

**ODFW AQUATIC INVENTORY PROJECT
RESTORATION MONITORING
STREAM HABITAT REPORT**

STREAM: LOST CREEK
 GCG: 8-W
 SITE ID: 229
 BASIN: MOLALLA
 TREATMENT DATE: 2004
 SURVEY DATE: 3/8/2010
 SURVEY CREW: Andrew Walch / Josh Williams
 USGS MAPS: ROOSTER ROCK
 ECOREGION: Western Cascades Montane Highlands
 REPORT PREPARED BY: Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T07S-R04E-S01SW

SURVEY DESCRIPTION:

Channel morphology: Constrained by hillslopes
 Dominant landuse(s): Large timber (30-50 cm dbh)
 Dominant riparian vegetation: Deciduous trees: size class 15-30cm dbh
 Primary channel length (meters) and area (m²): 936 : 6,737
 Secondary channel length (meters) and area (m²): 86 : 187
 VWI average: 1.6 VWI Range: 1 - 2 Average Gradient: 3.8%
 Pieces LWD per 100m: 12.9 Wood Volume (m³) per 100m: 25.2
 Percent pools: 22% Complex pools (LWD pieces>=3): 5 Pools >=1m deep:9
 Percent substrate (avg):

| | <u>Silt / organics</u> | <u>Sand</u> | <u>Gravel</u> | <u>Cobble</u> | <u>Boulder</u> | <u>Bedrock</u> |
|------------------|------------------------|-------------|---------------|---------------|----------------|----------------|
| All units | 1 | 5 | 14 | 45 | 24 | 11 |
| Pool units | 0 | 10 | 20 | 43 | 18 | 9 |
| Fast water units | 0 | 1 | 13 | 55 | 27 | 5 |

SURVEY COMMENTS:

This is a post-treatment restoration survey. The crew noted two large wood habitat structures in the survey. The crew also noted debris jams and inactive landslides in the survey.

Survey Date: 3/8/2010

Report Date: 5/13/2010

T07S-R04E-S01SW

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 | 1.6 | VWI Range: | 1 - 2 |

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 (m ²) | Dry Units |
|-----------|------------|------------------------|-----------|
| Primary | 936 | 6,737 | 0 |
| Secondary | 86 | 187 | 0 |

Channel Dimensions (m)

| Wetted | Active | Floodprone <i>n</i> = 5 | First Terrace <i>n</i> = 2 |
|-------------|-------------|-------------------------|----------------------------|
| Width: 6.8 | Width: 10.9 | 14.6 (10.9 - 21.3) | 22.4 (17.5 - 27.3) |
| Depth: 0.63 | Height: 0.6 | 1.2 (0.9 - 1.3) | 2.5 (1.5 - 3.4) |

W:D ratio: 19.6

Stream Flow Type: MF

Average Unit Gradient: 3.8%

Water temperature (°C): 4.0 - 4.0

Entrenchment (ACW:FPW ratio): 1.4

Habitat Units/100m (total channel length): 3.3

Habitat Units/100m (primary channel length): 3.6

Riparian, Bank, and Wood Summary

| | Primary | Secondary |
|----------------------|---------|-----------|
| Land Use: | LT | TH |
| Riparian Vegetation: | D15 | C15 |

Bank Condition and Shade

| Bank Status | Percent Reach Length | Shade (% of 180) |
|-------------------|----------------------|------------------|
| Actively Eroding: | 1% | Reach avg: 100% |
| Undercut Banks: | 0% | Range: 97 - 100 |

Large Wood Debris

| | Total | Total / 100m primary channel |
|-----------------------------|-------|------------------------------|
| All pieces (>=3m x 0.15m): | 121 | 12.9 |
| Volume (m ³): | 236 | 25.2 |
| Key pieces (>=12m x 0.60m): | 14 | 1.5 |

