

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: July 21, 2003
SURVEY CREW: Jeremiah Bernier, Alex Higgins
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 619 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 2.3 (range: 1.6-3.0). Land use for the reach was young (3-15 cm dbh) and mature (50-90 cm dbh) trees. The average unit gradient was 2.3 percent. Scour pools (42%), riffles (29%) and rapids (24%) dominated stream habitat. Cobble (34%), gravel (26%) and bedrock (20%) dominated stream substrate. Wood volume was moderate at 21.5 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-S01NW

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 2.3		VWI Range: 1.6 - 3	

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	619	1,739	0
Secondary	6	0	1

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	2.8	Width	6.5	11.8	14.1
Depth	0.25	Height	0.5	1.0	1.7
W:D ratio		13.5	Entrenchment		1.9
Stream Flow Type:		LF	Water temp (C): 17.0 - 17.0		
Avg. Unit Gradient:		2.3%	Habitat Units/100m: 5.4		

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	3%	Reach avg: 81%
Undercut Banks:	8%	Range: 47 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m</u>
All pieces ($\geq 3m \times 0.15m$):	124	20.0
Volume (m ³):	133	21.5
Key pieces ($\geq 10m \times 0.60m$):	6	1.0

OREGON DEPARTMENT OF FISH AND WILDLIFE

KNIFE CREEK UPPER POST-TX (MS-164)

HABITAT INVENTORY

Report Date: 12/17/03

Survey Date:

7/21/03

REACH 1

T23S-R11W-S01NW

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	1	10	3.0	0.10	29	0	0	0	0	0	0	100
DRY CHANNEL	1	6	0.0	0.00	0	5	0	0	30	30	40	0
POOL-LATERAL SCOUR	15	193	3.7	0.45	730	20	0	17	26	26	9	22
RAPID/BEDROCK	2	86	3.2	0.11	268	5	0	0	8	0	13	80
RAPID/BOULDERS	3	60	2.5	0.12	156	11	0	0	18	42	10	30
RIFFLE	5	163	2.0	0.07	377	10	0	6	35	51	7	1
RIFFLE W/ POCKETS	3	81	1.9	0.20	127	3	0	20	37	30	13	0
STEP/COBBLE	4	27	2.0	0.05	52	0	0	5	24	70	1	0
Total:	34	625	2.8	0.25	1,739	54	Avg 0	11	26	34	9	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	0	0			0	0.00%	0	0.0
Scour Pools	15	193	3.7	0.45	730	41.95%	20	2.7
Glides	0	0			0	0.00%	0	0.0
Riffles	8	243	2.0	0.12	505	29.02%	13	2.6
Rapids	5	146	2.8	0.11	424	24.38%	16	3.8
Cascades	1	10	3.0	0.10	29	1.69%	0	0.0
Step/Falls	4	27	2.0	0.05	52	2.96%	0	0.0
Dry	1	6	0.0	0.00	0	0.00%	5	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	# / Km
All Pools:	15	24.0
Pools >=1m deep:	0	0.0
Complex pools (LWD pieces>=3):	7	11.2
Pool frequency (channel widths/pool):	6.4	
Residual pool depth (avg):	0.40	

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 Percent Wetted Area						Large Boulders (>0.5m)
					S/O	Snd	Grvl	Cbl	Bldr	Bdrk	
34	625	2.8	0.25	1,739	0	11	26	34	9	20	54

Habitat Group	Wetted Area	
	(m ²)	Percent
Dammed & BW Pools	0	0.00%
Scour Pools	730	41.95%
Glides	0	0.00%
Riffles	505	29.02%
Rapids	424	24.38%
Cascades	29	1.69%
Step/Falls	52	2.96%
Dry	0	0.00%
Culverts	0	0.00%

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1	REACH 1
Summary of Riparian Zone (0-30m) 3 transects	
Total hardwoods/1000	691
Total conifers/1000 ft	41
Total conifers >20" dbh/1000 ft	20
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	3.0	0.0	2.3	0.0	1.3	0.0	6.7
15-30cm	0.0	1.3	0.0	1.7	0.0	0.7	0.0	3.7
30-50cm	0.0	0.0	0.3	0.0	0.0	0.7	0.3	0.7
50-90cm	0.3	0.3	0.0	0.0	0.0	0.0	0.3	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.3	4.7	0.3	4.0	0.0	2.7	0.2	3.8

Canopy closure and ground cover

	Zone 1	Zone 2	Zone 3
	0-10 meters (%)	10 - 20 meters (%)	20 - 30 meters (%)
Canopy closure	54	63	66
Shrub cover	19	35	47
Grass/forb cover	53	48	40

Predominant landform in each zone

	Zone 1	Zone 2	Zone 3
	0-10 meters (%)	10 - 20 meters (%)	20 - 30 meters (%)
Hillslope	67	100	100
High terrace	0	0	0
Low terrace	33	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 (%)	13	32	35

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	691
Total conifers/1000 ft	41
Total conifers >20" dbh/1000 ft	20
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	0.0	6.7
15-30cm	0.0	3.7
30-50cm	0.3	0.7
50-90cm	0.3	0.3
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

