

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

STREAM: Fish Creek (MS-32)  
BASIN: Millicoma River  
SURVEY TYPE: Post-Tx  
DATE: March 28, 2007  
SURVEY CREW: Andy Lanier, Laurel Moulton  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 3.5 km<sup>2</sup>  
USGS MAPS: Elk Peak  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Fish Creek habitat survey extended 789 meters. The channel was constrained by hillslopes in a moderate V-shape valley. The average valley width index was 1.5 (range: 1-3). Land use for the reach was large timber (30-50 cm dbh) and second growth timber (15-30 cm dbh). The average unit gradient was 2.3 percent. Scour pools (32%), rapids (27%) and riffles (23%) dominated stream habitat. Gravel (33%) and bedrock (24%) dominated stream substrate. Wood volume was high at 35.1 m<sup>3</sup>/100m.

**COMMENTS:**

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

The crew noted several habitat structures during the survey.

Channel stabilization was documented on the left bank from 721 meters to 781 meters into the survey reach.

Minimal beaver activity was noted in the survey. Juvenile Coho salmon and Cutthroat trout were observed during the survey.

Stream Fish Creek (MS-32)

Basin Millicoma River

Treatment Large Wood

	ODFW Benchmark		Pre	Post	Post		
Habitat Variable	Desirable	Undesirable	2/19/01	3/6/02	3/28/07		
% Pool Area	>35%	<10%	10.2	26.4	<b>40.9</b>		
Number of Pools			10	15	<b>31</b>		
Deep Pools/km (>1.0 m)			0.0	0.0	<b>2.4</b>		
% Off-Channel			0.4	0.4	<b>1.7</b>		
LWD – Pieces/100m	>20	<10	29.7	18.8	25.0		
LWD – Volume/100m	>30	<20	31.1	22.5	35.1		
LWD – Key Pieces/100m	>3	<1	1.5	2.1	2.8		
Large Wood Jams/km			19.	10.3			
% Riffle Fines	<10	>20	8	27	0		
% Riffle Gravel	>35	<15	41	30	48		
% Bedrock			32	22	24		

**Bold** is noticeable change

Comments: Pool area, the number of pools, and the number of deep pools are all higher when compared to pre-treatment surveys. It should be cautioned that this may be in part to variable stream flows between surveys. Off channel habitat appears to be higher. Large wood values, while variable, are relatively unchanged. Substrate also appears to be unchanged. With the increased pool numbers and the stable wood values, this project appears to have successful.

REACH 1

T23S-R10W-S06NE

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	1.5	VWI Range:	1 - 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 Channel	789	4,097	0
Secondary Channel	0	0	0
Off-Channel Units	46	71	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 1
Width: 4.8	Width: 6.0	8.5 ( 5 - 14 )	19.0 ( 19 - 19 )
Depth: 0.39	Height: 0.5	1.1 ( 1 - 1.2 )	1.4 ( 1.4 - 1.4 )

W:D ratio: 11.1      Entrenchment (ACW:FPW ratio): 1.4  
 Stream Flow Type: MF      Habitat Units/100m (total channel length): 8.3  
 Average Unit Gradient: 2.3%      Habitat Units/100m (primary channel length): 8.7  
 Water temperature (°C): 6.0 - 6.0

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	ST
Riparian Vegetation:	D30	S

Bank Condition and Shade

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

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	197	25.0
Volume (m <sup>3</sup> ):	277	35.1
Key pieces (>=12m x 0.60m):	22	2.8

OREGON DEPT OF FISH AND WILDLIFE

FISH CREEK POST-TX (3-MS, 32)

HABITAT INVENTORY

Report Date: 5/3/2007

Survey Date:

