ODFW AQUATIC INVENTORY PROJECT

OREGON PLAN FOR SALMON & WATERSHEDS

STREAM RESTORATION HABITAT REPORT

STREAM:	Hamilton Creek (NC-106)
BASIN:	Nehalem River
SURVEY TYPE:	Reference
DATE:	July 2, 1996
SURVEY CREW:	Barry Thom, Matt Rowe
REPORT PREPARED BY:	Paul Jacobsen
BASIN AREA:	16.8 km^2
USGS MAPS:	Vinemaple
ECOREGION:	Coast Range Astoria Willapa

GENERAL DESCRIPTION:

The Hamilton Creek habitat survey extended 521 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 8.8 (range: 5.0 – 10.0). Land use for the reach was young (3-15 cm dbh) trees. The average unit gradient was 1.0 percent. Scour pools (42%) dominated stream habitat. Cobble (28%), gravel (24%) and bedrock (23%) dominated stream substrate. Wood volume was low at 11.9 m^3/100m.

COMMENTS:

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

REACH 1 T7N-R6W-S32SE REACH 1

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
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: 8.8 range: 5.0-10.0

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0	Single Channel	0
Bedrock	0	Multiple Channel	0
Terrace	100	Braided Channel	0
Alt. Terrace/Hill	0		
Landuse	0		

Channel Characteristics

Type	Length(m)	Area (m2)	Dry Units
Primary	521	2,767	0
Secondary	51	177	1

Channel Dimensions(m)

Wetted		Active		Floodprone	First Terrace
Width	5.1	Width	9.8	0.0	14.0
Depth	0.47	Height	0.5	0.0	1.4
		W:D ratio	18.8	Entrenchment **.*	

Stream Flow Type: LF Water Temp: 0.0-0.0°C
Avg. Unit Gradient: 1.0% Habitat Units/100m: 6.8

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	YT	
Riparian Vegetation:	D30	S

Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding	0%	Reach avg: 81%
Undercut Banks	5%	Range: 28-100

Large Woody Debris

	Total	Total/100m
All pieces (≥3m x 0.15m)	51	9.8
Volume (m^3)	62	11.9
Key pieces (≥10m x 0.6m)	1	0.2

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HABITAT INVENTORY Report Date: 11/27/01

HAMILTON CREEK 1996 REFERENCE
Survey Date: 07/02/01

REACH 1 T7N-R6W-S32SE REACH 1

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area S/O	Snd	Grvl	Cbbl	Bldr	Bdrk
DRY CHANNEL	1	32	4.0	0.00	128	0	0	10	45	45	0	0
GLIDE	3	103	4.3	0.28	488	0	5	8	7	7	0	73
POOL-BACKWATER	2	11	2.8	0.40	27	0	40	13	3	0	0	45
POOL-DAMMED	2	47	8.3	0.80	385	0	18	30	35	15	3	0
POOL-ISOLATED	2	8	2.5	0.70	22	0	5	50	18	15	5	8
POOL-LATERAL SCOUR	10	164	4.6	0.83	741	0	5	8	26	29	5	28
POOL-PLUNGE	2	23	6.0	0.75	138	0	0	10	18	8	45	20
POOL-STRAIGHT SCOUR	2	56	6.3	0.81	355	0	8	15	13	8	0	58
RAPID/BOULDERS	3	32	5.8	0.18	190	0	0	0	50	38	12	0
RIFFLE	4	67	4.0	0.17	254	0	0	0	24	35	4	38
STEP/COBBLE	7	28	7.1	0.15	215	0	0	0	24	55	21	0
STEP/LOG	1	1	2.0	0.15	2	0	0	70	30	0	0	0
Total:	39	572	5.1	0.47	2,944	0	**Avg:** 5	11	24	28	9	23

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders #/100m^2
Dammed & BW Pools	6	66	4.5	0.63	434	14.73	0	0.0
Scour Pools	14	243	5.0	0.82	1,234	41.91	0	0.0
Glides	3	103	4.3	0.28	488	16.58	0	0.0
Riffles	4	67	4.0	0.17	254	8.63	0	0.0
Rapids	3	32	5.8	0.18	190	6.44	0	0.0
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	8	29	6.4	0.15	217	7.37	0	0.0
Dry	1	32	4.0	0.00	128	4.35	0	0.0

POOL SUMMARY

	Total	#/Km
All Pools	20	35.0
Pools ≥1m deep:	6	10.5
Complex pools (LWD pieces≥3):	6	10.5
Pool Frequency (channel widths/pool):	2.9	
Residual pool depth (avg)	0.62m	

