

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

STREAM: Knife Creek Lower (MS-161)
BASIN: Millicoma River
SURVEY TYPE: Post-Tx
DATE: July 6, 2004
SURVEY CREW: Alex Dale, Kevin Cellura
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 527 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 2.5 (range: 1.3-4.2). Land use for the reach was young (3-15 cm dbh) and mature (50-90 cm dbh) trees. The average unit gradient was 2.6 percent. Scour pools (41%) and rapids (25%) dominated stream habitat. Bedrock (40%) dominated stream substrate. Wood volume was moderate at 22.9 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.

REACH 1

T23S-R11W-S12NE

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	2.5	VWI Range:	1.3 - 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	527	2,233	0
Secondary	73	101	2

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 3
Width: 3.8	Width: 6.1	8.3 (6.2 - 11.5)	8.8 (6.7 - 11.5)
Depth: 0.26	Height: 0.4	0.8 (0.6 - 1)	1.5 (0.85 - 1.8)

W:D ratio: 16.4
 Stream Flow Type: LF
 Average Unit Gradient: 2.6%
 Water temperature (°C): 16.0 - 16.0

Entrenchment (ACW:FPW ratio): 1.4
 Habitat Units/100m (total channel length): 8.0
 Habitat Units/100m (primary channel length): 9.1

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	2%	Reach avg: 84%
Undercut Banks:	9%	Range: 33 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	67	12.7
Volume (m ³):	121	22.9
Key pieces (>=12m x 0.60m):	4	0.8

OREGON DEPARTMENT OF FISH AND WILDLIFE

KNIFE CREEK LOWER POST-TX (MS-161)

HABITAT INVENTORY

Report Date: 10/27/2004

Survey Date:

7/6/2004

REACH 1

T23S-R11W-S12NE

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	67	3.8	0.20	244	37	0	7	13	17	13	50
CASCADE/BOULDERS	2	17	4.6	0.14	79	48	0	13	25	28	28	8
DRY CHANNEL	1	17	1.3	0.00	22	0	0	5	20	25	0	50
DRY UNIT	1	2	1.5	0.00	3	0	0	10	50	40	0	0
POOL-BACKWATER	3	16	2.0	0.28	30	11	16	18	22	16	8	20
POOL-DAMMED	1	6	5.4	0.30	32	0	15	35	10	5	0	35
POOL-LATERAL SCOUR	5	54	4.4	0.43	264	29	5	18	20	18	8	32
POOL-PLUNGE	3	11	4.2	0.47	36	7	0	18	18	10	10	45
POOL-STRAIGHT SCOUR	9	114	5.5	0.50	656	112	5	16	12	7	10	50
RAPID/BEDROCK	6	117	3.2	0.16	387	74	0	7	9	8	7	69
RAPID/BOULDERS	4	59	3.5	0.08	185	143	0	11	31	31	20	6
RIFFLE	4	78	4.0	0.17	308	66	0	15	20	20	15	30
RIFFLE W/ POCKETS	1	13	1.4	0.09	18	5	0	15	40	40	5	0
STEP/BEDROCK	3	21	2.4	0.12	51	8	0	3	0	2	2	93
STEP/BOULDERS	1	5	2.4	0.10	13	10	0	5	15	40	40	0
STEP/LOG	1	2	1.6	0.20	4	0	10	10	20	10	0	50
Total:	48	600	3.8	0.26	2,334	550	Avg: 3	13	17	16	11	40

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	4	22	2.9	0.29	62	2.66%	11	17.7
Scour Pools	17	179	4.9	0.47	957	41.00%	148	15.5
Glides	0	0			0	0.00%	0	0.0
Riffles	5	91	3.4	0.15	326	13.98%	71	21.8
Rapids	10	176	3.3	0.12	572	24.51%	217	37.9
Cascades	5	84	4.1	0.18	323	13.83%	85	26.3
Step/Falls	5	29	2.3	0.13	68	2.92%	18	26.4
Dry	2	19	1.4	0.00	26	1.10%	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:	21	35.0	39.8
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	3	5.0	5.7
Pool frequency (channel widths/pool):	4.7		
Residual pool depth (avg):	0.37		

