

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

STREAM: Esmond Creek Upper (MC-139)
BASIN: Siuslaw River
SURVEY TYPE: Pre-Tx
DATE: June 26, 2003
SURVEY CREW: Alex Higgins, Jeremiah Bernier
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 44.9 km²
USGS MAPS: Roman Nose Mtn.
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Esmond Creek habitat survey extended 519 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 5.3 (range: 3.0-9.0). Land use for the reach was second growth (15-30 cm dbh) and large (30-50) trees. The average unit gradient was 1.0 percent. Scour pools (56%) and riffles (31%) dominated stream habitat. Gravel (38%) and cobble (20%) dominated stream substrate. Wood volume was very low at 5.5 m³/100m.

COMMENTS:

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

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	5.3	VWI Range:	3 - 9

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	519	2,403	0
Secondary	26	63	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	4.4	Width	7.8	10.1	14.7
Depth	0.37	Height	0.6	1.2	2.4
		W:D ratio	13.9	Entrenchment	1.3

Stream Flow Type:	MF	Water temp (C):	14.0 - 14.0
Avg. Unit Gradient:	1.0%	Habitat Units/100m:	5.7

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:	4%	Reach avg: 100%
Undercut Banks:	26%	Range: 100 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m</u>
All pieces ($\geq 3\text{m} \times 0.15\text{m}$):	100	19.3
Volume (m^3):	28	5.5
Key pieces ($\geq 10\text{m} \times 0.60\text{m}$):	0	0.0

REACH 1 T19S-R08W-S26SW REACH 1

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
GLIDE	1	23	5.7	0.30	129	0	5	15	0	0	0	80
POOL-BACKWATER	1	14	4.0	0.50	54	0	19	57	19	5	0	0
POOL-LATERAL SCOUR	15	272	5.1	0.58	1,385	43	2	18	36	12	5	27
RAPID/BOULDERS	3	39	2.2	0.15	86	29	3	13	25	25	20	13
RIFFLE	7	182	4.4	0.14	763	4	2	13	47	36	2	0
STEP/BOULDERS	1	5	3.3	0.10	18	7	0	5	30	35	30	0
STEP/COBBLE	3	11	3.2	0.10	31	1	0	10	59	31	0	0
Total:	31	545	4.4	0.37	2,465	84	Avg 3	16	38	20	6	17

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	26			
					Wetted Area		Large Boulders	
					(m ²)	Percent	Number	(# / 100m ²)
Dammed & BW Pools	1	14	4.0	0.50	54	2.21%	0	0.0
Scour Pools	15	272	5.1	0.58	1,385	56.16%	43	3.1
Glides	1	23	5.7	0.30	129	5.22%	0	0.0
Riffles	7	182	4.4	0.14	763	30.95%	4	0.5
Rapids	3	39	2.2	0.15	86	3.47%	29	33.9
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	4	16	3.2	0.10	49	1.99%	8	16.3
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:	16	29.4
Pools >=1m deep:	0	0.0
Complex pools (LWD pieces>=3):	9	16.5
Pool frequency (channel widths/pool):	4.4	
Residual pool depth (avg):	0.47	

STREAM SUMMARY

ESMOND CREEK UPPER PRE-TX (MC-139)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Substrate Percent Wetted Area						Large Boulders (>0.5m)
					S/O	Snd	Grvl	Cbl	Bldr	Bdrk	
31	545	4.4	0.37	2,465	3	16	38	20	6	17	84

Habitat Group	Wetted Area	
	(m ²)	Percent
Dammed & BW Pools	54	2.21%
Scour Pools	1,385	56.16%
Glides	129	5.22%
Riffles	763	30.95%
Rapids	86	3.47%
Cascades	0	0.00%
Step/Falls	49	1.99%
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	1544
Total conifers/1000 ft	20
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	0.0	2.0	0.0	4.3	0.0	3.0	0.0	9.3
15-30cm	0.0	6.0	0.0	3.3	0.0	1.0	0.0	10.3
30-50cm	0.0	3.3	0.3	1.0	0.0	1.0	0.3	5.3
50-90cm	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	11.3	0.3	9.0	0.0	5.0	0.1	8.4

