

**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: July 14, 2004  
SURVEY CREW: Peter Baki, Jeremiah Bernier, Peggy Kavanagh  
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 493 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 6.2 (range: 4.2-7.5). Land use for the reach was second growth (15-30 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 0.7 percent. Scour pools (78%) dominated stream habitat. Gravel (50%) dominated stream substrate. Wood volume was high at 37.1 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.

**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	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	6.2	VWI Range:	4.2 - 7.5

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	100%
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	493	1,991	0
Secondary	47	101	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 2
Width: 3.3	Width: 5.9	23.6 ( 5.1 - 38.6 )	11.5 ( 8.8 - 14.2 )
Depth: 0.33	Height: 0.7	1.4 ( 1.2 - 1.5 )	1.6 ( 1.5 - 1.6 )

W:D ratio: 8.7 Entrenchment (ACW:FPW ratio): 4.3  
 Stream Flow Type: LF Habitat Units/100m (total channel length): 9.6  
 Average Unit Gradient: 0.7% Habitat Units/100m (primary channel length): 10.5  
 Water temperature (°C): 16.0 - 16.0

**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:	5%	Reach avg: 82%
Undercut Banks:	5%	Range: 67 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	140	28.4
Volume (m <sup>3</sup> ):	183	37.1
Key pieces (>=12m x 0.60m):	10	2.0

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

**HABITAT INVENTORY**

Report Date: 10/27/2004

Survey Date:

7/14/2004

**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	10	0.2	0.01	2	0	0	0	90	10	0	0
POOL-BACKWATER	3	17	3.7	0.45	70	0	35	48	10	5	2	0
POOL-ISOLATED	1	1	0.6	0.01	1	0	100	0	0	0	0	0
POOL-LATERAL SCOUR	21	329	4.6	0.54	1,577	33	1	25	43	14	6	11
POOL-PLUNGE	3	15	4.1	0.42	62	6	0	23	40	17	20	0
PUDDLED UNIT	1	19	1.5	0.40	29	0	0	20	60	20	0	0
RAPID/BOULDERS	2	19	1.7	0.10	33	0	0	0	70	30	0	0
RIFFLE	9	88	2.5	0.10	218	17	0	0	77	15	8	0
STEP/BEDROCK	1	5	2.3	0.05	12	0	0	0	0	5	0	95
STEP/BOULDERS	2	9	2.3	0.15	20	10	0	10	5	30	55	0
STEP/COBBLE	8	28	2.4	0.16	70	1	0	1	71	28	0	0
<b>Total:</b>	<b>52</b>	<b>540</b>	<b>3.3</b>	<b>0.33</b>	<b>2,092</b>	<b>67</b>	<b>Avg: 4</b>	<b>15</b>	<b>50</b>	<b>17</b>	<b>7</b>	<b>6</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	4	18	2.9	0.34	70	3.36%	0	0.0
Scour Pools	24	344	4.5	0.53	1,639	78.34%	39	2.4
Glides	0	0			0	0.00%	0	0.0
Riffles	9	88	2.5	0.10	218	10.42%	17	7.8
Rapids	2	19	1.7	0.10	33	1.59%	0	0.0
Cascades	1	10	0.2	0.01	2	0.10%	0	0.0
Step/Falls	11	42	2.4	0.15	101	4.83%	11	10.9
Dry	1	19	1.5	0.40	29	1.37%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

**POOL SUMMARY**

	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	28	51.9	56.8
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	12	22.2	24.3
Pool frequency (channel widths/pool):	3.3		
Residual pool depth (avg):	0.45		