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

REACH 1

Summary of Riparian Zone (0-30m)

3 transects

Total hardwoods/1000	894
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	3.7	0.0	1.3	0.0	4.7	0.0	9.7
15-30cm	0.0	0.0	0.0	0.7	0.0	3.0	0.0	3.7
30-50cm	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.7
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	0.3	0.0	0.0	0.0	0.3
Total/100m2	0.0	3.7	0.0	2.3	0.0	8.7	0.0	4.9

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	38		68		82	
Shrub cover	45		52		52	
Grass/forb cover	45		38		38	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	83		100		100	
High terrace	17		0		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 (%)	45		34		36	

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		
11	LF	2	HS	25	30	85	10	Conifer							
								Hardwood							
11	LF	3	HS	40	60	85	10	Conifer							
								Hardwood		3					
11	RT	1	HT	10	20	40	55	Conifer							
								Hardwood							
11	RT	2	HS	35	85	90	5	Conifer							
								Hardwood							
11	RT	3	HS	35	85	90	5	Conifer							
								Hardwood							
11	LF	1	HS	20	30	60	30	Conifer							10T 0424214
								Hardwood	8						UTM 4827051
24	RT	3	HS	20	95	60	30	Conifer							VINE M
								Hardwood	9	3	1				ELK RUBS ON ALL TREES
24	RT	2	HS	35	45	70	25	Conifer							
								Hardwood							
24	RT	1	HS	40	15	30	60	Conifer							
								Hardwood							
24	LF	3	HS	60	85	10	85	Conifer							
								Hardwood	2	3					
24	LF	1	HS	60	90	25	60	Conifer							10T 0424286
								Hardwood	1						UTM 4827122
24	LF	2	HS	60	85	5	90	Conifer							
								Hardwood	2	2					
35	LF	1	HS	20	50	70	25	Conifer							10T 0424270
								Hardwood	1						UTM 4827231
35	LF	2	HS	25	80	60	35	Conifer							
								Hardwood	2						
35	LF	3	HS	30	90	65	30	Conifer							
								Hardwood	3						
35	RT	1	HS	120	20	45	40	Conifer							
								Hardwood	1						
35	RT	2	HS	25	85	0	60	Conifer							
								Hardwood							1
35	RT	3	HS	30	75	0	70	Conifer							
								Hardwood		1	1				

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: **3-MS** SITE ID: **161** **KNIFE CREEK LOWER POST-TX (MS-**

