

**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: Post-Tx  
DATE: July 9, 2002  
SURVEY CREW: Jon Baldwin, Rachel Werner  
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 566 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 4.6 (range: 2.6 – 7.3). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 0.8 percent. Scour pools (62%) and riffles (26%) dominated stream habitat. Gravel (37%) and cobble (29%) dominated stream substrate. Wood volume was low at 19.9 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.

REACH 1

T05N-R08W-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	4.6	VWI Range:	2.6 - 7.3

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	566	3,356	0
Secondary	130	297	3

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	4.7	Width	10.8	23.5	25.4
Depth	0.48	Height	0.7	1.4	1.5
		W:D ratio	15.0	Entrenchment	2.2
Stream Flow Type:	LF	Water temp (C): 11.0 - 11.0			
Avg. Unit Gradient:	0.8%	Habitat Units/100m: 6.7			

**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:	3%	Reach avg: 98%
Undercut Banks:	15%	Range: 78 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m</u>
All pieces (>=3m x 0.15m):	83	14.7
Volume (m <sup>3</sup> ):	112	19.9
Key pieces (>=10m x 0.60m):	14	2.5

OREGON DEPARTMENT OF FISH AND WILDLIFE

L. NF NEHALEM RIVER POST-TX (NC-124)

HABITAT INVENTORY

Report Date: 3/17/03

Survey Date:

7/9/02

REACH 1		T05N-R08W-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	Cbl	Bldr	Bdrk	
DRY UNIT	2	25	1.6	0.00	29	0	28	43	25	5	0	0	
POOL-ALCOVE	1	12	6.5	0.45	75	0	75	10	10	5	0	0	
POOL-BACKWATER	4	20	4.2	0.44	108	0	39	24	15	21	1	0	
POOL-ISOLATED	1	2	1.6	0.25	4	0	95	5	0	0	0	0	
POOL-LATERAL SCOUR	15	366	5.3	0.83	2,020	2	6	16	41	29	5	4	
POOL-STRAIGHT SCOUR	3	46	5.0	0.55	238	0	7	12	42	35	3	2	
PUDDLED UNIT	1	11	2.0	0.10	22	0	10	55	30	5	0	0	
RAPID/BOULDERS	5	58	3.5	0.10	214	0	0	5	53	38	4	0	
RIFFLE	6	156	6.2	0.14	944	0	1	6	43	45	4	1	
<b>Total:</b>	<b>38</b>	<b>696</b>	<b>4.7</b>	<b>0.48</b>	<b>3,654</b>	<b>2</b>	<b>Avg 13</b>	<b>15</b>	<b>37</b>	<b>29</b>	<b>3</b>	<b>2</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	6	34	4.2	0.41	186	5.10%	0	0.0	
Scour Pools	18	412	5.3	0.79	2,258	61.81%	2	0.1	
Glides	0	0			0	0.00%	0	0.0	
Riffles	6	156	6.2	0.14	944	25.82%	0	0.0	
Rapids	5	58	3.5	0.10	214	5.86%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	0	0			0	0.00%	0	0.0	
Dry	3	36	1.7	0.03	51	1.41%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY		
	<u>Total</u>	<u># / Km</u>
All Pools:	24	42.4
Pools >=1m deep:	5	8.8
Complex pools (LWD pieces>=3):	6	10.6
Pool frequency (channel widths/pool):	2.7	
Residual pool depth (avg):	0.67	

**RIPARIAN ZONE VEGETATION SUMMARY**

**REACH 1** **REACH 1**

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

Total hardwoods/1000	752
Total conifers/1000 ft	386
Total conifers >20" dbh/1000 ft	122
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	1.0	0.0	3.3	1.3	0.0	1.3	4.3
15-30cm	0.7	3.7	0.3	1.3	0.3	0.0	1.3	5.0
30-50cm	0.0	1.7	0.7	0.0	1.0	0.3	1.7	2.0
50-90cm	0.0	0.3	0.7	0.3	1.3	0.3	2.0	1.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.7	6.7	1.7	5.0	4.0	0.7	2.1	4.1

**Canopy closure and ground cover**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	98	98	100
Shrub cover	41	16	4
Grass/forb cover	59	65	59

**Predominant landform in each zone**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	17	33	67
High terrace	67	67	33
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 (%)	7	13	29

