

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

STREAM: Esmond Creek Upper (MC-139)  
BASIN: Siuslaw River  
SURVEY TYPE: Post-Tx  
DATE: February 23, 2004  
SURVEY CREW: April Waters, Jim Andrews  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 44.9 km<sup>2</sup>  
USGS MAPS: Clay Creek  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Esmond Creek habitat survey extended 543 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 6.3 (range: 4.2-8.5). Land use for the reach was second growth (15-30 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 1.2 percent. Scour pools (67%) and riffles (26%) dominated stream habitat. Gravel (69%) dominated stream substrate. Wood volume was very high at 66.9 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.

**REACH 1                                              T19S-R08W-S26SW                                              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	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	6.3	VWI Range:	4.2 - 8.5

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	543	2,817	0
Secondary	57	188	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 4.8	Width: 7.8	10.7 ( 8.6 - 12.8 )	12.3 ( 9.5 - 15.5 )
Depth: 0.53	Height: 0.4	0.9 ( 0.8 - 1 )	1.1 ( 1 - 1.3 )

W:D ratio: 18.3                                              Entrenchment (ACW:FPW ratio): 1.4  
 Stream Flow Type: MF                                              Water temp (°C): 8.5 - 8.5  
 Avg. Unit Gradient: 1.2%                                              Habitat Units/100m: 7.0

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D15	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</u>
All pieces (>=3m x 0.15m):	158	29.1
Volume (m <sup>3</sup> ):	363	66.9
Key pieces (>=10m x 0.60m):	48	8.8

OREGON DEPARTMENT OF FISH AND WILDLIFE      **ESMOND CREEK UPPER POST-TX (MC-139)**

**HABITAT INVENTORY**

Report Date: 6/16/2004

Survey Date:

2/23/2004

**REACH 1**

**T19S-R08W-S26SW**

**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
CASCADE/BOULDERS	1	4	1.2	0.10	5	0	1	3	91	5	0	0
POOL-BACKWATER	1	6	3.2	0.60	19	0	10	35	30	15	10	0
POOL-LATERAL SCOUR	21	369	5.3	0.74	1,949	0	2	17	57	6	4	14
POOL-PLUNGE	1	4	7.5	0.65	30	0	5	5	70	10	0	10
POOL-STRAIGHT SCOUR	1	9	2.8	0.60	25	0	0	0	70	15	10	5
PUDDLED UNIT	1	7	0.8	0.10	6	0	0	2	93	5	0	0
RAPID/BOULDERS	2	26	3.4	0.40	105	0	1	5	73	8	10	5
RIFFLE	10	152	5.0	0.31	783	0	0	6	85	7	2	0
STEP/COBBLE	3	19	3.3	0.22	63	0	0	3	94	3	0	0
STEP/LOG	1	3	8.0	0.20	20	0	0	5	57	29	10	0
<b>Total:</b>	<b>42</b>	<b>600</b>	<b>4.8</b>	<b>0.53</b>	<b>3,004</b>	<b>0</b>	<b>Avg: 1</b>	<b>12</b>	<b>69</b>	<b>7</b>	<b>4</b>	<b>8</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	1	6	3.2	0.60	19	0.64%	0	0.0
Scour Pools	23	382	5.3	0.73	2,004	66.71%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	10	152	5.0	0.31	783	26.05%	0	0.0
Rapids	2	26	3.4	0.40	105	3.51%	0	0.0
Cascades	1	4	1.2	0.10	5	0.16%	0	0.0
Step/Falls	4	22	4.5	0.21	83	2.75%	0	0.0
Dry	1	7	0.8	0.10	6	0.19%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

**POOL SUMMARY**

	<u>Total</u>	<u># / Km</u>	
All Pools:	24	40.0	57
Pools >=1m deep:	2	3.3	
Complex pools (LWD pieces>=3):	14	23.4	
Pool frequency (channel widths/pool):	3.2		
Residual pool depth (avg):	0.49		

**STREAM SUMMARY**

**ESMOND CREEK UPPER POST-TX (MC-139)**

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Substrate						Large Boulders (#>0.5m)
					Percent Wetted Area						
					S/O	Snd	Grvl	Cbl	Bldr	Bdrk	
42	600	4.8	0.53	3,004	1	12	69	7	4	8	

Habitat Group	Wetted Area	
	(m <sup>2</sup> )	Percent
Dammed & BW Pools	19	0.64%
Scour Pools	2,004	66.71%
Glides	0	0.00%
Riffles	783	26.05%
Rapids	105	3.51%
Cascades	5	0.16%
Step/Falls	83	2.75%
Dry	6	0.19%
Culverts	0	0.00%

# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: **2-MC**      SITE ID: **139**      **ESMOND CREEK UPPER POST-TX (**

