

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

STREAM: West Fork Millicoma River (MS-171)  
BASIN: Millicoma River  
SURVEY TYPE: Pre-Tx  
DATE: June 30, 2003  
SURVEY CREW: Alex Higgins, Jeremiah Bernier  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 67.7 km<sup>2</sup>  
USGS MAPS: Elk Peak  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The West Fork Millicoma River habitat survey extended 551 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 1.9 (range: 1.2-2.2). Land use for the reach was large (30-50 cm dbh) and mature (50-90 cm dbh) trees. The average unit gradient was 0.7 percent. Scour pools (44%) and riffles (33%) dominated stream habitat. Bedrock (39%) and gravel (27%) dominated stream substrate. Wood volume was very low at 4.9 m<sup>3</sup>/100m.

**COMMENTS:**

There were no potential barriers to upstream fish migration in the surveyed length.

REACH 1

T23S-R11W-S14NE

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: 1.2 - 2.2	

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	551	8,309	0
Secondary	7	137	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	14.8	Width	23.0	27.3	39.4
Depth	0.50	Height	0.8	1.6	2.1
		W:D ratio	30.0	Entrenchment	1.2

Stream Flow Type:	MF	Water temp (C):	18.0 - 18.0
Avg. Unit Gradient:	0.7%	Habitat Units/100m:	3.6

**Riparian, Bank, and Wood Summary**

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	0%	Reach avg: 80%
Undercut Banks:	4%	Range: 70 - 85

Large Wood Debris

	<u>Total</u>	<u>Total / 100m</u>
All pieces (>=3m x 0.15m):	12	2.2
Volume (m <sup>3</sup> ):	27	4.9
Key pieces (>=10m x 0.60m):	0	0.0

REACH 1		T23S-R11W-S14NE					REACH 1						
HABITAT DETAIL													
Habitat Type	Number	Total	Avg	Avg	Total	Large	Substrate						
							Units	Length	Width	Depth	Area	Boulders	Percent Wetted Area
			(m)	(m)	(m)	(m <sup>2</sup> )	(#>0.5m)	S/O	Snd	Grvl	Cbl	Bldr	Bdrk
GLIDE	3	79	14.8	0.33	1,201	12	0	17	30	7	10	37	
POOL-BACKWATER	1	7	18.7	0.55	137	4	0	60	20	0	0	20	
POOL-LATERAL SCOUR	7	245	15.3	0.86	3,733	44	0	9	29	11	5	46	
RAPID/BOULDERS	1	25	14.3	0.30	353	15	0	19	19	14	19	29	
RIFFLE	4	127	13.6	0.21	1,715	42	0	5	18	11	17	49	
RIFFLE W/ POCKETS	2	60	16.8	0.33	1,060	41	0	15	20	10	21	33	
STEP/BEDROCK	1	1	6.5	0.40	7	3	0	10	10	10	20	50	
STEP/COBBLE	1	15	16.4	0.20	241	5	0	20	80	0	0	0	
<b>Total:</b>	<b>20</b>	<b>559</b>	<b>14.8</b>	<b>0.50</b>	<b>8,446</b>	<b>166</b>	<b>Avg</b>	<b>0</b>	<b>14</b>	<b>27</b>	<b>9</b>	<b>11</b>	<b>39</b>

HABITAT SUMMARY									
Habitat Group	Number	Total	Avg	Avg	Wetted Area		Large Boulders		
					Units	Length	Width	Depth	(m <sup>2</sup> )
		(m)	(m)	(m)					
Dammed & BW Pools	1	7	18.7	0.55	137	1.62%	4	2.9	
Scour Pools	7	245	15.3	0.86	3,733	44.20%	44	1.2	
Glides	3	79	14.8	0.33	1,201	14.22%	12	1.0	
Riffles	6	187	14.6	0.25	2,775	32.86%	83	3.0	
Rapids	1	25	14.3	0.30	353	4.18%	15	4.2	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	2	16	11.5	0.30	248	2.93%	8	3.2	
Dry	0	0			0	0.00%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY		
	<u>Total</u>	<u># / Km</u>
All Pools:	8	14.3
Pools >=1m deep:	2	3.6
Complex pools (LWD pieces>=3):	0	0.0
Pool frequency (channel widths/pool):	3.0	
Residual pool depth (avg):	0.66	

