

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: Pre-Tx  
DATE: July 3, 2001  
SURVEY CREW: Sean Allen, Rachel Werner  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 20.7 km<sup>2</sup>  
USGS MAPS: Clear Creek  
ECOREGION: Coast Range Volcanic

GENERAL DESCRIPTION:

The North Fork Wolf Creek habitat survey extended 662 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 3.2 (range: 2.0-5.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 0.9 percent. Scour pools (67%) and riffles (30%) dominated stream habitat. Bedrock (27%), gravel (25%) and sand (23%) dominated stream substrate. Wood volume was low at 9.8 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

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	100
Moderate V-shape	0	Multiple Terraces	0
Open V-shape	0	Wide Floodplain	0

Valley Width Index avg: 3.2 range: 2.0-5.0

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	662	3,583	0
Secondary	4	14	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	5.1	Width	10.5	13.7	16.1
Depth	0.32	Height	0.6	1.1	1.4
		W:D ratio	18.3	Entrenchment	1.4

Stream Flow Type: LF Water Temp: 11.0-11.0°C  
Avg. Unit Gradient: 0.9% Habitat Units/100m: 4.1

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	22%	Reach avg: 99%
Undercut Banks	9%	Range: 75-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces ( $\geq 3m \times 0.15m$ )	94	14.2
Volume (m <sup>3</sup> )	65	9.8
Key pieces ( $\geq 10m \times 0.6m$ )	3	0.5

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 <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbbl	Bldr	Bdrk
POOL-BACKWATER	1	4	3.3	0.10	14	0	30	70	0	0	0	0
POOL-LATERAL SCOUR	9	277	6.2	0.55	1,713	0	9	29	22	10	1	29
POOL-STRAIGHT SCOUR	4	106	6.4	0.48	696	0	9	27	20	12	1	31
RAPID/BEDROCK	2	25	3.8	0.15	99	1	3	5	8	10	5	70
RIFFLE	9	211	4.3	0.13	894	0	5	16	37	22	2	18
RIFFLE W/ POCKETS	2	44	4.2	0.15	182	0	5	18	23	25	0	30
<b>Total:</b>	<b>27</b>	<b>666</b>	<b>5.1</b>	<b>0.32</b>	<b>3,596</b>	<b>1</b>	<b>Avg: 8</b>	<b>23</b>	<b>25</b>	<b>15</b>	<b>1</b>	<b>27</b>

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m <sup>2</sup> )	Percent	Large Boulders Number	#/100m <sup>2</sup>
Dammed & BW Pools	1	4	3.3	0.10	14	0.38	0	0.0
Scour Pools	13	382	6.2	0.53	2,408	66.96	0	0.0
Glides	0	0	-	-	0	0.00	0	0.0
Riffles	11	255	4.3	0.13	1,076	29.92	0	0.0
Rapids	2	25	3.8	0.15	99	2.74	1	1.0
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	0	0	-	-	0	0.00	0	0.0
Dry	0	0	-	-	0	0.00	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	14	<u>#/Km</u>	21.0
Pools ≥1m deep:		0		0.0
Complex pools (LWD pieces ≥3):		7		10.5
Pool Frequency (channel widths/pool):		4.5		
Residual pool depth (avg)		0.46m		

STREAM SUMMARY

NORTH FORK WOLF PRE-TX (#95)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Substrate Percent Wetted Area						Total Large Boulder
					S/O	Sand	Grvl	Cbbl	Bldr	Bdrk	
27	666	5.1	0.32	3,596	8	23	25	15	1	27	1

Wetted Area

Habitat Group	(m <sup>2</sup> )	Percent
Scour Pool	2,408	67.0
Backwater Pools	14	0.4
Glide	0	0.0
Riffle	1,076	29.9
Rapid	99	2.7
Cascade	0	0.0
Step	0	0.0
Dry	0	0.0

