

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

STREAM: North Fork Rock Creek Upper (NC-105)  
BASIN: Nehalem River  
SURVEY TYPE: Post-Tx  
DATE: July 17, 1996  
SURVEY CREW: Barry Thom, Matt Rowe  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 17.9 km<sup>2</sup>  
USGS MAPS: Sunset Spring  
ECOREGION: Coast Range Volcanic

**GENERAL DESCRIPTION:**

The North Fork Rock Creek Upper habitat survey extended 507 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 3.3 (range: 3.0 - 4.0). Land use for the reach was timber harvest. The average unit gradient was 1.5 percent. Scour pools (41%) and rapids (21%) dominated stream habitat. Gravel (35%) and sand (22%) dominated stream substrate. Wood volume was high at 38.3 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

T4N-R6W-S8SW

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 avg: 3.3 range: 3.0-4.0

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

<u>Type</u>	<u>Length(m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary	507	1,916	0
Secondary	226	728	3

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	3.4	Width	9.2	0.0	11.2
Depth	0.31	Height	0.5	0.0	1.0
W:D ratio		18.4	Entrenchment ***		

Stream Flow Type: LF Water Temp: 0.0-0.0°C  
Avg. Unit Gradient: 1.5% Habitat Units/100m: 9.3

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	
Riparian Vegetation:	D30	G

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	0%	Reach avg: 95%
Undercut Banks	1%	Range: 69-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces (≥3m x 0.15m)	146	28.8
Volume (m <sup>3</sup> )	194	38.3
Key pieces (≥10m x 0.6m)	8	1.6

REACH 1 T4N-R6W-S8SW 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
DRY CHANNEL	3	44	4.1	0.00	268	0	11	29	49	11	0	0
GLIDE	4	71	4.6	0.22	325	0	3	27	35	29	0	6
POOL-ALCOVE	3	29	3.3	0.47	113	0	63	30	7	0	0	0
POOL-BACKWATER	5	18	2.2	0.38	47	0	44	36	12	4	4	0
POOL-ISOLATED	1	3	1.5	0.15	5	0	100	0	0	0	0	0
POOL-LATERAL SCOUR	21	260	3.1	0.56	845	0	12	29	38	15	3	3
POOL-PLUNGE	2	9	5.5	0.62	48	0	15	0	0	0	0	85
POOL-STRAIGHT SCOUR	3	43	4.2	0.45	201	0	7	22	33	12	3	23
RAPID/BEDROCK	1	16	3.5	0.18	56	0	0	0	5	5	0	90
RAPID/BOULDERS	12	168	2.9	0.14	500	0	0	14	43	38	3	2
RIFFLE	3	41	3.3	0.10	130	0	3	13	53	30	0	0
STEP/BEDROCK	2	2	3.5	0.04	7	0	0	0	0	0	0	100
STEP/COBBLE	5	27	3.5	0.09	93	0	0	14	48	37	1	0
STEP/LOG	3	2	4.7	0.03	7	0	0	28	60	10	2	0
<b>Total:</b>	<b>68</b>	<b>732</b>	<b>3.4</b>	<b>0.31</b>	<b>2,643</b>	<b>0</b>	<b>Avg:13</b>	<b>22</b>	<b>35</b>	<b>19</b>	<b>2</b>	<b>9</b>

HABITAT SUMMARY

Habitat Group	No. 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	9	50	2.5	0.39	164	6.19	0	0.0
Scour Pools	26	312	3.4	0.55	1,094	41.39	0	0.0
Glides	4	71	4.6	0.22	325	12.30	0	0.0
Riffles	3	41	3.3	0.10	130	4.93	0	0.0
Rapids	13	184	3.0	0.14	556	21.05	0	0.0
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	10	31	3.9	0.06	106	4.02	0	0.0
Dry	3	44	4.1	0.00	268	10.12	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	35	47.8
Pools ≥1m deep:	0	0.0
Complex pools (LWD pieces ≥3):	17	23.2
Pool Frequency (channel widths/pool):	2.3	
Residual pool depth (avg)	0.41m	

STREAM SUMMARY

NF ROCK UPPER 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	
68	732	3.4	0.31	2,643	13	22	35	19	2	9	0

