

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

STREAM: Little North Fork Nehalem River (NC-124)  
BASIN: Nehalem River  
SURVEY TYPE: Pre-Tx  
DATE: August 27, 2001  
SURVEY CREW: Rachel Werner, Sean Allen  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 25.0 km<sup>2</sup>  
USGS MAPS: Saddle Mountain  
ECOREGION: Coast Range Sitka Spruce

**GENERAL DESCRIPTION:**

The Little North Fork Nehalem River habitat survey extended 521 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 7.4 (range: 3.5 – 15.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 0.9 percent. Scour pools (64%) and riffles (32%) dominated stream habitat. Gravel (47%) and cobble (36%) dominated stream substrate. Wood volume was very low at 3.8 m<sup>3</sup>/100m.

**COMMENTS:**

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

REACH 1

T4N-R8W-S29SW

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 avg: 7.4 range: 3.5-15.0

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	521	3,168	0
Secondary	95	92	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u>	<u>First Terrace</u>
Width 4.7	Width 12.7	19.7	19.3
Depth 0.44	Height 0.6	1.2	1.4
	W:D ratio 21.8	Entrenchment 1.6	

Stream Flow Type: LF Water Temp: 13.0-13.0°C  
 Avg. Unit Gradient: 0.9% Habitat Units/100m: 4.4

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	21%	Reach avg: 98%
Undercut Banks	8%	Range: 75-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces (≥3m x 0.15m)	41	7.9
Volume (m <sup>3</sup> )	20	3.8
Key pieces (≥10m x 0.6m)	0	0.0

REACH 1

T4N-R8W-S29SW

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	2	13	2.9	0.20	38	0	13	20	63	5	0	0
POOL-LATERAL SCOUR	9	254	5.9	0.74	1,642	0	1	8	41	44	5	2
POOL-STRAIGHT SCOUR	4	75	5.5	0.73	435	0	0	4	48	40	6	3
PUDDLED CHANNEL	1	56	0.6	0.25	34	0	30	65	5	0	0	0
RAPID/BOULDERS	1	18	3.3	0.15	59	0	0	0	30	65	5	0
RIFFLE	10	200	4.3	0.16	1,052	2	0	4	54	36	6	2
<b>Total:</b>	<b>27</b>	<b>616</b>	<b>4.7</b>	<b>0.44</b>	<b>3,260</b>	<b>2</b>	<b>Avg: 2</b>	<b>8</b>	<b>47</b>	<b>36</b>	<b>5</b>	<b>1</b>

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m <sup>2</sup> )	Percent	Large Number	Boulders #/100m <sup>2</sup>
Dammed & BW Pools	2	13	2.9	0.20	38	1.16	0	0.0
Scour Pools	13	329	5.8	0.73	2,077	63.73	0	0.0
Glides	0	0	-	-	0	0.00	0	0.0
Riffles	10	200	4.3	0.16	1,052	32.26	2	0.2
Rapids	1	18	3.3	0.15	59	1.82	0	0.0
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	0	0	-	-	0	0.00	0	0.0
Dry	1	56	0.6	0.25	34	1.03	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	15	24.4
Pools ≥1m deep:	4	6.5
Complex pools (LWD pieces ≥3):	5	8.1
Pool Frequency (channel widths/pool):	3.2	
Residual pool depth (avg)	0.60m	

STREAM SUMMARY

L NF NEHALEM PRE-TX (#124)

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	616	4.7	0.44	3,260	2	8	47	36	5	1	2

Wetted Area

Habitat Group	(m <sup>2</sup> )	Percent
Scour Pool	2,077	63.7
Backwater Pools	38	1.2
Glide	0	0.0
Riffle	1,052	32.3
Rapid	59	1.8
Cascade	0	0.0
Step	0	0.0
Dry	34	1.0

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REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	1,240
Total conifers/1000 ft	549
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	1.0	2.0	0.7	5.3	1.7	4.7	3.3	12.0
15-30cm	0.0	4.0	1.0	2.7	2.3	1.3	3.3	8.0
30-50cm	0.0	0.0	1.3	0.0	0.7	0.0	2.0	0.0
50-90cm	0.0	0.0	0.3	0.0	0.0	0.3	0.3	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m <sup>2</sup>	1.0	6.0	3.3	8.0	4.7	6.3	3.0	6.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	88		91		90	
Shrub cover	33		20		24	
Grass/forb cover	58		38		59	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	50		50		50
High terrace	33		50		50	
Low terrace	17		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 (%)	15		32		18	

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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	1,240
Total conifers/1000 ft	549
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	3.3	12.0
15-30cm	3.3	8.0
30-50cm	2.0	0.0
50-90cm	0.3	0.3
>90cm	0.0	0.0

