

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

STREAM: Big Creek Tributary A (U-242)
BASIN: Smith River
SURVEY TYPE: Pre-Tx
DATE: February 12, 2004
SURVEY CREW: Jeremiah Bernier, Michael Scheu
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 3.1 km²
USGS MAPS: Twin Sisters
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Big Creek Tributary A habitat survey extended 1,621 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 7.9 (range: 3.0-20.0). Land use for the reach was second growth (15-30 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 2.6 percent. Rapids (44%) and scour pools (25%) dominated stream habitat. Gravel (37%) and bedrock (36%) dominated stream substrate. Wood volume was low at 12.6 m³/100m.

COMMENTS:

There were two potential barriers to upstream fish migration in the surveyed length. Both were boulders steps, located 1,425 m upstream from the start of the survey.

REACH 1

T21S-R08W-S05SE

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 | 7.9 | VWI Range: | 3 - 20 |

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 | 1,621 | 5,282 | 0 |
| Secondary | 57 | 75 | 0 |

Channel Dimensions (m)

| <u>Wetted</u> | <u>Active</u> | <u>Floodprone</u> n = 7 | <u>First Terrace</u> n = 7 |
|---------------|---------------|-------------------------|----------------------------|
| Width: 2.9 | Width: 6.0 | 9.7 (5.2 - 14.7) | 15.6 (7.2 - 25) |
| Depth: 0.29 | Height: 0.5 | 1.1 (1 - 1.4) | 1.8 (1.2 - 3) |

W:D ratio: 11.2
Stream Flow Type: MF
Avg. Unit Gradient: 2.6%

Entrenchment (ACW:FPW ratio): 1.7
Water temp (°C): 6.0 - 6.0
Habitat Units/100m: 8.6

Riparian, Bank, and Wood Summary

| | <u>Primary</u> | <u>Secondary</u> |
|----------------------|----------------|------------------|
| Land Use: | ST | LT |
| Riparian Vegetation: | D15 | S |

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): | 315 | 19.4 |
| Volume (m ³): | 204 | 12.6 |
| Key pieces (>=10m x 0.60m): | 7 | 0.4 |

OREGON DEPARTMENT OF FISH AND WILDLIFE

BIG CREEK TRIB A PRE-TX (U-242)

HABITAT INVENTORY

Report Date: 6/16/2004

Survey Date:

2/12/2004

REACH 1

T21S-R08W-S05SE

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/BEDROCK | 3 | 26 | 3.2 | 0.22 | 85 | 0 | 0 | 0 | 15 | 3 | 2 | 80 |
| CASCADE/BOULDERS | 3 | 31 | 1.6 | 0.17 | 65 | 0 | 0 | 0 | 13 | 43 | 43 | 0 |
| CULVERT CROSSING | 1 | 16 | 2.0 | 0.30 | 31 | 0 | 0 | 20 | 70 | 10 | 0 | 0 |
| POOL-BACKWATER | 4 | 21 | 1.7 | 0.45 | 34 | 0 | 20 | 78 | 3 | 0 | 0 | 0 |
| POOL-DAMMED | 5 | 55 | 2.7 | 0.36 | 164 | 0 | 0 | 22 | 55 | 13 | 2 | 8 |
| POOL-ISOLATED | 1 | 4 | 2.5 | 0.30 | 10 | 0 | 30 | 70 | 0 | 0 | 0 | 0 |
| POOL-LATERAL SCOUR | 37 | 330 | 2.8 | 0.44 | 952 | 0 | 0 | 8 | 47 | 8 | 4 | 34 |
| POOL-PLUNGE | 15 | 81 | 3.7 | 0.42 | 301 | 0 | 0 | 4 | 28 | 13 | 6 | 50 |
| POOL-STRAIGHT SCOUR | 4 | 24 | 3.5 | 0.38 | 86 | 0 | 0 | 0 | 58 | 11 | 1 | 30 |
| RAPID/BEDROCK | 16 | 358 | 4.1 | 0.18 | 1,768 | 0 | 0 | 0 | 8 | 8 | 3 | 81 |
| RAPID/BOULDERS | 16 | 267 | 2.2 | 0.18 | 606 | 0 | 0 | 3 | 48 | 19 | 20 | 11 |
| RIFFLE | 17 | 379 | 2.4 | 0.19 | 956 | 0 | 0 | 2 | 57 | 21 | 2 | 19 |
| STEP/BEDROCK | 8 | 48 | 3.9 | 0.12 | 195 | 0 | 0 | 0 | 0 | 1 | 4 | 96 |
| STEP/BOULDERS | 2 | 2 | 2.4 | 0.10 | 6 | 0 | 0 | 0 | 0 | 15 | 85 | 0 |
| STEP/COBBLE | 8 | 29 | 2.7 | 0.13 | 79 | 0 | 0 | 0 | 71 | 26 | 3 | 1 |
| STEP/LOG | 4 | 6 | 2.9 | 0.08 | 18 | 0 | 0 | 0 | 23 | 3 | 0 | 75 |
| Total: | 144 | 1,677 | 2.9 | 0.29 | 5,357 | 0 | Avg: 1 | 7 | 37 | 12 | 7 | 36 |

