

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

STREAM: Little Joe Creek (NC-174)  
BASIN: Necanicum River  
SURVEY TYPE: Post-Tx  
DATE: July 8, 2003  
SURVEY CREW: Ben Walczak, Trevor Diemer  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 2.3 km<sup>2</sup>  
USGS MAPS: Necanicum Jct.  
ECOREGION: Coast Range Sitka Spruce

**GENERAL DESCRIPTION:**

The Little Joe Creek habitat survey extended 611 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 4.5 (range: 4.0-6.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 2.6 percent. Scour pools (42%) and rapids (36%) dominated stream habitat. Gravel (45%) and cobble (34%) dominated stream substrate. Wood volume was very high at 47.6 m<sup>3</sup>/100m.

**COMMENTS:**

There was one potential natural barrier to upstream fish migration in the surveyed length, as a debris jam located at unit 29, 390 m upstream from the start of the survey.

The crew noted several habitat structures during the survey.

REACH 1

T05N-R09W-S26SE

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	4.5	VWI Range:	4 - 6

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	611	2,385	0
Secondary	4	9	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	3.8	Width	6.5	9.1	10.6
Depth	0.25	Height	0.5	1.0	1.3
		W:D ratio	12.3	Entrenchment	1.5

Stream Flow Type:	LF	Water temp (C):	-
Avg. Unit Gradient:	2.6%	Habitat Units/100m:	6.0

**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:	14%	Reach avg: 100%
Undercut Banks:	5%	Range: 94 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m</u>
All pieces (>=3m x 0.15m):	89	14.6
Volume (m <sup>3</sup> ):	291	47.6
Key pieces (>=10m x 0.60m):	31	5.1

OREGON DEPARTMENT OF FISH AND WILDLIFE

LITTLE JOE CREEK POST-TX (N-174)

HABITAT INVENTORY

Report Date: 12/17/03

Survey Date:

7/8/03

REACH 1

T05N-R09W-S26SE

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
CULVERT CROSSING	1	19	2.6	0.20	49	25	10	10	30	30	20	0
POOL-ISOLATED	1	4	2.2	0.60	9	0	20	20	60	0	0	0
POOL-LATERAL SCOUR	12	188	4.1	0.50	975	12	7	17	53	21	1	2
POOL-PLUNGE	1	5	7.6	0.40	36	0	10	15	50	25	0	0
RAPID/BOULDERS	14	266	3.2	0.10	858	35	0	9	38	45	8	0
RIFFLE	5	125	3.3	0.10	408	16	0	9	43	39	6	3
STEP/COBBLE	2	8	5.3	0.10	52	0	0	8	43	50	0	0
STEP/LOG	1	1	7.6	0.05	8	0	0	10	55	35	0	0
<b>Total:</b>	<b>37</b>	<b>615</b>	<b>3.8</b>	<b>0.25</b>	<b>2,395</b>	<b>88</b>	<b>Avg 3</b>	<b>12</b>	<b>45</b>	<b>34</b>	<b>5</b>	<b>1</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	1	4	2.2	0.60	9	0.40%	0	0.0
Scour Pools	13	193	4.4	0.49	1,011	42.21%	12	1.2
Glides	0	0			0	0.00%	0	0.0
Riffles	5	125	3.3	0.10	408	17.02%	16	3.9
Rapids	14	266	3.2	0.10	858	35.83%	35	4.1
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	3	9	6.0	0.08	60	2.50%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	1	19	2.6	0.20	49	2.05%	25	50.9

POOL SUMMARY

	Total	# / Km
All Pools:	14	22.8
Pools >=1m deep:	0	0.0
Complex pools (LWD pieces>=3):	6	9.8
Pool frequency (channel widths/pool):	6.8	
Residual pool depth (avg):	0.43	

**STREAM SUMMARY**

**LITTLE JOE CREEK POST-TX (N-174)**

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Substrate						Large Boulders (#>0.5m)
					Percent Wetted Area						
					S/O	Snd	Grvl	Cbl	Bldr	Bdrk	
37	615	3.8	0.25	2,395	3	12	45	34	5	1	88

Habitat Group	Wetted Area	
	(m <sup>2</sup> )	Percent
Dammed & BW Pools	9	0.40%
Scour Pools	1,011	42.21%
Glides	0	0.00%
Riffles	408	17.02%
Rapids	858	35.83%
Cascades	0	0.00%
Step/Falls	60	2.50%
Dry	0	0.00%
Culverts	49	2.05%

