

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

STREAM: WF Millicoma River (MS-64)
BASIN: Millicoma River
SURVEY TYPE: Post-Tx
DATE: June 22, 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 542 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 2.1 (range: 1.4-3.5). Land use for the reach was mature (50-90 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 2.2 percent. Scour pools (57%) dominated stream habitat. Gravel (36%) and bedrock (31%) dominated stream substrate. Wood volume was very high at 50.0 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-R10W-S08NW

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	2.1	VWI Range:	1.4 - 3.5

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	542	2,914	0
Secondary Channel	0	0	0
Off-Channel Units	34	111	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 4
Width: 4.9	Width: 13.1	18.6 (15.3 - 21)	20.0 (17.4 - 21.7)
Depth: 0.41	Height: 0.8	1.5 (1.1 - 1.8)	1.7 (1.3 - 2)

W:D ratio: 17.6
 Stream Flow Type: LF
 Average Unit Gradient: 2.2%
 Water temperature (°C): 12.0 - 12.0

Entrenchment (ACW:FPW ratio): 1.4
 Habitat Units/100m (total channel length): 6.4
 Habitat Units/100m (primary channel length): 6.8

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	MT	LT
Riparian Vegetation:	M30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	9%	Reach avg: 76%
Undercut Banks:	4%	Range: 58 - 92

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	112	20.7
Volume (m ³):	271	50.0
Key pieces (>=12m x 0.60m):	19	3.5

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

6/22/2006

REACH 1		T23S-R10W-S08NW					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	15	2.5	0.40	39	0	0	0	0	0	0	100
POOL-BACKWATER	2	20	4.0	0.65	83	0	15	48	23	0	0	15
POOL-ISOLATED	1	14	2.0	0.25	29	0	35	15	0	0	0	50
POOL-LATERAL SCOUR	12	258	5.8	0.77	1,514	31	8	26	45	5	1	15
POOL-PLUNGE	1	6	9.8	0.65	61	6	0	10	15	10	0	65
POOL-STRAIGHT SCOUR	1	17	9.5	0.65	159	1	15	30	5	5	5	40
RAPID/BEDROCK	2	56	5.7	0.15	310	19	0	3	0	0	0	98
RAPID/BOULDERS	2	45	5.5	0.21	224	40	3	10	8	35	8	38
RIFFLE	4	76	3.3	0.20	259	7	4	14	68	7	1	6
RIFFLE W/ POCKETS	1	26	6.7	0.20	177	10	0	5	5	5	5	80
STEP/BEDROCK	3	15	4.3	0.09	70	5	0	2	2	0	0	97
STEP/COBBLE	7	27	3.8	0.12	103	2	1	18	64	12	0	5
Total:	37	576	4.9	0.41	3,025	121	Avg: 6	18	36	7	1	31

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	34	3.3	0.52	111	3.68%	0	0.0	
Scour Pools	14	281	6.4	0.75	1,734	57.30%	38	2.2	
Glides	0	0			0	0.00%	0	0.0	
Riffles	5	103	4.0	0.20	435	14.39%	17	3.9	
Rapids	4	101	5.6	0.18	534	17.64%	59	11.1	
Cascades	1	15	2.5	0.40	39	1.27%	0	0.0	
Step/Falls	10	42	3.9	0.12	173	5.72%	7	4.0	
Dry	0	0			0	0.00%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	17	29.5	31.3
Pools >=1m deep:	1	1.7	1.8
Complex pools (LWD pieces>=3):	9	15.6	16.6
Pool frequency (channel widths/pool):	2.6		
Residual pool depth (avg):	0.63		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

WEST FORK MILLICOMA POST-TX
GCG: 3-MS SITE ID: 64

Survey Date 6/22/2006
Report Date: 3/5/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	589
Total conifers/1000 ft	102
Total conifers >20" dbh/1000 ft	61
Total conifers >35" dbh/1000 ft	20