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

LOST CREEK
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T07S-R04E-S01SW

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 | 33 | 9.0 | 0.30 | 297 | 6 | 0 | 0 | 0 | 21 | 5 | 74 |
| CASCADE/BOULDERS | 6 | 178 | 7.0 | 0.36 | 1,440 | 240 | 0 | 0 | 8 | 59 | 33 | 0 |
| POOL-BACKWATER | 1 | 12 | 9.1 | 0.90 | 107 | 4 | 47 | 32 | 16 | 5 | 0 | 0 |
| POOL-LATERAL SCOUR | 4 | 64 | 8.0 | 1.18 | 512 | 50 | 0 | 13 | 24 | 44 | 19 | 0 |
| POOL-PLUNGE | 2 | 23 | 8.3 | 1.15 | 184 | 24 | 0 | 0 | 10 | 47 | 25 | 17 |
| POOL-STRAIGHT SCOUR | 7 | 118 | 7.1 | 1.04 | 839 | 90 | 0 | 11 | 20 | 42 | 15 | 11 |
| RAPID/BOULDERS | 8 | 520 | 6.8 | 0.38 | 3,403 | 252 | 0 | 2 | 14 | 58 | 27 | 0 |
| RIFFLE W/ POCKETS | 1 | 59 | 1.1 | 0.05 | 65 | 30 | 0 | 0 | 50 | 39 | 11 | 0 |
| STEP/BEDROCK | 2 | 9 | 4.3 | 0.20 | 50 | 3 | 0 | 0 | 0 | 8 | 13 | 80 |
| STEP/BOULDERS | 2 | 6 | 3.6 | 0.18 | 28 | 4 | 0 | 0 | 0 | 32 | 56 | 12 |
| Total: | 34 | 1,021 | 6.8 | 0.63 | 6,925 | 703 | Avg: 1 | 5 | 14 | 45 | 24 | 11 |

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 | 1 | 12 | 9.1 | 0.90 | 107 | 1.55% | 4 | 3.7 |
| Scour Pools | 13 | 205 | 7.6 | 1.10 | 1,535 | 22.16% | 164 | 10.7 |
| Glides | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 |
| Riffles | 1 | 59 | 1.1 | 0.05 | 65 | 0.94% | 30 | 46.2 |
| Rapids | 8 | 520 | 6.8 | 0.38 | 3,403 | 49.14% | 252 | 7.4 |
| Cascades | 7 | 211 | 7.2 | 0.35 | 1,737 | 25.09% | 246 | 14.2 |
| Step/Falls | 4 | 15 | 3.9 | 0.19 | 78 | 1.12% | 7 | 9.0 |
| Dry | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 |
| Culverts | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 |

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LOST CREEK
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Survey Date: 3/8/2010

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T07S-R04E-S01SW

REACH 1

POOL SUMMARY

| | <u>Total</u> | Total of all Channel Lengths <u># / Km</u> | Primary Channel Length <u># / Km</u> |
|---------------------------------------|--------------|---|---|
| All Pools: | 14 | 13.7 | 15.0 |
| Pools >=1m deep: | 9 | 8.8 | 9.6 |
| Complex pools (LWD pieces>=3): | 5 | 4.9 | 5.3 |
| Pool frequency (channel widths/pool): | 6.7 | | |
| Residual pool depth (avg): | 0.78 | | |

Survey Date 3/8/2010
Report Date: 5/13/2010

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 3 transects

| | |
|--------------------------------|-----|
| Total hardwoods/1000 | 772 |
| Total conifers/1000 ft | 853 |
| Total conifers >20" dbh/1000 f | 0 |
| Total conifers >35" dbh/1000 f | 0 |

Average number of trees in a 5-meter wide band

| Diameter class (cm) | Zone 1 0-10 meters | | Zone 2 10 - 20 meters | | Zone 3 20 - 30 meters | | Zones 1-3 0-30 meters | |
|---------------------|-----------------------|----------|--------------------------|----------|--------------------------|----------|--------------------------|----------|
| | Conifer | Hardwood | Conifer | Hardwood | Conifer | Hardwood | Conifer | Hardwood |
| 3-15cm | 0.7 | 3.0 | 0.7 | 0.3 | 1.0 | 0.0 | 2.3 | 3.3 |
| 15-30cm | 1.0 | 4.3 | 2.3 | 2.7 | 4.0 | 0.7 | 7.3 | 7.7 |
| 30-50cm | 1.3 | 1.0 | 1.3 | 0.3 | 1.7 | 0.3 | 4.3 | 1.7 |
| 50-90cm | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| >90cm | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total/100m2 | 3.0 | 8.3 | 4.3 | 3.3 | 6.7 | 1.0 | 4.7 | 4.2 |