STREAM SUMMARY **HAMILTON CREEK 1996 REFERENCE**

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m^2)	Substrate Percent Wetted Area S/O	Sand	Grvl	Cbbl	Bldr	Bdrk	Total Large Boulder
39	572	5.1	0.47	2,944	5	11	24	28	9	23	0

Habitat Group	Wetted Area (m^2)	Percent
Scour Pool	1,234	41.9
Backwater Pools	434	14.7
Glide	488	16.6
Riffle	254	8.6
Rapid	190	6.4
Cascade	0	0.0
Step	217	7.4
Dry	128	4.3

REACH 1 RIPARIAN ZONE VEGETATION SUMMARY REACH 1

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

Total hardwoods/1000 ft	457
Total conifers/1000 ft	152
Total conifers >20" dbh/1000 ft	61
Total conifers >35" dbh/1000 ft	61

Average number of trees in a 5-meter wide band

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters		Zones 1-3 0-30 meters	
Diameter class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	4.0	0.5	0.0	0.5	0.5	1.0	4.5
15-30cm	0.5	2.5	0.0	0.0	0.0	0.0	0.5	2.5
30-50cm	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.5	0.0	0.5	0.0	0.0	0.0	1.0	0.0
Total/100m^2	1.0	6.5	1.0	0.5	0.5	0.5	0.8	2.5

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10-20 meters (%)	Zone 3 20-30 meters (%)
Canopy closure	70	46	43
Shrub cover	68	76	49
Grass/forb cover	33	24	36

Predominant landform in each zone

	Zone 1 0-10 meters	Zone 2 10-20 meters	Zone 3 20-30 meters
Hillslope	25	25	0
High terrace	25	50	75
Low terrace	50	25	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	25
Riprap	0	0	0
Surface slope (%)	20	15	0

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	457
Total conifers/1000 ft	152
Total conifers >20" dbh/1000 ft	61

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zones 1-3 Conifer	Hardwood
3-15cm	1.0	4.5
15-30cm	0.5	2.5
30-50cm	0.0	0.5
50-90cm	0.0	0.0
>90cm	1.0	0.0

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY Report Date: 11/27/01

HAMILTON CREEK 1996 REFERENCE
Survey Date: 07/02/96

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	LT	0.0	60	70	30	Conifer	0	0	0	0	0	
								Hardwood	5	0	0	0	0	
5	LF	2	HT	0.0	0	20	80	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
5	LF	3	HT	0.0	0	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
5	RT	1	LT	0.0	100	20	80	Conifer	0	1	0	0	0	
								Hardwood	3	5	0	0	0	
5	RT	2	LT	0.0	100	90	10	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
5	RT	3	HT	0.0	100	100	0	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
30	LF	1	HT	0.0	60	90	10	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
30	LF	2	HT	0.0	50	95	5	Conifer	0	0	0	0	0	
								Hardwood	0	0	1	0	0	
30	LF	3	HT	0.0	70	85	15	Conifer	1	0	0	0	0	
								Hardwood	1	0	0	0	0	
30	RT	1	HS	80.0	60	90	10	Conifer	0	0	0	0	1	
								Hardwood	0	0	0	0	0	
30	RT	2	HS	60.0	35	100	0	Conifer	1	0	0	0	1	
								Hardwood	0	0	0	0	0	
30	RT	3	RB	0.0	0	10	30	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	

STREAM HABITAT STATUS SHEET

STREAM NAME Hamilton Cr 1996 Reference **CONTRACT**

BASIN Nehalem **CREW** B. Ham, M. Love

	DATE	FILENAME	COMMENTS
ENTRY			ENTERED BY:
REACH	8/16/98	HA96R HR.DBF	Tim Joyce
UNIT 1		U1.DBF	
UNIT 2		U2.DBF	
UNIT CHECK		CHK.DBF	
RIPARIAN		RP.DBF	
WOOD		WD.DBF	
ANALYSIS			ANALYZED BY:
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	
FINAL REPORT			COMPLETED BY:
BAR GRAPHS		BAR.XLS	
COVER + REPORT		COV.DOC	
PHOTOS			
REPORT MAPS			
REACH ENTRY			

COMMENTS / NOTES

OREGON PLAN / REFERENCE SURVEYS					
BASIN AREA		BEAVER DAMS	#	MAJOR FAILURES	# 2
STREAM ORDER		BEAVER ACTIVITY	#	DEBRIS JAMS	# 2
JAMS FROM WOOD SHEETS	# 3	CULVERT CROSSINGS	#	HABITAT STRUCTURES	#