**RIPARIAN ZONE VEGETATION SUMMARY**

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

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

Total hardwoods/1000	1402
Total conifers/1000 ft	183
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		Zone 2		Zone 3		Zones 1-3	
	0-10 meters		10 - 20 meters		20 - 30 meters		0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	2.7	0.3	4.0	0.3	4.0	0.7	10.7
15-30cm	0.7	6.7	0.3	3.0	0.3	2.0	1.3	11.7
30-50cm	0.0	0.3	0.7	0.3	0.0	0.0	0.7	0.7
50-90cm	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.7	9.7	1.7	7.3	0.7	6.0	1.0	7.7

**Canopy closure and ground cover**

	Zone 1		Zone 2		Zone 3	
	0-10 meters		10 - 20 meters		20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	75		80		67	
Shrub cover	17		13		45	
Grass/forb cover	86		89		91	

**Predominant landform in each zone**

	Zone 1		Zone 2		Zone 3	
	0-10 meters		10 - 20 meters		20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		33		67	
High terrace	100		67		33	
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 (%)	3		8		33	

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

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

Total hardwoods/1000	1402
Total conifers/1000 ft	183
Total conifers >20" dbh/1000 ft	20
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	0.7	10.7
15-30cm	1.3	11.7
30-50cm	0.7	0.7
50-90cm	0.3	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		
11	LF	3	HT	80	5	95									
							Conifer								
							Hardwood	3	1						
11	RT	1	HT	0	80		100								
							Conifer								
							Hardwood	1	2						
11	RT	3	HS	25	85		100								VINE MAPLE
							Conifer								
							Hardwood	4							
11	LF	1	HT	0	80	5	95								10T 0440992 5081310
							Conifer								
							Hardwood	2	3						
11	RT	2	HS	25	80	5	95								VINE MAPLE
							Conifer								
							Hardwood	3							
11	LF	2	HT	0	80	5	95				2	1			
							Conifer								
							Hardwood								
19	RT	2	HT	0	85	20	80								
							Conifer	1							
							Hardwood	1	2						
19	LF	2	HT	0	75	30	70								VINE MAPLE
							Conifer								
							Hardwood	8							
19	LF	3	HS	30	80	20	80								VINE MAPLE
							Conifer								
							Hardwood	5							
19	RT	1	HT	0	70	20	80								
							Conifer								
							Hardwood	1	6	1					
19	RT	3	HS	20	70	20	80								
							Conifer	1	1						
							Hardwood		3						
19	LF	1	HT	0	60	50	50								10T 0440913 5081235
							Conifer								
							Hardwood		5						
28	LF	3	HT	10	80		100								
							Conifer								
							Hardwood		1						
28	LF	1	HT	0	80	5	95								
							Conifer								
							Hardwood	4	4						
28	LF	1	HT	15	80	5	95								POOR COVERAGE
							Conifer								
							Hardwood		2						
28	LF	2	HS	25	80	5	95								
							Conifer								
							Hardwood		4	1					
28	LF	2	HT	0	80		100								
							Conifer								
							Hardwood		3						
28	LF	3	HS	30	80		95								
							Conifer								
							Hardwood		1						