Canopy closure and ground cover

| | Zone 1 0-10 meters | | Zone 2 10 - 20 meters | | Zone 3 20 - 30 meters | |
|------------------|-----------------------|--|--------------------------|--|--------------------------|--|
| | (%) | | (%) | | (%) | |
| Canopy closure | 85 | | 78 | | 78 | |
| Shrub cover | 14 | | 9 | | 12 | |
| Grass/forb cover | 28 | | 28 | | 22 | |

Predominant landform in each zone

| | Zone 1 0-10 meters | | Zone 2 10 - 20 meters | | Zone 3 20 - 30 meters | |
|-------------------|-----------------------|--|--------------------------|--|--------------------------|--|
| | (%) | | (%) | | (%) | |
| Hillslope | 83 | | 100 | | 100 | |
| High terrace | 17 | | 0 | | 0 | |
| Low terrace | 0 | | 0 | | 0 | |
| Floodplain | 0 | | 0 | | 0 | |
| Wetland/meadow | 0 | | 0 | | 0 | |
| Stream channel | 0 | | 0 | | 0 | |
| Roadbed/Railroad | 0 | | 0 | | 0 | |
| Riprap | 0 | | 0 | | 0 | |
| Surface slope (%) | 46 | | 66 | | 56 | |

Summary of Riparian Zone (0-30m) for all reaches

3 transects

Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream

| | |
|--------------------------------|-----|
| Total hardwoods/1000 | 772 |
| Total conifers/1000 ft | 853 |
| Total conifers >20" dbh/1000 f | 0 |
| Total conifers >35" dbh/1000 f | 0 |

Average number of trees in a 5-m wide band

| Diameter class (cm) | Zones 1-3 <u>0-30 meters</u> | |
|------------------------|---------------------------------|-----------------|
| | <u>Conifer</u> | <u>Hardwood</u> |
| 3-15cm | 2.3 | 3.3 |
| 15-30cm | 7.3 | 7.7 |
| 30-50cm | 4.3 | 1.7 |
| 50-90cm | 0.0 | 0.0 |
| >90cm | 0.0 | 0.0 |