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	1.0	0.0	3.0	0.0	0.7	0.0	4.7
15-30cm	0.0	0.0	0.0	0.3	0.7	0.7	0.7	1.0
30-50cm	0.0	1.0	0.0	0.7	0.0	0.3	0.0	2.0
50-90cm	0.3	0.7	0.3	0.7	0.0	0.0	0.7	1.3
>90cm	0.0	0.0	0.0	0.7	0.3	0.0	0.3	0.7
Total/100m2	0.3	2.7	0.3	5.3	1.0	1.7	0.6	3.2

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	61		76		58	
Shrub cover	57		36		31	
Grass/forb cover	37		63		53	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	50		100		67	
High terrace	33		0		0	
Low terrace	17		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		33	
Riprap	0		0		0	
Surface slope (%)	48		73		65	

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	589
Total conifers/1000 ft	102
Total conifers >20" dbh/1000 ft	61
Total conifers >35" dbh/1000 ft	20

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	4.7
15-30cm	0.7	1.0
30-50cm	0.0	2.0
50-90cm	0.7	1.3
>90cm	0.3	0.7

RIPARIAN ZONE VEGETATION

Reach 1 Reach 1

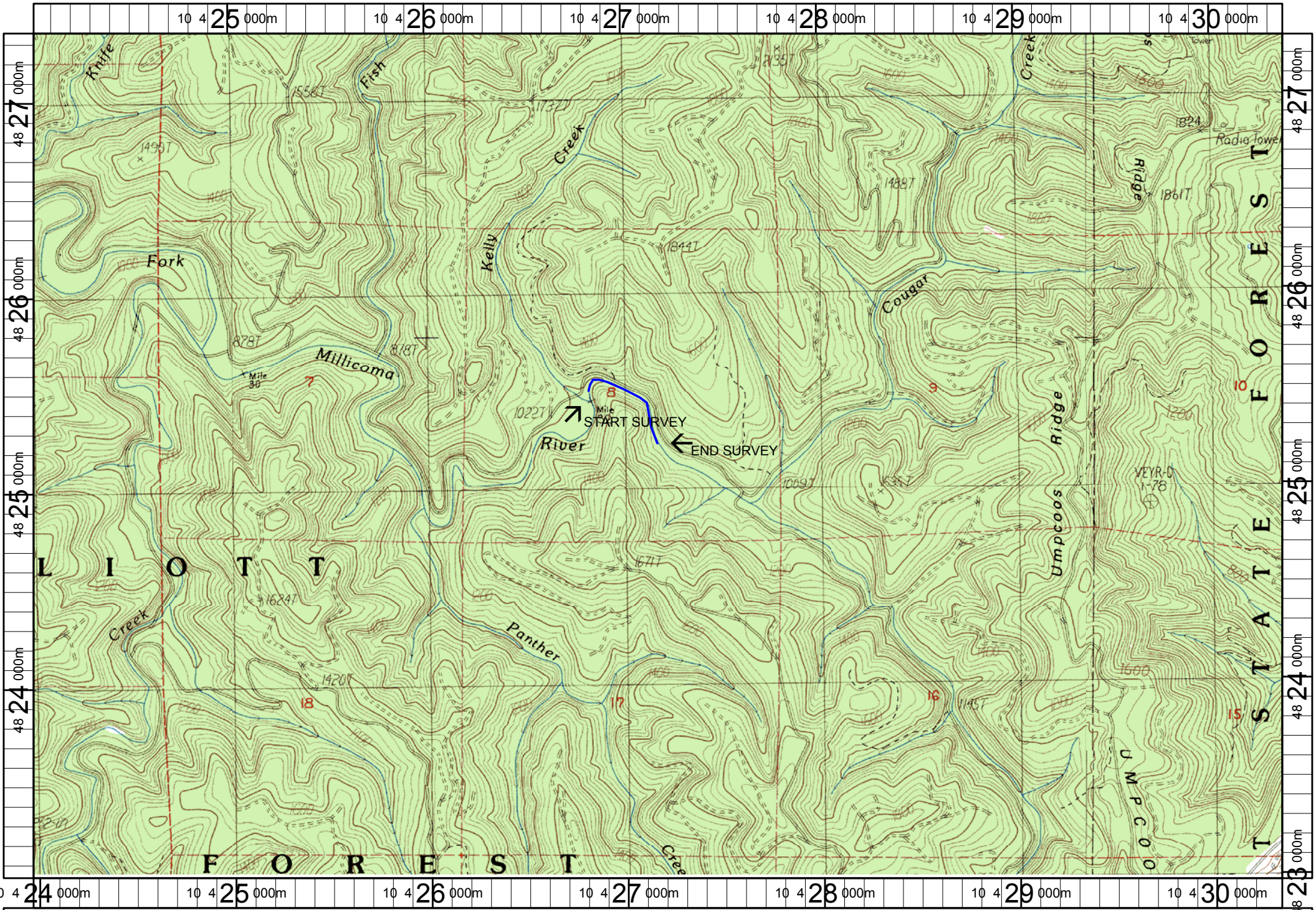
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
11	RT	1	HS	120	20	35	25								NO TREES
11	LF	1	HT	5	95	55	45								
11	RT	2	HS	90	25	70	30		3			2			NO TREES
11	RT	3	HS	90	40	20	80								NO TREES
11	LF	2	HS	15	95	55	40								
11	LF	3	HS	12	25	100	0								NO TREES
20	LF	2	HS	50	70	5	95								NO TREES
20	RT	3	HS	70	90	10	90			2					
20	RT	2	HS	80	80	10	90			1					
20	LF	3	RB	30	30	30	40							1	6M RB, RB/HS
20	LF	1	LT	40	60	5	95								LT/HS, NO AMPHIBIANS, NO TREES
20	RT	1	HS	100	10	80	20						1		
25	LF	1	HS	15	95	90	10								
25	LF	2	HS	100	95	70	30				3				
25	LF	3	RB	100	60	20	10		2	1	1				
25	RT	1	HT	5	85	75	25								HT/HS, NO TREES
25	RT	2	HS	100	90	5	95								
25	RT	3	HS	90	100	5	95		1					2	
25	RT	3	HS	90	100	5	95		2	1	1				

