

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

STREAM: Little Rock Creek Upper (MC-89)
BASIN: Siletz River
SURVEY TYPE: Post-Tx
DATE: February 27, 2006
SURVEY CREW: Paul Jacobsen, Brian Bangs
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 4.4 km³
USGS MAPS: Summit
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Little Rock Creek habitat survey extended 479 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 6.2 (range: 5.0-7.0). Land use for the reach was second growth (15-30 cm dbh) and mature (50-90 cm dbh) trees. The average unit gradient was 2.6 percent. Riffles (42%), scour pools (27%) and rapids (22%) dominated stream habitat. Gravel (40%) and sand (20%) dominated stream substrate. Wood volume was low at 10.7 m³/100m.

COMMENTS:

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

The crew noted several habitat structures during the survey. They also noted beaver activity throughout the surveyed reach.

Stream Little Rock Creek Upper (MC-89)
 Basin Siletz River
 Treatment Large Wood

| | ODFW Benchmark | | Pre 3/16/98 | Post 1/26/99 | Post 2/27/06 | | |
|------------------------|----------------|-------------|-------------|--------------|--------------|--|--|
| Habitat Variable | Desirable | Undesirable | | | | | |
| % Pool Area | >35% | <10% | 29.4 | 25.4 | 29 | | |
| Number of Pools | | | 21 | 14 | 22 | | |
| Deep Pools/km (>1.0 m) | | | 0 | 0 | 0 | | |
| % Off-Channel | | | 2.1 | 6.8 | 8.4 | | |
| LWD – Pieces/100m | >20 | <10 | 3.1 | 9.2 | 7.1 | | |
| LWD – Volume/100m | >30 | <20 | 5.9 | 19.3 | 10.7 | | |
| LWD – Key Pieces/100m | >3 | <1 | 0.2 | 1.0 | 0.4 | | |
| Large Wood Jams/km | | | 0 | 4.0 | 6.3 | | |
| % Riffle Fines | <10 | >20 | 3 | 34 | 13 | | |
| % Riffle Gravel | >35 | <15 | 67 | 27 | 57 | | |
| % Bedrock | | | 8 | 13 | 12 | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Bold is noticeable change

Comments: Since the treatment was large wood assembled in complex jams, it is no surprise that there was an increase in those variables. Large wood pieces are still accumulating as well as additional wood jams. Wood volume and key wood pieces have decreased since treatment. Pools have remained stable, as has substrate. Off-channel habitat has increased when compared to pre-treatment conditions.

REACH 1

T10S-R08W-S13NW

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 | 6.2 | VWI Range: | 5 - 7 |

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 Channel | 479 | 1,345 | 0 |
| Secondary Channel | 40 | 75 | 0 |
| Off-Channel Units | 44 | 49 | 0 |

Channel Dimensions (m)

| <u>Wetted</u> | <u>Active</u> | <u>Floodprone</u> n = 5 | <u>First Terrace</u> n = 5 |
|---------------|---------------|-------------------------|----------------------------|
| Width: 2.7 | Width: 5.9 | 24.1 (17.2 - 31.5) | 28.7 (24.1 - 37) |
| Depth: 0.30 | Height: 0.5 | 1.0 (0.9 - 1.2) | 1.2 (1 - 1.4) |

| | |
|-----------------------------------|--|
| W:D ratio: 11.8 | Entrenchment (ACW:FPW ratio): 4.3 |
| Stream Flow Type: LF | Habitat Units/100m (total channel length): 8.4 |
| Average Unit Gradient: 2.6% | Habitat Units/100m (primary channel length): 9.8 |
| Water temperature (°C): 8.0 - 8.0 | |

Riparian, Bank, and Wood Summary

| | <u>Primary</u> | <u>Secondary</u> |
|----------------------|----------------|------------------|
| Land Use: | ST | MT |
| Riparian Vegetation: | D3 | 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 primary channel</u> |
|---|--------------|-------------------------------------|
| All pieces ($\geq 3m \times 0.15m$): | 34 | 7.1 |
| Volume (m ³): | 51 | 10.7 |
| Key pieces ($\geq 12m \times 0.60m$): | 2 | 0.4 |

OREGON DEPT OF FISH AND WILDLIFE LITTLE ROCK CREEK UPPER POST-TX (2-MC, 89)

HABITAT INVENTORY

Report Date: 12/6/2006

Survey Date:

2/27/2006

| REACH 1 | | T10S-R08W-S13NW | | | | | 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 | 1 | 14 | 3.3 | 0.15 | 47 | 0 | 1 | 10 | 30 | 10 | 5 | 45 |
| CASCADE/BOULDERS | 1 | 5 | 1.1 | 0.10 | 5 | 0 | 5 | 15 | 40 | 40 | 0 | 0 |
| POOL-BACKWATER | 2 | 8 | 1.6 | 0.28 | 12 | 0 | 13 | 60 | 15 | 8 | 5 | 0 |
| POOL-ISOLATED | 2 | 9 | 1.8 | 0.25 | 17 | 0 | 70 | 30 | 0 | 0 | 0 | 0 |
| POOL-LATERAL SCOUR | 16 | 126 | 3.0 | 0.54 | 356 | 0 | 7 | 27 | 31 | 13 | 3 | 19 |
| POOL-PLUNGE | 2 | 10 | 4.5 | 0.58 | 40 | 0 | 8 | 32 | 15 | 5 | 5 | 34 |
| RAPID/BOULDERS | 8 | 143 | 2.2 | 0.12 | 321 | 0 | 2 | 11 | 54 | 20 | 2 | 11 |
| RIFFLE | 11 | 225 | 2.8 | 0.14 | 614 | 0 | 2 | 11 | 57 | 19 | 3 | 7 |
| STEP/COBBLE | 4 | 23 | 2.5 | 0.14 | 56 | 0 | 0 | 8 | 55 | 34 | 4 | 0 |
| Total: | 47 | 562 | 2.7 | 0.30 | 1,469 | 0 | Avg: 7 | 20 | 40 | 17 | 3 | 12 |

| 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 | 4 | 17 | 1.7 | 0.26 | 29 | 1.95% | 0 | 0.0 | |
| Scour Pools | 18 | 136 | 3.2 | 0.54 | 397 | 27.01% | 0 | 0.0 | |
| Glides | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |
| Riffles | 11 | 225 | 2.8 | 0.14 | 614 | 41.83% | 0 | 0.0 | |
| Rapids | 8 | 143 | 2.2 | 0.12 | 321 | 21.87% | 0 | 0.0 | |
| Cascades | 2 | 19 | 2.2 | 0.13 | 52 | 3.51% | 0 | 0.0 | |
| Step/Falls | 4 | 23 | 2.5 | 0.14 | 56 | 3.83% | 0 | 0.0 | |
| Dry | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |
| Culverts | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |

| | Total of all Channel Lengths | | Primary Channel Length |
|---------------------------------------|------------------------------|---------------|------------------------|
| | <u>Total</u> | <u># / Km</u> | <u># / Km</u> |
| All Pools: | 22 | 39.1 | 46.0 |
| Pools >=1m deep: | 0 | 0.0 | 0.0 |
| Complex pools (LWD pieces>=3): | 2 | 3.6 | 4.2 |
| Pool frequency (channel widths/pool): | 4.3 | | |
| Residual pool depth (avg): | 0.37 | | |

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **89** LITTLE ROCK CREEK UPPER POST-

