

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

STREAM: North Fork Wolf Creek (N-95)  
BASIN: Nehalem River  
SURVEY TYPE: Post-Tx  
DATE: August 2, 2007  
SURVEY CREW: Trevor Diemer, Nathan Wilson  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 19.0 km<sup>2</sup>  
USGS MAPS: Clear Creek  
ECOREGION: Coast Range Willapa Hills

**GENERAL DESCRIPTION:**

The North Fork Wolf Creek habitat survey extended 656 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 2.6 (range: 1.0-5.0). Land use for the reach was large (30-50 cm dbh) and mature (50-90 cm dbh) trees. The average unit gradient was 1.1 percent. Scour pools (53%) and riffles (28%) dominated stream habitat. Gravel (52%) and sand (23%) dominated stream substrate. Wood volume was low at 12.0 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.

REACH 1      T04N-R05W-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	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	2.6	VWI Range:	1 - 5

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary Channel	656	4,264	1
Secondary Channel	0	0	0
Off-Channel Units	2	4	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 4
Width: 6.0	Width: 8.1	9.7 ( 8 - 12 )	11.4 ( 9 - 14 )
Depth: 0.36	Height: 0.4	0.8 ( 0.7 - 0.8 )	1.1 ( 1 - 1.2 )

W:D ratio: 20.6      Entrenchment (ACW:FPW ratio): 1.2  
Stream Flow Type: LF      Habitat Units/100m (total channel length): 5.2  
Average Unit Gradient: 1.1%      Habitat Units/100m (primary channel length): 5.2  
Water temperature (°C): 14.0 - 14.0

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	MT
Riparian Vegetation:	D15	G

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	5%	Reach avg: 98%
Undercut Banks:	8%	Range: 64 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	120	18.3
Volume (m <sup>3</sup> ):	79	12.0
Key pieces (>=12m x 0.60m):	1	0.2

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

HABITAT INVENTORY      Report Date: 11/14/2007      Survey Date: 8/2/2007

REACH 1		T04N-R05W-S31SW					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
DRY CHANNEL	1	2	1.0	0.00	2	0	10	30	40	20	0	0
GLIDE	1	15	5.0	0.15	75	0	5	10	70	15	0	0
POOL-BACKWATER	1	2	2.0	0.25	4	0	6	29	65	0	0	0
POOL-DAMMED	1	65	10.0	1.00	650	0	20	45	35	0	0	0
POOL-LATERAL SCOUR	14	281	6.6	0.61	1,925	0	10	22	43	4	0	22
POOL-PLUNGE	2	35	9.5	0.80	340	0	15	30	30	10	0	15
RIFFLE	10	251	4.1	0.07	1,211	0	3	17	65	10	1	6
STEP/BEAVER DAM	1	1	6.0	0.02	5	0	10	35	55	0	0	0
STEP/COBBLE	1	4	7.0	0.02	28	0	10	30	60	0	0	0
STEP/LOG	1	1	7.0	0.02	7	0	0	25	75	0	0	0
STEP/STRUCTURE	1	2	14.0	0.07	21	0	10	45	45	0	0	0
<b>Total:</b>	<b>34</b>	<b>658</b>	<b>6.0</b>	<b>0.36</b>	<b>4,268</b>	<b>0</b>	<b>Avg: 8</b>	<b>23</b>	<b>52</b>	<b>6</b>	<b>0</b>	<b>11</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	2	67	6.0	0.63	654	15.33%	0	0.0	
Scour Pools	16	316	7.0	0.64	2,265	53.08%	0	0.0	
Glides	1	15	5.0	0.15	75	1.76%	0	0.0	
Riffles	10	251	4.1	0.07	1,211	28.38%	0	0.0	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	4	7	8.5	0.03	61	1.42%	0	0.0	
Dry	1	2	1.0	0.00	2	0.05%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	18	27.3	27.4
Pools >=1m deep:	2	3.0	3.0
Complex pools (LWD pieces>=3):	12	18.2	18.3
Pool frequency (channel widths/pool):	4.5		
Residual pool depth (avg):	0.60		

