

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

STREAM: Camp Creek (MC-11)  
BASIN: Siuslaw River  
SURVEY TYPE: Post- or Pre-Tx  
DATE: 8/3/2006  
SURVEY CREW: Paul Jacobsen, Brian Cannon  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 6.8 km<sup>2</sup>  
USGS MAPS: High Point  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Camp Creek habitat survey extended 565 meters. The channel was constrained by multiple terraces within a broad valley floor. The average valley width index was 11.8 (range: 10-15). Land use for the reach was young timber (3-15 cm dbh) and second growth timber (15-30 cm dbh). The average unit gradient was 1.2 percent. Scour pools (75%) and riffles (15%) dominated stream habitat. Fines (37%), gravel (32%) and boulders (21%) dominated stream substrate. Wood volume was high at 39.1 m<sup>3</sup>/100m.

**COMMENTS:**

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

The crew noted several habitat structures during the survey.

The crew observed beaver activity and Coho fry within the surveyed reach.

Stream            Camp Creek (MC-11)  
 Basin             Siuslaw River  
 Treatment        Large Wood

|                        | ODFW Benchmark |             | Pre 7/12/00 | Post 7/17/01 | Post 8/3/06 |  |  |
|------------------------|----------------|-------------|-------------|--------------|-------------|--|--|
| Habitat Variable       | Desirable      | Undesirable |             |              |             |  |  |
| % Pool Area            | >35%           | <10%        | 61.7        | 57.8         | <b>75.4</b> |  |  |
| Number of Pools        |                |             | 26          | 22           | 27          |  |  |
| Deep Pools/km (>1.0 m) |                |             | 1.7         | 1.7          | 1.7         |  |  |
| % Off-Channel          |                |             | 3.1         | 1.5          | 1.4         |  |  |
| LWD – Pieces/100m      | >20            | <10         | 7.8         | <b>18.7</b>  | <b>29.0</b> |  |  |
| LWD – Volume/100m      | >30            | <20         | 2.2         | <b>43.9</b>  | <b>39.1</b> |  |  |
| LWD – Key Pieces/100m  | >3             | <1          | 0           | <b>1.2</b>   | <b>0.7</b>  |  |  |
| Large Wood Jams/km     |                |             | 3.7         | <b>12.3</b>  | <b>17.7</b> |  |  |
| % Riffle Fines         | <10            | >20         | 19          | 6            | 13          |  |  |
| % Riffle Gravel        | >35            | <15         | 37          | 53           | 57          |  |  |
| % Bedrock              |                |             | 47          | 42           | <b>21</b>   |  |  |
|                        |                |             |             |              |             |  |  |
|                        |                |             |             |              |             |  |  |
|                        |                |             |             |              |             |  |  |

**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. What is important is that the large wood is being retained in the treated reach and is accumulating additional wood pieces and wood jams. Deep pools were unchanged, while total pool area is somewhat higher. Riffle gravel appears to have increased while bedrock has decreased nearly the same amount.

REACH 1

T19S-R07W-S25NW

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         | 11.8 | VWI Range:                | 10 - 15 |

Channel Morphology (Percent Reach Length)

| <u>Constrained</u> |      | <u>Unconstrained</u> |    |
|--------------------|------|----------------------|----|
| Hillslope          | 0%   | Single Channel       | 0% |
| Bedrock            | 0%   | Multiple Channel     | 0% |
| Terrace            | 100% | 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   | 565               | 1,893            | 0                |
| Secondary Channel | 19                | 22               | 2                |
| Off-Channel Units | 6                 | 4                | 1                |

Channel Dimensions (m)

| <u>Wetted</u> | <u>Active</u> | <u>Floodprone</u> n = 5 | <u>First Terrace</u> n = 5 |
|---------------|---------------|-------------------------|----------------------------|
| Width: 2.8    | Width: 5.8    | 8.3 ( 5 - 11.5 )        | 11.5 ( 6 - 15.5 )          |
| Depth: 0.26   | Height: 0.4   | 0.8 ( 0.7 - 1 )         | 1.1 ( 0.85 - 1.2 )         |