Canopy closure and ground cover

	Zone 1	Zone 2	Zone 3
	0-10 meters (%)	10 - 20 meters (%)	20 - 30 meters (%)
Canopy closure	82	83	83
Shrub cover	55	43	28
Grass/forb cover	28	33	58

Predominant landform in each zone

	Zone 1	Zone 2	Zone 3
	0-10 meters (%)	10 - 20 meters (%)	20 - 30 meters (%)
Hillslope	33	17	67
High terrace	0	17	17
Low terrace	67	33	17
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	33	0
Riprap	0	0	0
Surface slope (%)	10	8	18

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	1544
Total conifers/1000 ft	20
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

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	9.3
15-30cm	0.0	10.3
30-50cm	0.3	5.3
50-90cm	0.0	0.3
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

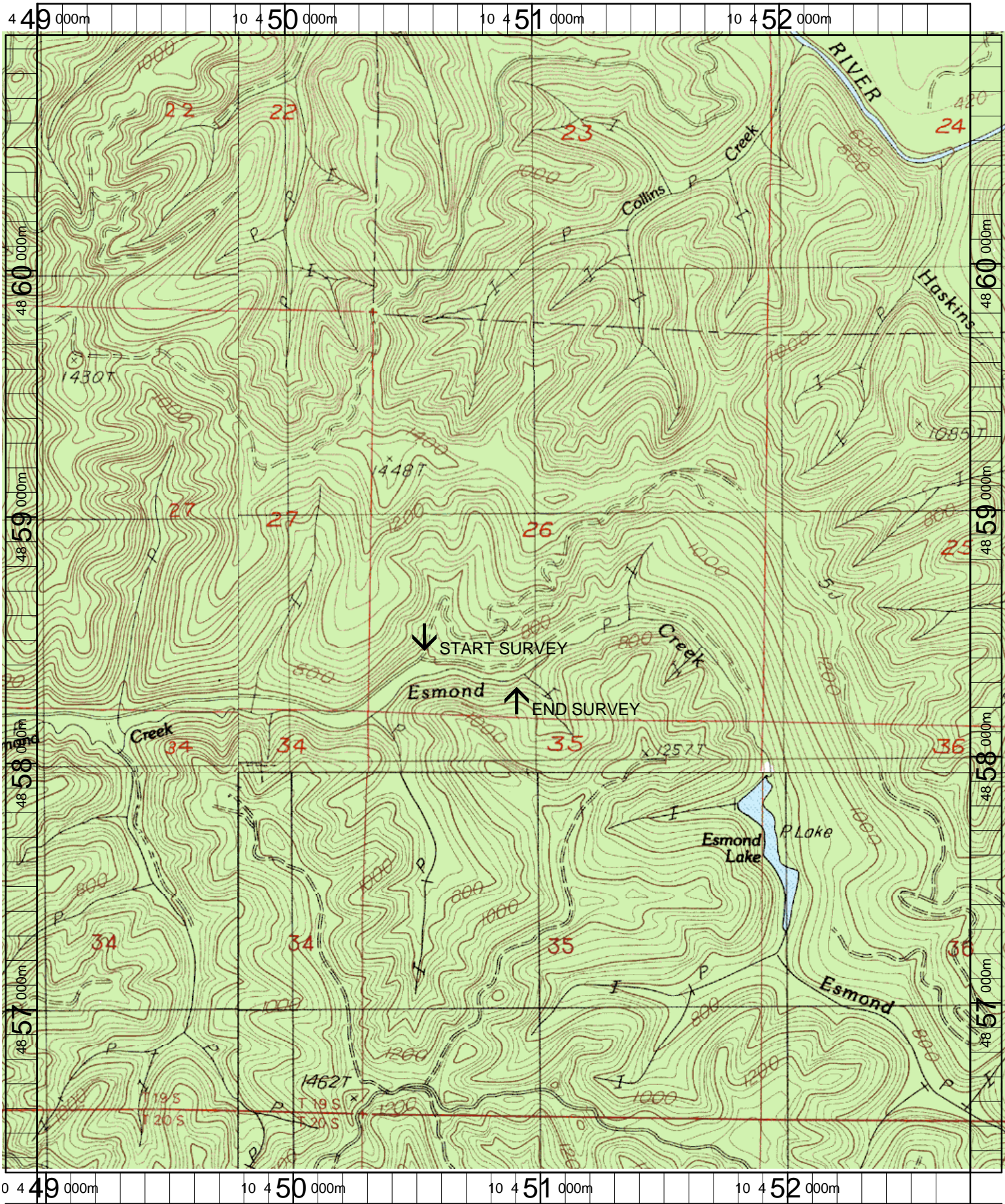
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
14	RT	2	LT	0	80	80	20	Conifer							
								Hardwood	1	1					
14	RT	1	LT	0	80	90	10	Conifer							
								Hardwood		4	6				
14	LF	3	HS	35	90	10	70	Conifer							
								Hardwood	3						
14	LF	2	RB	30	70	0	40	Conifer							60% GRAVEL
								Hardwood	1			1			
14	RT	3	LT	0	70	80	20	Conifer							
								Hardwood			1				
14	LF	1	LT	0	80	30	60	Conifer							
								Hardwood	2	8					
20	RT	1	HS	32	85	0	60	Conifer							
								Hardwood	1	1					
20	RT	3	HS	23	90	0	80	Conifer							
								Hardwood	1						
