

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

STREAM: West Fork Millicoma River (MS-219)
BASIN: Millicoma River
SURVEY TYPE: Post-Tx
DATE: July 6, 2006
SURVEY CREW: Lisa Biggs, Peter Cole
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 67.7 km²
USGS MAPS: Elk Peak
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The West Fork Millicoma River habitat survey extended 498 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 4.6 (range: 4.0-6.0). Land use for the reach was mature (50-90 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 1.5 percent. Scour pools (67%) and riffles (23%) dominated stream habitat. Gravel (36%) and sand (22%) dominated stream substrate. Wood volume was very high at 51.0 m³/100m.

COMMENTS:

There was one potential barrier to upstream fish migration in the surveyed length. The crew noted that the culvert at unit 29 (457 m) had a relatively high slope and little substrate, possibly creating a barrier to juveniles and adults at some flows.

The crew noted several habitat structures during the survey.

REACH 1

T23S-R10W-S08SW

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	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	4.6	VWI Range:	4 - 6

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary Channel	498	2,886	0
Secondary Channel	38	34	2
Off-Channel Units	42	71	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 4.5	Width: 11.0	14.9 (13.3 - 17.5)	16.0 (13.7 - 20.5)
Depth: 0.43	Height: 0.6	1.2 (0.8 - 1.6)	1.5 (1.3 - 2)

W:D ratio: 20.1

Entrenchment (ACW:FPW ratio): 1.4

Stream Flow Type: LF

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

Average Unit Gradient: 1.5%

Habitat Units/100m (primary channel length): 6.4

Water temperature (°C): 11.5 - 11.5

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	0%	Reach avg: 78%
Undercut Banks:	8%	Range: 28 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	118	23.7
Volume (m ³):	254	51.0
Key pieces (>=12m x 0.60m):	17	3.4

OREGON DEPT OF FISH AND WILDLIFE

WEST FORK MILLICOMA POST-TX (3-MS, 219)

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/6/2006

REACH 1		T23S-R10W-S08SW					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
CULVERT CROSSING	1	17	2.3	0.10	40	0	20	0	0	0	0	80
GLIDE	1	16	4.0	0.20	64	3	0	25	38	25	13	0
POOL-ALCOVE	1	22	1.0	0.60	22	0	64	5	9	5	9	9
POOL-BACKWATER	2	20	2.6	0.25	48	1	41	35	20	3	2	0
POOL-LATERAL SCOUR	11	248	5.8	0.73	1,574	52	7	27	39	10	6	12
POOL-STRAIGHT SCOUR	1	27	16.5	2.00	439	0	5	73	5	5	5	9
PUDDLED UNIT	2	38	0.9	0.08	34	0	9	64	9	0	0	18
RIFFLE	7	141	3.6	0.14	541	10	2	10	66	16	3	3
RIFFLE W/ POCKETS	2	27	5.2	0.33	140	23	10	15	30	15	20	10
STEP/BEDROCK	1	5	3.8	0.30	19	3	0	5	5	0	5	86
STEP/COBBLE	2	17	4.0	0.20	69	7	0	0	30	60	10	0
STEP/STRUCTURE	1	0	1.6	0.05	1	0	0	10	30	10	10	40
Total:	32	578	4.5	0.43	2,991	99	Avg: 9	22	36	13	6	14

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	3	42	2.1	0.37	71	2.36%	1	1.4	
Scour Pools	12	275	6.7	0.83	2,013	67.29%	52	2.6	
Glides	1	16	4.0	0.20	64	2.14%	3	4.7	
Riffles	9	168	4.0	0.18	681	22.77%	33	4.8	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	4	22	3.4	0.19	89	2.96%	10	11.3	
Dry	2	38	0.9	0.08	34	1.14%	0	0.0	
Culverts	1	17	2.3	0.10	40	1.33%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	15	25.9	30.1
Pools >=1m deep:	1	1.7	2.0
Complex pools (LWD pieces>=3):	8	13.8	16.1
Pool frequency (channel widths/pool):	3.5		
Residual pool depth (avg):	0.74		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