W:D ratio: 14.4

Entrenchment (ACW:FPW ratio): 1.4

Stream Flow Type: LF

Habitat Units/100m (total channel length): 8.8

Average Unit Gradient: 1.2%

Habitat Units/100m (primary channel length): 9.2

Water temperature (°C): 13.0 - 13.0

**Riparian, Bank, and Wood Summary**

|                      | <u>Primary</u> | <u>Secondary</u> |
|----------------------|----------------|------------------|
| Land Use:            | YT             | ST               |
| Riparian Vegetation: | D30            | S                |

Bank Condition and Shade

| <u>Bank Status</u> | <u>Percent Reach Length</u> | <u>Shade (% of 180)</u> |
|--------------------|-----------------------------|-------------------------|
| Actively Eroding:  | 3%                          | Reach avg: 89%          |
| Undercut Banks:    | 18%                         | Range: 58 - 100         |

Large Wood Debris

|                             | <u>Total</u> | <u>Total / 100m primary channel</u> |
|-----------------------------|--------------|-------------------------------------|
| All pieces (>=3m x 0.15m):  | 164          | 29.0                                |
| Volume (m <sup>3</sup> ):   | 221          | 39.1                                |
| Key pieces (>=12m x 0.60m): | 4            | 0.7                                 |

OREGON DEPT OF FISH AND WILDLIFE

CAMP CREEK POST-TX (2-MC, 11)

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

8/3/2006

| REACH 1            |                 | T19S-R07W-S25NW        |                     |                     |                                    |                               | REACH 1                          |     |      |     |      |      |
|--------------------|-----------------|------------------------|---------------------|---------------------|------------------------------------|-------------------------------|----------------------------------|-----|------|-----|------|------|
| HABITAT DETAIL     |                 |                        |                     |                     |                                    |                               |                                  |     |      |     |      |      |
| Habitat Type       | Number<br>Units | Total<br>Length<br>(m) | Avg<br>Width<br>(m) | Avg<br>Depth<br>(m) | Total<br>Area<br>(m <sup>2</sup> ) | Large<br>Boulders<br>(#>0.5m) | Substrate<br>Percent Wetted Area |     |      |     |      |      |
|                    |                 |                        |                     |                     |                                    |                               | S/O                              | Snd | Grvl | Cbl | Bldr | Bdrk |
| DRY CHANNEL        | 1               | 6                      | 0.7                 | 0.00                | 4                                  | 0                             | 30                               | 70  | 0    | 0   | 0    | 0    |
| DRY UNIT           | 1               | 8                      | 0.5                 | 0.00                | 4                                  | 0                             | 20                               | 70  | 10   | 0   | 0    | 0    |
| POOL-LATERAL SCOUR | 27              | 384                    | 3.7                 | 0.40                | 1,448                              | 1                             | 10                               | 40  | 23   | 4   | 1    | 22   |
| PUDDLED UNIT       | 1               | 3                      | 1.3                 | 0.20                | 3                                  | 0                             | 20                               | 80  | 0    | 0   | 0    | 0    |
| RAPID/BEDROCK      | 3               | 31                     | 3.1                 | 0.07                | 113                                | 0                             | 0                                | 11  | 7    | 13  | 0    | 69   |
| RIFFLE             | 8               | 120                    | 2.5                 | 0.07                | 286                                | 5                             | 0                                | 13  | 57   | 17  | 0    | 12   |
| STEP/BEDROCK       | 2               | 7                      | 2.8                 | 0.03                | 18                                 | 0                             | 0                                | 0   | 0    | 0   | 0    | 100  |
| STEP/COBBLE        | 9               | 31                     | 1.3                 | 0.22                | 43                                 | 6                             | 1                                | 16  | 63   | 16  | 4    | 0    |
| <b>Total:</b>      | 52              | 590                    | 2.8                 | 0.26                | 1,919                              | 12                            | <b>Avg:</b> 7                    | 30  | 32   | 8   | 1    | 21   |

