

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

STREAM: Peterson Creek (NC-54)  
BASIN: Miami River  
SURVEY TYPE: Post-Tx  
DATE: March 29, 2007  
SURVEY CREW: Matthew Strickland, Sharon Tippery  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 6.9 km<sup>2</sup>  
USGS MAPS: Garibaldi  
ECOREGION: Coast Range Coastal Uplands

**GENERAL DESCRIPTION:**

The Peterson Creek habitat survey extended 780 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 8.9 (range: 4.5-11). Land use for the reach was young timber (3-15 cm dbh) and second growth timber (15-30 cm dbh). The average unit gradient was 0.6 percent. Scour pools (65%) and riffles (30%) dominated stream habitat. Gravel (77%) and sand (13%) dominated stream substrate. Wood volume was low at 16.9 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.

Minimal beaver activity and a red-legged frog were observed during the survey.

Stream Peterson Creek (N-54)  
 Basin Miami River  
 Treatment Large Wood

	ODFW Benchmark		Pre	Post	Post		
Habitat Variable	Desirable	Undesirable	2/16/00	2/12/01	3/29/07		
% Pool Area	>35%	<10%	58.9	59.2	<b>66.8</b>		
Number of Pools			38	27	35		
Deep Pools/km (>1.0 m)			14.4	5.1	10.8		
% Off-Channel			5.6	2.8	<b>2.0</b>		
LWD – Pieces/100m	>20	<10	8.8	11.3	<b>15.7</b>		
LWD – Volume/100m	>30	<20	7.4	28.7	<b>16.9</b>		
LWD – Key Pieces/100m	>3	<1	0.3	3.2	<b>0.0</b>		
Large Wood Jams/km			0.0	10.8			
% Riffle Fines	<10	>20	17	11	11		
% Riffle Gravel	>35	<15	81	90	77		
% Bedrock			0	0	0		

**Bold** is noticeable change

Comments: Pool area is increasing over time, while the total number of pools and the number of deep pools first dropped after treatment and are now rebounding. Off channel habitat has decreased since treatment. Large wood pieces are higher, but wood volume and key pieces are lower, suggesting that some larger wood has left the reach and smaller pieces have been recruited. Substrate is basically unchanged.

REACH 1

T01N-R10W-S02NW

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	8.9	VWI Range:	4.5 - 11

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	780	3,919	0
Secondary Channel	0	0	0
Off-Channel Units	52	79	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 4.9	Width: 6.9	10.7 ( 8.2 - 13.5 )	11.9 ( 8.5 - 14.8 )
Depth: 0.62	Height: 0.3	0.6 ( 0.56 - 0.6 )	1.2 ( 0.7 - 1.85 )

W:D ratio: 23.6  
 Stream Flow Type: MF  
 Average Unit Gradient: 0.6%  
 Water temperature (°C): 7.0 - 7.0

Entrenchment (ACW:FPW ratio): 1.7  
 Habitat Units/100m (total channel length): 6.9  
 Habitat Units/100m (primary channel length): 7.3

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	YT	ST
Riparian Vegetation:	D15	S

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):	122	15.7
Volume (m <sup>3</sup> ):	132	16.9
Key pieces (>=12m x 0.60m):	0	0.0

HABITAT INVENTORY

Report Date: 4/25/2007

Survey Date:

3/29/2007

REACH 1		T01N-R10W-S02NW					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-DAMMED	1	11	5.9	0.60	62	0	5	20	75	0	0	0
POOL-LATERAL SCOUR	33	518	4.9	0.88	2,561	0	2	15	76	6	1	0
POOL-PLUNGE	1	8	6.2	1.10	50	0	5	10	85	0	0	0
RIFFLE	12	185	4.0	0.20	733	0	0	11	77	11	0	0
RIFFLE W/ POCKETS	3	88	5.1	0.27	447	0	0	10	78	12	0	0
STEP/COBBLE	5	22	6.5	0.20	140	0	0	10	77	10	3	0
STEP/LOG	2	1	6.0	0.10	6	0	3	10	83	5	0	0
<b>Total:</b>	<b>57</b>	<b>832</b>	<b>4.9</b>	<b>0.62</b>	<b>3,999</b>	<b>0</b>	<b>Avg: 1</b>	<b>13</b>	<b>77</b>	<b>7</b>	<b>1</b>	<b>0</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	1	11	5.9	0.60	62	1.55%	0	0.0
Scour Pools	34	526	4.9	0.89	2,610	65.28%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	15	273	4.2	0.22	1,181	29.53%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	7	23	6.4	0.17	146	3.64%	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
	Total	# / Km	# / Km
All Pools:	35	42.1	44.9
Pools >=1m deep:	9	10.8	11.5
Complex pools (LWD pieces>=3):	11	13.2	14.1
Pool frequency (channel widths/pool):	3.5		
Residual pool depth (avg):	0.64		

