

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

STREAM: Johnson Creek (NC-38)
BASIN: Necanicum River
SURVEY TYPE: Pre-Tx
DATE: February 24, 2000
SURVEY CREW: Andrew Gross, Joe Zuccarello
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 2.1 km²
USGS MAPS: Tillamook Head
ECOREGION: Coast Range Sitka Spruce

GENERAL DESCRIPTION:

The Johnson Creek habitat survey extended 477 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 4.1 (range: 3.0 – 5.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 3.4 percent. Rapids (41%) and riffles (35%) dominated stream habitat. Gravel (56%) dominated stream substrate. Wood volume was moderate at 22.7 m³/100m.

COMMENTS:

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

REACH 1

T5N-R10W-23SE

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 4.1 | | VWI Range: 3 - 5 | |

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 | 477 | 1,449 | 0 |
| Secondary | 196 | 311 | 3 |

Channel Dimensions (m)

| <u>Wetted</u> | | <u>Active</u> | | <u>Floodprone</u> | <u>First Terrace</u> |
|---------------------|------|---------------------|--------------|-------------------|----------------------|
| Width | 2.5 | Width | 4.1 | 6.5 | 9.0 |
| Depth | 0.26 | Height | 0.3 | 0.6 | 0.8 |
| W:D ratio | | 15.3 | Entrenchment | | 1.6 |
| Stream Flow Type: | MF | Water temp (C): | | 6.0 | - 6.0 |
| Avg. Unit Gradient: | 3.4% | Habitat Units/100m: | | 10.5 | |

Riparian, Bank, and Wood Summary

| | <u>Primary</u> | <u>Secondary</u> |
|----------------------|----------------|------------------|
| Land Use: | ST | |
| Riparian Vegetation: | M30 | G |

Bank Condition and Shade

| <u>Bank Status</u> | <u>Percent Reach Length</u> | <u>Shade (% of 180)</u> |
|--------------------|-----------------------------|-------------------------|
| Actively Eroding: | | Reach avg: |
| Undercut Banks: | | Range: - |

Large Wood Debris

| | <u>Total</u> | <u>Total / 100m</u> |
|-----------------------------|--------------|---------------------|
| All pieces (>=3m x 0.15m): | 89 | 18.7 |
| Volume (m ³): | 108 | 22.7 |
| Key pieces (>=10m x 0.60m): | 2 | 0.4 |

OREGON DEPARTMENT OF FISH AND WILDLIFE

JOHNSON CREEK PRE-TX (NC-38)

HABITAT INVENTORY

Report Date: 11/12/03

Survey Date:

2/24/00

REACH 1

T5N-R10W-23SE

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 | Cbl | Bldr | Bdrk |
| | | | | | | | CASCADE/BOULDERS | 4 | 47 | 1.8 | 0.14 | 88 |
| DRY UNIT | 1 | 3 | 1.7 | | 4 | 0 | 0 | 5 | 80 | 15 | 0 | 0 |
| POOL-ALCOVE | 1 | 5 | 1.3 | 0.30 | 7 | 0 | 90 | 10 | 0 | 0 | 0 | 0 |
| POOL-BACKWATER | 2 | 6 | 1.5 | 0.40 | 10 | 0 | 15 | 75 | 10 | 0 | 0 | 0 |
| POOL-DAMMED | 2 | 13 | 2.9 | 0.60 | 35 | 0 | 13 | 18 | 63 | 8 | 0 | 0 |
| POOL-LATERAL SCOUR | 9 | 56 | 3.0 | 0.52 | 166 | 0 | 11 | 21 | 59 | 8 | 1 | 0 |
| POOL-PLUNGE | 1 | 5 | 4.9 | 0.50 | 25 | 0 | 5 | 67 | 19 | 10 | 0 | 0 |
| PUDDLED UNIT | 2 | 24 | 2.5 | 0.55 | 59 | 0 | 5 | 10 | 80 | 3 | 3 | 0 |
| RAPID/BOULDERS | 10 | 299 | 2.0 | 0.14 | 719 | 0 | 4 | 11 | 54 | 27 | 5 | 1 |
| RIFFLE | 13 | 202 | 2.7 | 0.14 | 617 | 0 | 11 | 15 | 60 | 13 | 2 | 0 |
| STEP/BEDROCK | 1 | 2 | 1.6 | 0.02 | 2 | 0 | 50 | 10 | 40 | 0 | 0 | 0 |
| STEP/COBBLE | 1 | 4 | 1.6 | 0.10 | 6 | 0 | 10 | 0 | 85 | 5 | 0 | 0 |
| STEP/LOG | 3 | 8 | 3.3 | 0.04 | 21 | 0 | 0 | 23 | 63 | 13 | 0 | 0 |
| Total: | 50 | 672 | 2.5 | 0.26 | 1,760 | 0 | Avg 10 | 19 | 56 | 12 | 2 | 0 |

