**ODFW AQUATIC INVENTORY PROJECT**

**OREGON PLAN FOR SALMON & WATERSHEDS**

**STREAM RESTORATION HABITAT REPORT**

| | |
|---|---|
| STREAM: | Elk Creek Phase 3 (MS-358) |
| BASIN: | Millicoma River |
| SURVEY TYPE: | Pre-Tx |
| DATE: | March 26, 2007 |
| SURVEY CREW: | Andy Lanier, Laurel Moulton |
| REPORT PREPARED BY: | Paul Jacobsen |
| BASIN AREA: | 16.7 $km^2$ |
| USGS MAPS: | Elk Peak |
| ECOREGION: | Coast Range Sedimentary |

GENERAL DESCRIPTION:

The Elk Creek habitat survey extended 1,538 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 1.9 (range: 1.0-4.0). Land use for the reach was mature (50-90 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 2.1 percent. Scour pools (42%) and rapids (34%) dominated stream habitat. Bedrock (58%) dominated stream substrate. Wood volume was low at 13.9 $m^3$/100m.

COMMENTS:

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

The crew noted several habitat structures during the survey.

**OREGON DEPT OF FISH AND WILDLIFE** **ELK CREEK PHASE 3 PRE-TX (3-MS, 358)**

**HABITAT INVENTORY** Report Date: 5/3/2007 Survey Date: 3/26/2007

**REACH 1** **T23S-11W-S13-NE** **REACH 1**

## Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

| Narrow Valley Floor | | Broad Valley Floor | |
|---|---|---|---|
| Steep V-shape | 0% | Constraining Terraces | 0% |
| Moderate V-shape | 100% | Multiple Terraces | 0% |
| Open V-shape | 0% | Wide Floodplain | 0% |

Valley Width Index 1.9 VWI Range: 1 - 4

Channel Morphology (Percent Reach Length)

| Constrained | | Unconstrained | |
|---|---|---|---|
| Hillslope | 100% | Single Channel | 0% |
| Bedrock | 0% | Multiple Channel | 0% |
| Terrace | 0% | Braided Channel | 0% |
| Alt. Terrace/Hill | 0% | | |
| Landuse | 0% | | |

Channel Characteristics

| Type | Length (m) | Area (m2) | Dry Units |
|---|---|---|---|
| Primary Channel | 1,538 | 17,746 | 0 |
| Secondary Channel | 0 | 0 | 0 |
| Off-Channel Units | 32 | 71 | 0 |

Channel Dimensions (m)

| Wetted | Active | Floodprone *n* = 5 | First Terrace *n* = 2 |
|---|---|---|---|
| Width: 11.2 | Width: 13.7 | 18.3 ( 11 - 24 ) | 17.5 ( 12 - 23 ) |
| Depth: 0.60 | Height: 0.6 | 1.2 ( 1 - 1.6 ) | 1.8 ( 1.3 - 2.3 ) |

W:D ratio: 23.0
Stream Flow Type: MF
Average Unit Gradient: 2.1%
Water temperature (°C): 7.0 - 7.0

Entrenchment (ACW:FPW ratio): 1.3
Habitat Units/100m (total channel length): 5.5
Habitat Units/100m (primary channel length): 5.7

## Riparian, Bank, and Wood Summary

| | Primary | Secondary |
|---|---|---|
| Land Use: | MT | YT |
| Riparian Vegetation: | D30 | S |

Bank Condition and Shade

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

Large Wood Debris

| | Total | Total / 100m primary channel |
|---|---|---|
| All pieces (>=3m x 0.15m): | 153 | 10.0 |
| Volume ($m^3$): | 213 | 13.9 |
| Key pieces (>=12m x 0.60m): | 6 | 0.4 |