Survey Date 8/2/2007  
Report Date: 11/7/2007

**RIPARIAN ZONE  
VEGETATION SUMMARY**

REACH 1

**Summary of Riparian Zone (0-30m) 5 transects**

Total hardwoods/1000	1000
Total conifers/1000 ft	232
Total conifers >20" dbh/1000 ft	12
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	0.0	4.0	0.0	3.0	0.0	2.6	0.0	9.6
15-30cm	0.2	3.4	0.8	1.4	0.8	1.0	1.8	5.8
30-50cm	0.4	0.6	0.4	0.2	1.0	0.2	1.8	1.0
50-90cm	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.6	8.0	1.2	4.6	2.0	3.8	1.3	5.5

**Canopy closure and ground cover**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	85	80	75
Shrub cover	43	58	55
Grass/forb cover	58	43	45

**Predominant landform in each zone**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	60	70	70
High terrace	40	30	30
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 (%)	24	24	23

**Summary of Riparian Zone (0-30m) for all reaches**

**5 transects**

**Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream**

Total hardwoods/1000	1000
Total conifers/1000 ft	232
Total conifers >20" dbh/1000 ft	12
Total conifers >35" dbh/1000 ft	0

**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	0.0	9.6
15-30cm	1.8	5.8
30-50cm	1.8	1.0
50-90cm	0.2	0.0
>90cm	0.0	0.0

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**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		
1	LT	1	HT	0	90	70	30	Conifer							0472575
								Hardwood	4		2				5069643
1	LT	2	HT	0	95	75	25	Conifer							3D
								Hardwood							
1	LT	3	HT	0	95	70	20	Conifer		1	1				
								Hardwood	3						
1	RT	1	HS	45	75	20	80	Conifer							
								Hardwood		3					
1	RT	2	HS	0	75	50	50	Conifer				2			LOGGING ROAD
								Hardwood	1						
1	RT	3	HS	35	70	50	50	Conifer							
								Hardwood	2						
9	LT	1	HS	25	75	25	75	Conifer		1	1				
								Hardwood	1						
9	LT	2	HS	25	75	40	60	Conifer		4					
								Hardwood							
9	LT	3	HS	20	65	50	50	Conifer			1	1			
								Hardwood							
9	RT	1	HS	35	90	60	40	Conifer							
								Hardwood	4	1					
9	RT	2	HS	20	90	75	25	Conifer							
								Hardwood	2						
9	RT	3	HS	30	90	60	40	Conifer			1				LOGGING ROAD
								Hardwood	3						
24	LT	1	HS	45	80	70	30	Conifer							
								Hardwood	4						
24	LT	2	HS	50	90	80	20	Conifer							
								Hardwood	3	2					
24	LT	3	HS	45	90	75	25	Conifer							
								Hardwood	2	3					
24	RT	1	HT	0	90	20	80	Conifer							
								Hardwood	4		1				
24	RT	2	HT	0	80	40	60	Conifer							
								Hardwood	4						
24	RT	3	HT	0	70	50	50	Conifer							
								Hardwood	3						