| HABITAT SUMMARY   |                 |                        |                     |                     |                   |         |                |                          |  |
|-------------------|-----------------|------------------------|---------------------|---------------------|-------------------|---------|----------------|--------------------------|--|
| Habitat Group     | Number<br>Units | Total<br>Length<br>(m) | Avg<br>Width<br>(m) | Avg<br>Depth<br>(m) | Wetted Area       |         | Large Boulders |                          |  |
|                   |                 |                        |                     |                     | (m <sup>2</sup> ) | Percent | Number         | (# / 100m <sup>2</sup> ) |  |
| Dammed & BW Pools | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |  |
| Scour Pools       | 27              | 384                    | 3.7                 | 0.40                | 1,448             | 75.44%  | 1              | 0.1                      |  |
| Glides            | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |  |
| Riffles           | 8               | 120                    | 2.5                 | 0.07                | 286               | 14.90%  | 5              | 1.7                      |  |
| Rapids            | 3               | 31                     | 3.1                 | 0.07                | 113               | 5.86%   | 0              | 0.0                      |  |
| Cascades          | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |  |
| Step/Falls        | 11              | 39                     | 1.6                 | 0.19                | 61                | 3.19%   | 6              | 9.8                      |  |
| Dry               | 3               | 17                     | 0.8                 | 0.07                | 12                | 0.60%   | 0              | 0.0                      |  |
| Culverts          | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |  |

| POOL SUMMARY                          |              |                              |                        |
|---------------------------------------|--------------|------------------------------|------------------------|
|                                       | <u>Total</u> | Total of all Channel Lengths | Primary Channel Length |
|                                       |              | <u># / Km</u>                | <u># / Km</u>          |
| All Pools:                            | 27           | 45.8                         | 47.8                   |
| Pools >=1m deep:                      | 1            | 1.7                          | 1.8                    |
| Complex pools (LWD pieces>=3):        | 13           | 22.0                         | 23.0                   |
| Pool frequency (channel widths/pool): | 3.8          |                              |                        |
| Residual pool depth (avg):            | 0.31         |                              |                        |

OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY

CAMP CREEK POST-TX  
GCG: 2-MC SITE ID: 11

Survey Date 8/3/2006  
Report Date: 3/5/2007

RIPARIAN ZONE  
VEGETATION SUMMARY

REACH 1

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

|                                 |      |
|---------------------------------|------|
| Total hardwoods/1000            | 1199 |
| Total conifers/1000 ft          | 264  |
| Total conifers >20" dbh/1000 ft | 102  |
| Total conifers >35" dbh/1000 ft | 20   |

Average number of trees in a 5-meter wide band

| Diameter class (cm) | Zone 1<br>0-10 meters |          | Zone 2<br>10 - 20 meters |          | Zone 3<br>20 - 30 meters |          | Zones 1-3<br>0-30 meters |          |
|---------------------|-----------------------|----------|--------------------------|----------|--------------------------|----------|--------------------------|----------|
|                     | Conifer               | Hardwood | Conifer                  | Hardwood | Conifer                  | Hardwood | Conifer                  | Hardwood |
| 3-15cm              | 0.3                   | 3.0      | 0.3                      | 5.3      | 1.0                      | 6.7      | 1.7                      | 15.0     |
| 15-30cm             | 0.3                   | 0.7      | 0.0                      | 0.7      | 0.0                      | 1.0      | 0.3                      | 2.3      |
| 30-50cm             | 0.0                   | 1.3      | 0.7                      | 0.7      | 0.0                      | 0.3      | 0.7                      | 2.3      |
| 50-90cm             | 0.3                   | 0.0      | 1.0                      | 0.0      | 0.0                      | 0.0      | 1.3                      | 0.0      |
| >90cm               | 0.3                   | 0.0      | 0.0                      | 0.0      | 0.0                      | 0.0      | 0.3                      | 0.0      |
| Total/100m2         | 1.3                   | 5.0      | 2.0                      | 6.7      | 1.0                      | 8.0      | 1.4                      | 6.6      |

Canopy closure and ground cover

|                  | Zone 1<br>0-10 meters<br>(%) | Zone 2<br>10 - 20 meters<br>(%) | Zone 3<br>20 - 30 meters<br>(%) |
|------------------|------------------------------|---------------------------------|---------------------------------|
| Canopy closure   | 65                           | 65                              | 49                              |
| Shrub cover      | 54                           | 49                              | 40                              |
| Grass/forb cover | 43                           | 44                              | 60                              |

Predominant landform in each zone

|                   | Zone 1<br>0-10 meters<br>(%) | Zone 2<br>10 - 20 meters<br>(%) | Zone 3<br>20 - 30 meters<br>(%) |
|-------------------|------------------------------|---------------------------------|---------------------------------|
| Hillslope         | 0                            | 17                              | 17                              |
| High terrace      | 100                          | 83                              | 83                              |
| 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 (%) | 2                            | 6                               | 5                               |