**STREAM SUMMARY**

**WEST FORK MILLICOMA PRE-TX (MS-171)**

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Substrate Percent Wetted Area						Large Boulders (#>0.5m)
					S/O	Snd	Grvl	Cbl	Bldr	Bdrk	
20	559	14.8	0.50	8,446	0	14	27	9	11	39	166

Habitat Group	Wetted Area	
	(m <sup>2</sup> )	Percent
Dammed & BW Pools	137	1.62%
Scour Pools	3,733	44.20%
Glides	1,201	14.22%
Riffles	2,775	32.86%
Rapids	353	4.18%
Cascades	0	0.00%
Step/Falls	248	2.93%
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	163
Total conifers/1000 ft	284
Total conifers >20" dbh/1000 ft	61
Total conifers >35" dbh/1000 ft	41

**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	1.3	0.7	0.3	0.7	0.3	1.3	2.0
15-30cm	0.0	0.0	0.3	0.3	0.7	0.0	1.0	0.3
30-50cm	0.7	0.0	0.7	0.3	0.0	0.0	1.3	0.3
50-90cm	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0
>90cm	0.0	0.0	0.3	0.0	0.3	0.0	0.7	0.0
Total/100m2	0.7	1.3	2.3	1.0	1.7	0.3	1.6	0.9

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	53		77		66	
Shrub cover	35		33		37	
Grass/forb cover	37		30		20	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	67		67		67	
High terrace	17		33		33	
Low terrace	17		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 (%)	29		13		17	

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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	163
Total conifers/1000 ft	284
Total conifers >20" dbh/1000 ft	61
Total conifers >35" dbh/1000 ft	41

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

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**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		
5	RT	2	HS	27	60	30	60	Conifer							
								Hardwood			1				
5	LF	1	HS	10	30	70	20	Conifer							PIC 100-0032
								Hardwood							
5	LF	2	HS	10	85	40	10	Conifer			1				
								Hardwood							
5	RT	1	HS	40	60	60	30	Conifer							
								Hardwood							
5	RT	3	HS	60	55	20	20	Conifer			1				SLOPE EST. SHEER DROPOFF
								Hardwood							
5	LF	3	HS	0	40	75	10	Conifer							
								Hardwood							
10	LF	2	HT	0	90	30	30	Conifer	2					1	
								Hardwood	1						
10	LF	1	HT	0	55	60	20	Conifer				1			PIC 100-0033
								Hardwood	3						
10	RT	1	HS	75	90	0	10	Conifer				1			ESTIMATED: SHEER FACE 80% BDRK TOO STEEP, BEDROCK CLEFT
								Hardwood							
10	RT	2	HS					Conifer							TOO STEEP, BEDROCK CLEFT
								Hardwood							
10	RT	3	HS					Conifer							TOO STEEP, BEDROCK CLEFT
								Hardwood							
10	LF	3	HT	0	90	0	10	Conifer	2	1					DIRT/ MASS
								Hardwood							
15	LF	3	HT	0	70	10	50	Conifer						1	40% DIRT
								Hardwood	1						
15	RT	3	HS	25	75	80	10	Conifer							
								Hardwood							
15	RT	1	HS	34	25	10	70	Conifer							
								Hardwood							
15	LF	2	HT	0	90	5	20	Conifer			1	1	1		70% DIRT
								Hardwood							
15	LF	1	LT	12	60	10	70	Conifer							
								Hardwood	1						
15	RT	2	HS	30	60	60	30	Conifer							
								Hardwood			1				