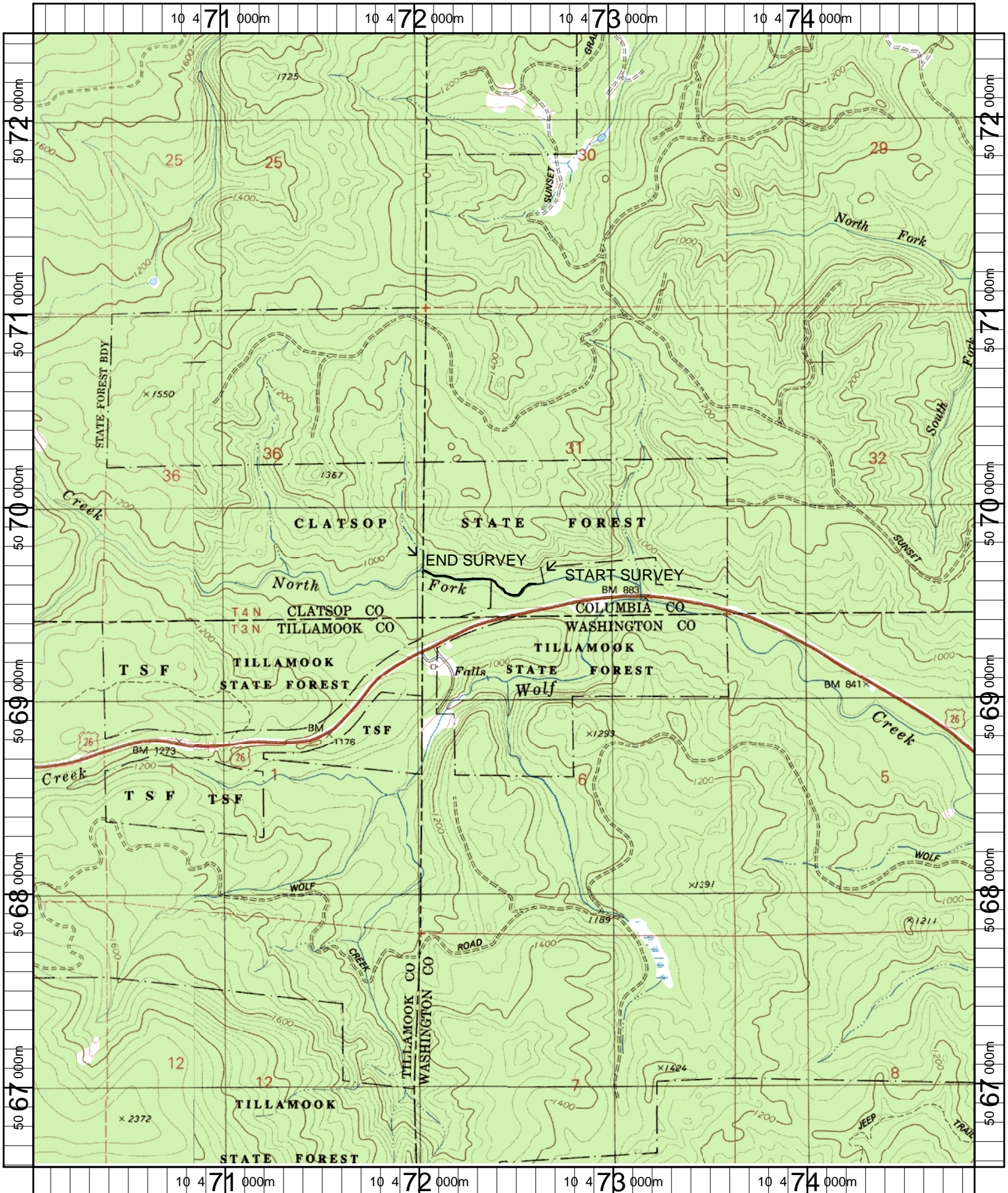
30	LT	1	HS	35	90	40	60	Conifer		1	0472150
								Hardwood	4		5069649
30	LT	2	HS	20	95	50	50	Conifer			3D
								Hardwood	2		
30	LT	3	HS	15	95	40	60	Conifer		3	1
								Hardwood			
30	RT	1	HT	0	90	10	90	Conifer			
								Hardwood	1		
30	RT	2	HS	55	85	75	25	Conifer			
								Hardwood	2	1	
30	RT	3	HS	35	70	80	20	Conifer			1
								Hardwood	1		
35	LT	1	HT	0	85	40	60	Conifer			
								Hardwood	3	4	
35	LT	2	HS	65	80	75	25	Conifer			
								Hardwood	3	3	
35	LT	3	HS	45	70	50	50	Conifer			
								Hardwood	1	1	
35	RT	1	HS	55	85	70	30	Conifer			
								Hardwood	4		
35	RT	2	HT	0	35	15	85	Conifer			LOGGING ROAD
								Hardwood			
35	RT	3	HT	0	35	20	80	Conifer			LOGGING ROAD
								Hardwood			

COMMENT SUMMARY

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

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
2	RI	00	53	HS	
3	PP	00	72	HS	
4	SS	00	73.5	HS, BV	
6	LP	00	173.5	BV	
8	LP	00	223.5	BV	
16	LP	00	351.5	HS	
18	LP	00	391.5	HS	
21	LP	00	421.5	HS	
22	SC	00	425.5	HS	
23	LP	00	433.5	HS	
24	RI	00	463.5	HS	
25	SD	00	464.25	BD	
26	LP	00	490.25	HS	





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