

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

STREAM: Buttermilk Creek (MC-76)
BASIN: Yaquina River
SURVEY TYPE: Post-Tx
DATE: February 8, 2006
SURVEY CREW: Paul Jacobsen, Jon Nott
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 6.43 km²
USGS MAPS: Nortons
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Buttermilk Creek habitat survey extended 427 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 4.5 (range: 1.4-10.0). Land use for the reach was large (30-50 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 1.8 percent. Riffles (56%) and scour pools (28%) dominated stream habitat. Bedrock (28%), sand (23%) and gravel (20%) dominated stream substrate. Wood volume was low at 13.5 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.

REACH 1

T10S-R08W-S31NW

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 | 100% | Multiple Terraces | 0% |
| Open V-shape | 0% | Wide Floodplain | 0% |
| Valley Width Index | 4.5 | VWI Range: | 1.4 - 10 |

Channel Morphology (Percent Reach Length)

| <u>Constrained</u> | | <u>Unconstrained</u> | |
|--------------------|------|----------------------|----|
| Hillslope | 100% | Single Channel | 0% |
| 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 | 427 | 2,026 | 0 |
| Secondary Channel | 10 | 14 | 1 |
| Off-Channel Units | 6 | 4 | 0 |

Channel Dimensions (m)

| <u>Wetted</u> | <u>Active</u> | <u>Floodprone</u> n = 5 | <u>First Terrace</u> n = 3 |
|---------------|---------------|-------------------------|----------------------------|
| Width: 4.7 | Width: 7.7 | 13.6 (11.4 - 19.7) | 17.5 (12.4 - 25) |
| Depth: 0.43 | Height: 0.6 | 1.1 (1.1 - 1.2) | 1.7 (1.4 - 2.1) |

W:D ratio: 13.5

Entrenchment (ACW:FPW ratio): 1.9

Stream Flow Type: MF

Habitat Units/100m (total channel length): 6.1

Average Unit Gradient: 1.8%

Habitat Units/100m (primary channel length): 6.3

Water temperature (°C): 9.0 - 9.0

Riparian, Bank, and Wood Summary

| | <u>Primary</u> | <u>Secondary</u> |
|----------------------|----------------|------------------|
| Land Use: | LT | ST |
| Riparian Vegetation: | D30 | 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 primary channel</u> |
|-----------------------------|--------------|-------------------------------------|
| All pieces (>=3m x 0.15m): | 56 | 13.1 |
| Volume (m ³): | 57 | 13.5 |
| Key pieces (>=12m x 0.60m): | 2 | 0.5 |

OREGON DEPT OF FISH AND WILDLIFE

BUTTERMILK CREEK POST-TX (2-MC, 76)

HABITAT INVENTORY

Report Date: 12/6/2006

Survey Date:

2/8/2006

| REACH 1 | | T10S-R08W-S31NW | | | | | 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 | 1 | 6 | 0.6 | 0.07 | 4 | 0 | 0 | 30 | 40 | 30 | 0 | 0 |
| POOL-DAMMED | 3 | 49 | 4.6 | 0.83 | 244 | 0 | 2 | 56 | 11 | 2 | 8 | 20 |
| POOL-LATERAL SCOUR | 5 | 91 | 5.3 | 0.73 | 482 | 0 | 0 | 24 | 20 | 12 | 11 | 32 |
| POOL-PLUNGE | 3 | 19 | 5.7 | 0.63 | 95 | 0 | 0 | 22 | 16 | 7 | 22 | 34 |
| PUDDLED UNIT | 1 | 10 | 1.3 | 0.35 | 14 | 0 | 27 | 27 | 5 | 5 | 36 | 0 |
| RAPID/BEDROCK | 1 | 13 | 3.9 | 0.10 | 52 | 0 | 0 | 5 | 0 | 0 | 5 | 90 |
| RIFFLE | 9 | 251 | 4.5 | 0.29 | 1,135 | 0 | 0 | 6 | 19 | 21 | 16 | 38 |
| STEP/LOG | 4 | 3 | 6.0 | 0.13 | 17 | 0 | 3 | 35 | 39 | 14 | 8 | 3 |
| Total: | 27 | 443 | 4.7 | 0.43 | 2,043 | 0 | Avg: 2 | 23 | 20 | 14 | 13 | 28 |

| 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 | 3 | 49 | 4.6 | 0.83 | 244 | 11.96% | 0 | 0.0 | |
| Scour Pools | 8 | 110 | 5.5 | 0.69 | 577 | 28.23% | 0 | 0.0 | |
| Glides | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |
| Riffles | 9 | 251 | 4.5 | 0.29 | 1,135 | 55.57% | 0 | 0.0 | |
| Rapids | 1 | 13 | 3.9 | 0.10 | 52 | 2.56% | 0 | 0.0 | |
| Cascades | 1 | 6 | 0.6 | 0.07 | 4 | 0.18% | 0 | 0.0 | |
| Step/Falls | 4 | 3 | 6.0 | 0.13 | 17 | 0.84% | 0 | 0.0 | |
| Dry | 1 | 10 | 1.3 | 0.35 | 14 | 0.66% | 0 | 0.0 | |
| Culverts | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |

| POOL SUMMARY | | | |
|---------------------------------------|------------------------------|---------------|------------------------|
| | Total of all Channel Lengths | | Primary Channel Length |
| | <u>Total</u> | <u># / Km</u> | <u># / Km</u> |
| All Pools: | 11 | 24.8 | 25.8 |
| Pools >=1m deep: | 1 | 2.3 | 2.3 |
| Complex pools (LWD pieces>=3): | 4 | 9.0 | 9.4 |
| Pool frequency (channel widths/pool): | 5.3 | | |
| Residual pool depth (avg): | 0.44 | | |

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 2-MC SITE ID: 76 BUTTERMILK CREEK POST-TX

| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTE ESTIMATOR | NOTE NUMERATOR |
|-------|------|------|-----------|----------|----------------|----------------|
| 4 | SL | 00 | 68.5 | | H = 0.3 | |
| 6 | SL | 00 | 79.6 | DJ | H = 0.15 | |
| 10 | SL | 00 | 119.5 | HS | H = 0.4 | |
| 11 | DP | 01 | 151.9 | /TJ | | |
| 17 | RI | 00 | 224.4 | /LS | | |
| 18 | LP | 00 | 230.7 | HS | | |
| 20 | PP | 00 | 266.4 | HS | | |
| 21 | SL | 00 | 267.2 | | H = 0.8 | |
| 27 | LP | 00 | 426.5 | BC | T = 9.0 | |