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

**HABITAT INVENTORY** Report Date: 10/27/2004

Survey Date: 7/14/2004

**RIPARIAN ZONE VEGETATION SUMMARY**

**REACH 1**

**REACH 1**

**Summary of Riparian Zone (0-30m)**

**3 transects**

Total hardwoods/1000	1687
Total conifers/1000 ft	102
Total conifers >20" dbh/1000 ft	0
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	0.3	4.7	0.0	2.7	0.3	3.3	0.7	10.7
15-30cm	0.7	7.3	0.0	4.7	0.0	4.0	0.7	16.0
30-50cm	0.3	0.3	0.0	0.3	0.0	0.3	0.3	1.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.3	12.3	0.0	7.7	0.3	7.7	0.6	9.2

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	87		63		71	
Shrub cover	65		69		62	
Grass/forb cover	32		45		30	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		33		67	
High terrace	0		0		0	
Low terrace	83		33		17	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	17		33		17	
Riprap	0		0		0	
Surface slope (%)	0		11		35	

**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		
14	RT	3	HS	50	85	20	50	Conifer							
								Hardwood	1	3					
14	RT	2	LT	0	95	70	30	Conifer							
								Hardwood		5					
14	RT	1	LT	0	95	70	30	Conifer	1	2	1				
								Hardwood							
14	LF	3	RB	0	40	90	10	Conifer							DECOMMISSIONED ROAD
								Hardwood							
14	LF	2	HS	40	85	85	100	Conifer	0						
								Hardwood		4	1				
14	LF	1	LT	0	85	100	0	Conifer							
								Hardwood		7					
27	LF	1	LT	0	90	10	70	Conifer							
								Hardwood	2	5	1				
27	LF	2	RB	0	20	20	80	Conifer							
								Hardwood	3						
27	RT	3	HS	40	80	70	30	Conifer							
								Hardwood	2	4	1				
27	RT	2	HS	25	90	70	30	Conifer							
								Hardwood		3					
27	RT	1	LT	0	90	70	30	Conifer							
								Hardwood	6	3					
27	LF	3	HS	60	70	20	60	Conifer							
								Hardwood							
41	RT	3	LT	0	60	90	10	Conifer							
								Hardwood	6	3					
41	LF	1	RB	0	90	50	50	Conifer							
								Hardwood	1	4					
41	LF	2	RB	0	40	80	20	Conifer							
								Hardwood							
41	LF	3	HS	60	90	80	20	Conifer	1						
								Hardwood	1	2					
41	RT	1	LT	0	70	90	10	Conifer							
								Hardwood	5	3					
41	RT	2	LT	0	50	90	10	Conifer							
								Hardwood	5	2					

# Comment Summary

## Oregon Plan Monitoring Sites 2002

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

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
1	LP	01	20.2	TJ/	TEMP=16 DEG C AT 9:00	NOT ON MAP
2	CB	11	20.2		ACW=2.3M	T=13 DEG C AT 9:00
6	PP	00	69.8	HS		8 LOGS
8	LP	01	94.5	HS		2 LOGS
11	LP	00	113.1	HS		6 LOGS
14	SC	00	129		RIP 1	RIP 1
16	RI	00	157.4	HS		5 LOGS
19	LP	01	186.4	HS	FLAG 3-20	6 LOGS
22	LP	00	219.3	HS		3 LOGS
24	LP	00	238.1	HS	FLAG 5	6 LOGS
27	LP	00	257.2			SG=2 RIP 2
28	SC	00	259.3		RIP 2, PHOTO 23	
29	LP	01	284.2	HS		1 LOG, SG= 2
31	RI	00	291.8	HS		3 LOGS
33	RI	00	318.5	HS		
34	LP	01	346.1			SG=8
37	LP	00	355.1	HS		6 LOGS
40	LP	00	387.3			SG=4
41	RI	00	396.4		RIP 3	RIP 3
43	RI	00	408.4			SG=4
49	LP	00	474.4	RC		SG=2, OLD CAT ROAD