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            | 1199 |
| Total conifers/1000 ft          | 264  |
| Total conifers >20" dbh/1000 ft | 102  |
| Total conifers >35" dbh/1000 ft | 20   |

**Average number of trees in a 5-m wide band**

| Diameter<br>class (cm) | Zones 1-3          |                 |
|------------------------|--------------------|-----------------|
|                        | <u>0-30 meters</u> |                 |
|                        | <u>Conifer</u>     | <u>Hardwood</u> |
| 3-15cm                 | 1.7                | 15.0            |
| 15-30cm                | 0.3                | 2.3             |
| 30-50cm                | 0.7                | 2.3             |
| 50-90cm                | 1.3                | 0.0             |
| >90cm                  | 0.3                | 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 |                     |
| 15   | RT   | 1    | HT      | 0     | 95              | 10    | 90    | Conifer  |                     | 1     |       | 1     |     | CEDAR               |
|      |      |      |         |       |                 |       |       | Hardwood | 1                   |       | 1     |       |     |                     |
| 15   | LF   | 3    | HT      | 0     | 10              | 10    | 90    | Conifer  | 1                   |       |       |       |     |                     |
|      |      |      |         |       |                 |       |       | Hardwood | 2                   |       |       |       |     |                     |
| 15   | RT   | 3    | HT      | 6     | 95              | 10    | 90    | Conifer  |                     |       |       |       |     | ALDER               |
|      |      |      |         |       |                 |       |       | Hardwood | 3                   | 3     |       |       |     |                     |
| 15   | LF   | 2    | HT      | 5     | 80              | 40    | 60    | Conifer  | 1                   |       | 1     | 3     |     |                     |
|      |      |      |         |       |                 |       |       | Hardwood |                     |       | 2     |       |     |                     |
| 15   | LF   | 1    | HT      | 7     | 80              | 95    | 5     | Conifer  | 1                   |       |       |       |     | WHITE-CROWN SPARROW |
|      |      |      |         |       |                 |       |       | Hardwood |                     |       | 1     |       |     | ALDER               |
| 15   | RT   | 2    | HT      | 3     | 95              | 30    | 70    | Conifer  |                     |       |       |       |     |                     |
|      |      |      |         |       |                 |       |       | Hardwood | 6                   | 1     |       |       |     |                     |
| 29   | RT   | 2    | HT      | 0     | 95              | 5     | 95    | Conifer  |                     |       |       | 1     |     |                     |
|      |      |      |         |       |                 |       |       | Hardwood | 1                   | 1     |       |       |     |                     |
| 29   | RT   | 3    | HT      | 0     | 90              | 10    | 90    | Conifer  |                     |       |       |       |     |                     |
|      |      |      |         |       |                 |       |       | Hardwood | 6                   |       |       |       |     |                     |
| 29   | RT   | 1    | HT      | 0     | 90              | 30    | 70    | Conifer  |                     |       |       |       | 1   | CEDAR               |
|      |      |      |         |       |                 |       |       | Hardwood |                     | 2     | 2     |       |     |                     |
| 29   | LF   | 3    | HT      | 0     | 10              | 80    | 20    | Conifer  |                     |       |       |       |     |                     |
|      |      |      |         |       |                 |       |       | Hardwood | 2                   |       |       |       |     |                     |
| 29   | LF   | 2    | HT      | 0     | 20              | 90    | 10    | Conifer  |                     |       |       |       |     |                     |
|      |      |      |         |       |                 |       |       | Hardwood | 1                   |       |       |       |     |                     |
| 29   | LF   | 1    | HT      | 0     | 20              | 90    | 10    | Conifer  |                     |       |       |       |     | NO TREES            |
|      |      |      |         |       |                 |       |       | Hardwood |                     |       |       |       |     |                     |
| 39   | LF   | 2    | HS      | 25    | 0               | 90    | 10    | Conifer  |                     |       |       |       |     | NO TREES            |
|      |      |      |         |       |                 |       |       | Hardwood |                     |       |       |       |     |                     |
| 39   | LF   | 3    | HS      | 25    | 0               | 90    | 10    | Conifer  |                     |       |       |       |     | NO TREES            |
|      |      |      |         |       |                 |       |       | Hardwood |                     |       |       |       |     |                     |
| 39   | RT   | 1    | HT      | 0     | 90              | 70    | 10    | Conifer  |                     |       |       |       |     |                     |
|      |      |      |         |       |                 |       |       | Hardwood | 5                   |       |       |       |     |                     |
| 39   | RT   | 2    | HT      | 0     | 100             | 40    | 20    | Conifer  |                     |       |       |       |     |                     |
|      |      |      |         |       |                 |       |       | Hardwood | 8                   |       |       |       |     |                     |
| 39   | RT   | 3    | HT      | 0     | 90              | 40    | 60    | Conifer  | 2                   |       |       |       |     |                     |
|      |      |      |         |       |                 |       |       | Hardwood | 7                   |       | 1     |       |     |                     |
| 39   | LF   | 1    | HT      | 3     | 15              | 30    | 70    | Conifer  |                     |       |       |       |     | MAPLE               |
|      |      |      |         |       |                 |       |       | Hardwood | 3                   |       |       |       |     |                     |

# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC**      SITE ID: **11**      **CAMP CREEK POST-TX**

| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTE ESTIMATOR     | NOTE NUMERATOR        |
|-------|------|------|-----------|----------|--------------------|-----------------------|
| 1     | SC   | 00   | 6         | /CS      | START AT TOP OF CC | RIPRAP                |
| 2     | LP   | 00   | 16.5      |          | CT-MT,D30/S,ST/YT  |                       |
| 4     | LP   | 01   | 29        | TJ/      | US                 |                       |
| 5     | DC   | 11   | 29        |          | T=13.0C            | LEFT TRIB             |
| 10    | LP   | 01   | 109.3     | HS       |                    | 1 LOG; FRY            |
| 13    | RI   | 00   | 122.1     | HS       |                    | 5 LOGS                |
| 14    | LP   | 00   | 136.6     | BV       | COT                |                       |
| 15    | LP   | 00   | 152.1     | BV,HS,DJ | CT-MT,D30/S,YT/ST  | 12 LOGS, SCAT         |
| 17    | LP   | 00   | 181.6     |          |                    | LOTS OF BLOWN DOWN;   |
| 19    | LP   | 00   | 195.6     | BV       |                    |                       |
| 25    | LP   | 01   | 235.4     |          |                    | FRY                   |
| 26    | LP   | 01   | 240.4     | HS,DJ    |                    | FRY; 8 LOGS + BLOW DO |
| 28    | LP   | 00   | 265.9     | HS       | HS                 | 3 LOGS                |
| 29    | LP   | 00   | 275.6     | HS       | BV; CT-MT,D30/S,YT | 2 LOGS; FRY           |
| 30    | LP   | 00   | 293.6     | HS       | COHO FRY           | 3 LOGS                |
| 31    | LP   | 00   | 303.1     |          | HS                 | FRY                   |
| 32    | RR   | 00   | 323.2     |          |                    | FRY                   |
| 36    | RI   | 00   | 363.4     | HS,DJ    | HS                 | 5 LOGS                |
| 37    | LP   | 00   | 371.6     |          | HS                 |                       |
| 38    | RI   | 00   | 381.1     |          | CT-MT,D30/S,YT     |                       |
| 41    | LP   | 00   | 416.3     |          |                    | COHO FRY              |