HABITAT SUMMARY

| Habitat Group | Number Units | Total Length (m) | Avg Width (m) | Avg Depth (m) | Wetted Area | | Large Boulders | |
|-------------------|-----------------|------------------------|---------------------|---------------------|-------------------|---------|----------------|--------------------------|
| | | | | | (m ²) | Percent | Number | (# / 100m ²) |
| Dammed & BW Pools | 5 | 24 | 2.0 | 0.46 | 52 | 2.96% | 0 | 0.0 |
| Scour Pools | 10 | 61 | 3.2 | 0.52 | 191 | 10.84% | 0 | 0.0 |
| Glides | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 |
| Riffles | 13 | 202 | 2.7 | 0.14 | 617 | 35.08% | 0 | 0.0 |
| Rapids | 10 | 299 | 2.0 | 0.14 | 719 | 40.84% | 0 | 0.0 |
| Cascades | 4 | 47 | 1.8 | 0.14 | 88 | 5.01% | 0 | 0.0 |
| Step/Falls | 5 | 14 | 2.6 | 0.05 | 29 | 1.66% | 0 | 0.0 |
| Dry | 3 | 26 | 2.2 | 0.55 | 64 | 3.61% | 0 | 0.0 |
| Culverts | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 |

POOL SUMMARY

| | Total | # / Km |
|---------------------------------------|-------|--------|
| All Pools: | 15 | 31.5 |
| Pools >=1m deep: | 0 | 0.0 |
| Complex pools (LWD pieces>=3): | 5 | 10.5 |
| Pool frequency (channel widths/pool): | 10.9 | |
| Residual pool depth (avg): | 0.38 | |

STREAM SUMMARY

JOHNSON CREEK PRE-TX (NC-38)

| Number Units | Total Length (m) | Avg Width (m) | Avg Depth (m) | Total Area (m ²) | Substrate | | | | | | Large Boulders (#>0.5m) |
|-----------------|------------------------|---------------------|---------------------|------------------------------------|---------------------|-----|------|-----|------|------|-------------------------------|
| | | | | | Percent Wetted Area | | | | | | |
| | | | | | S/O | Snd | Grvl | Cbl | Bldr | Bdrk | |
| 50 | 672 | 2.5 | 0.26 | 1,760 | 10 | 19 | 56 | 12 | 2 | 0 | |

