

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

STREAM: Esmond Creek Lower (MC-137)
BASIN: Siuslaw River
SURVEY TYPE: Post-Tx
DATE: July 14, 2004
SURVEY CREW: Peter Baki, Jeremiah Bernier
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 44.9 km²
USGS MAPS: Roman Nose Mountain
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Esmond Creek habitat survey extended 566 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 8.8 (range: 1.9-17.6). Land use for the reach was young (3-15 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 0.3 percent. Scour pools (87%) dominated stream habitat. Bedrock (42%) and gravel (35%) dominated stream substrate. Wood volume was low at 7.7 m³/100m.

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-S16NE

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	8.8	VWI Range:	1.9 - 17.6

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	100%	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	566	3,699	0
Secondary	41	171	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 4.8	Width: 12.2	15.1 (12.7 - 18.8)	20.0 (15.3 - 25.6)
Depth: 0.38	Height: 0.7	1.3 (1.2 - 1.4)	1.7 (1.3 - 1.9)

W:D ratio: 18.9 Entrenchment (ACW:FPW ratio): 1.3
 Stream Flow Type: MF Habitat Units/100m (total channel length): 4.6
 Average Unit Gradient: 0.3% Habitat Units/100m (primary channel length): 5.0
 Water temperature (°C): 17.5 - 17.5

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	YT	ST
Riparian Vegetation:	M30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	1%	Reach avg: 76%
Undercut Banks:	3%	Range: 64 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	37	6.5
Volume (m ³):	44	7.7
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPARTMENT OF FISH AND WILDLIFE ESMOND CREEK (LOWER) POST-TX (MC-137)

HABITAT INVENTORY

Report Date: 10/27/2004

Survey Date:

7/14/2004

REACH 1		T19S-R08W-S16NE					REACH 1						
HABITAT DETAIL													
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	
POOL-BACKWATER	1	11	2.2	0.20	25	0	0	0	85	15	0	0	
POOL-ISOLATED	1	1	1.5	0.05	2	0	35	15	50	0	0	0	
POOL-LATERAL SCOUR	12	446	7.1	0.73	3,333	74	0	3	24	7	8	56	
POOL-PLUNGE	1	9	5.6	0.40	49	0	0	10	60	10	0	20	
RIFFLE	7	116	3.6	0.12	403	1	0	0	45	14	1	40	
STEP/BEDROCK	2	13	4.0	0.13	42	2	0	0	10	3	3	85	
STEP/BOULDERS	1	2	0.8	0.01	2	0	0	10	45	40	5	0	
STEP/COBBLE	3	8	2.0	0.10	16	2	0	0	37	50	0	13	
Total:	28	606	4.8	0.38	3,870	79	Avg: 1	3	35	14	4	42	

HABITAT SUMMARY									
Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders		
					(m ²)	Percent	Number	(# / 100m ²)	
Dammed & BW Pools	2	12	1.9	0.13	26	0.68%	0	0.0	
Scour Pools	13	455	7.0	0.70	3,382	87.38%	74	2.2	
Glides	0	0			0	0.00%	0	0.0	
Riffles	7	116	3.6	0.12	403	10.40%	1	0.2	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	6	23	2.4	0.09	60	1.54%	4	6.7	
Dry	0	0			0	0.00%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	15	24.7	26.5
Pools >=1m deep:	1	1.6	1.8
Complex pools (LWD pieces>=3):	3	4.9	5.3
Pool frequency (channel widths/pool):	3.3		
Residual pool depth (avg):	0.58		

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RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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Summary of Riparian Zone (0-30m)

3 transects

Total hardwoods/1000	224
Total conifers/1000 ft	1199
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	4.0	1.0	7.7	2.0	6.7	0.3	18.3	3.3
15-30cm	0.3	0.3	0.0	0.0	0.3	0.0	0.7	0.3
30-50cm	0.3	0.0	0.0	0.0	0.3	0.0	0.7	0.0
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	4.7	1.3	7.7	2.0	7.3	0.3	6.6	1.2

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	43		33		42	
Shrub cover	35		18		22	
Grass/forb cover	47		43		55	