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REACH 1 RIPARIAN ZONE VEGETATION SUMMARY REACH 1

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

Total hardwoods/1000 ft	1,260
Total conifers/1000 ft	284
Total conifers >20" dbh/1000 ft	20
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	2.3	0.7	1.7	1.0	2.7	1.7	6.7
15-30cm	0.0	4.3	0.0	4.7	0.3	3.7	0.3	12.7
30-50cm	1.3	1.3	0.3	0.0	0.7	0.0	2.3	1.3
50-90cm	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m <sup>2</sup>	1.3	8.0	1.0	6.3	2.3	6.3	1.6	6.9

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	78		70		65	
Shrub cover	8		32		26	
Grass/forb cover	89		67		64	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	17		67		50
High terrace	67		33		33	
Low terrace	17		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		17	
Riprap	0		0		0	
Surface slope (%)	8		39		41	

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

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

Total hardwoods/1000 ft	1,260
Total conifers/1000 ft	284
Total conifers >20" dbh/1000 ft	20

Average number of trees in a 5-meter wide band

<u>Diameter</u> <u>class (cm)</u>	<u>Zones 1-3</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	1.7	6.7
15-30cm	0.3	12.7
30-50cm	2.3	1.3
50-90cm	0.3	0.0
>90cm	0.0	0.0

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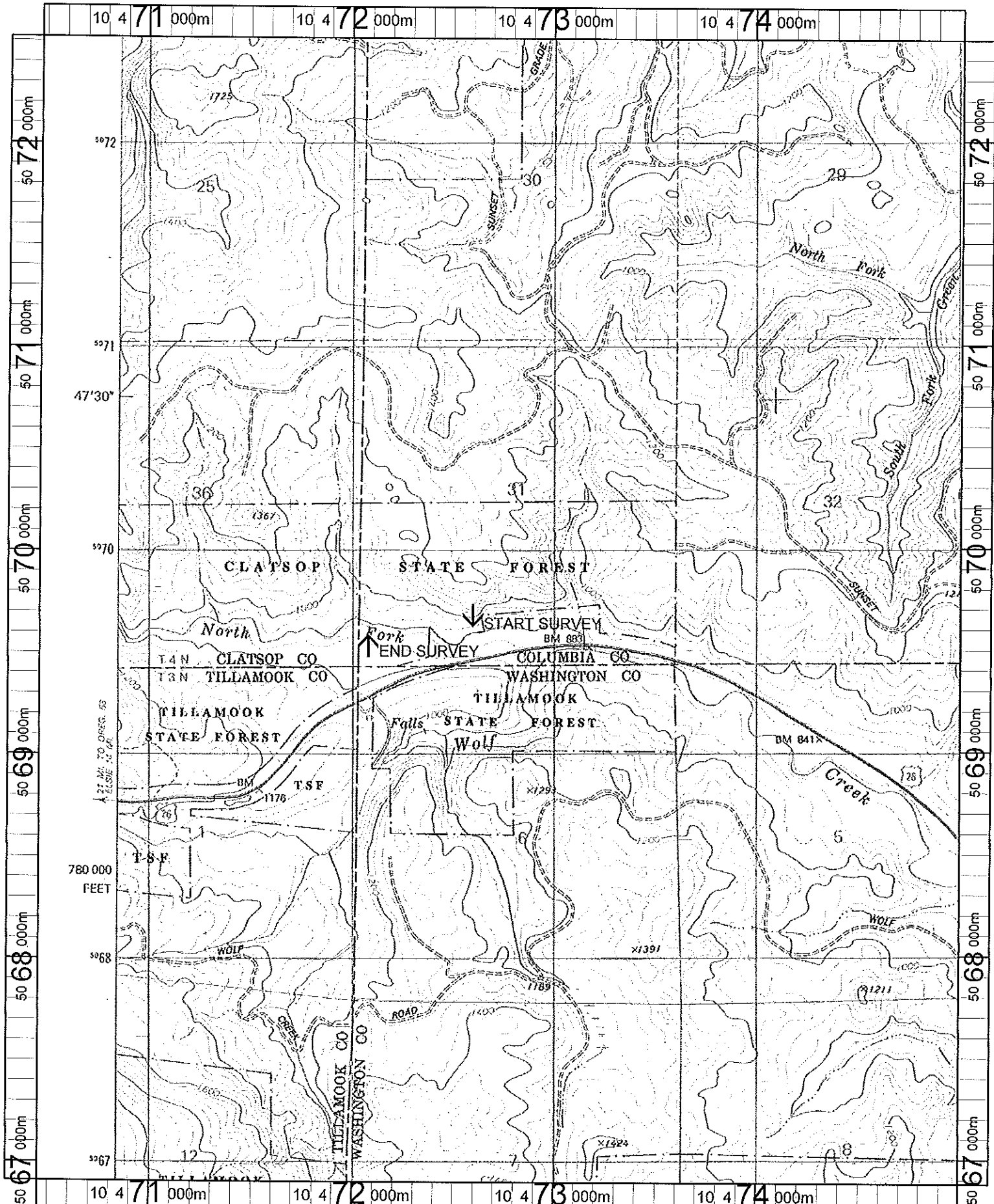
RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