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

| Unit | Side | Zone | Surface | Slope | Cover (percent) | | | | Diameter class (cm) | | | | | Notes | |
|------|------|------|---------|-------|-----------------|-------|-------|----------|---------------------|-------|-------|-------|-----|-------|---------------------------------|
| | | | | | Canopy | Shrub | Grass | | 3-15 | 15-30 | 30-50 | 50-90 | >90 | | |
| 9 | LT | 1 | HS | 70 | 95 | 35 | 45 | Conifer | | | | | | | 20% BARE |
| | | | | | | | | Hardwood | 1 | 2 | 1 | | | | |
| 9 | LT | 2 | HS | 50 | 85 | 20 | 60 | Conifer | 1 | | | | | | 20% BARE |
| | | | | | | | | Hardwood | | 2 | 1 | | | | |
| 9 | LT | 3 | HS | 50 | 80 | 15 | 60 | Conifer | | 1 | | | | | 25% BARE |
| | | | | | | | | Hardwood | | 1 | 1 | | | | |
| 9 | RT | 1 | HS | 70 | 55 | 0 | 10 | Conifer | | | | | | | 90% BARE ROCK, INACTIVE |
| | | | | | | | | Hardwood | | | | | | | 85% BARE ROCK |
| 9 | RT | 2 | HS | 130 | 20 | 5 | 10 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | 2 | | | | | |
| 9 | RT | 3 | HS | 60 | 65 | 10 | 10 | Conifer | 2 | 2 | | | | | 80% BARE |
| | | | | | | | | Hardwood | | 1 | | | | | |
| 19 | LT | 1 | HS | 35 | 90 | 5 | 75 | Conifer | | | 1 | 2 | | | 20% BARE |
| | | | | | | | | Hardwood | | 4 | 1 | | | | |
| 19 | LT | 2 | HS | 40 | 95 | 0 | 15 | Conifer | | | 2 | 3 | | | 85% BARE (MOSS) |
| | | | | | | | | Hardwood | | | | | | | |
| 19 | LT | 3 | HS | 40 | 95 | 0 | 10 | Conifer | | | 3 | 2 | | | 90% BARE (MOSS) |
| | | | | | | | | Hardwood | | | | | | | |
| 19 | RT | 1 | HT | 5 | 85 | 35 | 20 | Conifer | | | | | | | 45% BARE |
| | | | | | | | | Hardwood | 1 | 4 | 1 | | | | |
| 19 | RT | 2 | HS | 25 | 75 | 25 | 60 | Conifer | | | 1 | | | | 15% BARE |
| | | | | | | | | Hardwood | | 2 | | | | | |
| 19 | RT | 3 | HS | 55 | 70 | 15 | 20 | Conifer | 1 | 2 | 1 | | | | 65% BARE, LAST 4 METERS |
| | | | | | | | | Hardwood | | | | | | | 85% BARE |
| 31 | LT | 1 | HS | 40 | 100 | 5 | 10 | Conifer | 1 | | | 1 | | | |
| | | | | | | | | Hardwood | 7 | 2 | | | | | |
| 31 | LT | 2 | HS | 60 | 95 | 0 | 15 | Conifer | | | 2 | 1 | | | 85% BARE |
| | | | | | | | | Hardwood | 1 | | | | | | |
| 31 | LT | 3 | HS | 60 | 95 | 5 | 15 | Conifer | | | 2 | 2 | | | 80% BARE |
| | | | | | | | | Hardwood | | | | | | | |
| 31 | RT | 1 | HS | 55 | 85 | 5 | 5 | Conifer | 1 | 2 | 1 | | | | 90% BARE |
| | | | | | | | | Hardwood | | 1 | | | | | |
| 31 | RT | 2 | HS | 90 | 95 | 5 | 5 | Conifer | 1 | 2 | | | | | 90% BARE |
| | | | | | | | | Hardwood | | 2 | | | | | |
| 31 | RT | 3 | HS | 70 | 65 | 25 | 15 | Conifer | | | 2 | | | | 60% BARE, TOP 6 METERS IN |
| | | | | | | | | Hardwood | | | | | | | |