WEST FORK MILLICOMA POST-TX
GCG: 3-MS SITE ID: 219

Survey Date 7/6/2006

RIPARIAN ZONE

Report Date: 3/5/2007

VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	1057
Total conifers/1000 ft	61
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	0.7	0.0	3.3	0.0	3.7	0.0	7.7
15-30cm	0.0	2.7	0.0	3.3	0.3	1.7	0.3	7.7
30-50cm	0.0	2.0	0.0	0.0	0.3	0.0	0.3	2.0
50-90cm	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	5.3	0.0	6.7	1.0	5.3	0.3	5.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	58		59		70	
Shrub cover	73		64		54	
Grass/forb cover	28		19		33	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	33		17		67	
High terrace	67		67		33	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		17		0	
Riprap	0		0		0	
Surface slope (%)	25		17		52	

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	1057
Total conifers/1000 ft	61
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	7.7
15-30cm	0.3	7.7
30-50cm	0.3	2.0
50-90cm	0.3	0.0
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

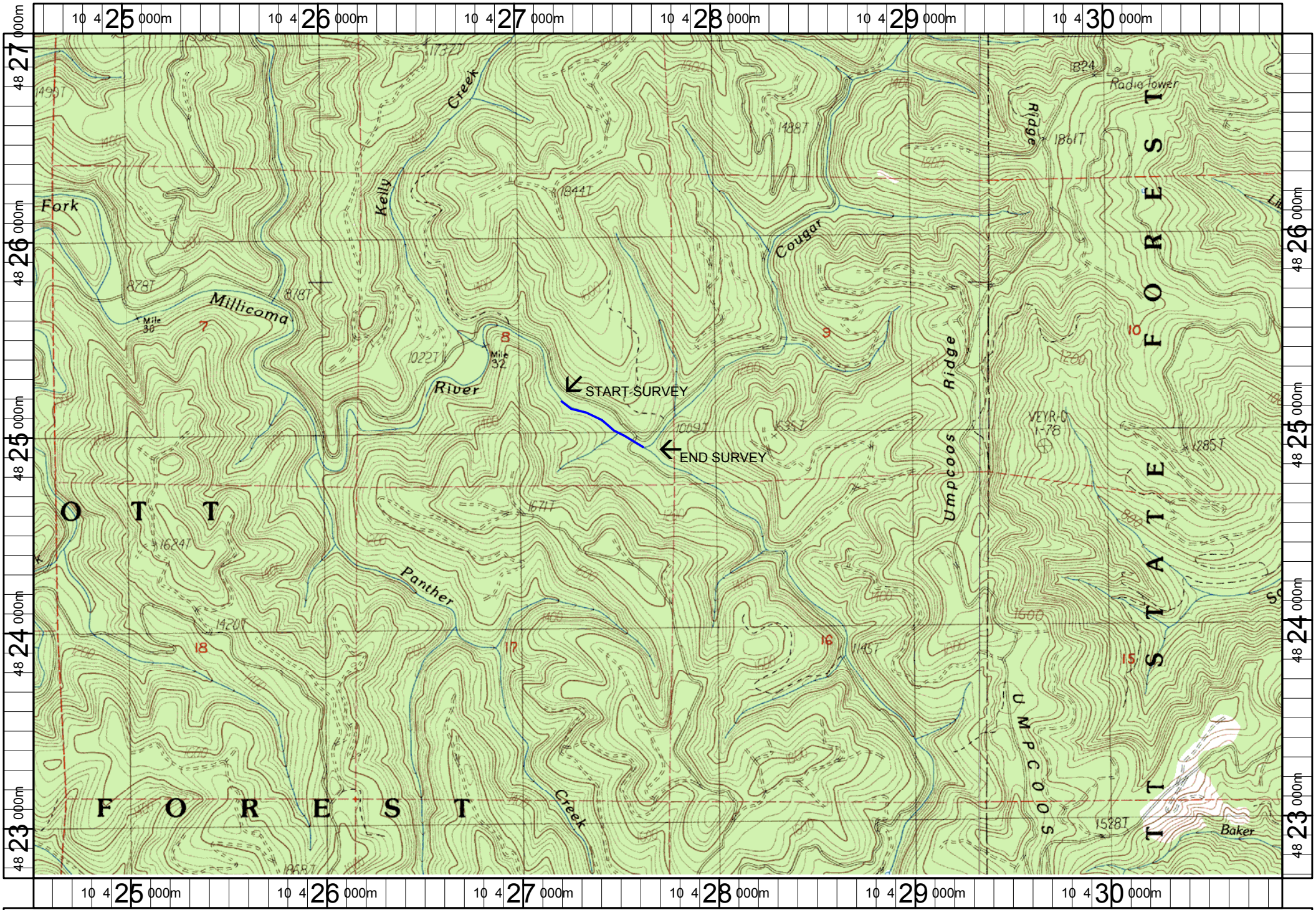
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
8	RT	2	HT	5	85	50	50	Conifer							HT/HS, SLOPE
								Hardwood	4	1					HT=5%, ALL ALDER
8	LF	1	HT	0	75	50	50	Conifer							
								Hardwood		4	2				
8	RT	3	HS	50	70	0	80	Conifer		1					
								Hardwood	5						
8	LF	2	HT	10	75	80	20	Conifer							HT/HS
								Hardwood	2						
8	RT	1	HT	0	85	60	40	Conifer							
								Hardwood			2				
8	LF	3	HS	70	75	50	30	Conifer							HS/RB
								Hardwood	5	2					
14	LF	1	HT	0	35	90	10	Conifer							
								Hardwood							
14	LF	2	HT	0	5	100	0	Conifer							
								Hardwood							
14	LF	3	HT	5	15	80	15	Conifer					1		
								Hardwood							
14	RT	1	HS	30	80	50	50	Conifer							
								Hardwood	2	2	2				
14	RT	2	HS	85	90	70	20	Conifer							
								Hardwood	4						
14	RT	3	HS	95	90	25	45	Conifer							
								Hardwood	1	1					
28	RT	3	HT	0	90	75	20	Conifer							
								Hardwood		2					
28	RT	2	HT	0	90	80	15	Conifer							
								Hardwood		9					
28	RT	1	HT	0	75	85	15	Conifer							
								Hardwood		2					
28	LF	3	HS	90	80	95	5	Conifer				1			
								Hardwood							
28	LF	2	RB	0	10	5	10	Conifer							NO TREES
								Hardwood							
28	LF	1	HS	120	0	100	0	Conifer							NO TREES
								Hardwood							