20	LF	3	HS	20	80	30	50	Conifer							20% RB/DIRT
								Hardwood		1					
20	RT	2	HS	20	90	0	80	Conifer				1			
								Hardwood			1				
20	LF	1	LT	0	90	90	0	Conifer							
								Hardwood	2	5	1				
20	LF	2	LT	0	90	90	0	Conifer							
								Hardwood	2	7	1				
28	RT	3	HT	0	75	25	70	Conifer							
								Hardwood	2	2	2				
28	LF	3	HS	30	90	25	60	Conifer							
								Hardwood	3						
28	RT	1	LT	0	75	60	20	Conifer							
								Hardwood			2				
28	RT	2	HT	0	80	60	30	Conifer							
								Hardwood	8	2	1				
28	LF	1	HS	27	80	60	20	Conifer							
								Hardwood	1		1				
28	LF	2	RB	0	90	30	30	Conifer							RB=DIRT
								Hardwood	1						

Comment Summary

Oregon Plan Monitoring Sites 2003

MONITORING AREA: **2-MC** SITE ID: **139** **ESMOND CREEK UPPER 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>
1	GL	01	22.6	TJ/	T= 14	
2	RB	11	22.6		ACW=1.6 T= 12	
6	SC	00	76.6			ORANGE FLAG-SITE 1
8	SB	00	100.7	SS,CS,LI/		
9	LP	00	116.1			ORANGE FLAG-SITE 2
13	LP	00	190.2			SITE 3
15	BW	10	204.8			LEFT RIPARIAN PHOTO 14
16	LP	00	227.5		COHO FRY	
17	LP	00	247	DJ	DJ	ORANGE FLAG= SITE 5
18	RI	00	265.8		10-15 COHO FRY	SMALL POOL ON RIGHT
19	LP	00	277.9	DJ		
20	RI	00	325.8			SITE 6; PHOTO 8 RIGHT RIP
21	LP	00	355.7			SITE 7
26	SC	00	440.4		H= .2	
27	LP	00	466.5		COHO FRY	
28	SC	00	471.1			PHOTO 16 RIGHT SIDE
31	LP	00	519.2			END PHOTO 17



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