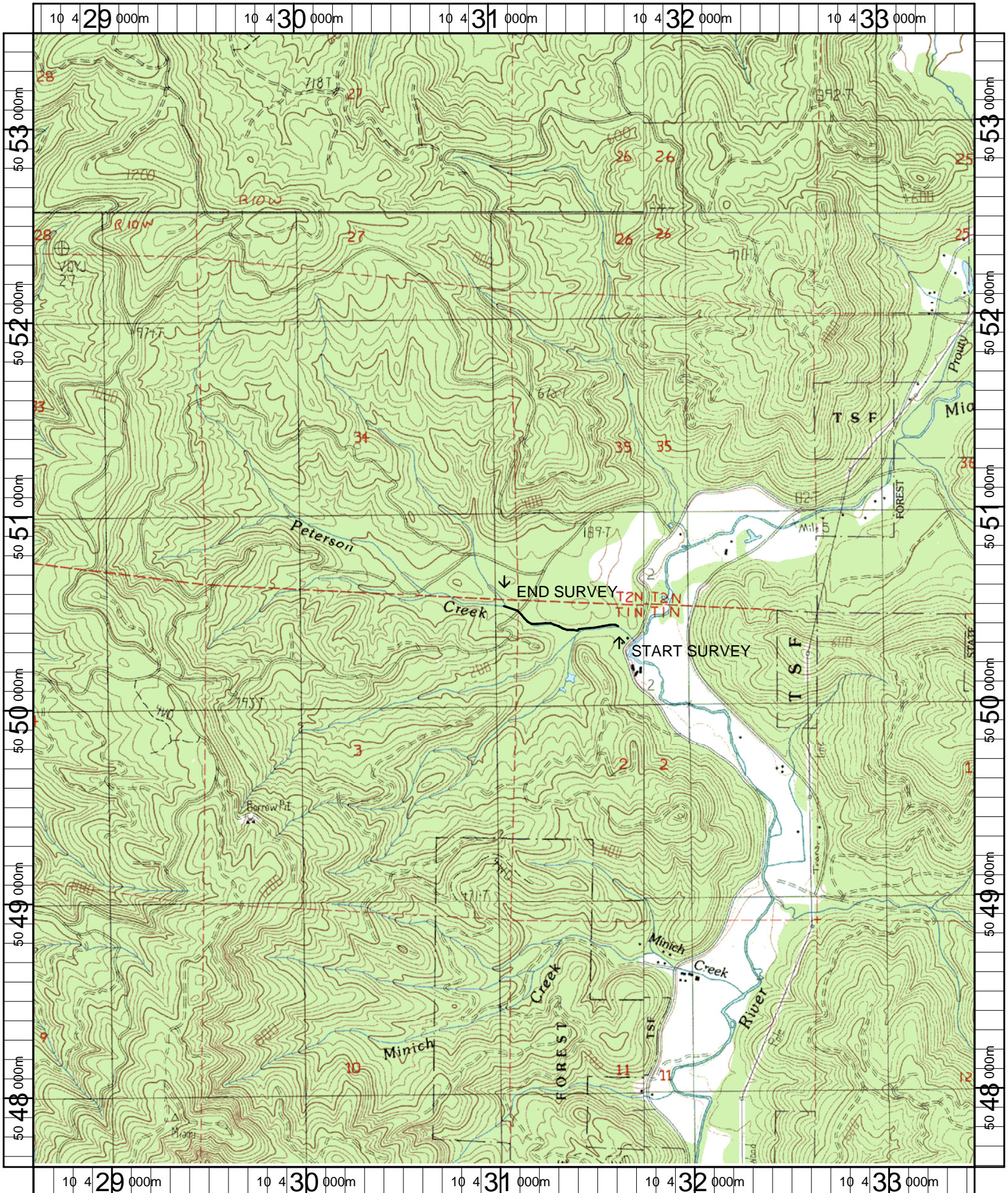
# Comment Summary

## Restoration Monitoring Sites 2007

MONITORING AREA: 1-NC      SITE ID: 54      PETERSON CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR
3	LP	01	39.3	/TJ	
4	RI	11	39.3		ACW=2.8 TEMPERATURE =7
6	LP	00	74.8	/SS, BC	LOGGING BRIDGE
8	RP	00	121.3		POCKET DEPTH =.8
18	LP	00	252.1	HS	
21	RP	00	313.4		POCKET DEPTH=.9
22	LP	01	331.6	TJ/ HS	
23	RI	11	331.6		ACW=2.3 TEMPERATURE =7.5
24	LP	01	339.1	TJ/	
25	RI	11	339.1		ACW=2.2 TEMPERATURE =7.5
29	RP	00	412		POCKET DEPTH=.65
31	LP	00	441.5	HS	
32	LP	00	452.5	HS	
34	LP	00	475.4	HS	
38	DP	00	512	HS	
43	LP	00	580.7	HS	RED LEGGED FROG PRESENT.
47	LP	00	622.6	HS, BV	OLD BEAVER COMPLEX.
51	LP	00	697.7	BC	LOGGING BRIDGE.





Name: GARIBALDI  
 Date: 4/25/2007  
 Scale: 1 inch equals 2000 feet

Location: 10 0431049 E 5050544 N  
 Caption: PETERSON CREEK RESTORATION SITE - MIAMI BASIN