Predominant landform in each zone

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

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

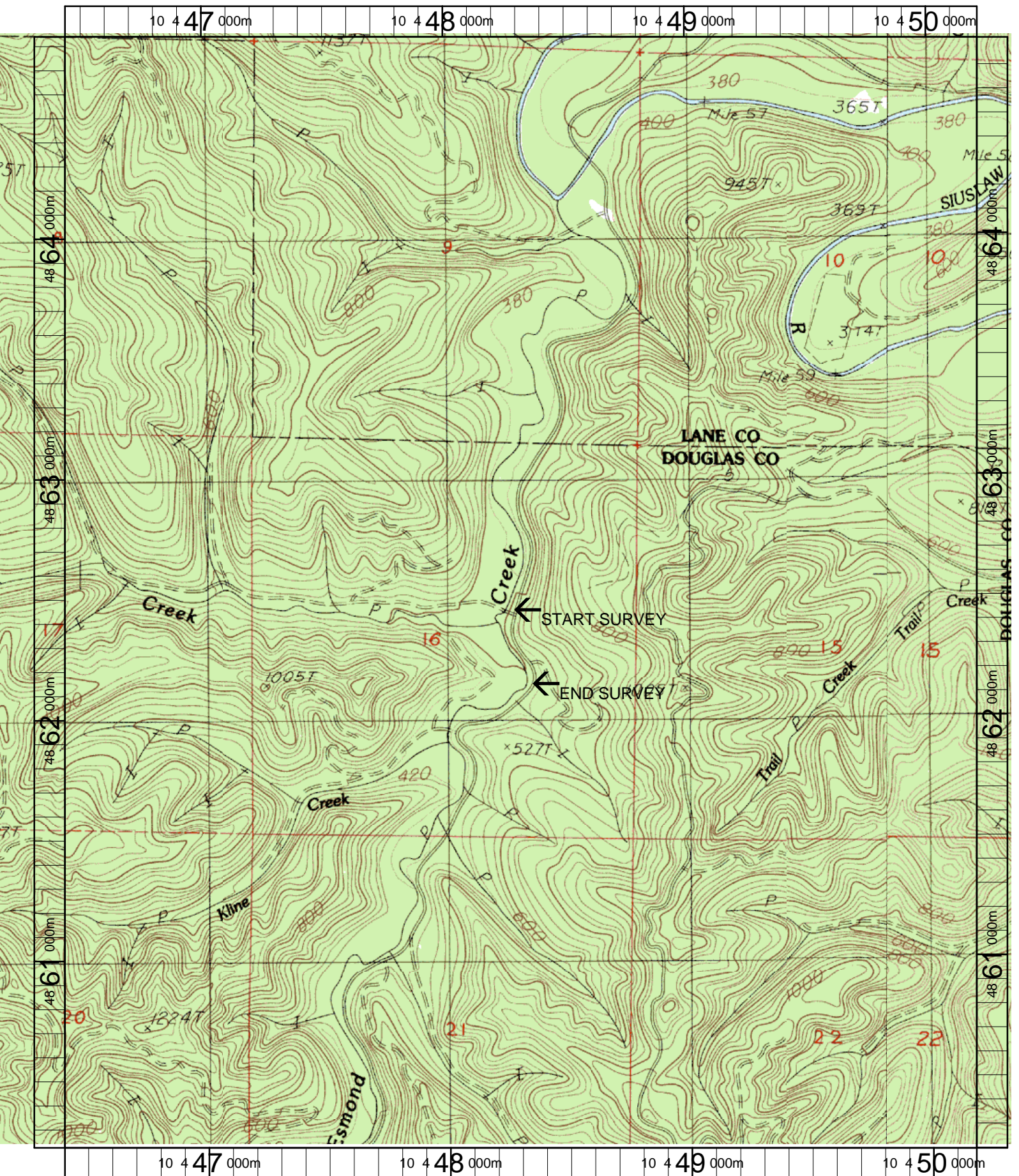
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
6	RT	3	HT	0	0	0	100	Conifer							
								Hardwood							
6	RT	2	HT	0	30	15	85	Conifer	2						ALDER
								Hardwood	4						
6	LF	2	HS	10	70	30	70	Conifer	1						
								Hardwood							
6	LF	3	HS	10	90	30	70	Conifer							
								Hardwood	1						
6	RT	1	HT	0	10	60	10	Conifer	1						30 GRAVEL
								Hardwood							
6	LF	1	HS	10	80	30	70	Conifer							
								Hardwood	1						
10	RT	1	HT	0	0	20	0	Conifer	10						YOUNG PLANTATION DOUG FIR
								Hardwood							
10	LF	3	HT	0	90	0	100	Conifer		1					
								Hardwood							
10	LF	2	HT	0	90	0	100	Conifer							
								Hardwood							
10	LF	1	HT	0	30	20	80	Conifer			1	1			
								Hardwood							
10	RT	3	HT	0	0	20	0	Conifer	10						
								Hardwood							
10	RT	2	HT	0	0	20	0	Conifer	10						
								Hardwood							
20	RT	2	HT	0	0	40	0	Conifer	10						YOUNG DOUG FIR PLANTATION
								Hardwood							
20	RT	3	HT	0	0	40	0	Conifer	10						
								Hardwood							
20	RT	1	HT	0	80	20	80	Conifer							
								Hardwood							
20	LF	3	HS	50	70	40	60	Conifer				1			
								Hardwood							
20	LF	2	RB	0	10	0	0	Conifer							ESMOND CR ROAD
								Hardwood	2						
20	LF	1	HT	0	60	60	40	Conifer	1						
								Hardwood	2	1					

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: **2-MC** SITE ID: **137** **ESMOND CREEK (LOWER) 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	00	59.7	BC, CS/CS		SG=6
2	LP	00	102.8	HS		25 BOULDERS
3	RI	00	124.7			SG=8
4	LP	01	166.6		RIP 1	SG=3 ORANGE FLAG 3-10-01
7	IP	10	182.8			12 FISH
8	LP	00	215.3	HS		1 LOG
9	RI	00	226.1			SG=20
10	LP	01	284.7	HS, /TJ	/TJ LEOPOLD CR RIP 2	LEOPOLD CR.
11	SC	11	284.7			16 LOGS, RIP 2
14	LP	11	284.7		ACW=7.7 TEMP=17 DEG	
18	LP	00	341.8	HS		3 LOGS
19	SC	00	345.2			SG=10
20	LP	00	399.1		RIP 3	RIP 3
23	LP	00	471			SG=24
25	LP	00	501.4			SG=16
26	RI	00	520.5		PHOTO 25	
27	LP	01	565.6	TJ/	END SIGN LEFT	END SURVEY
28	SB	11	565.6		H=.8M	ACW=.8M



Name: ROMAN NOSE MT
 Date: 3/20/2003
 Scale: 1 inch equals 1666 feet

Location: 10 448303 E 4862522 N
 Caption: ESMOND CREEK (LOWER) RESTORATION SITE -
 SIUSLAW BASIN