

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

STREAM: North Fork Rock Creek Lower (NC-102)
BASIN: Nehalem River
SURVEY TYPE: Reference
DATE: July 15, 1996
SURVEY CREW: Barry Thom, Matt Rowe
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 17.9 km²
USGS MAPS: Sunset Spring
ECOREGION: Coast Range Volcanic

GENERAL DESCRIPTION:

The North Fork Rock Creek habitat survey extended 348 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 3.3 (range: 3.0 – 3.5). Land use for the reach was mature (50-90 cm dbh) trees and timber harvest. The average unit gradient was 1.3 percent. Scour pools (33%) and rapids (22%) dominated stream habitat. Gravel (29%), fines (24%) and cobble (22%) dominated stream substrate. Wood volume was moderate at 24.7 m³/100m.

COMMENTS:

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

REACH 1

T4N-R6W-S17SE

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: 3.3 range: 3.0-3.5

Channel Morphology (Percent Reach Length)

| <u>Constrained</u> | | <u>Unconstrained</u> | |
|--------------------|---|----------------------|-----|
| Hillslope | 0 | Single Channel | 100 |
| Bedrock | 0 | Multiple Channel | 0 |
| Terrace | 0 | 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 | 348 | 1,726 | 0 |
| Secondary | 210 | 551 | 3 |

Channel Dimensions (m)

| <u>Wetted</u> | | <u>Active</u> | | <u>Floodprone</u> | <u>First Terrace</u> |
|---------------|------|---------------|------|-------------------|----------------------|
| Width | 3.6 | Width | 11.1 | 0.0 | 15.3 |
| Depth | 0.33 | Height | 0.6 | 0.0 | 1.0 |
| | | W:D ratio | 20.5 | Entrenchment | **.* |

Stream Flow Type: Water Temp: 0.0-0.0°C
Avg. Unit Gradient: 1.3% Habitat Units/100m: 9.5

Riparian, Bank, and Wood Summary

| | <u>Primary</u> | <u>Secondary</u> |
|----------------------|----------------|------------------|
| Land Use: | MT | 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: 98% |
| Undercut Banks | 1% | Range: 69-100 |

Large Woody Debris

| | <u>Total</u> | <u>Total/100m</u> |
|---------------------------------------|--------------|-------------------|
| All pieces ($\geq 3m \times 0.15m$) | 98 | 28.2 |
| Volume (m ³) | 86 | 24.7 |
| Key pieces ($\geq 10m \times 0.6m$) | 3 | 0.9 |

REACH 1

T4N-R6W-S17SE

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 | 20 | 7.0 | 0.00 | 140 | 0 | 0 | 20 | 60 | 20 | 0 | 0 |
| GLIDE | 4 | 44 | 4.0 | 0.23 | 176 | 0 | 8 | 15 | 50 | 21 | 6 | 0 |
| POOL-ALCOVE | 2 | 22 | 0.9 | 0.13 | 15 | 0 | 100 | 0 | 0 | 0 | 0 | 0 |
| POOL-BACKWATER | 3 | 12 | 1.7 | 0.30 | 19 | 0 | 43 | 35 | 12 | 5 | 2 | 3 |
| POOL-ISOLATED | 5 | 12 | 1.2 | 0.18 | 15 | 0 | 92 | 0 | 0 | 7 | 1 | 0 |
| POOL-LATERAL SCOUR | 14 | 130 | 3.4 | 0.62 | 449 | 1 | 19 | 20 | 29 | 24 | 2 | 6 |
| POOL-STRAIGHT SCOUR | 5 | 57 | 4.9 | 0.57 | 308 | 0 | 8 | 14 | 38 | 28 | 6 | 7 |
| PUDDLED CHANNEL | 2 | 53 | 3.0 | 0.16 | 156 | 0 | 30 | 23 | 33 | 15 | 0 | 0 |
| RAPID/BEDROCK | 3 | 42 | 3.9 | 0.16 | 158 | 3 | 3 | 4 | 7 | 6 | 3 | 77 |
| RAPID/BOULDERS | 7 | 78 | 4.3 | 0.11 | 344 | 1 | 4 | 12 | 46 | 35 | 2 | 0 |
| RIFFLE | 3 | 69 | 5.7 | 0.18 | 415 | 1 | 7 | 7 | 25 | 27 | 5 | 30 |
| STEP/BOULDERS | 1 | 5 | 5.0 | 0.20 | 25 | 1 | 10 | 10 | 30 | 25 | 20 | 5 |
| STEP/COBBLE | 3 | 14 | 4.2 | 0.15 | 58 | 0 | 0 | 8 | 43 | 47 | 2 | 0 |
| Total: | 53 | 557 | 3.6 | 0.33 | 2,277 | 7 | Avg:24 | 14 | 29 | 22 | 3 | 8 |