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 | 10 | 80 | 2.3 | 0.39 | 208 | 3.89% | 0 | 0.0 |
| Scour Pools | 56 | 435 | 3.1 | 0.43 | 1,339 | 25.00% | 0 | 0.0 |
| Glides | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 |
| Riffles | 17 | 379 | 2.4 | 0.19 | 956 | 17.85% | 0 | 0.0 |
| Rapids | 32 | 625 | 3.1 | 0.18 | 2,374 | 44.31% | 0 | 0.0 |
| Cascades | 6 | 57 | 2.4 | 0.19 | 150 | 2.80% | 0 | 0.0 |
| Step/Falls | 22 | 85 | 3.1 | 0.11 | 298 | 5.57% | 0 | 0.0 |
| Dry | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 |
| Culverts | 1 | 16 | 2.0 | 0.30 | 31 | 0.58% | 0 | 0.0 |

REACH 1

T21S-R08W-S05SE

REACH 1

POOL SUMMARY

| | <u>Total</u> | <u># / Km</u> | |
|---------------------------------------|--------------|---------------|----|
| All Pools: | 66 | 39.4 | 57 |
| Pools >=1m deep: | 0 | 0.0 | |
| Complex pools (LWD pieces>=3): | 16 | 9.5 | |
| Pool frequency (channel widths/pool): | 4.3 | | |
| Residual pool depth (avg): | 0.30 | | |

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: **4-UMP** SITE ID: **242** **BIG CREEK TRIB A PRE-TX (U-242)**