**RIPARIAN ZONE VEGETATION**

Reach 1

Reach 1

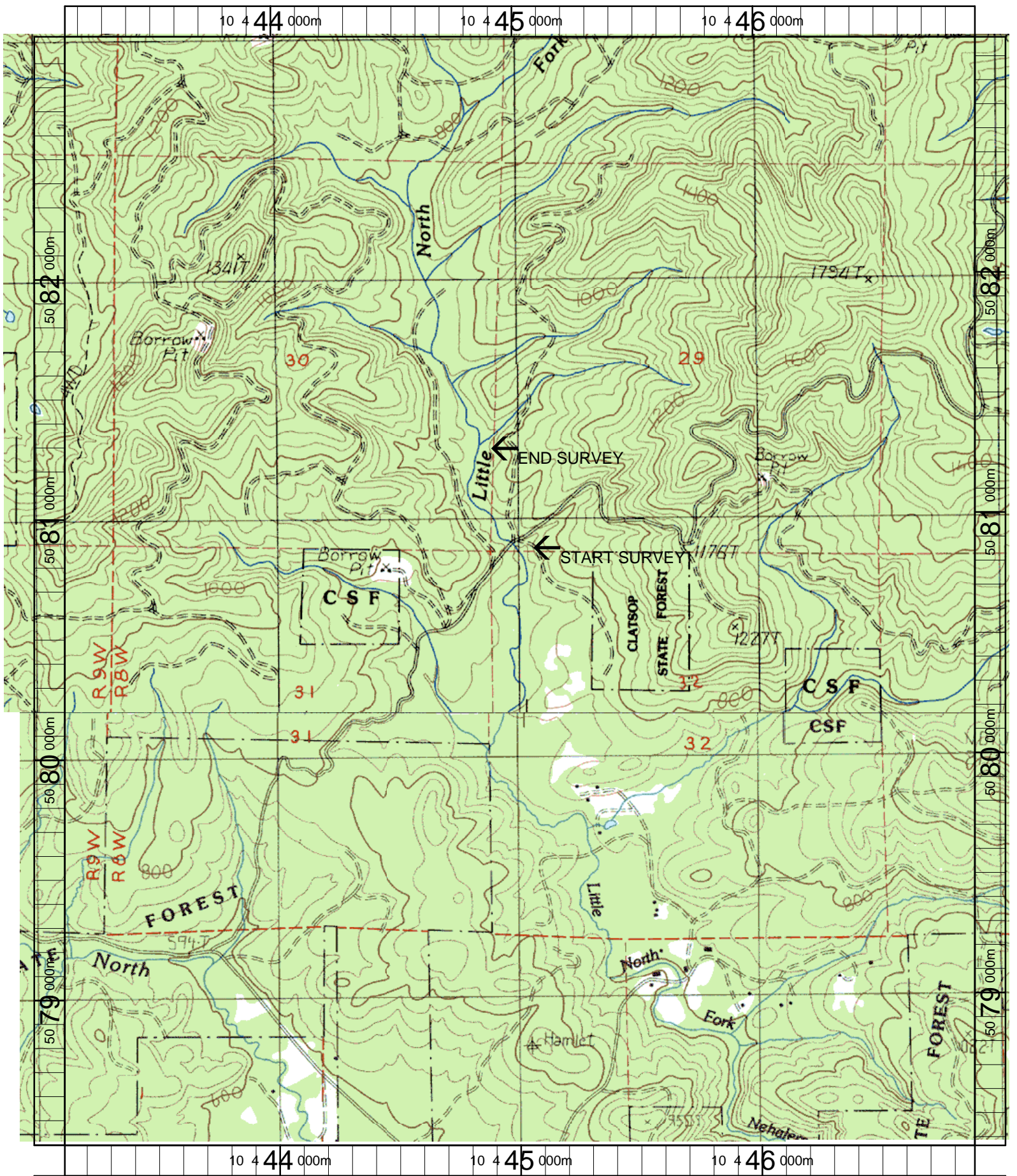
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
9	LF	1	HT	4	95	30	70	Conifer							
								Hardwood				1			
9	LF	2	HT	2	100	30	70	Conifer							
								Hardwood		2		1			
9	LF	3	HT	-1	100	5	95	Conifer							
								Hardwood				1			
9	RT	1	LT	10	100	20	80	Conifer							
								Hardwood		4	3				
9	RT	2	HT	-3	100	20	75	Conifer							
								Hardwood	1	1					
9	RT	3	HS	65	100	0	10	Conifer				1	2		
								Hardwood							
16	LF	1	HS	10	95	60	40	Conifer							
								Hardwood		3					
16	LF	2	HS	55	100	2	50	Conifer					1		
								Hardwood							
16	LF	3	HS	75	100	0	5	Conifer	4	1	1	1			
								Hardwood							
16	RT	1	HT	6	100	60	40	Conifer			1				
								Hardwood	1	4					
16	RT	2	HT	4	90	30	70	Conifer							
								Hardwood		1					
16	RT	3	HT	2	100	15	85	Conifer							
								Hardwood			1				
25	LF	1	HT	1	100	30	70	Conifer							ELDERBERRY
								Hardwood	2						
25	LF	2	HT	4	100	10	75	Conifer			1		1		
								Hardwood	2						
25	LF	3	HS	7	100	2	95	Conifer							
								Hardwood							
25	RT	1	HT	10	100	45	55	Conifer			1				
								Hardwood				2			
25	RT	2	HS	18	100	2	48	Conifer				2			
								Hardwood	7						
25	RT	3	HS	24	100	2	63	Conifer				1	1		
								Hardwood							

# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: 1-NC      SITE ID: 124      L. NF NEHALEM RIVER POST-TX (NC)

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	01	35.4	HS, DJ	T = 11	
2	AL	10	35.4	/SS		
5	RI	00	64.9	HS		
6	LP	00	80.7			SPLIT CHANNEL
7	LP	00	92.9	HS		
8	RI	00	131.9			PUDDLED, MUDDY SPLIT CH
9	LP	01	154	DJ	OLD ROAD ON HIGH TER	RIPARIAN #1
11	RI	00	184.2			SUBUNIT POOL .45M DEEP
12	RB	01	194.5	HS		
14	LP	00	229.8	HS		
15	LP	00	256.9	HS, DJ		
16	RI	00	267.4			RIPARIAN #2
18	RI	01	312.2	SS/		
24	RI	00	383			SPLIT CHANNEL
25	LP	01	410.7	DJ		RIPARIAN #3
26	RB	11	410.7		TRIBUTARY	TRIBUTARY UNIT
28	BW	10	427.1	/SS		COHO FRY
30	LP	01	477.4	HS		COHO
38	RB	11	565.5			TRIB UNIT



Name: SADDLE MT  
 Date: 3/20/2003  
 Scale: 1 inch equals 1666 feet

Location: 10 445010 E 5080692 N  
 Caption: LITTLE NORTH FORK NEHALEM RIVER RESTORATION  
 SITE - NEHALEM BASIN