**OREGON DEPT OF FISH AND WILDLIFE** **ELK CREEK PHASE 3 PRE-TX (3-MS, 358)**

**HABITAT INVENTORY** Report Date: 5/3/2007 Survey Date: 3/26/2007

**REACH 1** **T23S-11W-S13-NE** **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 | 30 | 17.0 | 0.10 | 510 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| POOL-DAMMED | 3 | 74 | 11.7 | 1.37 | 829 | 0 | 0 | 20 | 20 | 8 | 21 | 30 |
| POOL-LATERAL SCOUR | 19 | 482 | 9.9 | 1.00 | 4,690 | 0 | 0 | 10 | 16 | 10 | 16 | 48 |
| POOL-PLUNGE | 18 | 201 | 13.6 | 1.14 | 2,825 | 0 | 1 | 9 | 16 | 6 | 18 | 51 |
| RAPID/BEDROCK | 13 | 416 | 10.7 | 0.19 | 4,774 | 0 | 0 | 5 | 11 | 9 | 15 | 60 |
| RAPID/BOULDERS | 4 | 113 | 12.0 | 0.28 | 1,314 | 0 | 0 | 11 | 16 | 19 | 38 | 17 |
| RIFFLE W/ POCKETS | 4 | 105 | 12.5 | 0.24 | 1,335 | 0 | 0 | 7 | 16 | 28 | 13 | 36 |
| STEP/BEDROCK | 22 | 138 | 11.2 | 0.15 | 1,513 | 0 | 0 | 0 | 1 | 1 | 7 | 90 |
| STEP/COBBLE | 2 | 10 | 0.8 | 0.10 | 8 | 0 | 0 | 5 | 95 | 0 | 0 | 0 |
| STEP/LOG | 1 | 2 | 9.0 | 0.20 | 18 | 0 | 0 | 4 | 9 | 9 | 70 | 9 |
| **Total:** | 87 | 1,570 | 11.2 | 0.60 | 17,816 | 0 | **Avg:** 0 | 7 | 13 | 7 | 15 | 58 |

**HABITAT SUMMARY**

| Habitat Group | Number Units | Total Length (m) | Avg Width (m) | Avg Depth (m) | Wetted Area ($m^2$) | Wetted Area Percent | Large Boulders Number | Large Boulders (# / $100m^2$) |
|---|---|---|---|---|---|---|---|---|
| Dammed & BW Pools | 3 | 74 | 11.7 | 1.37 | 829 | 4.65% | 0 | 0.0 |
| Scour Pools | 37 | 683 | 11.7 | 1.07 | 7,515 | 42.18% | 0 | 0.0 |
| Glides | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 |
| Riffles | 4 | 105 | 12.5 | 0.24 | 1,335 | 7.49% | 0 | 0.0 |
| Rapids | 17 | 529 | 11.0 | 0.21 | 6,088 | 34.17% | 0 | 0.0 |
| Cascades | 1 | 30 | 17.0 | 0.10 | 510 | 2.86% | 0 | 0.0 |
| Step/Falls | 25 | 150 | 10.3 | 0.15 | 1,539 | 8.64% | 0 | 0.0 |
| Dry | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 |
| Culverts | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 |

**POOL SUMMARY**

| | Total | Total of all Channel Lengths # / Km | Primary Channel Length # / Km |
|---|---|---|---|
| All Pools: | 40 | 25.5 | 26.0 |
| Pools >=1m deep: | 26 | 16.6 | 16.9 |
| Complex pools (LWD pieces>=3): | 12 | 7.6 | 7.8 |
| Pool frequency (channel widths/pool): | 2.9 | | |
| Residual pool depth (avg): | 0.86 | | |