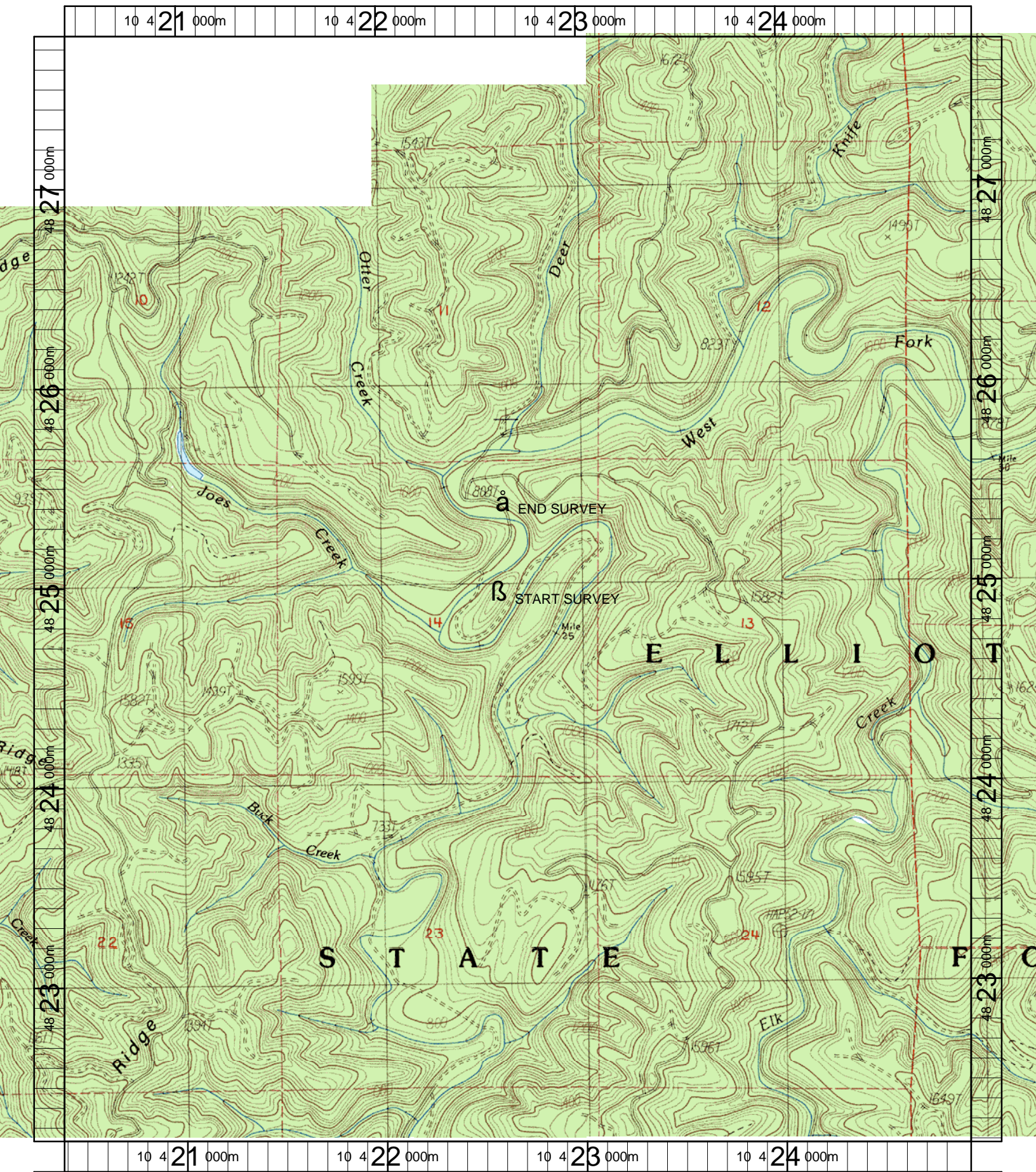
# Comment Summary

## Oregon Plan Monitoring Sites 2003

MONITORING AREA: 3-MS      SITE ID: 171      WEST FORK MILLICOMA PRE-TX (M

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
5	RB	00	141.5		PICTURE RIP 1	
10	RI	00	239.5		RIP #2 PICTURE	
14	RI	00	398.9		OLD END SIGN (A.I.P.) 17	
15	LP	00	439		RIP #3 PICTURE	
18	LP	00	530.1		BRIDGE CROSSING	
20	SR	00	551.2		H=.2	





Name: ELK PEAK  
 Date: 1/21/2004  
 Scale: 1 inch equals 2000 feet

Location: 10 422678 E 4824975 N  
 Caption: WF MILLICOMA #171 RESTORATION SITE - MILLICOMA BASIN