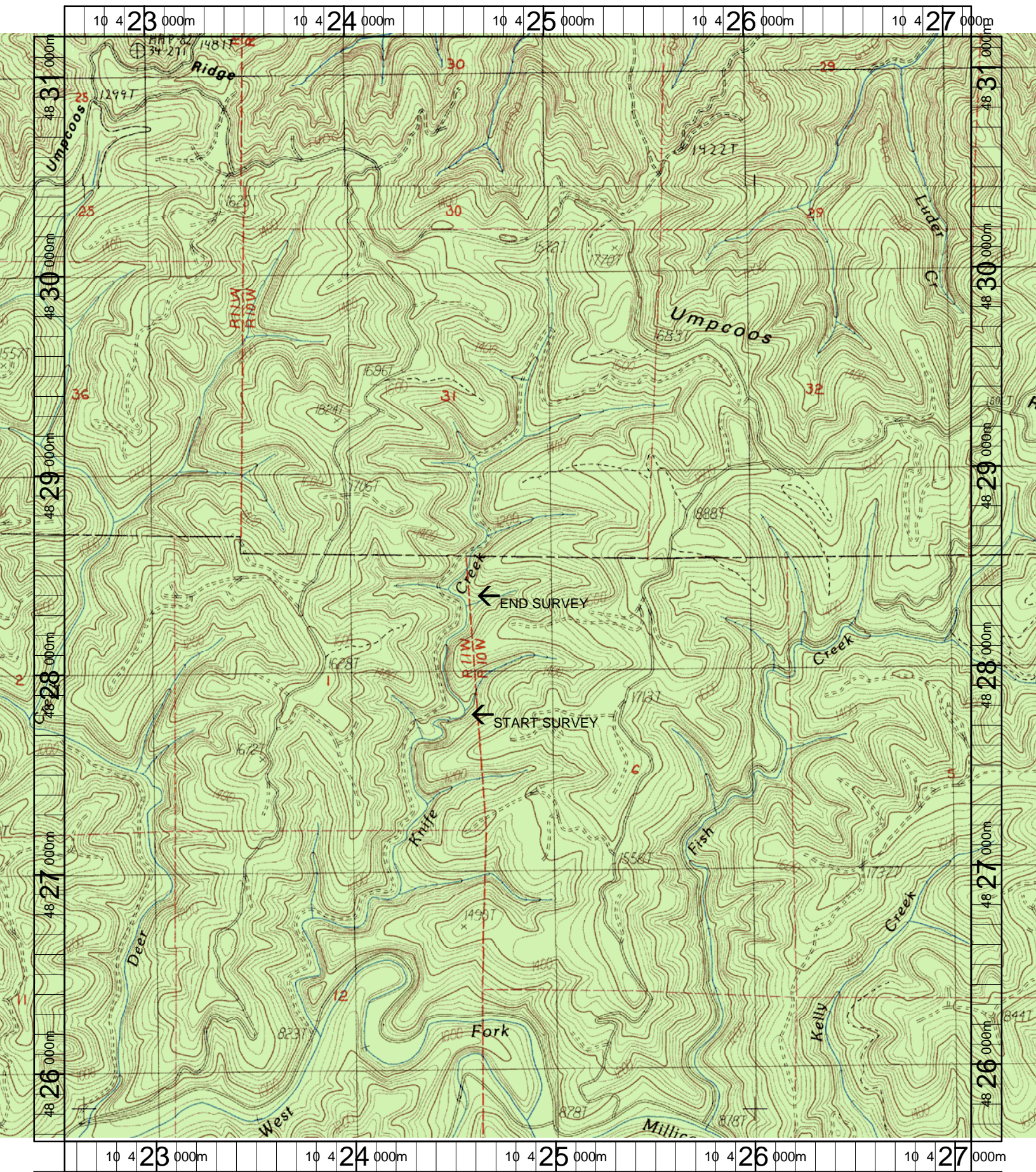
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
7	RT	1	HS	25	30	40	40	Conifer							
								Hardwood							
7	RT	2	HS	35	50	20	60	Conifer				1			
								Hardwood	3	1					
7	LF	3	HS	30	75	100	0	Conifer							
								Hardwood							
7	LF	2	HS	25	60	60	10	Conifer							
								Hardwood		1					
7	RT	3	HS	35	65	20	60	Conifer							
								Hardwood				1			
7	LF	1	HS	25	60	5	50	Conifer							
								Hardwood	8						
12	RT	2	HS	40	75	90	10	Conifer							
								Hardwood	1						
12	RT	1	HS	10	50	50	20	Conifer						1	
								Hardwood							
12	LF	3	HS	35	70	70	30	Conifer							
								Hardwood	3	1					
12	LF	2	HS	20	65	30	70	Conifer							
								Hardwood	3	3					
12	LF	1	HS	15	50	20	80	Conifer							
								Hardwood							
12	RT	3	HS	40	80	80	20	Conifer							
								Hardwood	1						
22	RT	3	HS	35	35	5	70	Conifer							
								Hardwood							
22	LF	2	HS	35	75	5	65	Conifer							
								Hardwood							
22	LF	3	HS	35	70	5	60	Conifer							
								Hardwood			1	1			
22	RT	1	LT	0	60	0	60	Conifer							
								Hardwood			1			1	
22	RT	2	HS	35	50	5	70	Conifer							
								Hardwood							
22	LF	1	LT	0	75	0	70	Conifer							
								Hardwood	1	3					

Comment Summary

Oregon Plan Monitoring Sites 2003

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

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	CR	00	9.8			NEW SIGN R164 START
4	LP	00	64.4			CUT TREE FULL
7	RP	00	142.6		RIP 1	RIP 1
12	SC	00	250.9			RIP 2
13	LP	00	258.2		RIP 2	
15	LP	00	281.8	DJ		
19	LP	00	348.5	DJ		
22	RI	00	383.4			RIP 3
25	LP	00	428.3			CLEAR CUT RIGHT
33	LP	01	618.6	/TJ		
34	DC	11	618.6		ACW=2.1	



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