9	SS/SS		
16	RR	00	205.9	SS/		ORANGE FLAGS
21	RB	01	301.3	HS		FISH BONES
23	SL	00	304.8	SS/		H=0.3M
25	LP	01	327.3			SG=4M
26	BW	10	327.3	/SS		
27	RI	00	352.3			PHOTO 81
28	RB	00	377.3	HS		
29	PP	00	382.8			SG=8M
30	SL	00	383.5	SS/		H=.3M
33	LP	00	414			SG=5M
41	LP	00	497	HS		SG=4M, LOG
42	SC	00	502.8	HS		ROOT CUT
43	PP	00	510.8			SG=4M
44	RB	01	535.8	HS		

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: 3-MS SITE ID: 164 KNIFE CREEK UPPER POST-TX (MS-

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
45	SS	01	537.8		H=.5M	
52	LP	00	560.9	HS		
53	SL	00	564.9	HS		
55	RI	00	605.3		SG=20M	
56	LP	00	618.8		STHD REDD, SG=8M	
57	LP	00	632	/TJ, SS		



Name: ELK PEAK
 Date: 12/17/2003
 Scale: 1 inch equals 2000 feet

Location: 10 424836 E 4828408 N
 Caption: KNIFE CREEK (UPPER) RESTORATION SITE - MILLICOMA BASIN