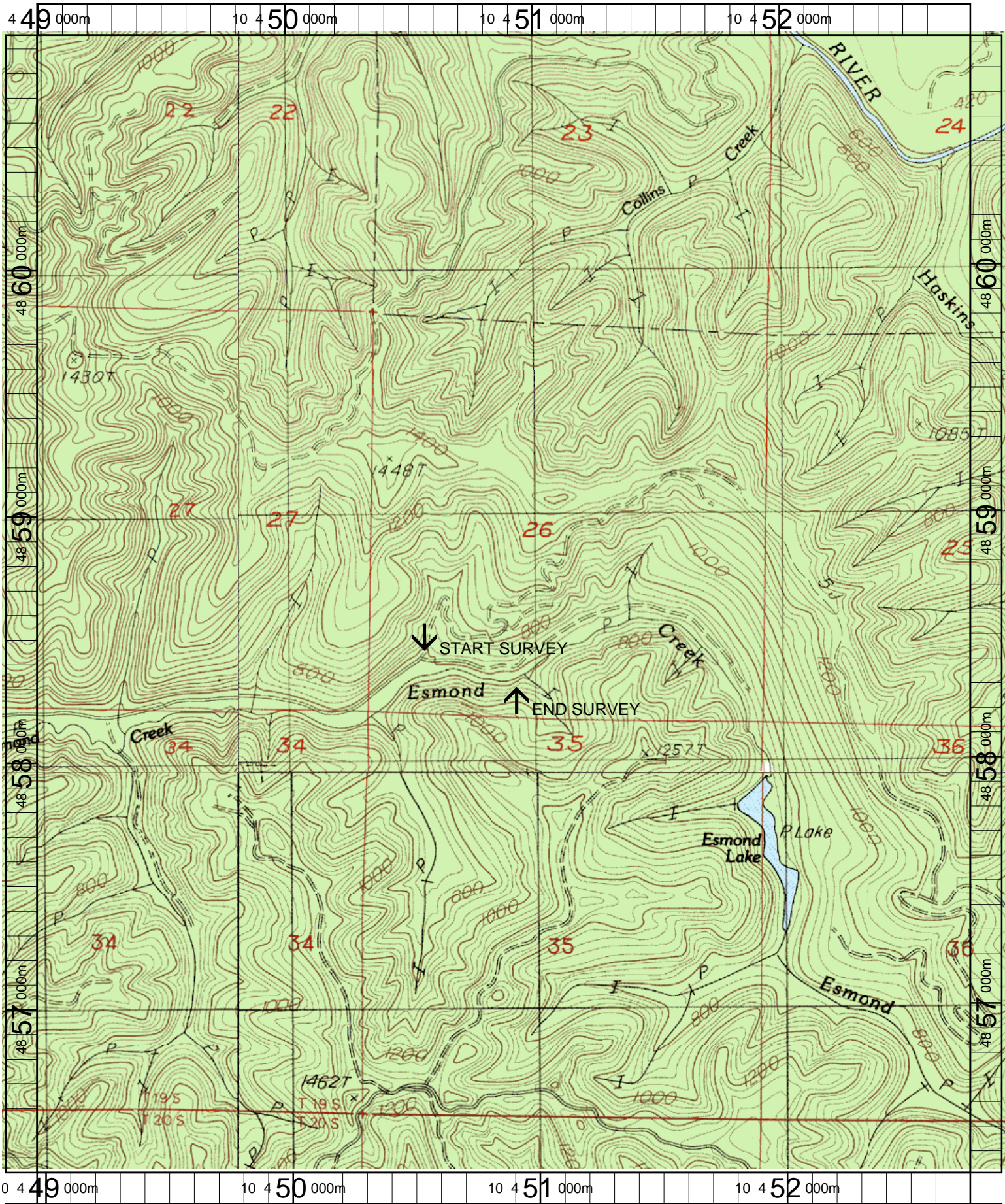
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	01	25	TJ/	START T=8C/0915	
2	CB	11	25		ACW=1.4M, T=8C	
5	LP	00	74.6	DJ, HS		
10	RI	00	110.8	HS		
11	LP	00	128.8	SS/, HS		
12	RI	00	152.2		SG=7M	
13	LP	00	160.9		HARDPAN	
14	RI	00	173.1	HS		
15	SP	00	182.1		HARDPAN	
16	LP	01	207.6	HS, DJ		
17	RI	01	218.6		FISH BONES	
19	PD	02	218.6	WL	BIRDS	
20	LP	00	242.3	HS		
21	LP	00	265.3	HS	SG=4M	
22	RI	00	283.7	DJ	.7M DEEP POCKET	
23	LP	00	298.7	DJ	SG=4M	
24	RI	00	317.2	BV		
25	LP	00	328.9	HS		
26	RI	00	346.6		SG=4M	
28	LP	00	380.6	HS, DJ, BV		
29	LP	00	392.5	DJ		

# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: **2-MC**      SITE ID: **139**      **ESMOND CREEK UPPER POST-TX (**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
30	RI	00	400.6		FISH BONES	
31	LP	00	416.1	BV, DJ		
33	LP	01	456.5	DJ, BV	SG=4M	
35	LP	01	484.3	/TJ	SG=4M	
36	RB	11	484.3		ACW=.8M, T=9C	
38	LP	00	506.9		SG=4M, OLD RC	
39	RI	00	515	/SS		
40	PP	00	519	WL	BIRDS	
41	SL	00	521.5	HS	H=.25M	
42	LP	00	542.5	HS	EOS, T=8.5C	



Name: CLAY CREEK  
 Date: 3/20/2003  
 Scale: 1 inch equals 1666 feet

Location: 10 450864 E 4858638 N  
 Caption: ESMOND CREEK (UPPER) RESTORATION SITE -  
 SIUSLAW BASIN