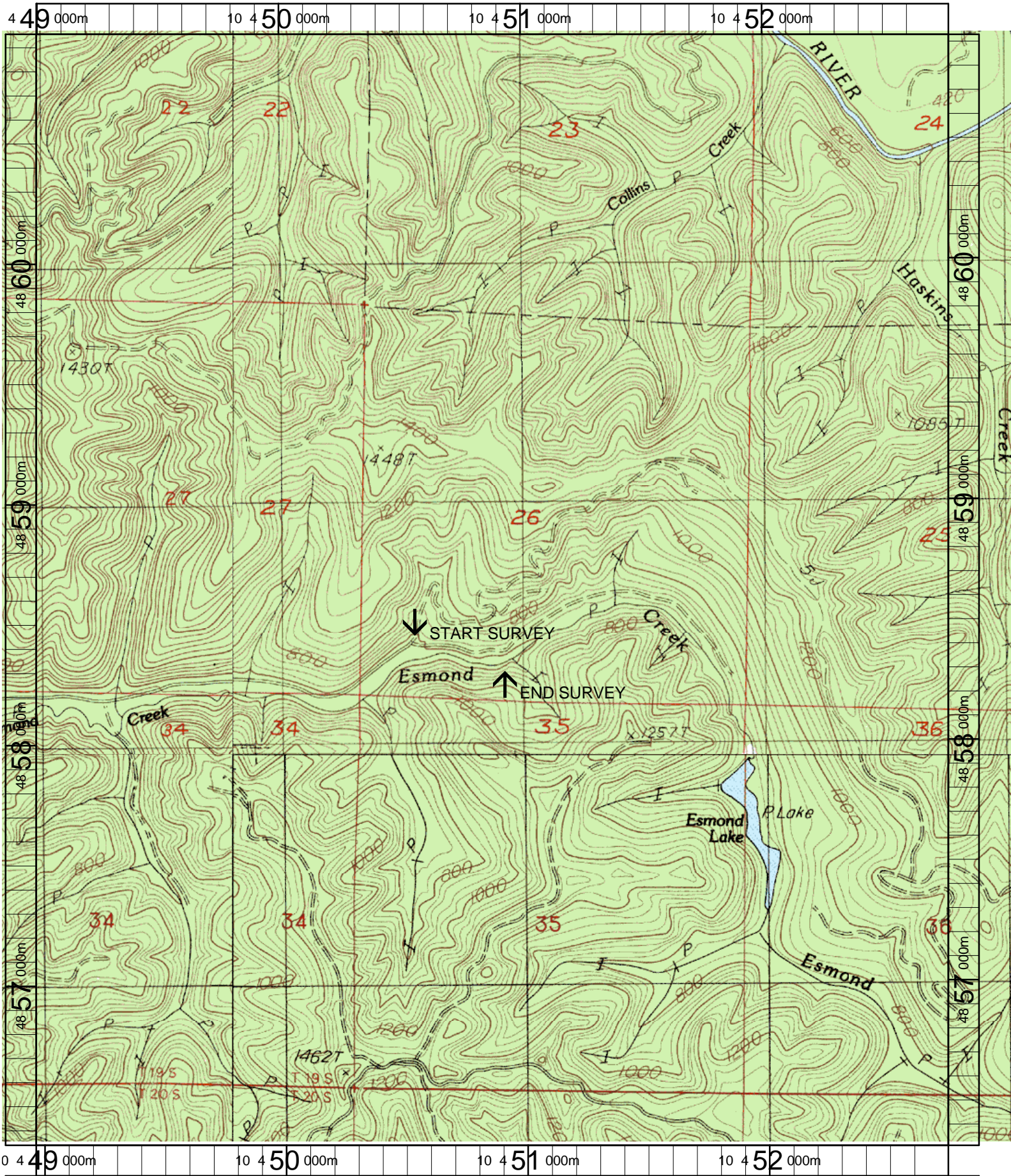
# Comment Summary

## Oregon Plan Monitoring Sites 2002

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

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
50	RI	00	482.5	HS		1 LOGS
51	LP	00	490.7			5 LOGS





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