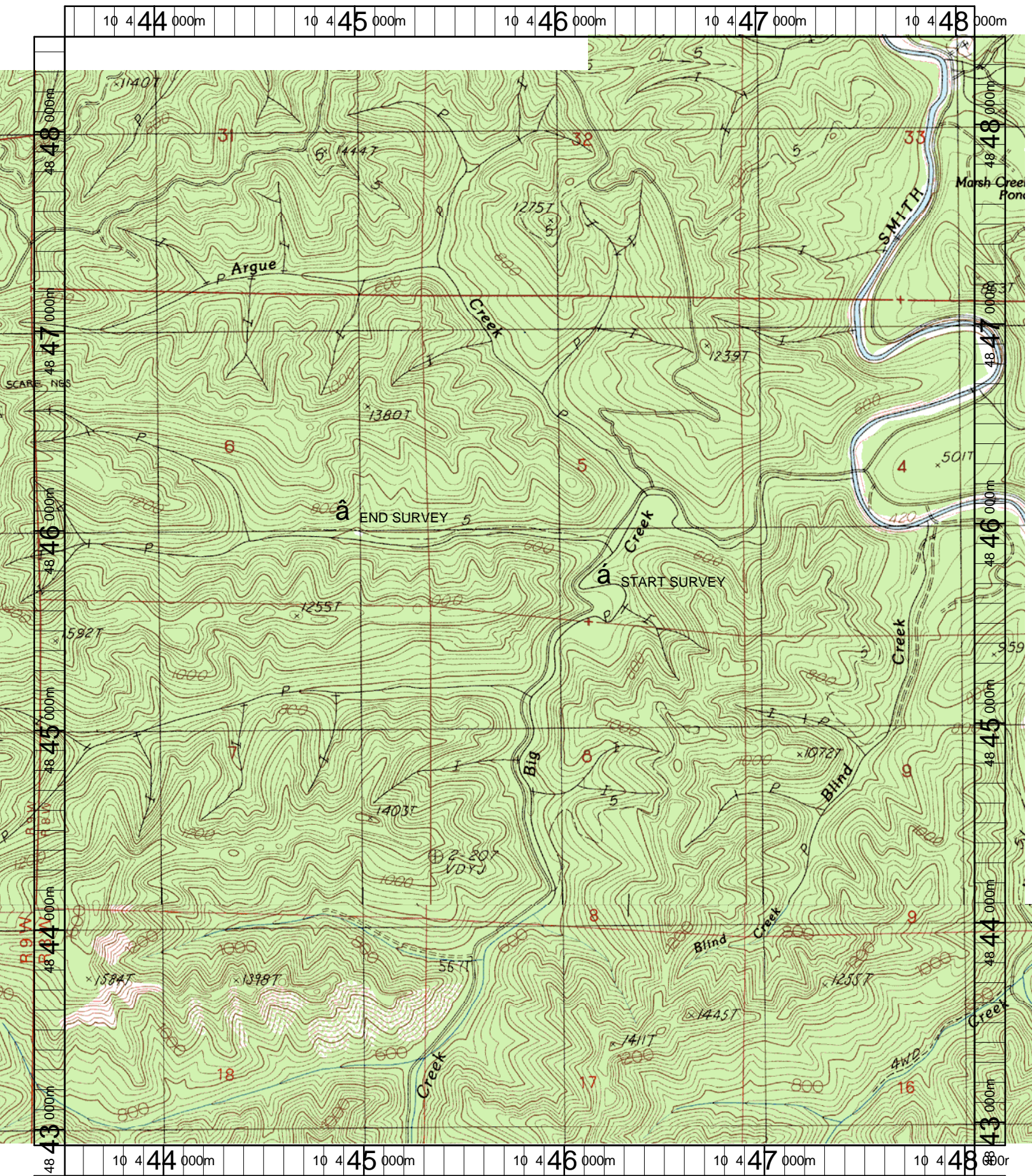
| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTE ESTIMATOR | NOTE NUMERATOR |
|-------|------|------|-----------|----------|----------------------|----------------|
| 1 | RR | 00 | 9.8 | | T=6C, SALMON SPAWN S | |
| 8 | RB | 00 | 66.1 | | SITE 3 | |
| 16 | CC | 00 | 153.5 | CC | H=.9M, BIG CR RD | |
| 21 | SC | 00 | 185 | | H=0.4M | |
| 27 | RB | 00 | 277 | | SITE 6 | |
| 40 | SR | 00 | 394.7 | | H=0.5M | |
| 42 | LP | 00 | 435.7 | | STHD W/REDD | |
| 46 | PP | 00 | 509.3 | | REDD | |
| 49 | RR | 00 | 551 | /SS | | |
| 51 | RR | 00 | 580.7 | LI/ | | |
| 59 | SL | 00 | 678 | | H=0.7M | |
| 71 | RR | 01 | 855.6 | TJ/ | NOT ON MAP | |
| 72 | CB | 11 | 855.6 | | T=7C, ACW=2.0M | |
| 73 | SL | 00 | 855.9 | | H=.65M | |
| 76 | LP | 01 | 874.4 | /TJ | T=7C, ACW=1.5M | |
| 83 | SL | 00 | 932.4 | | H=0.5M | |
| 93 | PP | 00 | 1050.4 | SS/ | | |
| 101 | SP | 00 | 1128.2 | | END SNORKEL | |
| 125 | SB | 01 | 1424.7 | PN | H=1.9M | |
| 127 | SB | 02 | 1424.7 | PN | H=1.5M | |
| 128 | RB | 00 | 1434.1 | SS/ | | |

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: 4-UMP SITE ID: 242 BIG CREEK TRIB A PRE-TX (U-242)

| <u>UNIT#</u> | <u>TYPE</u> | <u>CHAN</u> | <u>DIST. (m)</u> | <u>COMMENTS</u> | <u>NOTE ESTIMATOR</u> | <u>NOTE NUMERATOR</u> |
|--------------|-------------|-------------|------------------|-----------------|-----------------------|-----------------------|
| 130 | LP | 01 | 1449.5 | /TJ | | NOT ON MAP |
| 131 | RB | 11 | 1449.5 | | | T=7.5C, ACW=2.0M |



Name: TWIN SISTERS
 Date: 1/5/2004
 Scale: 1 inch equals 2000 feet

Location: 10 445796 E 4845684 N
 Caption: BIG CREEK TRIB A RESTORATION SITE - SMITH BASIN