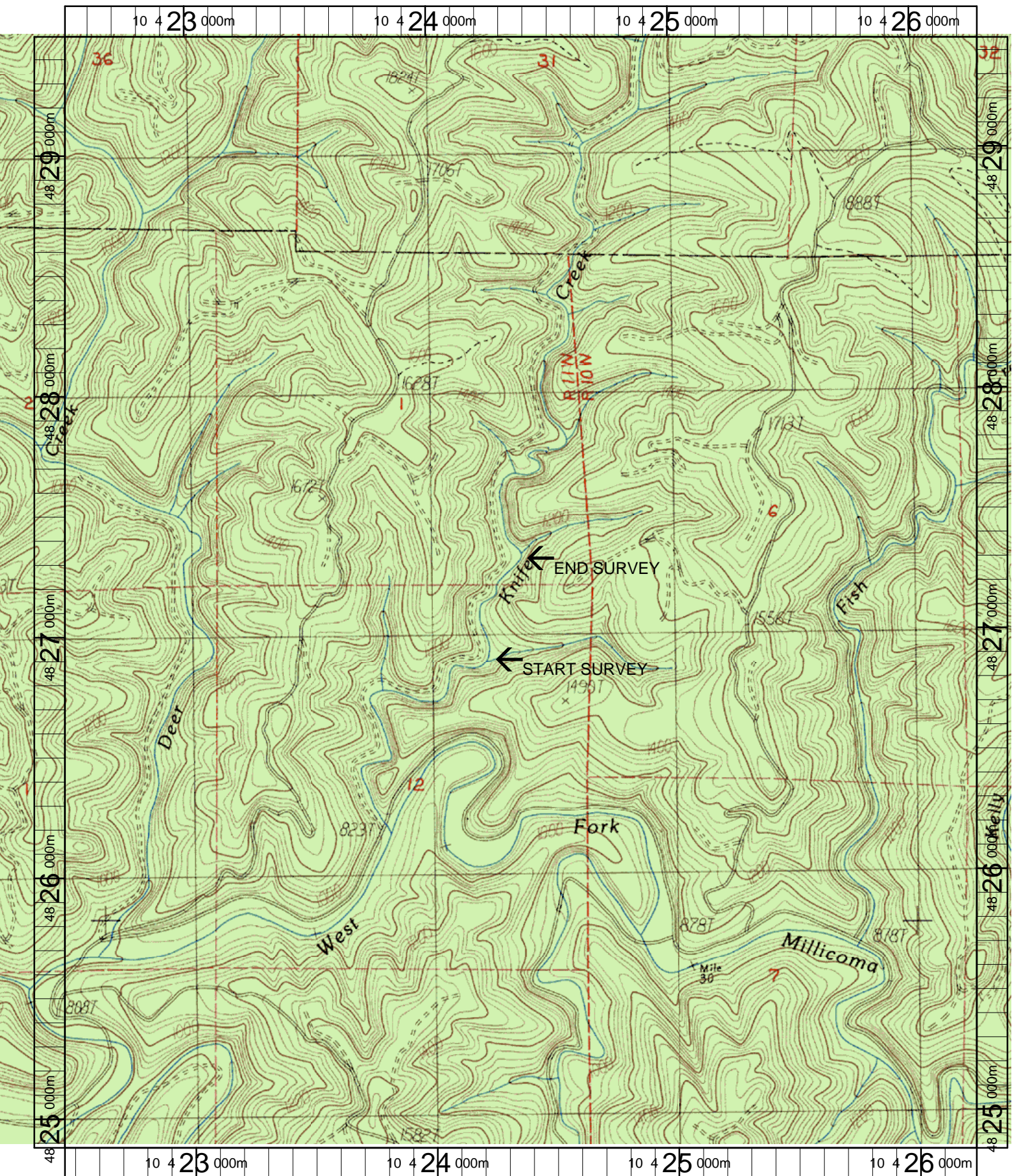
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	14.2	BV		
5	RB	00	52.3			FRY
6	SP	00	67.8	WL		FRY, TROUT
7	RR	00	73.2	/SS	/SS	
8	SR	00	80.5	SS/		
9	LP	00	88.8			FRY
10	RR	00	107.3	SS/		7-7 13 DEG C AT 1:50
12	SP	00	131			RIP 1
14	SP	00	157.55	LI	FRY	FRY
18	PP	00	184.25	SS/		
22	SP	00	242.25	SS/		FRY
24	SP	00	274.45	WL	PBS	PGS - 6, FRY
25	RR	00	311.15	/SS		
29	DC	02	352.15		ACH=1.3	
36	RI	00	445.75	/SS	CLEAR CUT ON RIGHT	CLEARCUT ON RIGHT
38	RR	01	469.55	HS		
39	RB	02	469.55	HS		
40	BW	10	469.55	HS		
41	LP	00	485.75	WL		ELK TRACKS
42	RB	01	514.85	WL		CRAWDAD, FRY
43	BW	10	514.85	WL		ELK TRACKS, CRAWDAD

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: 3-MS SITE ID: 161 KNIFE CREEK LOWER POST-TX (MS-

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
46	LP	02	514.85			FRY
48	LP	00	527.35			15 DEG C AT 3:40



Name: ELK PEAK
 Date: 3/20/2003
 Scale: 1 inch equals 1666 feet

Location: 10 424365 E 4827171 N
 Caption: KNIFE CREEK LOWER RESTORATION SITE - MILLICOMA BASIN