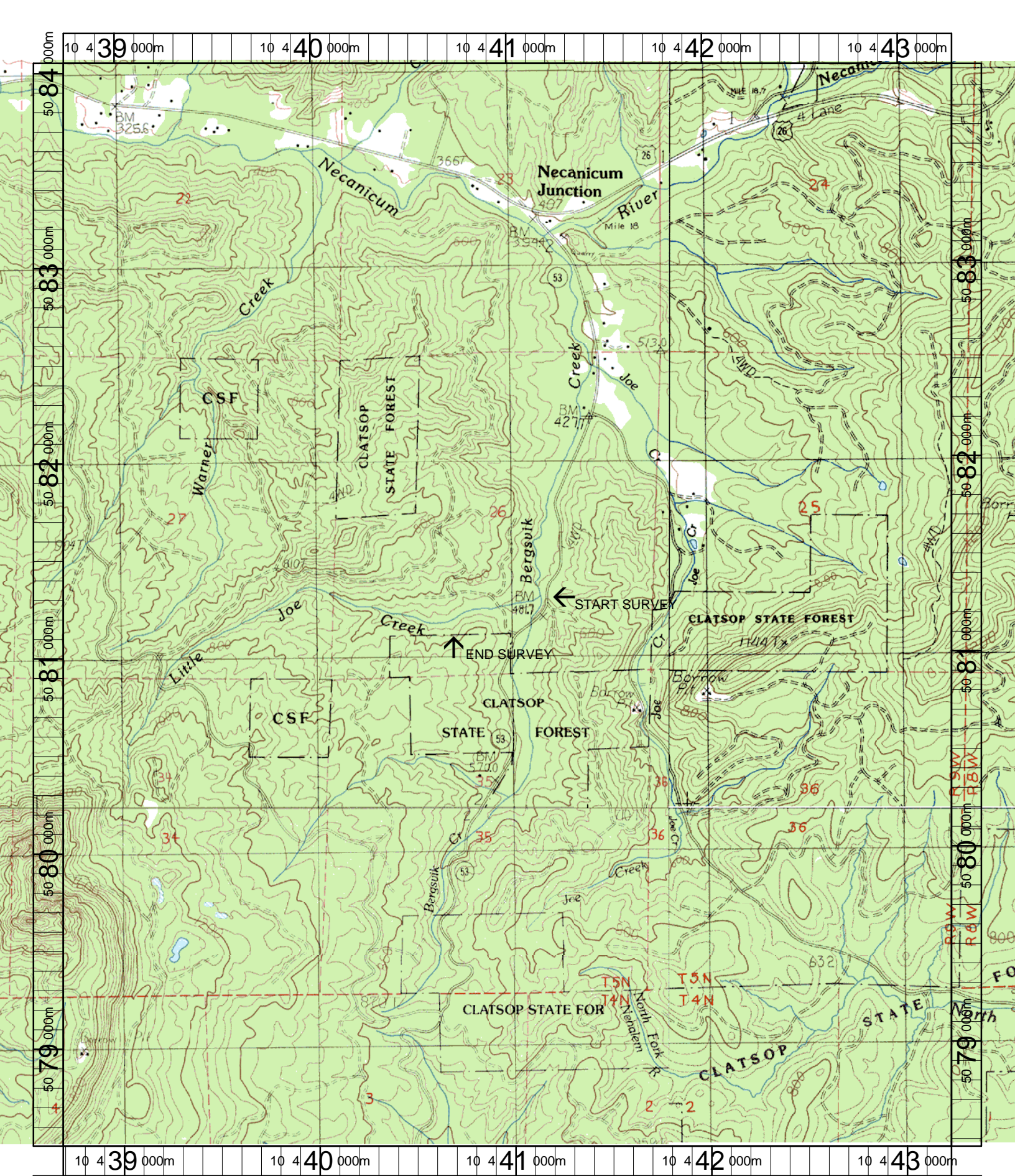
# Comment Summary

## Oregon Plan Monitoring Sites 2003

MONITORING AREA: 1-NC      SITE ID: 174      LITTLE JOE CREEK POST-TX (N-174)

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	SC	00	5.9		13 DEG C @ 11:45 H=.55M	10T 0441093 5081305
2	LP	00	18.1	HS		
3	RB	00	30.9	HS	COHO PRESENT	
5	SC	00	43.4		H=.25M	
6	LP	00	52.8	HS		COHO FRY
8	IP	10	66.4	HS		
10	RI	00	101.3	HS		
11	RI	00	126.3	HS	10T 0440992 5081310	RIP T
15	LP	00	175.1	HS		
17	LP	00	204.9	CS/	W X H METAL 3.6 X 2.6 C	COHO FRY
18	CC	00	223.8	CC		3.6M X 2.6M OVAL GULV.
19	RB	00	248.3	DJ		FALLEN ALDERS IN CREEK
23	PP	00	290.1			COHO FRY
24	SL	00	291.1		H=.30M	
28	RI	00	374.8		POOR GPS COVERAGE	
29	RB	00	389.6	PN; DJ		
30	RB	00	417	WL		
35	LP	00	589.9	DJ		COHO FRY
37	LP	00	610.8		LOW TERRACES	





Name: NECANICUM JUNCTION  
 Date: 12/17/2003  
 Scale: 1 inch equals 2000 feet

Location: 10 440978 E 5081261 N  
 Caption: LITTLE JOE CREEK RESTORATION SITE - NECANICUM BASIN