

**ODFW AQUATIC INVENTORY PROJECT
RESTORATION MONITORING
STREAM HABITAT REPORT**

STREAM: ESMOND CREEK (LOWER)
 GCG: 2-MC
 SITE ID: 137
 BASIN: SIUSLAW
 TREATMENT DATE: 2002
 SURVEY DATE: 7/14/2008
 SURVEY CREW: Roslyn Overstake / Kellie Scofield
 USGS MAPS: ROMAN NOSE MTN
 ECOREGION: Mid-Coastal Sedimentary
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

SURVEY DESCRIPTION:

Channel morphology: Constrained by high terraces
 Dominant landuse(s): Second growth timber (15-30 cm dbh)
 Dominant riparian vegetation: Deciduous trees: size class 15-30cm dbh
 Primary channel length (meters) and area (m²): 532 : 3,437
 Secondary channel length (meters) and area (m²) 16 : 70
 VWI average: 7.6 VWI Range: 5 - 10 Average Gradient: 0.4%
 Pieces LWD per 100m: 2.8 Wood Volume (m³) per 100m: 4.0
 Percent pools: 75% Complex pools (LWD pieces>=3): 1 Pools >=1m deep: 1
 Percent substrate (avg):

	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	1	10	35	14	1	38
Pool units	2	11	28	9	2	49
Fast water units	2	9	43	11	0	35

COMMENTS:

This is a post-treatment, long term monitoring site. The crew noted fish and rough-skinned newts during the survey.

**OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY**

**ESMOND CREEK (LOWER)
GCG: 2-MC SITE ID: 137**

Survey Date: 7/14/2008

Report Date: 12/29/2008

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	7.6	VWI Range:	5 - 10

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	532	3,437	0
Secondary	16	70	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 6.1	Width: 14.2	16.3 (13 - 22)	18.5 (15 - 24)
Depth: 0.41	Height: 0.6	1.1 (1 - 1.2)	1.9 (1.5 - 2.5)

W:D ratio: 24.9

Stream Flow Type: MF

Average Unit Gradient: 0.4%

Water temperature (°C): 15.0 - 15.0

Entrenchment (ACW:FPW ratio): 1.2

Habitat Units/100m (total channel length): 4.2

Habitat Units/100m (primary channel length): 4.3

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D15	C30

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	1%	Reach avg: 90%
Undercut Banks:	4%	Range: 81 - 97

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	15	2.8
Volume (m ³):	22	4.0
Key pieces (>=12m x 0.60m):	0	0.0

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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
GLIDE	2	26	8.5	0.20	235	22	2	13	25	17	0	43
POOL-ISOLATED	1	6	1.7	0.15	10	0	0	15	75	10	0	0
POOL-LATERAL SCOUR	10	388	7.1	0.75	2,637	51	2	11	28	9	2	49
RIFFLE	6	109	4.7	0.16	490	0	2	9	43	11	0	35
STEP/BEDROCK	1	3	1.5	0.10	5	0	0	0	0	0	0	100
STEP/COBBLE	3	17	6.8	0.08	131	0	0	10	47	43	0	0
Total:	23	548	6.1	0.41	3,507	73	Avg: 1	10	35	14	1	38

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	1	6	1.7	0.15	10	0.29%	0	0.0
Scour Pools	10	388	7.1	0.75	2,637	75.18%	51	1.9
Glides	2	26	8.5	0.20	235	6.70%	22	9.4
Riffles	6	109	4.7	0.16	490	13.97%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	4	20	5.5	0.09	135	3.85%	0	0.0
Dry	0	0			0	0.00%	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:	11	20.1	20.7
Pools >=1m deep:	1	1.8	1.9
Complex pools (LWD pieces>=3):	1	1.8	1.9
Pool frequency (channel widths/pool):	3.5		
Residual pool depth (avg):	0.55		

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RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 3 transects

Total hardwoods/1000	650
Total conifers/1000 ft	1219
Total conifers >20" dbh/1000 ft	366
Total conifers >35" dbh/1000 ft	122

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	2.7	3.3	1.3	4.3	1.0	8.0	5.0
15-30cm	1.3	2.0	1.7	1.3	1.0	0.7	4.0	4.0
30-50cm	0.7	1.7	0.7	0.0	0.7	0.0	2.0	1.7
50-90cm	1.7	0.0	2.0	0.0	0.3	0.0	4.0	0.0
>90cm	0.0	0.0	0.7	0.0	1.3	0.0	2.0	0.0
Total/100m2	4.0	6.3	8.3	2.7	7.7	1.7	6.7	3.6

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	86	63	63
Shrub cover	54	28	23
Grass/forb cover	38	50	57

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	0	17
High terrace	100	100	83
Low terrace	0	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	0	0	5

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	650
Total conifers/1000 ft	1219
Total conifers >20" dbh/1000 ft	366
Total conifers >35" dbh/1000 ft	122

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	8.0	5.0
15-30cm	4.0	4.0
30-50cm	2.0	1.7
50-90cm	4.0	0.0
>90cm	2.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1