Wetted Area

Habitat Group	(m <sup>2</sup> )	Percent
Scour Pool	1,094	41.4
Backwater Pools	164	6.2
Glide	325	12.3
Riffle	130	4.9
Rapid	556	21.0
Cascade	0	0.0
Step	106	4.0
Dry	268	10.1

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	813
Total conifers/1000 ft	589
Total conifers >20" dbh/1000 ft	41
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	2.7	1.7	0.3	1.0	1.7	2.7	4.7
15-30cm	0.7	3.0	1.0	0.7	1.0	0.7	2.7	4.3
30-50cm	2.7	2.7	0.3	1.0	0.7	0.7	3.7	4.3
50-90cm	0.3	0.0	0.3	0.0	0.0	0.0	0.7	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m <sup>2</sup>	3.7	8.3	3.3	2.0	2.7	3.0	3.2	4.4

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	91		75		66	
Shrub cover	3		3		10	
Grass/forb cover	84		81		85	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	17		67		83
High terrace	50		17		0	
Low terrace	17		0		17	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	17		17		0	
Roadbed/Railroad	0		0		0	
Riprap	0		0		0	
Surface slope (%)	15		45		65	

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	813
Total conifers/1000 ft	589
Total conifers >20" dbh/1000 ft	41

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	2.7	4.7
15-30cm	2.7	4.3
30-50cm	3.7	4.3
50-90cm	0.7	0.0
>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	
360	LF	1	HT	0.0	100	5	95	Conifer	0	1	2	0	0	
								Hardwood	0	0	0	0	0	
360	LF	2	HS	80.0	70	0	100	Conifer	0	0	1	0	0	
								Hardwood	1	0	0	0	0	
360	LF	3	HS	80.0	50	0	100	Conifer	0	0	1	0	0	
								Hardwood	0	1	0	0	0	
360	RT	1	HT	0.0	75	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	1	2	0	0	
360	RT	2	HS	60.0	100	0	100	Conifer	0	0	0	1	0	
								Hardwood	0	0	0	0	0	
360	RT	3	HS	70.0	90	0	100	Conifer	0	0	1	0	0	
								Hardwood	5	0	0	0	0	
390	LF	1	SC	0.0	100	0	20	Conifer	0	1	6	0	0	
								Hardwood	0	0	0	0	0	
390	LF	2	SC	0.0	0	0	5	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
390	LF	3	LT	0.0	15	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
390	RT	1	HS	90.0	90	0	100	Conifer	0	0	0	1	0	
								Hardwood	5	0	0	0	0	
390	RT	2	HS	90.0	90	10	90	Conifer	5	3	0	0	0	
								Hardwood	0	0	0	0	0	
390	RT	3	HS	90.0	70	40	30	Conifer	3	3	0	0	0	
								Hardwood	0	0	0	0	0	
420	LF	1	HT	0.0	90	5	95	Conifer	0	0	0	0	0	
								Hardwood	3	1	4	0	0	
420	LF	2	HS	40.0	100	5	95	Conifer	0	0	0	0	0	
								Hardwood	0	0	2	0	0	
420	LF	3	HS	100.0	90	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	1	2	0	0	
420	RT	1	LT	0.0	90	5	95	Conifer	0	0	0	0	0	
								Hardwood	0	7	2	0	0	
420	RT	2	HT	0.0	90	5	95	Conifer	0	0	0	0	0	
								Hardwood	0	2	1	0	0	
420	RT	3	HS	50.0	80	20	80	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	

# STREAM HABITAT STATUS SHEET

**STREAM NAME** *NF Reach Upper 1996 Post-7x*      **CONTRACT**  
**BASIN** *N. D. Halen*      **CREW** *P. Thom, M. Rowe*

**DATE                      FILENAME                      COMMENTS**

ENTRY	DATE	FILENAME	ENTERED BY:
REACH	<i>11/28/01</i>	<i>RU961</i> HR.DBF	<i>[Signature]</i>
UNIT 1		U1.DBF	
UNIT 2		U2.DBF	
UNIT CHECK		CHK.DBF	
RIPARIAN		RP.DBF	
WOOD		WD.DBF	

ANALYSIS	DATE	FILENAME	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	DATE	FILENAME	COMPLETED BY:
BAR GRAPHS		BAR.XLS	
COVER + REPORT		COV.DOC	
PHOTOS			
REPORT MAPS			
REACH ENTRY			

**COMMENTS / NOTES**

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