HABITAT SUMMARY

| Habitat Group | No. Units | Total Length (m) | Avg Width (m) | Avg Depth (m) | Wetted Area (m ²) | Percent | Large Boulders Number | Boulders #/100m ² |
|-------------------|--------------|------------------------|---------------------|---------------------|----------------------------------|---------|-----------------------------|---------------------------------|
| Dammed & BW Pools | 10 | 46 | 1.3 | 0.21 | 49 | 2.14 | 0 | 0.0 |
| Scour Pools | 19 | 187 | 3.8 | 0.60 | 757 | 33.24 | 1 | 0.1 |
| Glides | 4 | 44 | 4.0 | 0.23 | 176 | 7.73 | 0 | 0.0 |
| Riffles | 3 | 69 | 5.7 | 0.18 | 415 | 18.20 | 1 | 0.2 |
| Rapids | 10 | 120 | 4.2 | 0.13 | 502 | 22.05 | 4 | 0.8 |
| Cascades | 0 | 0 | - | - | 0 | 0.00 | 0 | 0.0 |
| Step/Falls | 4 | 19 | 4.4 | 0.16 | 83 | 3.64 | 1 | 1.2 |
| Dry | 3 | 73 | 4.3 | 0.11 | 296 | 13.00 | 0 | 0.0 |

POOL SUMMARY

| | | |
|---------------------------------------|--------------|-------------|
| All Pools | <u>Total</u> | <u>#/Km</u> |
| | 29 | 52.1 |
| Pools ≥1m deep: | 0 | 0.0 |
| Complex pools (LWD pieces≥3): | 10 | 18.0 |
| Pool Frequency (channel widths/pool): | 1.7 | |
| Residual pool depth (avg) | 0.44m | |

STREAM SUMMARY

NF ROCK LOWER 1996 REFERENCE

| Number Units | Total Length (m) | Avg Width (m) | Avg Depth (m) | Total Area (m ²) | Substrate Percent Wetted Area | | | | | | Total Large Boulder |
|-----------------|------------------------|---------------------|---------------------|------------------------------------|----------------------------------|------|------|------|------|------|---------------------------|
| | | | | | S/O | Sand | Grvl | Cbbl | Bldr | Bdrk | |
| 53 | 557 | 3.6 | 0.33 | 2,277 | 24 | 14 | 29 | 22 | 3 | 8 | 7 |

Wetted Area

| Habitat Group | (m ²) | Percent |
|-----------------|-------------------|---------|
| Scour Pool | 757 | 33.2 |
| Backwater Pools | 49 | 2.1 |
| Glide | 176 | 7.7 |
| Riffle | 415 | 18.2 |
| Rapid | 502 | 22.0 |
| Cascade | 0 | 0.0 |
| Step | 83 | 3.6 |
| Dry | 296 | 13.0 |

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

| | |
|---------------------------------|-------|
| Total hardwoods/1000 ft | 1,341 |
| Total conifers/1000 ft | 122 |
| Total conifers >20" dbh/1000 ft | 0 |
| 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 | 8.0 | 0.0 | 3.0 | 0.0 | 2.0 | 0.0 | 13.0 |
| 15-30cm | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 |
| 30-50cm | 0.0 | 6.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 8.0 |
| 50-90cm | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| >90cm | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total/100m ² | 0.0 | 15.5 | 0.5 | 4.0 | 1.5 | 2.5 | 0.7 | 7.3 |

