

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

STREAM: Hamilton Creek (NC-107)  
BASIN: Nehalem River  
SURVEY TYPE: Post-Tx  
DATE: July 3, 1996  
SURVEY CREW: Barry Thom, Matt Rowe  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 16.8 km<sup>2</sup>  
USGS MAPS: Vinemaple  
ECOREGION: Coast Range Astoria Willapa

**GENERAL DESCRIPTION:**

The Hamilton Creek habitat survey extended 784 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 5.0. Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 2.4 percent. Rapids (41%), riffles (25%) and scour pools (24%) dominated stream habitat. Gravel (29%), cobble (22%) and bedrock (21%) dominated stream substrate. Wood volume was low at 17.2 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

T7N-R6W-S32NE

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: 5.0 range: 5.0-5.0

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0	Single Channel	0
Bedrock	0	Multiple Channel	0
Terrace	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	784	4,605	0
Secondary	127	576	2

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u>	<u>First Terrace</u>
Width 4.9	Width 11.2	0.0	13.7
Depth 0.45	Height 0.6	0.0	1.1
W:D ratio 20.1		Entrenchment **.*	

Stream Flow Type: LF Water Temp: 0.0-0.0°C  
Avg. Unit Gradient: 2.4% Habitat Units/100m: 4.1

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	
Riparian Vegetation:	M50	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	0%	Reach avg: 91%
Undercut Banks	1%	Range: 53-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces (≥3m x 0.15m)	87	11.1
Volume (m <sup>3</sup> )	135	17.2
Key pieces (≥10m x 0.6m)	5	0.6

REACH 1

T7N-R6W-S32NE

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-ALCOVE	2	36	4.5	0.50	156	0	60	30	5	3	3	0
POOL-BACKWATER	1	13	1.5	0.30	20	0	15	45	35	5	0	0
POOL-DAMMED	1	9	3.5	0.70	32	0	15	5	20	15	5	40
POOL-ISOLATED	1	6	1.0	0.20	6	0	100	0	0	0	0	0
POOL-LATERAL SCOUR	10	145	5.0	0.84	752	0	4	14	28	17	12	26
POOL-STRAIGHT SCOUR	6	102	4.7	0.63	498	0	3	13	23	15	5	42
PUDDLED CHANNEL	2	53	4.6	0.00	309	0	5	5	35	45	3	8
RAPID/BEDROCK	1	189	7.0	0.15	1,323	0	0	0	0	0	5	95
RAPID/BOULDERS	5	147	5.8	0.16	790	4	0	3	43	36	18	0
RIFFLE	6	195	5.5	0.16	1,207	4	0	6	45	39	10	0
RIFFLE W/ POCKETS	1	12	6.0	0.15	72	0	0	15	60	15	10	0
STEP/LOG	1	4	4.5	0.05	18	0	0	0	0	0	0	100
<b>Total:</b>	<b>37</b>	<b>911</b>	<b>4.9</b>	<b>0.45</b>	<b>5,181</b>	<b>8</b>	<b>Avg: 8</b>	<b>11</b>	<b>29</b>	<b>22</b>	<b>9</b>	<b>21</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	5	64	3.0	0.44	213	4.11	0	0.0
Scour Pools	16	247	4.8	0.76	1,250	24.12	0	0.0
Glides	0	0	-	-	0	0.00	0	0.0
Riffles	7	207	5.6	0.16	1,279	24.68	4	0.3
Rapids	6	336	6.0	0.16	2,113	40.79	4	0.2
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	1	4	4.5	0.05	18	0.35	0	0.0
Dry	2	53	4.6	0.00	309	5.96	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	21	23.1
Pools ≥1m deep:	3	3.3
Complex pools (LWD pieces ≥3):	8	8.8
Pool Frequency (channel widths/pool):	3.9	
Residual pool depth (avg)	0.56m	

STREAM SUMMARY

HAMILTON CREEK 1996 POST-TX

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	
37	911	4.9	0.45	5,181	8	11	29	22	9	21	8

Wetted Area

Habitat Group	(m <sup>2</sup> )	Percent
Scour Pool	1,250	24.1
Backwater Pools	213	4.1
Glide	0	0.0
Riffle	1,279	24.7
Rapid	2,113	40.8
Cascade	0	0.0
Step	18	0.3
Dry	309	6.0

