

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

STREAM: Swartz Creek (MC-154)  
BASIN: Siuslaw River  
SURVEY TYPE: Post-Tx  
DATE: March 21, 2006  
SURVEY CREW: Trevan Cornwell, Brian Bangs  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 11.9 km<sup>3</sup>  
USGS MAPS: Horton  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Swartz Creek habitat survey extended 926 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 5.4 (range: 4.5-6.0). Land use for the reach was second growth (15-30 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 0.4 percent. Scour pools (71%) and riffles (23%) dominated stream habitat. Gravel (45%) and sand (42%) dominated stream substrate. Wood volume was low at 14.5 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.

Stream Swartz Creek (MC-154)

Basin Siuslaw River

Treatment Large Wood

	ODFW Benchmark		Pre 3/26/98	Post 2/11/99	Post 3/21/06		
Habitat Variable	Desirable	Undesirable					
% Pool Area	>35%	<10%	80.2	<b>62.9</b>	<b>74.9</b>		
Number of Pools			22	15	<b>33</b>		
Deep Pools/km (>1.0 m)			25.1	<b>14.6</b>	23.7		
% Off-Channel			4.0	5.9	5.6		
LWD – Pieces/100m	>20	<10	20.4	<b>29.3</b>	18.2		
LWD – Volume/100m	>30	<20	22.4	<b>42.8</b>	14.5		
LWD – Key Pieces/100m	>3	<1	0.2	<b>2.6</b>	0.3		
Large Wood Jams/km			7.7	<b>11.8</b>	8.6		
% Riffle Fines	<10	>20	17	62	27		
% Riffle Gravel	>35	<15	82	38	72		
% Bedrock			0	0	0		

**Bold** is noticeable change

Comments: The treatment was large wood added to the reach in complex jams. Initially after treatment, large wood numbers were higher than pre-treatment conditions. However, they are now similar or even less than before treatment. The number of pools has increased, but pool area and the number of deep pools has declined. Substrate has been variable but is similar to pre-treatment levels.

REACH 1

T15S-R07W-S36NE

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	5.4	VWI Range:	4.5 - 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 Channel	926	4,432	0
Secondary Channel	0	0	0
Off-Channel Units	130	264	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 4.4	Width: 8.8	18.6 ( 10.2 - 26.6 )	21.0 ( 11.3 - 27.2 )
Depth: 0.85	Height: 0.7	1.3 ( 1.1 - 1.5 )	1.6 ( 1.4 - 1.9 )

W:D ratio: 13.5  
 Stream Flow Type: MF  
 Average Unit Gradient: 0.4%  
 Water temperature (°C): 6.0 - 6.0

Entrenchment (ACW:FPW ratio): 2.1  
 Habitat Units/100m (total channel length): 4.8  
 Habitat Units/100m (primary channel length): 5.5

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D50	G

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 primary channel</u>
All pieces (>=3m x 0.15m):	169	18.2
Volume (m <sup>3</sup> ):	135	14.5
Key pieces (>=12m x 0.60m):	3	0.3

OREGON DEPT OF FISH AND WILDLIFE

SWARTZ CREEK POST-TX (2-MC, 154)

HABITAT INVENTORY

Report Date: 12/6/2006

Survey Date:

3/21/2006

REACH 1		T15S-R07W-S36NE					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
POOL-ALCOVE	2	36	1.5	0.75	55	0	50	45	5	0	0	0
POOL-BACKWATER	1	9	1.3	0.75	11	0	15	70	15	0	0	0
POOL-ISOLATED	2	58	2.4	0.60	109	0	30	65	5	0	0	0
POOL-LATERAL SCOUR	26	643	5.0	1.25	3,153	0	11	52	35	1	0	0
POOL-PLUNGE	2	30	6.8	1.15	193	0	15	59	22	2	1	0
RAPID/BOULDERS	1	9	0.6	0.10	5	0	5	15	80	0	0	0
RIFFLE	13	236	4.3	0.29	996	0	6	21	72	0	0	1
RIFFLE W/ POCKETS	1	18	5.8	0.45	105	0	10	40	50	0	0	0
STEP/COBBLE	2	17	3.8	0.30	66	0	5	13	83	0	0	0
STEP/LOG	1	1	3.5	0.20	4	0	10	50	40	0	0	0
<b>Total:</b>	51	1,056	4.4	0.85	4,696	0	<b>Avg:</b> 12	42	45	1	0	0

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	5	102	1.8	0.69	175	3.72%	0	0.0	
Scour Pools	28	673	5.1	1.24	3,346	71.24%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	14	254	4.4	0.30	1,101	23.45%	0	0.0	
Rapids	1	9	0.6	0.10	5	0.11%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	3	18	3.7	0.27	69	1.47%	0	0.0	
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	Primary Channel Length
		<u># / Km</u>	<u># / Km</u>
All Pools:	33	31.2	35.6
Pools >=1m deep:	25	23.7	27.0
Complex pools (LWD pieces>=3):	18	17.0	19.4
Pool frequency (channel widths/pool):	3.6		
Residual pool depth (avg):	1.00		

# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC**      SITE ID: **154**      SWARTZ CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	00	17.8	HS		
2	LP	00	63.8	BV, HS	HS NO. 6, TAG ALDER LEFT	
3	LP	00	102.8		SAND/DEBRIS ON TERR.- HI FLOW	
4	RI	00	121.3	BV		
5	LP	00	131.8	BV		
7	LP	00	166.9		NICE CEDAR ON RIGHT	
8	LP	01	202.1	TJ/, BV	OLD BLOWN OUT BV DAM	
9	RB	11	202.1		SPRING CANYON	
11	AL	10	224.5	BV		
12	LP	01	257.9	SS/		
13	IP	10	257.9	SS/	RSN, SPRING FED ON LOW TERRACE	
15	LP	00	323.9	/SS		
19	RI	00	394	/SS		
20	LP	00	403.6	HS		
21	RI	00	426.1		FLAG - COHO REDD 12-25-02	
22	LP	01	437.3	TJ/		
23	RI	11	437.3		LEIBA CANYON, HIGH PASS RD	
24	RI	00	448.5	BV, WL	LIVE BEAVER SULKING ABOUT	
26	AL	10	498.5		RSN	
27	BW	10	498.5		UNIT HAS LARGE LOGS	
28	LP	00	533	BV		

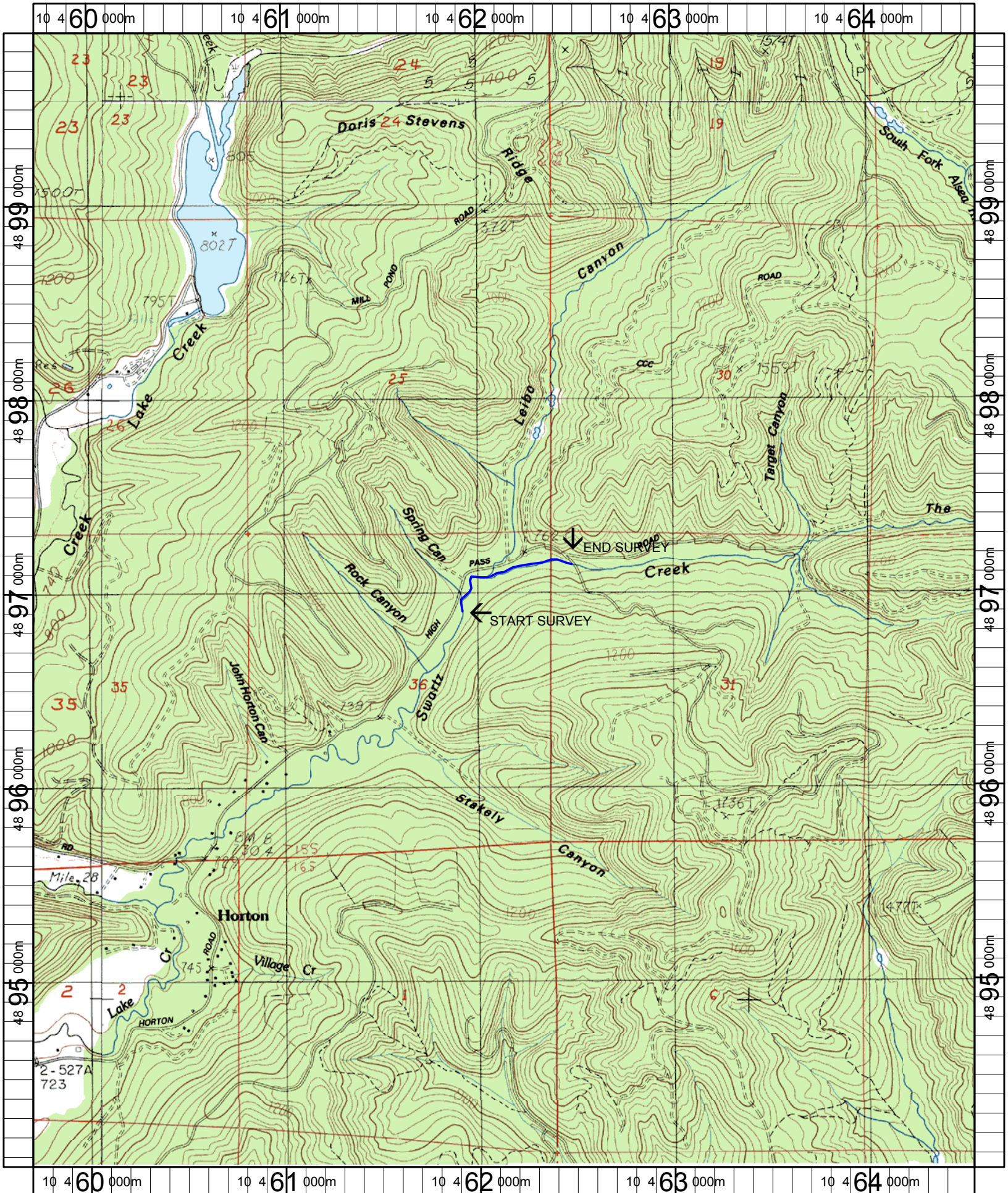
# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC**      SITE ID: **154**      **SWARTZ CREEK POST-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
32	SL	00	567.2	DJ	H = 0.5	
33	LP	00	587.6		PINK FLAGGING	
34	LP	00	627.7	HS	HS SITE NO. 8	
36	LP	00	661.4	HS		
38	LP	00	711.8	BV		
41	LP	00	745	BV		
45	LP	00	814.6		CEDAR ON LEFT	
47	LP	00	857.7	/SS x 2		
50	LP	00	906.4	HS	LOGS CABLED TO BOULDER WEIR	
51	PP	00	926.4		END SURVEY AT CULVERT MOUTH	





Name: HORTON  
 Date: 1/23/2006  
 Scale: 1 inch equals 2000 feet

Location: 10 462134 E 4896959 N  
 Caption: SWARTZ CREEK RESTORATION SITE - SIUSLAW BASIN