VEGETATION DETAIL

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	
5	LF	1	HS	11.0	75	15	80	Conifer	0	0	4	0	0	
								Hardwood	1	0	0	0	0	
5	LF	2	HS	120.0	85	10	85	Conifer	0	0	1	0	0	
								Hardwood	0	0	0	0	0	
5	LF	3	HS	125.0	85	10	85	Conifer	0	0	0	0	0	
								Hardwood	0	4	0	0	0	
5	RT	1	LT	0.0	80	10	90	Conifer	0	0	0	0	0	
								Hardwood	0	5	0	0	0	
5	RT	2	HT	15.0	70	60	40	Conifer	0	0	0	0	0	
								Hardwood	0	6	0	0	0	
5	RT	3	HT	8.0	80	70	20	Conifer	0	0	0	1	0	
								Hardwood	0	4	0	0	0	
10	LF	1	HT	10.0	75	5	85	Conifer	0	0	0	0	0	
								Hardwood	3	3	0	0	0	
10	LF	2	HT	4.0	85	5	90	Conifer	0	0	0	0	0	
								Hardwood	0	2	0	0	0	
10	LF	3	HT	9.0	85	5	90	Conifer	0	1	2	0	0	
								Hardwood	4	0	0	0	0	VINE MAPLE
10	RT	1	HT	6.0	85	10	90	Conifer	0	0	0	0	0	
								Hardwood	1	0	2	0	0	
10	RT	2	HS	20.0	75	60	40	Conifer	1	0	0	0	0	
								Hardwood	0	3	0	0	0	
10	RT	3	RB	8.0	20	0	60	Conifer	2	0	0	0	0	
								Hardwood	0	0	0	0	0	
14	LF	1	HT	10.0	75	5	95	Conifer	0	0	0	0	0	
								Hardwood	2	5	2	0	0	
14	LF	2	HS	62.0	80	10	90	Conifer	1	0	0	0	0	
								Hardwood	5	3	0	0	0	
14	LF	3	HS	60.0	80	30	70	Conifer	0	0	0	0	0	
								Hardwood	2	3	0	0	0	
14	RT	1	HT	11.0	80	5	95	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
14	RT	2	HS	12.0	25	45	55	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
14	RT	3	HS	35.0	40	40	60	Conifer	1	0	0	0	0	
								Hardwood	2	0	0	0	0	



Name: CLEAR CREEK  
 Date: 1/10/2002  
 Scale: 1 inch equals 2000 feet

Location: 10 472734 E 5069701 N  
 Caption: NORTH FORK WOLF CREEK RESTORATION SITE -  
 NEHALEM BASIN