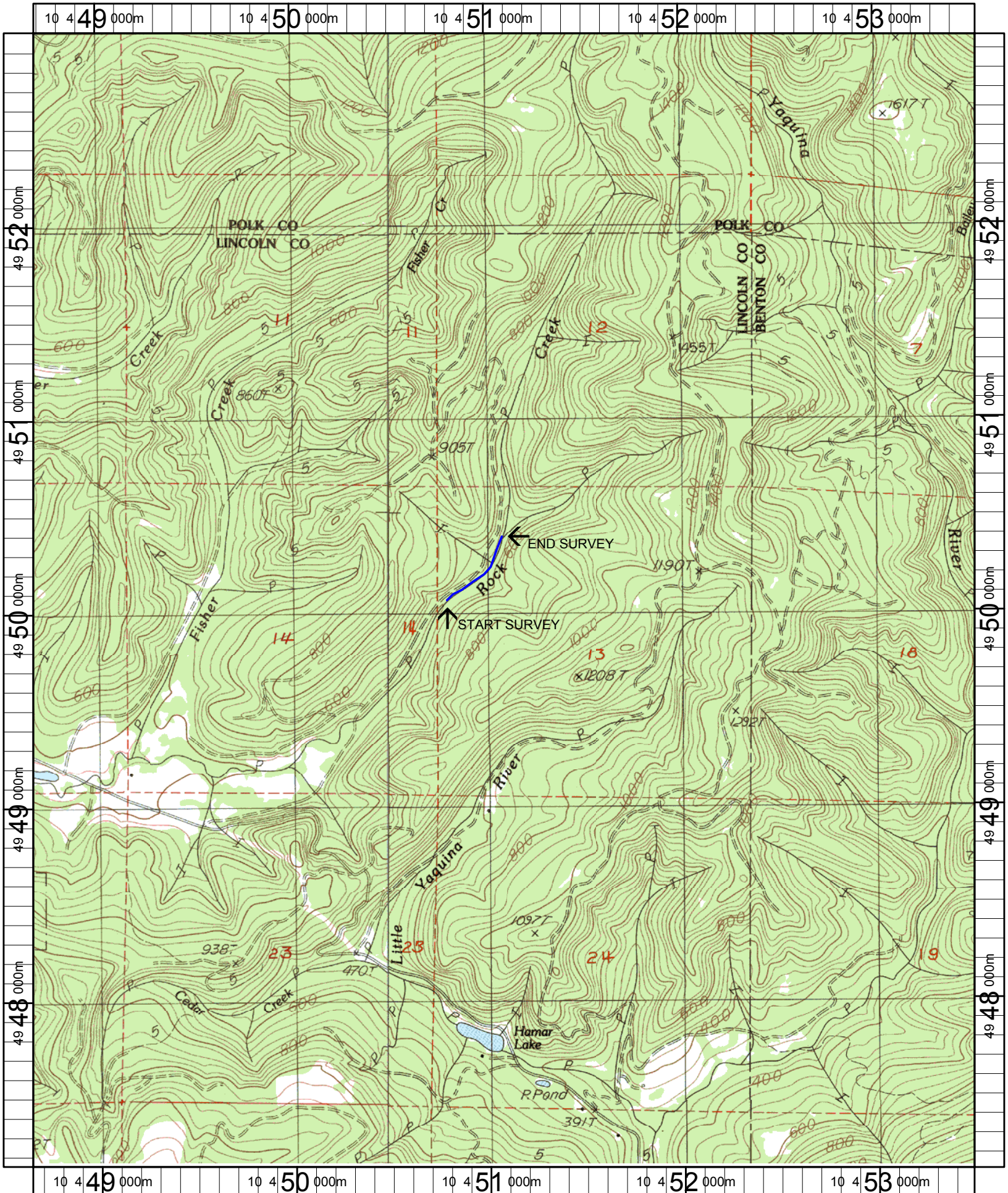
| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTE ESTIMATOR | NOTE NUMERATOR |
|-------|------|------|-----------|------------|-------------------------|----------------|
| 1 | LP | 00 | 9 | HS, BV,/SS | | |
| 4 | RI | 00 | 37.4 | BV | | |
| 6 | RB | 01 | 71.1 | HS, /TJ | | |
| 7 | RB | 02 | 71.1 | BV | | |
| 8 | CB | 11 | 71.1 | | T = 8.0 | |
| 9 | LP | 02 | 71.1 | BV | O2 CHANNEL CAUSED BY HS | |
| 10 | RI | 00 | 89.5 | | T = 8.0 | |
| 12 | SC | 01 | 108.1 | TJ/ | | |
| 13 | RB | 11 | 108.1 | | T = 8.0 | |
| 14 | LP | 00 | 116.8 | BV, WL | GAME TRAIL | |
| 19 | LP | 00 | 143.1 | BV | | |
| 21 | LP | 01 | 157.3 | | RSN | |
| 22 | IP | 10 | 157.3 | | RSN | |
| 24 | RI | 00 | 197.8 | BV | | |
| 25 | LP | 00 | 203.8 | BV | COW TRACKS, BV DEN | |
| 29 | SC | 00 | 237.2 | BV | | |
| 30 | PP | 00 | 241.4 | BV | | |
| 31 | RI | 01 | 255.4 | | CATTLE TRACKS | |
| 32 | IP | 10 | 255.4 | | RSN | |
| 33 | LP | 00 | 260.9 | HS, BV | | |
| 34 | RI | 00 | 287.4 | BV | | |

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 2-MC SITE ID: 89 LITTLE ROCK CREEK UPPER POST-

| <u>UNIT#</u> | <u>TYPE</u> | <u>CHAN</u> | <u>DIST. (m)</u> | <u>COMMENTS</u> | <u>NOTE ESTIMATOR</u> | <u>NOTE NUMERATOR</u> |
|--------------|-------------|-------------|------------------|-----------------|-------------------------------|-----------------------|
| 37 | LP | 00 | 340.8 | HS, BV | | |
| 38 | RB | 00 | 368.1 | BV | | |
| 39 | RI | 00 | 393 | BV | | |
| 40 | RI | 00 | 402.1 | BV | | |
| 41 | LP | 00 | 409.4 | BV | | |
| 44 | CR | 00 | 448.6 | BV | | |
| 45 | RI | 01 | 471.5 | HS, BV | | |
| 46 | BW | 10 | 471.5 | | HARVEST AREA ABOVE SURVEY END | |



Name: SUMMIT
 Date: 1/23/2006
 Scale: 1 inch equals 2000 feet

Location: 10 451086 E 4950062 N
 Caption: LITTLE ROCK CREEK UPPER #89 RESTORATION SITE -
 SILETZ BASIN