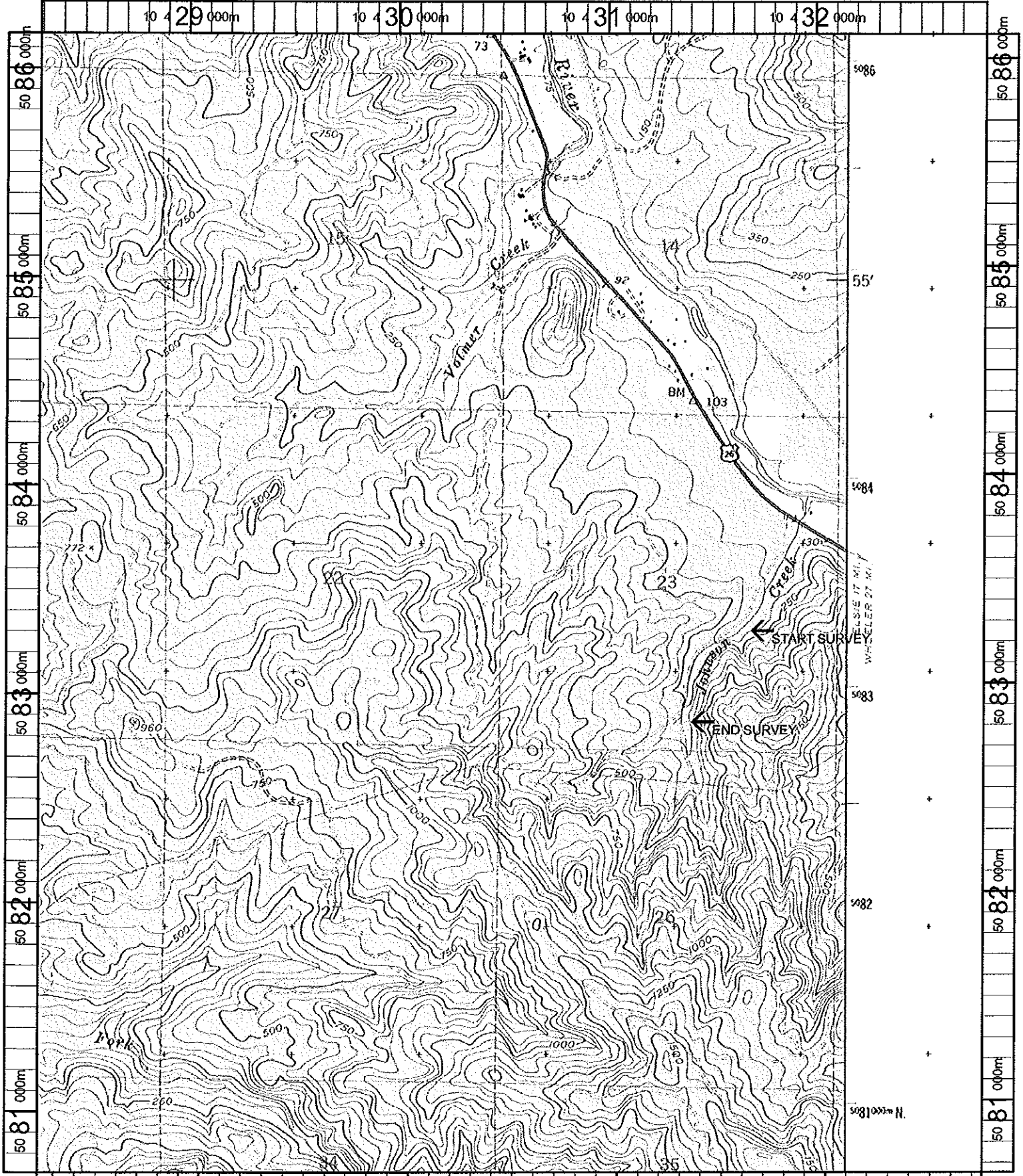
| Habitat Group | Wetted Area | |
|-------------------|-------------------|---------|
| | (m ²) | Percent |
| Dammed & BW Pools | 52 | 2.96% |
| Scour Pools | 191 | 10.84% |
| Glides | 0 | 0.00% |
| Riffles | 617 | 35.08% |
| Rapids | 719 | 40.84% |
| Cascades | 88 | 5.01% |
| Step/Falls | 29 | 1.66% |
| Dry | 64 | 3.61% |
| Culverts | 0 | 0.00% |

Comment Summary

Restoration Monitoring Sites 2003

MONITORING AREA: 1-NC SITE ID: 38 JOHNSON CREEK PRE-TX (NC-38)

| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTE ESTIMATOR | NOTE NUMERATOR |
|-------|------|------|-----------|-----------|-------------------------|----------------|
| 3 | SL | 00 | 28 | | H=.6 | |
| 13 | RI | 01 | 89.4 | /SS | | |
| 17 | SR | 02 | 110.5 | | H=.7 | |
| 24 | RI | 00 | 144.8 | SS/ | | |
| 25 | RB | 01 | 203.6 | | FLAG "#16" | |
| 26 | RB | 01 | 216.8 | SS/ | | |
| 35 | RI | 01 | 269.3 | | VWI=3 | |
| 36 | RB | 01 | 284.9 | SS/ | | |
| 39 | RB | 01 | 324.6 | TJ,SS,CS/ | /RIPRAP, T=7°C | |
| 43 | RI | 01 | 352.4 | | PHOTO 28 | |
| 44 | SL | 01 | 352.8 | | H=.3 | |
| 46 | RI | 02 | 387.2 | SS/,SS | VWI=5 | |
| 49 | RB | 01 | 476.5 | SS,/TJ | VWI=4 | |
| 50 | CB | 11 | 476.5 | | T=6.5°C, END SIGN AT /T | |



| | |
|--|---|
| <p>Name: TILLAMOOK HEAD Date: 10/13/100 Scale: 1 inch equals 2000 feet</p> | <p>Location: 10 430419 E 5083395 N Caption: JOHNSON CREEK RESTORATION SITE <i>Nolanium Bear</i></p> |
|--|---|