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REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) (2 transects)

Total hardwoods/1000 ft	518
Total conifers/1000 ft	549
Total conifers >20" dbh/1000 ft	61
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	2.5	3.5	0.0	2.5	1.5	6.0	4.0
15-30cm	0.5	2.0	1.5	1.0	0.0	0.0	2.0	3.0
30-50cm	0.0	0.5	0.0	0.5	0.0	0.0	0.0	1.0
50-90cm	0.0	0.5	0.0	0.0	1.0	0.0	1.0	0.5
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m <sup>2</sup>	0.5	5.5	5.0	1.5	3.5	1.5	3.0	2.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	86		76		63	
Shrub cover	73		58		68	
Grass/forb cover	13		8		20	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	0		25		25
High terrace	50		75		75	
Low terrace	50		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 (%)	1		15		20	

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Summary of Riparian Zone (0-30m) for all reaches ( 2 transects)

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

Total hardwoods/1000 ft	518
Total conifers/1000 ft	549
Total conifers >20" dbh/1000 ft	61

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	6.0	4.0
15-30cm	2.0	3.0
30-50cm	0.0	1.0
50-90cm	1.0	0.5
>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	
43	LF	1	HT	0.0	75	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
43	LF	2	HT	0.0	85	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
43	LF	3	HT	0.0	60	100	0	Conifer	0	0	0	2	0	
								Hardwood	0	0	0	0	0	
43	RT	1	HT	5.0	100	80	20	Conifer	0	0	0	0	0	
								Hardwood	4	1	0	0	0	
43	RT	2	HT	0.0	70	60	20	Conifer	5	0	0	0	0	
								Hardwood	0	0	0	0	0	
43	RT	3	HT	0.0	70	70	10	Conifer	5	0	0	0	0	
								Hardwood	3	0	0	0	0	
60	LF	1	LT	0.0	90	20	20	Conifer	0	1	0	0	0	
								Hardwood	1	3	0	0	0	
60	LF	2	HT	0.0	100	0	0	Conifer	0	3	0	0	0	
								Hardwood	0	2	1	0	0	
60	LF	3	HT	0.0	100	60	40	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
60	RT	1	LT	0.0	80	90	10	Conifer	0	0	0	0	0	
								Hardwood	0	0	1	1	0	
60	RT	2	HS	60.0	50	70	10	Conifer	2	0	0	0	0	
								Hardwood	0	0	0	0	0	
60	RT	3	HS	80.0	20	40	30	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	

# STREAM HABITAT STATUS SHEET

**STREAM NAME** Hemlock G 1996 Port 175 **CONTRACT** \_\_\_\_\_  
**BASIN** W. Chabon **CREW** B. Thom, M. Howe

**DATE                      FILENAME                      COMMENTS**

ENTRY	DATE	FILENAME	COMMENTS
REACH	<u>11/27/01</u>	<u>H096P</u>	HR.DBF
UNIT 1			U1.DBF
UNIT 2			U2.DBF
UNIT CHECK			CHK.DBF
RIPARIAN			RP.DBF
WOOD			WD.DBF

ENTERED BY:  
*[Signature]*

ANALYSIS	DATE	FILENAME	COMMENTS
CALIBRATION			CAL.DBF
MAP SUMMARY/CORRECTIONS			
WOOD EXPAND			WE.DBF
UNIT LINK			UX.DBF
UNIT LINK WITH WOOD			UX2.DBF
PROFILES + COMMENT SUMMARY			PRO.XLS
HABITAT REPORT LINK			LNK.DBF
RIPARIAN LINK			RLK.DBF

ANALYZED BY:

FINAL REPORT	DATE	FILENAME	COMMENTS
BAR GRAPHS			BAR.XLS
COVER + REPORT			COV.DOC
PHOTOS			
REPORT MAPS			
REACH ENTRY			

COMPLETED BY:

**COMMENTS / NOTES**

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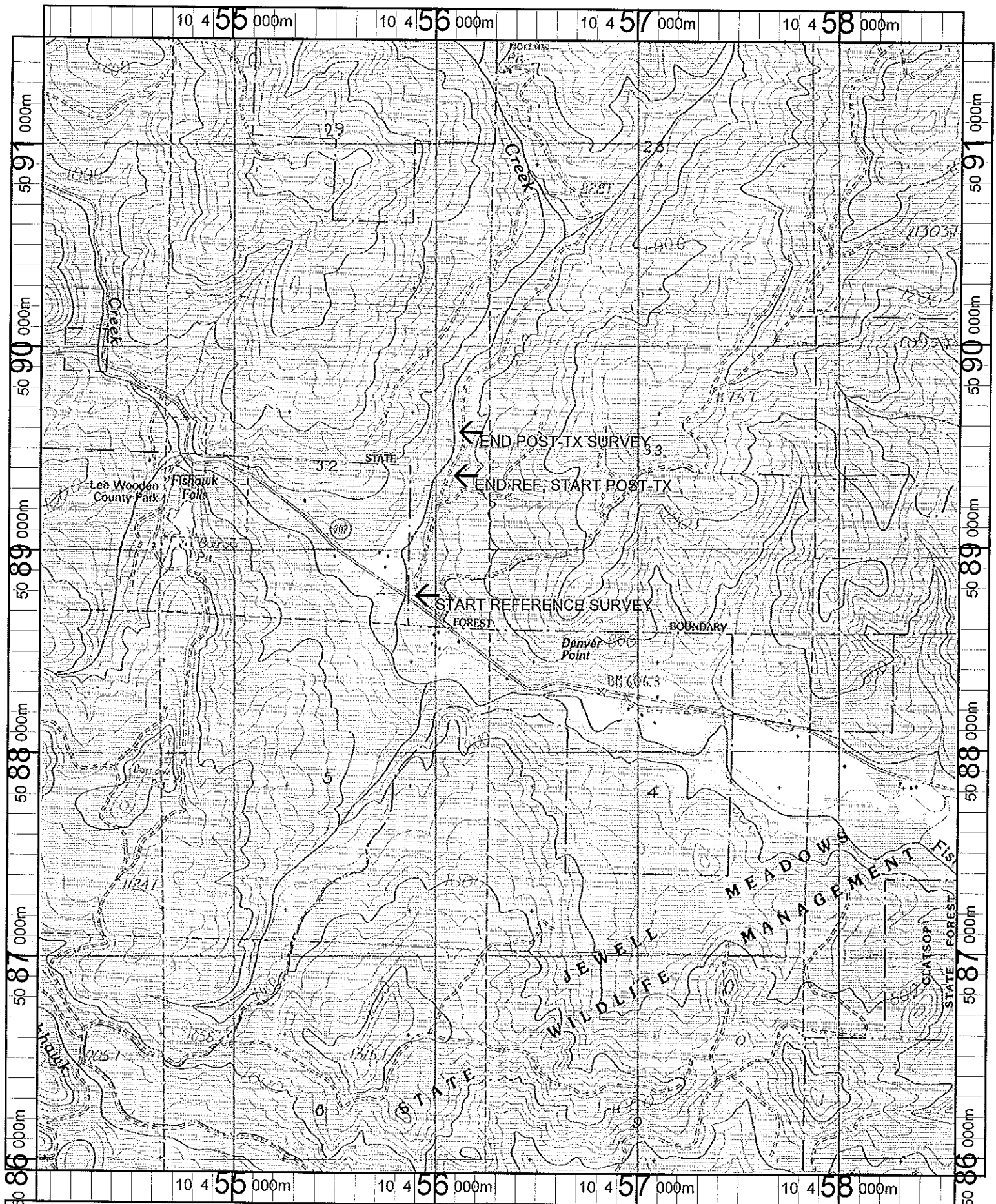


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**OREGON PLAN / REFERENCE SURVEYS**

BASIN AREA	BEAVER DAMS	#	MAJOR FAILURES	#
STREAM ORDER	BEAVER ACTIVITY	#	DEBRIS JAMS	#
JAMS FROM WOOD SHEETS # <u>5</u>	CULVERT CROSSINGS	#	HABITAT STRUCTURES	# <u>3</u>





Name: VINEMAPLE  
 Date: 5/30/101  
 Scale: 1 inch equals 2000 feet

Location: 10 456223 E 5088700 N  
 Caption: 4 - 6 YEAR POST-TX AND REFERENCE SURVEYS -  
 HAMILTON CREEK - NEHALEM BASIN