

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

STREAM: North Fork Wolf Creek (NC-95)
BASIN: Nehalem River
SURVEY TYPE: Post-Tx
DATE: February 9, 2007
SURVEY CREW: Jeff O'Leary, Sheri Etchemendy
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 19 km²
USGS MAPS: Clear Creek
ECOREGION: Coast Range Willapa Hills

GENERAL DESCRIPTION:

The North Fork Wolf Creek habitat survey extended 654 meters. The channel was constrained by hillslopes in a moderate V-shape valley. The average valley width index was 2.3 (range: 1.5-4). Land use for the reach was second growth timber (15-30 cm dbh) and timber harvest. The average unit gradient was 1.1 percent. Scour pools (37%), dammed and backwater pools (33%) and riffles (28%) dominated stream habitat. Gravel (48%) and bedrock (27%) dominated stream substrate. Wood volume was moderate at 21.0 m³/100m.

COMMENTS:

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

Minimal beaver activity was noted in the survey.

Stream North Fork Wolf Creek (N-95)
 Basin Nehalem River
 Treatment Large Wood

	ODFW Benchmark		Pre	Post	Post		
Habitat Variable	Desirable	Undesirable	2/22/01	2/12/02	2/9/07		
% Pool Area	>35%	<10%	29.5	85.0	70.7		
Number of Pools			13	18	14		
Deep Pools/km (>1.0 m)			2.7	12.8	1.5		
% Off-Channel			3.7	0.0	0.1		
LWD – Pieces/100m	>20	<10	12.5	21.0	22.2		
LWD – Volume/100m	>30	<20	12.3	16.8	21.0		
LWD – Key Pieces/100m	>3	<1	0.9	0.2	0.3		
Large Wood Jams/km			5.9	12.8			
% Riffle Fines	<10	>20	14	10	12		
% Riffle Gravel	>35	<15	48	61	57		
% Bedrock			22	37	27		

Bold is noticeable change

Comments: Pool area has increased dramatically since treatment, while the number of deep pools has decreased. Fewer deep pools may be due to potentially different stream flow levels between years. Off channel habitat is lower now than before treatment. Large wood pieces are fairly stable while wood volume is larger, suggesting the recruitment of additional large trees from the riparian and the loss of smaller pieces. Substrate has remained stable. It appears that the treatment was successful, creating more pool area and retaining large wood in the reach.

REACH 1 T4N-R5W-S31SW 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	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	2.3	VWI Range:	1.5 - 4

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	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	654	5,254	0
Secondary Channel	0	0	0
Off-Channel Units	9	7	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 7.8	Width: 11.6	15.0 (11 - 19.5)	17.1 (13 - 21.3)
Depth: 0.48	Height: 0.5	1.0 (0.86 - 1.2)	1.2 (1 - 1.4)

W:D ratio: 22.9 Entrenchment (ACW:FPW ratio): 1.3
Stream Flow Type: MF Habitat Units/100m (total channel length): 4.2
Average Unit Gradient: 1.1% Habitat Units/100m (primary channel length): 4.3
Water temperature (°C): 5.0 - 5.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	TH
Riparian Vegetation:	D30	

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):	145	22.2
Volume (m ³):	138	21.0
Key pieces (>=12m x 0.60m):	2	0.3

OREGON DEPT OF FISH AND WILDLIFE NORTH FORK WOLF CREEK POST-TX (1-NC, 95)

HABITAT INVENTORY Report Date: 4/25/2007 Survey Date: 2/9/2007

REACH 1		T4N-R5W-S31SW					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
CASCADE/BOULDERS	1	9	0.8	0.05	7	0	5	10	85	0	0	0
POOL-BEAVER DAM	1	120	12.0	1.30	1,440	0	24	33	43	0	0	0
POOL-DAMMED	2	36	9.0	0.73	310	0	5	35	37	0	0	24
POOL-LATERAL SCOUR	9	213	7.8	0.68	1,605	0	7	14	42	2	0	35
POOL-PLUNGE	2	44	8.3	0.85	364	0	13	23	41	0	0	23
RIFFLE	9	235	6.9	0.26	1,465	0	5	7	57	4	1	26
STEP/COBBLE	1	5	9.5	0.15	48	0	5	5	71	19	0	0
STEP/LOG	2	1	10.0	0.04	12	0	5	19	22	0	0	54
STEP/STRUCTURE	1	1	10.0	0.40	10	0	20	30	50	0	0	0
Total:	28	663	7.8	0.48	5,261	0	Avg: 8	15	48	3	0	27

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	3	156	10.0	0.92	1,750	33.26%	0	0.0	
Scour Pools	11	257	7.9	0.71	1,969	37.43%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	9	235	6.9	0.26	1,465	27.86%	0	0.0	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	1	9	0.8	0.05	7	0.14%	0	0.0	
Step/Falls	4	7	9.9	0.16	69	1.32%	0	0.0	
Dry	0	0			0	0.00%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