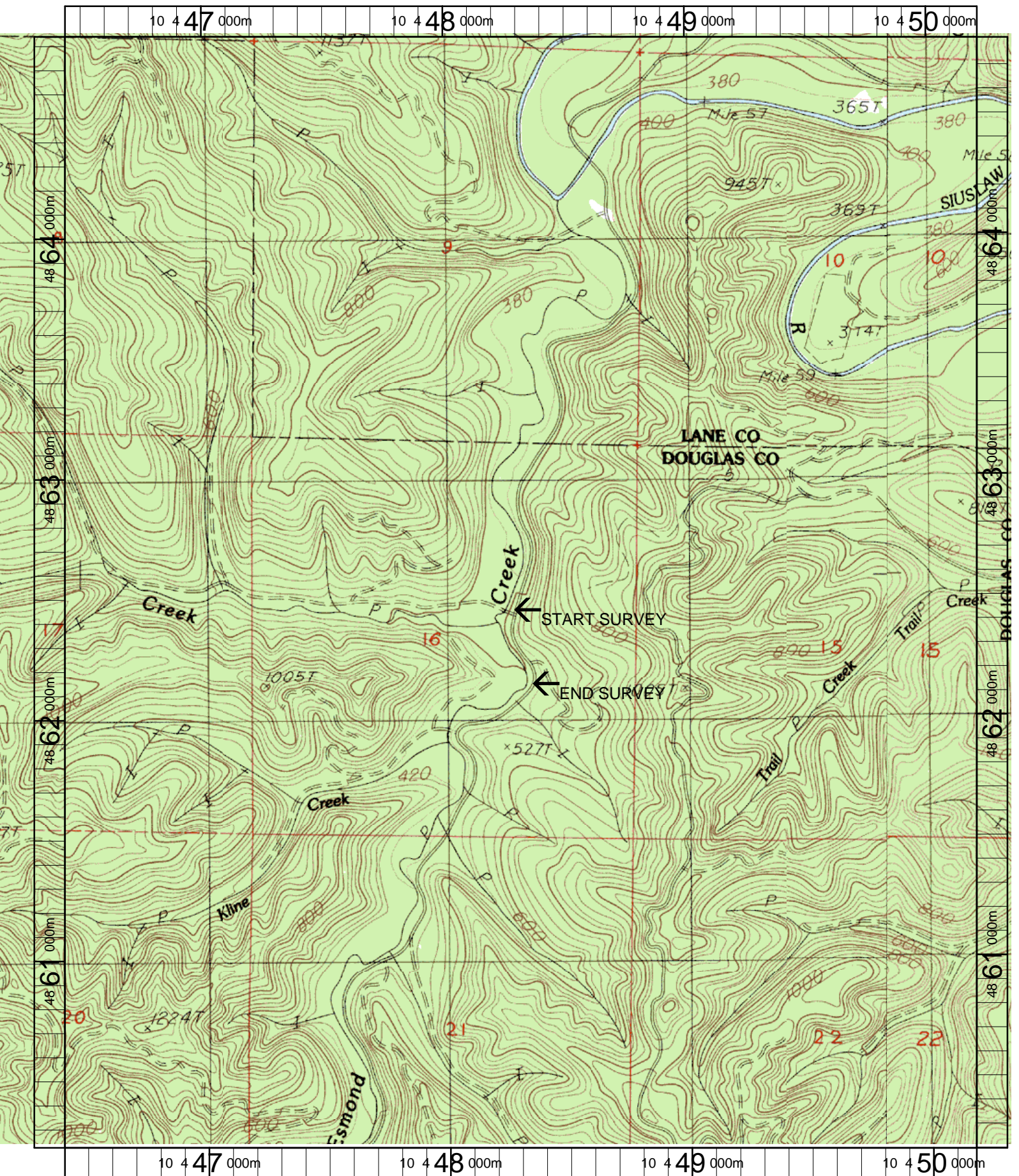
Reach 1

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	
6	LT	1	HT	0	85	25	45	Conifer		1	2	1		
								Hardwood	1		1			
6	LT	2	HT	0	85	15	60	Conifer		1		2	1	
								Hardwood	2					
6	LT	3	HT	0	90	10	55	Conifer		1	1			
								Hardwood						
6	RT	1	HT	0	80	75	25	Conifer		1				
								Hardwood	3					
6	RT	2	HT	0	15	30	70	Conifer		2				
								Hardwood	1	1				
6	RT	3	HT	0	5	20	80	Conifer	2					
								Hardwood	1					
14	LT	1	HT	0	95	40	40	Conifer				1		
								Hardwood	1		2			
14	LT	2	HT	0	100	30	45	Conifer				3	1	
								Hardwood						
14	LT	3	HT	0	95	30	60	Conifer	1			1	2	
								Hardwood	1	1				
14	RT	1	HT	0	95	40	60	Conifer		1		1		
								Hardwood	1	2				
14	RT	2	HT	0	100	25	45	Conifer		2	2	1		
								Hardwood		2				
14	RT	3	HT	0	95	20	60	Conifer	1		1		2	
								Hardwood		1				
17	LT	1	HT	0	90	80	20	Conifer		1				
								Hardwood		3	2			
17	LT	2	HT	0	70	35	45	Conifer	2					
								Hardwood	1	1				
17	LT	3	HS	30	90	45	40	Conifer	3	1				
								Hardwood						
17	RT	1	HT	0	70	65	35	Conifer	1			2		
								Hardwood	2	1				
17	RT	2	HT	0	10	35	35	Conifer	8					
								Hardwood						
17	RT	3	HT	0	5	15	45	Conifer	6	1				
								Hardwood	1					

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 137 STREAM: ESMOND CREEK (LOWER)

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	LP	00	19		PHOTO 17
7	IP	10	145.5	WL, AM	ROUGH-SKINNED NEWT, FISH
10	LP	01	224.5	TJ/	
11	RI	11	224.5		T=16C
21	SR	00	485.5		H=0.20M



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

MC-137 Esmond Creek Lower (Post-Treatment) 2008 Summer Habitat Survey Photographs



Reach photo