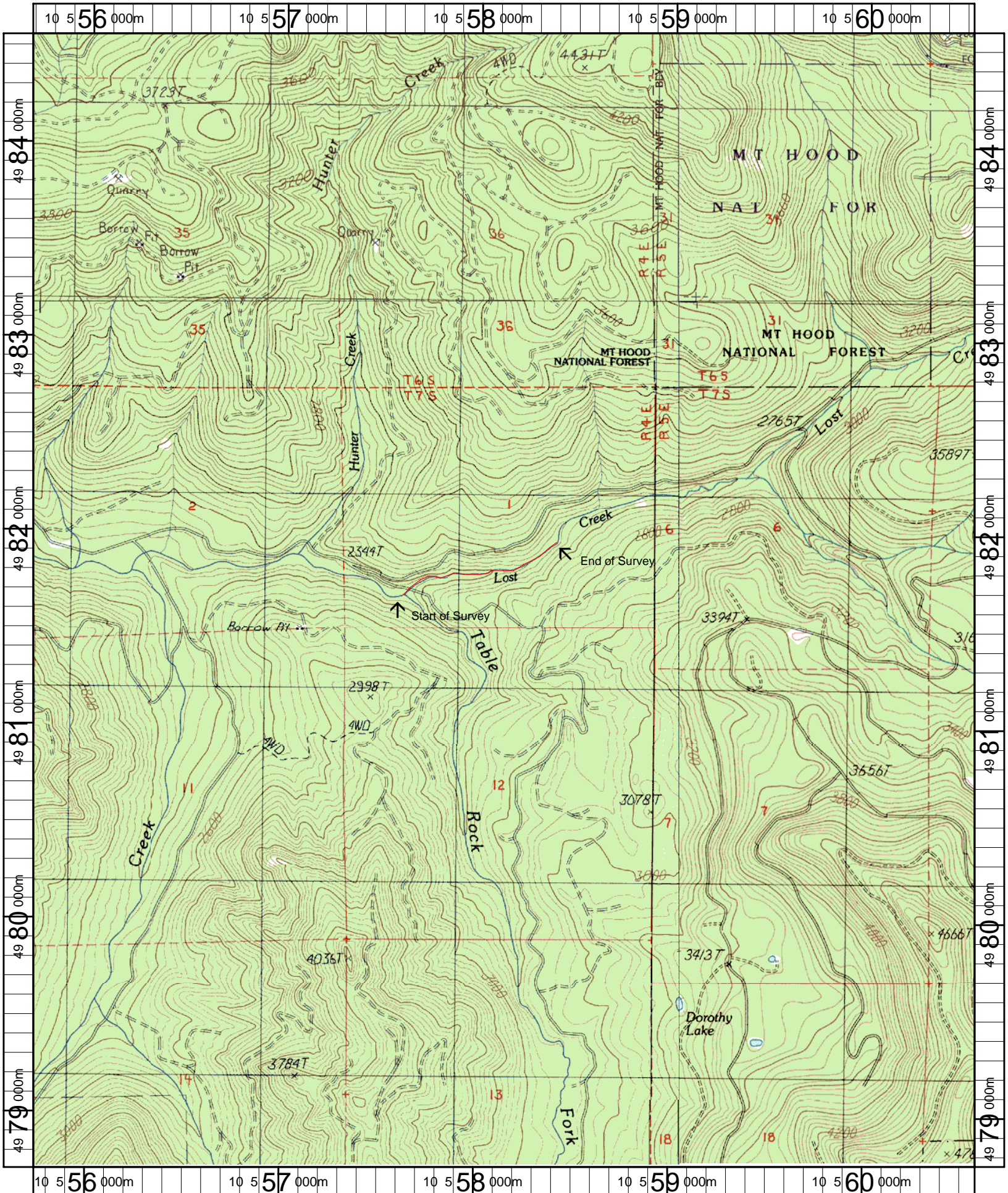
OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 3/8/2010

COMMENT SUMMARY

MONITORING AREA: 8-W SITE ID: 229 STREAM: LOST CREEK

| REACH | UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTES |
|-------|-------|------|------|-----------|----------|--|
| 1 | 1 | RB | 00 | 141 | BC | |
| 1 | 8 | SR | 11 | 242 | | ACW=1M |
| 1 | 9 | SP | 01 | 258.5 | /LI | |
| 1 | 10 | RB | 01 | 333.5 | DJ,/TJ | |
| 1 | 11 | SB | 11 | 333.5 | | ACW=0.3M |
| 1 | 17 | LP | 00 | 455.6 | HS,DJ | HS SHIFTED CHANNEL AND DID NOT DO MUCH |
| 1 | 19 | SP | 00 | 526.2 | | CH/MV-D15/C30-LT/TH |
| 1 | 20 | RB | 00 | 582.3 | SS/,HS | 1 HABITAT LOG |
| 1 | 24 | RB | 01 | 754.4 | DJ,/TJ | |
| 1 | 25 | CB | 11 | 754.4 | | ACW=2.1M |
| 1 | 26 | RP | 02 | 754.4 | /SS,DJ | SS=90% FLOW, 02 MOSTLY FLOWING THRU GRAVEL |
| 1 | 31 | SP | 00 | 843.2 | SS/ | |
| 1 | 32 | RB | 00 | 873.2 | LI | |
| 1 | 33 | CB | 00 | 935.6 | LI | |
| 1 | 34 | BW | 10 | 935.6 | DJ | |



Name: ROOSTER ROCK
 Date: 1/14/2010
 Scale: 1 inch equals 2000 feet

Location: 10 0558133 E 4981653 N
 Caption: W-229 Lost Creek - USGS Map: Rooster Rock

8-W-229 Lost Creek - Restoration 2010 Winter