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **3-MS** SITE ID: **64** WEST FORK MILLICOMA POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	SR	00	3.8		H=1.30M, CT-CT,MT-LT,M30-	T=12.0C AT 11:30AM, H=1.
2	CR	00	19.2			TROUT FRY PRESENT ~12
3	RP	00	45.6			COHO & TROUT FRY
5	SP	00	68.5			LOTS COHO & TROUT FR
7	PP	00	101.7	/DJ/	SIDE CHANNEL IN AC	DJ IN MID-H2O FLOWS BO
10	IP	10	135.7			SMALL TRICKLE IN&OUT,
11	LP	00	146.3	/DJ/	CH-MV,MT-LT,M30-S	
12	RB	00	161.3	WL		BEAR TRACK, DJ CONTIN
14	LP	00	183.9	WL		COYOTE TRACKS
20	LP	00	286		CH-MV,MT-LT,M30-S	DEEP LP, NO AMPHIBIANS
22	LP	00	320.8	WL, DJ		ELK TRACKS, SMALL DJ
24	LP	00	366.8	WL		ELK & DEER TRACKS, PH
25	RB	01	396.5		CH-MV,MT-LT,M30-S	T=12.0C AT 11:10AM
28	LP	00	418		DJ	
31	BW	10	461.1	WL		2-FORKED HORN BUCK D
35	LP	00	493.9	WL		BEAR, DEER, RACOON TR
37	LP	00	542.3		CT-CT,MT-LT,M30-S	END SIGN LEFT MT HEML



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

Location: 10 427171 E 4825164 N
 Caption: WF MILLICOMA #64 RESTORATION SITE - MILLICOMA BASIN