# Comment Summary
# Restoration Monitoring Sites 2007

**MONITORING AREA:** **3-MS** **SITE ID:** **358** **ELK CREEK PHASE 3 PRE-TX**

| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTE ESTIMATOR |
|---|---|---|---|---|---|
| 1 | LP | 00 | 36 | SS/-HS | LOGS PLACED IN DTREAM = LP. |
| 2 | LP | 00 | 63 | SS/- HS | LP. |
| 5 | SR | 00 | 86.5 | HS | LP. |
| 6 | LP | 00 | 113.5 | /CS | |
| 7 | RR | 00 | 125.5 | BV/CS | |
| 8 | LP | 00 | 175.5 | /CS | |
| 9 | SR | 00 | 185.5 | | ODFW SIGN, SITE 1039 |
| 13 | PP | 01 | 279.5 | /TJ | |
| 14 | SR | 11 | 279.5 | | ACW=2.2 |
| 15 | SR | 00 | 286.5 | | HIGHER FLOW TODAY |
| 16 | LP | 00 | 323.5 | /SS | |
| 26 | SR | 00 | 467 | /CS | PICTURE |
| 28 | LP | 01 | 501 | /TJ | TEMPERATURE =7 |
| 29 | SC | 11 | 501 | | TEMPERATURE =7 |
| 33 | RB | 00 | 623.5 | BV | SMALL POCKETS UP TO 1.2 M DEEP |
| 36 | DP | 00 | 652 | /CS | |
| 37 | SR | 00 | 664.5 | /CS | |
| 39 | RB | 00 | 707.5 | /CS | CS APPEARS TO BE ROAD (BEDROCK |
| 40 | LP | 01 | 723 | TJ/ | JUVENILE SALMONID |
| 41 | SC | 11 | 723 | | PICTURE TRIB BDRK STEP AFTER T |
| 42 | RR | 00 | 741 | BV | |

# Comment Summary
# Restoration Monitoring Sites 2007

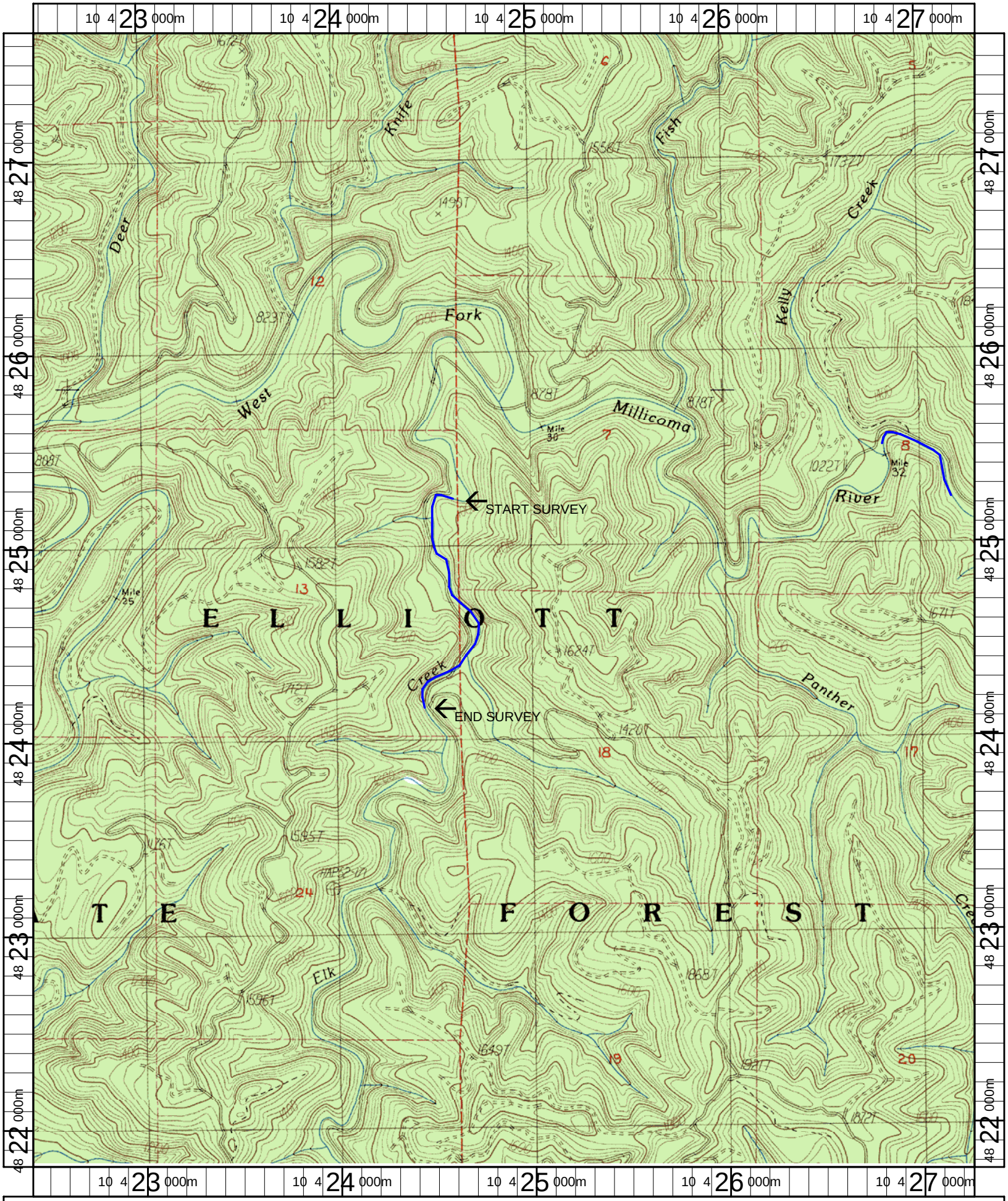
**MONITORING AREA:** **3-MS** **SITE ID:** **358** **ELK CREEK PHASE 3 PRE-TX**

| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTE ESTIMATOR |
|---|---|---|---|---|---|
| 47 | LP | 00 | 826.5 | BV | |
| 48 | RB | 00 | 837.5 | /CS BV | |
| 50 | CR | 00 | 885 | | PHOTO |
| 51 | DP | 00 | 925 | | PAIR STEELHEAD EXIBITING SPAWN |
| 54 | SR | 01 | 969 | TJ/ | |
| 55 | SR | 11 | 969 | | TEMPERATURE =7 |
| 56 | LP | 00 | 993 | BV | 1 OR 2 FUNGUSY SALMONID .7M |
| 57 | LP | 00 | 1012 | SS/ | |
| 58 | RB | 00 | 1060 | BV SS/ | |
| 59 | LP | 00 | 1110 | BV /CS | REDD? |
| 60 | LP | 00 | 1122.5 | | ELK CRK 139 END SIND @ HEAD OF |
| 61 | RR | 00 | 1163.5 | BV | |
| 64 | RP | 00 | 1196 | BV | |
| 68 | RR | 01 | 1270 | TJ/ | JUVENILE SALMONID |
| 69 | RR | 11 | 1270 | | ACW=5 |
| 70 | SR | 11 | 1270 | | ACW=4 |
| 73 | RR | 00 | 1315 | BV SS/ | |
| 74 | LP | 00 | 1340 | BV | |
| 75 | RR | 00 | 1380 | /CS BV | |
| 76 | LP | 00 | 1408 | BVBC CS/CS | |
| 77 | RR | 00 | 1427 | CS/ | |

# Comment Summary
# Restoration Monitoring Sites 2007

**MONITORING AREA:** **3-MS** **SITE ID:** **358** **ELK CREEK PHASE 3 PRE-TX**

| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTE ESTIMATOR |
|---|---|---|---|---|---|
| 78 | PP | 00 | 1437 | BV CS/ | |
| 79 | SL | 00 | 1439 | BV | SALMONID SKELETON PARTS |
| 80 | DP | 00 | 1452.5 | BV | |
| 81 | SR | 00 | 1465.5 | | BIG STEELHEAD CLIMBING, HIDING |
| 82 | PP | 00 | 1469.5 | BV | STEELHEAD LARGE FROM PREVIOUS |
| 84 | PP | 00 | 1494.5 | BV | LG STEELHEAD |
| 86 | RR | 00 | 1521 | /SS BV | |
| 87 | PP | 00 | 1537.5 | BV | END 50M BEFORE 9500RD |




Name: ELK PEAK
Date: 1/3/2007
Scale: 1 inch equals 2000 feet

Location: 10 424864 E 4824714 N
Caption: ELK CREEK PHASE 3 RESTORATION SITE - MILLICOMA BASIN