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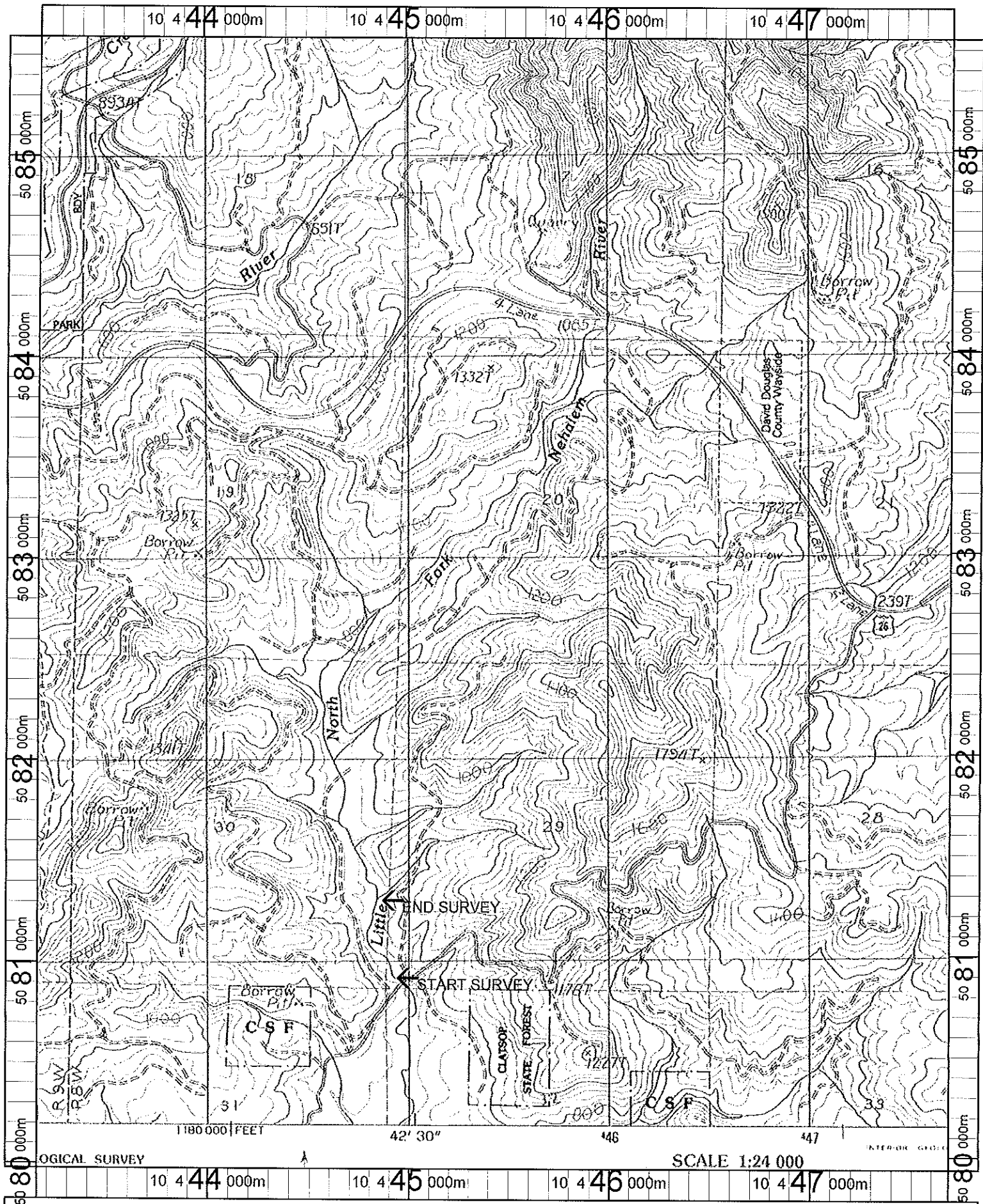
RIPARIAN ZONE VEGETATION

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	HT	7.0	90	15	95	Conifer	0	0	0	0	0	
								Hardwood	1	4	0	0	0	
5	LF	2	HT	1.0	90	30	70	Conifer	0	0	0	0	0	
								Hardwood	1	2	0	0	0	
5	LF	3	HT	0.0	90	35	65	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	1	0	
5	RT	1	HS	12.0	80	40	50	Conifer	0	0	0	0	0	
								Hardwood	0	1	0	0	0	
5	RT	2	HS	60.0	95	5	5	Conifer	0	0	2	1	0	
								Hardwood	0	0	0	0	0	
5	RT	3	HS	15.0	80	40	25	Conifer	2	5	0	0	0	
								Hardwood	0	0	0	0	0	
12	LF	1	HS	18.0	90	70	25	Conifer	1	0	0	0	0	
								Hardwood	1	2	0	0	0	
12	LF	2	HS	70.0	95	5	5	Conifer	1	1	2	0	0	
								Hardwood	1	0	0	0	0	
12	LF	3	HS	35.0	95	10	75	Conifer	2	2	0	0	0	
								Hardwood	2	2	0	0	0	
12	RT	1	HT	7.0	95	0	85	Conifer	2	0	0	0	0	
								Hardwood	2	1	0	0	0	
12	RT	2	HT	3.0	95	5	90	Conifer	1	2	0	0	0	
								Hardwood	6	2	0	0	0	
12	RT	3	HT	6.0	95	5	90	Conifer	1	0	0	0	0	
								Hardwood	9	0	0	0	0	VINE MAPLE
20	LF	1	LT	2.0	85	15	65	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
20	LF	2	HT	5.0	85	45	45	Conifer	0	0	0	0	0	
								Hardwood	8	4	0	0	0	
20	LF	3	HT	12.0	95	10	70	Conifer	0	0	0	0	0	
								Hardwood	3	2	0	0	0	
20	RT	1	HS	45.0	85	55	30	Conifer	0	0	0	0	0	
								Hardwood	2	4	0	0	0	
20	RT	2	HS	55.0	85	30	10	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
20	RT	3	HS	40.0	85	45	30	Conifer	0	0	2	0	0	
								Hardwood	0	0	0	0	0	



Name: SADDLE MT  
 Date: 1/10/2002  
 Scale: 1 inch equals 2000 feet

Location: 10 445438 E 5082764 N  
 Caption: LITTLE NORTH FORK NEHALEM RIVER  
 RESTORATION SITE - NEHALEM BASIN