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **3-MS** SITE ID: **219** WEST FORK MILLICOMA POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	01	16.4		CA-CT,D30/M50,ST/MT	T=11.5 AT 9:45AM
5	LP	00	90.9	SS/, HS		
6	LP	00	118.6	HS	SS/, HS	SMALL SC BETWEEN LPS
7	RI	00	138.7		SUPER SMALL SC BTWN PO	
9	SR	00	194		H=0.40M	
11	RP	00	226.5		FRESH BOBCAT & RACOON	
12	RI	00	246.5		ELK TRACKS	
14	RI	00	289.3	/SS, /SS	/SS, /SS	
16	RP	01	317.1		FRESH BEAR SCAT & TRAC	MAX DEPTH=0.40M
17	LP	01	333.8		8" ALLIGATOR LIZARD ON L	
18	BW	10	333.8		LOTS OF GREEN FLUFFY AL	
19	PD	02	333.8		ACW=5.5M, 36 TADPOLES, P	OFF OF LOG JAM
20	PD	02	333.8		ACW=6.2M, 10 COHO FRY	
23	LP	00	380.1			SMALL SC IN BETWEEN
24	LP	00	393.5		HUMAN GARBAGE-DIAPERS,	
26	SP	01	439.5		NICE SWIMMING HOLE	CULVERT AT TOP OF POO
27	AL	10	439.5		LOTS OF COHO	
28	SS	00	439.9		H=0.40M	CC STEP, UNDERCUT CUL
29	CC	00	457.2	CC, PN	H=2.6M, W=4.2M, OVAL COR.	VERY LITTLE SUBSTRATE
31	LP	00	479		T=12.0C AT 4:00PM	
32	RI	00	498.2			/TJ AT END



Name: ELK PEAK
 Date: 6/13/2005
 Scale: 1 inch equals 2000 feet

Location: 10 427710 E 4824875 N
 Caption: WF MILLICOMA #219 RESTORATION SITE - MILLICOMA BASIN