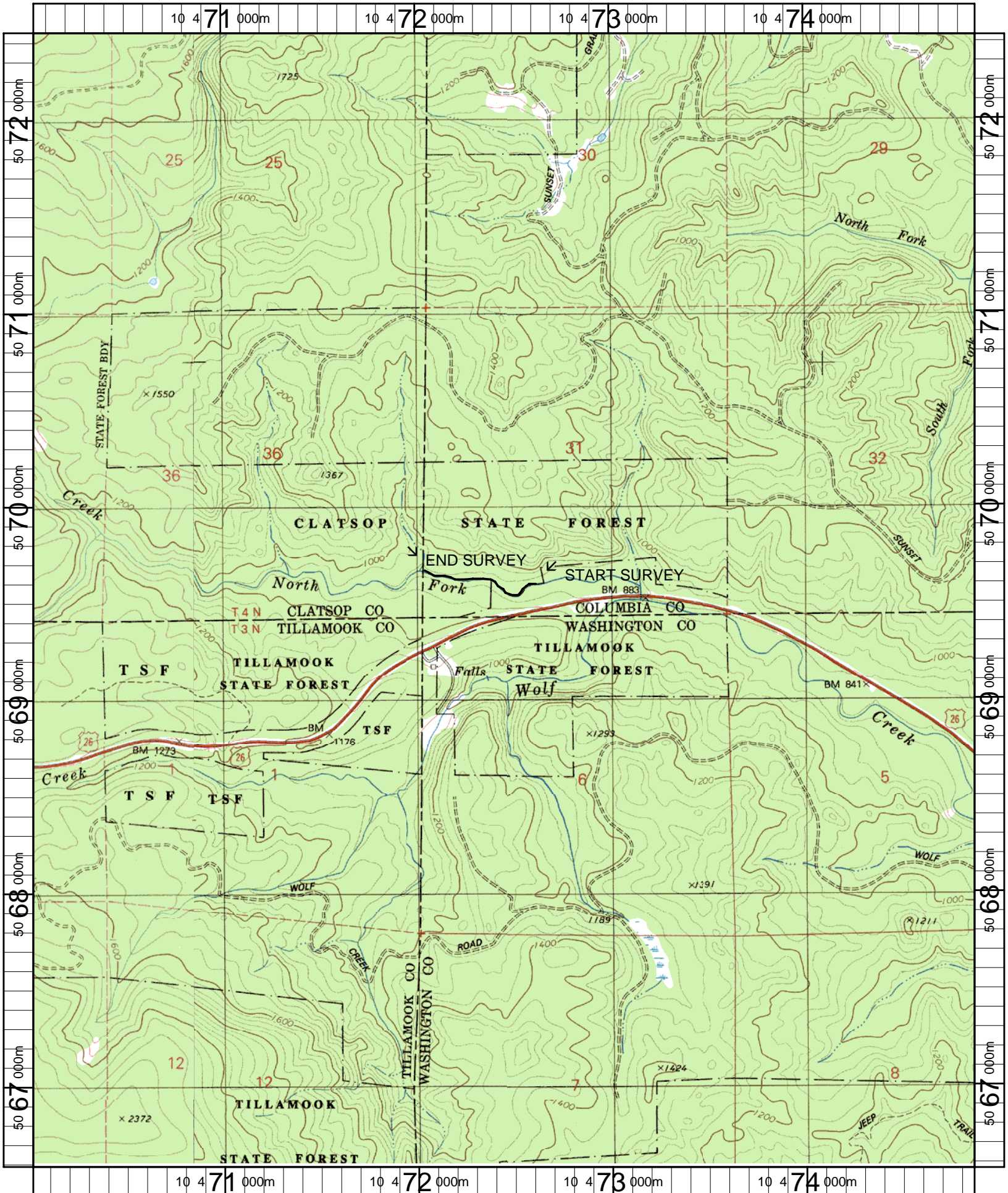
POOL SUMMARY			
	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	14	21.1	21.4
Pools >=1m deep:	1	1.5	1.5
Complex pools (LWD pieces>=3):	8	12.1	12.2
Pool frequency (channel widths/pool):	4.1		
Residual pool depth (avg):	0.59		

Comment Summary

Restoration Monitoring Sites 2007

MONITORING AREA: 1-NC SITE ID: 95 NORTH FORK WOLF CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR
6	BP	00	174.7	BV	
18	CB	11	462.5	TJ/	



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

Location: 10 0472448 E 5069511 N
 Caption: NORTH FORK WOLF CREEK RESTORATION SITE - NEHALEM BASIN