Canopy closure and ground cover

| | Zone 1 0-10 meters | | Zone 2 10-20 meters | | Zone 3 20-30 meters | |
|------------------|-----------------------|--|------------------------|--|------------------------|--|
| | (%) | | (%) | | (%) | |
| Canopy closure | 95 | | 76 | | 49 | |
| Shrub cover | 18 | | 23 | | 20 | |
| Grass/forb cover | 59 | | 73 | | 80 | |

Predominant landform in each zone

| | Zone 1 0-10 meters | | Zone 2 10-20 meters | | Zone 3 20-30 meters | |
|-------------------|-----------------------|----|------------------------|----|------------------------|----|
| | Hillslope | 25 | | 25 | | 50 |
| High terrace | 25 | | 50 | | 50 | |
| Low terrace | 25 | | 25 | | 0 | |
| Floodplain | 0 | | 0 | | 0 | |
| Wetland/meadow | 0 | | 0 | | 0 | |
| Stream channel | 25 | | 0 | | 0 | |
| Roadbed/Railroad | 0 | | 0 | | 0 | |
| Riprap | 0 | | 0 | | 0 | |
| Surface slope (%) | 3 | | 8 | | 18 | |

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 | 1,341 |
| Total conifers/1000 ft | 122 |
| Total conifers >20" dbh/1000 ft | 0 |

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 | 0.0 | 13.0 |
| 15-30cm | 1.0 | 1.0 |
| 30-50cm | 1.0 | 8.0 |
| 50-90cm | 0.0 | 0.0 |
| >90cm | 0.0 | 0.0 |

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 | |
| 154 | LF | 1 | HT | 0.0 | 95 | 5 | 95 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 6 | 1 | 1 | 0 | 0 | |
| 154 | LF | 2 | HT | 0.0 | 90 | 0 | 100 | Conifer | 0 | 0 | 1 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 154 | LF | 3 | HT | 0.0 | 0 | 0 | 100 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 154 | RT | 1 | LT | 0.0 | 90 | 40 | 40 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 5 | 0 | 0 | |
| 154 | RT | 2 | HT | 0.0 | 50 | 50 | 50 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 154 | RT | 3 | HS | 40.0 | 0 | 10 | 90 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 182 | LF | 1 | SC | 0.0 | 95 | 5 | 20 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 2 | 0 | 0 | |
| 182 | LF | 2 | LT | 0.0 | 95 | 0 | 80 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 2 | 0 | 0 | |
| 182 | LF | 3 | HT | 0.0 | 95 | 50 | 50 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 4 | 0 | 1 | 0 | 0 | |
| 182 | RT | 1 | HS | 10.0 | 100 | 20 | 80 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 10 | 1 | 5 | 0 | 0 | |
| 182 | RT | 2 | HS | 30.0 | 70 | 40 | 60 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 6 | 0 | 0 | 0 | 0 | |
| 182 | RT | 3 | HS | 30.0 | 100 | 20 | 80 | Conifer | 0 | 2 | 1 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |

STREAM HABITAT STATUS SHEET

STREAM NAME *NF Rock Lower 1996 Reference* **CONTRACT**
BASIN *Nobles* **CREW** *B Thom, M. Paul*

DATE FILENAME COMMENTS

| ENTRY | | ENTERED BY: | |
|------------|-----------------|--------------|-----------------------|
| REACH | <i>11/27/00</i> | <i>RL96R</i> | <i>Jacob Jacobson</i> |
| UNIT 1 | | | |
| UNIT 2 | | | |
| UNIT CHECK | | | |
| RIPARIAN | | | |
| WOOD | | | |

| ANALYSIS | | ANALYZED BY: | |
|----------------------------|--|--------------|--|
| CALIBRATION | | | |
| MAP SUMMARY/CORRECTIONS | | | |
| WOOD EXPAND | | | |
| UNIT LINK | | | |
| UNIT LINK WITH WOOD | | | |
| PROFILES + COMMENT SUMMARY | | | |
| HABITAT REPORT LINK | | | |
| RIPARIAN LINK | | | |

| FINAL REPORT | | COMPLETED BY: | |
|----------------|--|---------------|--|
| BAR GRAPHS | | | |
| COVER + REPORT | | | |
| PHOTOS | | | |
| REPORT MAPS | | | |
| REACH ENTRY | | | |

COMMENTS / NOTES

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