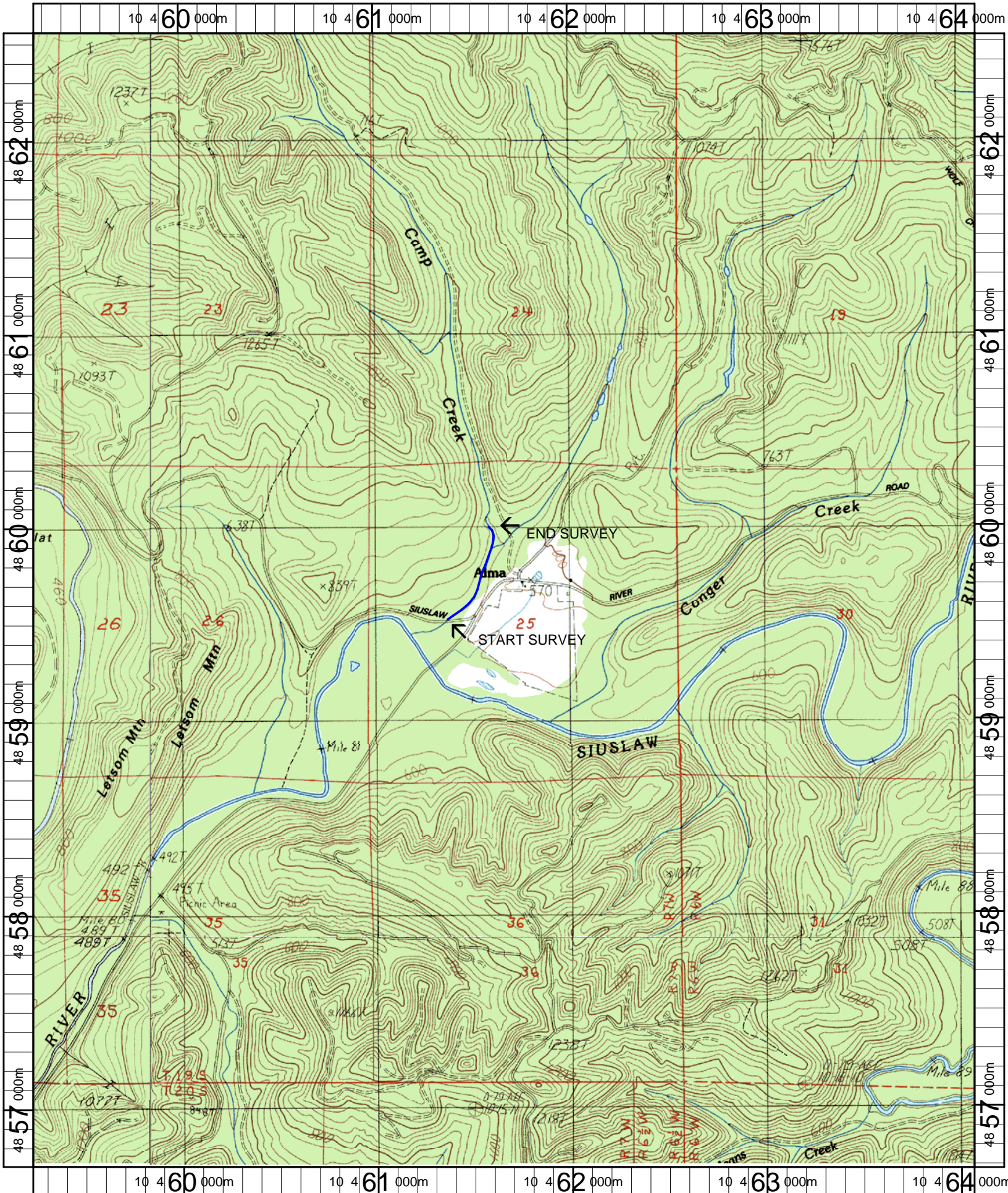


# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC**      SITE ID: **11**      **CAMP CREEK POST-TX**

| <u>UNIT#</u> | <u>TYPE</u> | <u>CHAN</u> | <u>DIST. (m)</u> | <u>COMMENTS</u> | <u>NOTE ESTIMATOR</u>  | <u>NOTE NUMERATOR</u> |
|--------------|-------------|-------------|------------------|-----------------|------------------------|-----------------------|
| 43           | LP          | 00          | 436.5            | HS              | HS                     | 5 LOGS                |
| 44           | RI          | 00          | 461              |                 |                        | CF; FRY               |
| 45           | LP          | 01          | 477              | HS,DJ,/TJ       | HS; END SPAWNING SURVE | 7 LOGS                |
| 46           | RR          | 02          | 477              |                 |                        | RIGHT TRIB            |
| 47           | RI          | 00          | 501              | DJ              |                        |                       |
| 50           | LP          | 00          | 541.8            |                 |                        | FRY                   |
| 52           | LP          | 00          | 564.8            |                 | END; CT-MT,D30/S,YT/ST | FRY                   |



Name: HIGH POINT (OR)  
 Date: 2/27/2007  
 Scale: 1 inch equals 2000 feet

Location: 10 0461660 E 4859619 N  
 Caption: CAMP CREEK RESTORATION SITE (MC-11) - SIUSLAW BASIN