3/28/2007

REACH 1		T23S-R10W-S06NE					REACH 1					
HABITAT DETAIL												
Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
POOL-BACKWATER	2	11	2.0	0.48	22	0	17	29	46	0	9	0
POOL-DAMMED	5	61	5.5	0.82	348	0	6	35	40	6	3	10
POOL-ISOLATED	1	6	1.5	0.35	9	0	30	70	0	0	0	0
POOL-LATERAL SCOUR	14	174	4.9	0.76	857	0	2	15	43	18	7	16
POOL-PLUNGE	6	38	6.5	0.58	258	0	3	17	37	9	8	26
POOL-STRAIGHT SCOUR	3	38	5.7	0.63	211	0	0	10	19	6	16	48
RAPID/BEDROCK	8	178	5.4	0.09	937	0	0	3	2	1	6	88
RAPID/BOULDERS	4	53	3.6	0.16	225	0	5	19	20	14	22	20
RIFFLE	2	38	5.3	0.15	194	0	0	0	48	40	13	0
RIFFLE W/ POCKETS	8	163	4.8	0.21	796	0	1	9	36	21	12	22
STEP/BEDROCK	1	1	4.0	0.07	4	0	0	0	0	0	0	100
STEP/BOULDERS	3	11	2.2	0.15	18	0	0	7	25	21	48	0
STEP/COBBLE	7	48	3.2	0.16	183	0	0	3	57	24	16	0
STEP/LOG	1	1	4.5	0.20	5	0	0	38	19	10	33	0
STEP/STRUCTURE	4	17	7.6	0.14	102	0	0	29	25	22	23	3
<b>Total:</b>	<b>69</b>	<b>835</b>	<b>4.8</b>	<b>0.39</b>	<b>4,168</b>	<b>0</b>	<b>Avg: 2</b>	<b>15</b>	<b>33</b>	<b>14</b>	<b>12</b>	<b>24</b>

HABITAT SUMMARY									
Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders		
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )	
Dammed & BW Pools	8	78	4.1	0.68	379	9.09%	0	0.0	
Scour Pools	23	249	5.4	0.70	1,326	31.80%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	10	201	4.9	0.20	990	23.74%	0	0.0	
Rapids	12	231	4.8	0.12	1,162	27.88%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	16	78	4.2	0.15	312	7.48%	0	0.0	
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:	31	37.1	39.3
Pools >=1m deep:	2	2.4	2.5
Complex pools (LWD pieces>=3):	12	14.4	15.2
Pool frequency (channel widths/pool):	4.5		
Residual pool depth (avg):	0.52		

# Comment Summary

## Restoration Monitoring Sites 2007

MONITORING AREA: **3-MS**      SITE ID: **32**      FISH CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR
1	DP	01	20	HS-/TJ	HAB STRUCTURE. LOGS PLACED IN
2	SB	11	20		ACW=1.2
3	RB	12	20		ACW=2.2.
8	LP	00	65.5	HS	LP.
10	LP	00	88.5	HS-/SS	LP.
12	LP	00	108.5	HS	LP. JSO=JUVENILE SALMONID OBSE
13	LP	00	117.5	HS	LP. JSO(COHO).
15	LP	00	135.5	HS	LP.
16	LP	00	144		PICTURE TAKEN FROM HS LOOKING
17	RP	00	175	CS/	
19	SS	00	184	HS	LP.
23	RP	01	264.5	HS-TJ/	LP.
24	SC	11	264.5	PB	NO DROB TO SUB. POTENTIALLY A
25	BW	10	264.5		JSO(COHO).
28	SS	00	288.5	HS	LP.
31	RP	01	312	HS	LP.
38	SP	00	398		JSO. APPROXIMATELY .1M LONG.
40	SP	00	437	SS/	
41	RR	00	462	SS/	
42	RR	01	475	TJ/	
44	PP	11	475		ACW= 2M

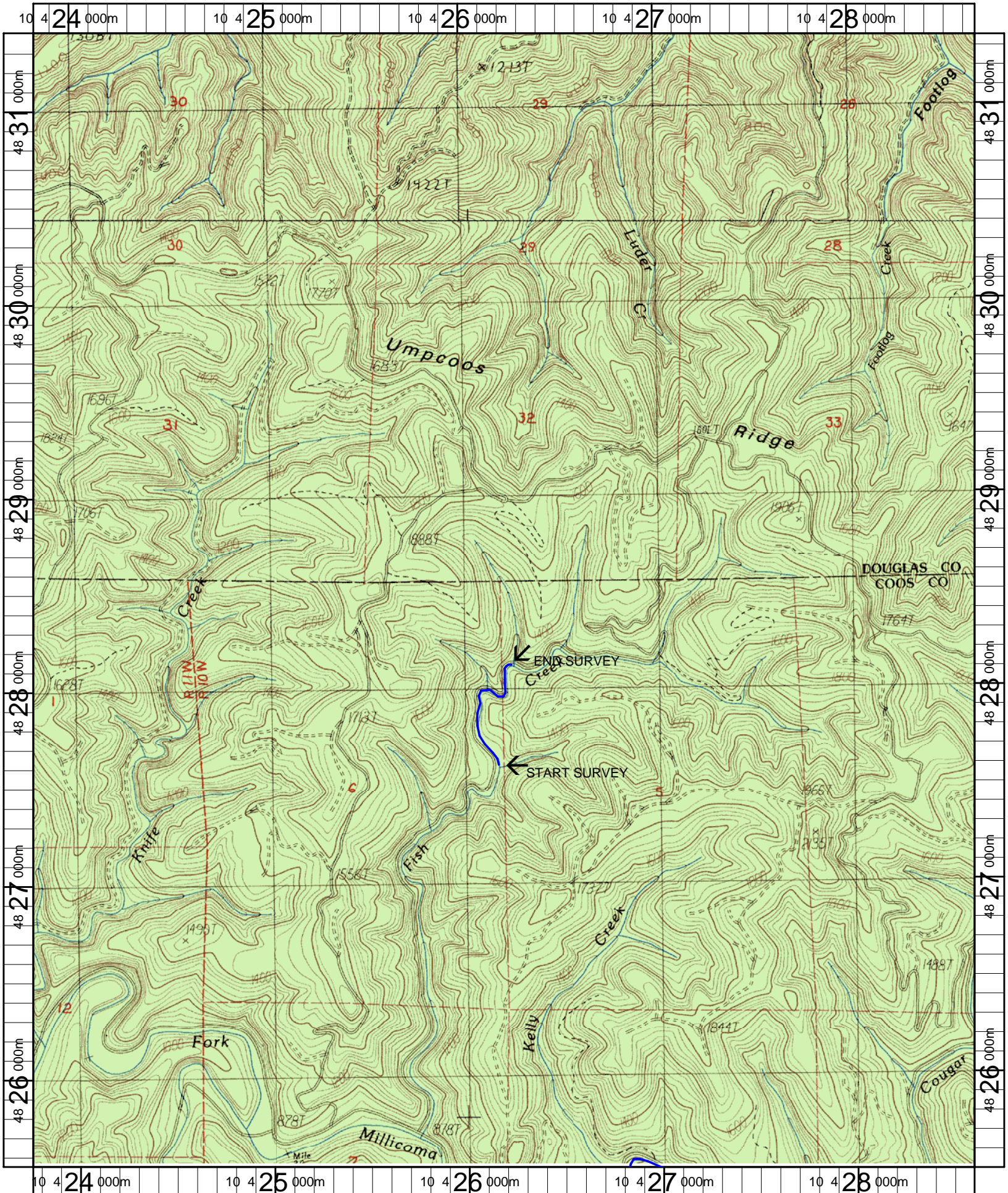
# Comment Summary

## Restoration Monitoring Sites 2007

MONITORING AREA: **3-MS**      SITE ID: **32**      FISH CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR
45	SC	11	475		CULVERT IS METAL CORRUGATED, D
49	RR	00	551		PICTURE OF REACH W/OUT RESTORA
51	RP	00	601	HS	LP. JSO(COHO).
53	PP	00	616.5	HS	LP.
55	DP	00	631.5		JSO(COHO).
56	LP	00	648.5	HS	LP. JSO (.1M CUTTHROAT, COHO F
61	PP	00	721.5	CS/	
62	SL	10	721.5	CS/	
63	RP	00	729.5	CS/	
64	LP	00	744	CS/	
66	LP	00	760	BV-HS	LP.
67	SS	00	768	HS	BOULDERS + LOGS
68	DP	00	781	CS/	
69	RB	01	789	TJ/	





Name: ELK PEAK  
 Date: 1/9/2007  
 Scale: 1 inch equals 2000 feet

Location: 10 426207 E 4828454 N  
 Caption: FISH CREEK RESTORATION SITE - MILLICOMA BASIN