

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

STREAM: Wolf Creek Tributary (MC-206)  
BASIN: Yaquina River  
SURVEY TYPE: Pre-Tx  
DATE: June 23, 2003  
SURVEY CREW: Chris Dattler, Kevin Cellura  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 1.6 km<sup>2</sup>  
USGS MAPS: Harlan  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Wolf Creek Tributary habitat survey extended 524 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 11.2 (range: 8.0-20.0). Land use for the reach was second growth (15-30 cm dbh) and mature (50-90 cm dbh) trees. The average unit gradient was 1.4 percent. Scour pools (53%) and riffles (30%) dominated stream habitat. Sand (32%) and gravel (31%) dominated stream substrate. Wood volume was very low at 6.0 m<sup>3</sup>/100m.

**COMMENTS:**

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

REACH 1

T11S-R08W-S30SE

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     | 100% |
| Moderate V-shape           | 0% | Multiple Terraces         | 0%   |
| Open V-shape               | 0% | Wide Floodplain           | 0%   |
| Valley Width Index 11.2    |    | VWI Range: 8 - 20         |      |

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

| <u>Type</u> | <u>Length (m)</u> | <u>Area (m2)</u> | <u>Dry Units</u> |
|-------------|-------------------|------------------|------------------|
| Primary     | 524               | 689              | 0                |
| Secondary   | 55                | 112              | 4                |

Channel Dimensions (m)

| <u>Wetted</u> |      | <u>Active</u> |     | <u>Floodprone</u> | <u>First Terrace</u> |
|---------------|------|---------------|-----|-------------------|----------------------|
| Width         | 1.4  | Width         | 3.2 | 8.5               | 10.4                 |
| Depth         | 0.18 | Height        | 0.4 | 0.8               | 1.1                  |
|               |      | W:D ratio     | 8.4 | Entrenchment      | 3.1                  |

Stream Flow Type: LF Water temp (C): 12.0 - 12.0  
 Avg. Unit Gradient: 1.4% Habitat Units/100m: 14.7

**Riparian, Bank, and Wood Summary**

|                      | <u>Primary</u> | <u>Secondary</u> |
|----------------------|----------------|------------------|
| Land Use:            | ST             | MT               |
| Riparian Vegetation: | D15            | G                |

Bank Condition and Shade

| <u>Bank Status</u> | <u>Percent Reach Length</u> | <u>Shade (% of 180)</u> |
|--------------------|-----------------------------|-------------------------|
| Actively Eroding:  | 2%                          | Reach avg: 94%          |
| Undercut Banks:    | 15%                         | Range: 61 - 100         |

Large Wood Debris

|                             | <u>Total</u> | <u>Total / 100m</u> |
|-----------------------------|--------------|---------------------|
| All pieces (>=3m x 0.15m):  | 51           | 9.7                 |
| Volume (m <sup>3</sup> ):   | 31           | 6.0                 |
| Key pieces (>=10m x 0.60m): | 1            | 0.2                 |

OREGON DEPARTMENT OF FISH AND WILDLIFE WOLF CREEK TRIBUTARY PRE-TX (MC-206)

HABITAT INVENTORY

Report Date: 12/17/03

Survey Date:

6/23/03

| REACH 1             |                 | T11S-R08W-S30SE        |                     |                     |                                    |                               | 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           |           |           |           |          |          |  |
|                     |                 |                        |                     |                     |                                    |                               | Percent Wetted Area |           |           |           |          |          |  |
|                     |                 |                        |                     |                     |                                    |                               | S/O                 | Snd       | Grvl      | Cbl       | Bldr     | Bdrk     |  |
| CULVERT CROSSING    | 1               | 15                     | 0.5                 | 0.04                | 8                                  | 0                             | 0                   | 20        | 30        | 50        | 0        | 0        |  |
| DRY CHANNEL         | 1               | 15                     | 1.5                 | 0.00                | 23                                 | 0                             | 40                  | 40        | 20        | 0         | 0        | 0        |  |
| DRY UNIT            | 2               | 20                     | 3.0                 | 0.00                | 59                                 | 0                             | 50                  | 50        | 0         | 0         | 0        | 0        |  |
| POOL-BACKWATER      | 1               | 2                      | 1.3                 | 0.30                | 2                                  | 0                             | 20                  | 10        | 20        | 50        | 0        | 0        |  |
| POOL-ISOLATED       | 1               | 1                      | 0.6                 | 0.08                | 1                                  | 0                             | 80                  | 20        | 0         | 0         | 0        | 0        |  |
| POOL-LATERAL SCOUR  | 38              | 239                    | 1.6                 | 0.30                | 373                                | 1                             | 18                  | 39        | 26        | 14        | 0        | 3        |  |
| POOL-PLUNGE         | 4               | 17                     | 2.1                 | 0.32                | 36                                 | 1                             | 25                  | 40        | 20        | 15        | 0        | 0        |  |
| POOL-STRAIGHT SCOUR | 1               | 9                      | 1.5                 | 0.20                | 14                                 | 0                             | 10                  | 30        | 30        | 30        | 0        | 0        |  |
| PUDDLED UNIT        | 1               | 8                      | 2.2                 | 0.01                | 18                                 | 0                             | 50                  | 50        | 0         | 0         | 0        | 0        |  |
| RIFFLE              | 18              | 160                    | 1.1                 | 0.04                | 172                                | 1                             | 4                   | 21        | 42        | 30        | 0        | 3        |  |
| RIFFLE W/ POCKETS   | 7               | 64                     | 1.0                 | 0.09                | 64                                 | 0                             | 14                  | 31        | 36        | 16        | 0        | 3        |  |
| STEP/COBBLE         | 10              | 29                     | 1.2                 | 0.04                | 32                                 | 1                             | 3                   | 22        | 51        | 25        | 1        | 0        |  |
| <b>Total:</b>       | <b>85</b>       | <b>579</b>             | <b>1.4</b>          | <b>0.18</b>         | <b>801</b>                         | <b>4</b>                      | <b>Avg 15</b>       | <b>32</b> | <b>31</b> | <b>19</b> | <b>0</b> | <b>2</b> |  |

| 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 |                          | 55 |
|                   |                 |                        |                     |                     | (m <sup>2</sup> ) | Percent | Number         | (# / 100m <sup>2</sup> ) |    |
| Dammed & BW Pools | 2               | 3                      | 1.0                 | 0.19                | 3                 | 0.36%   | 0              | 0.0                      |    |
| Scour Pools       | 43              | 265                    | 1.7                 | 0.30                | 422               | 52.67%  | 2              | 0.5                      |    |
| Glides            | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |    |
| Riffles           | 25              | 223                    | 1.1                 | 0.05                | 237               | 29.52%  | 1              | 0.4                      |    |
| Rapids            | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |    |
| Cascades          | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |    |
| Step/Falls        | 10              | 29                     | 1.2                 | 0.04                | 32                | 4.05%   | 1              | 3.1                      |    |
| Dry               | 4               | 44                     | 2.4                 | 0.00                | 100               | 12.45%  | 0              | 0.0                      |    |
| Culverts          | 1               | 15                     | 0.5                 | 0.04                | 8                 | 0.94%   | 0              | 0.0                      |    |

POOL SUMMARY

|                                       | <u>Total</u> | <u># / Km</u> |
|---------------------------------------|--------------|---------------|
| All Pools:                            | 45           | 77.8          |
| Pools >=1m deep:                      | 1            | 1.7           |
| Complex pools (LWD pieces>=3):        | 3            | 5.2           |
| Pool frequency (channel widths/pool): | 4.1          |               |
| Residual pool depth (avg):            | 0.26         |               |

**STREAM SUMMARY**

**WOLF CREEK TRIBUTARY PRE-TX (MC-206)**

| 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> ) | Substrate           |     |      |     |      |      | Large<br>Boulders<br>(#>0.5m) |
|-----------------|------------------------|---------------------|---------------------|------------------------------------|---------------------|-----|------|-----|------|------|-------------------------------|
|                 |                        |                     |                     |                                    | Percent Wetted Area |     |      |     |      |      |                               |
|                 |                        |                     |                     |                                    | S/O                 | Snd | Grvl | Cbl | Bldr | Bdrk |                               |
| 85              | 579                    | 1.4                 | 0.18                | 801                                | 15                  | 32  | 31   | 19  | 0    | 2    | 4                             |

| Habitat Group     | Wetted Area       |         |
|-------------------|-------------------|---------|
|                   | (m <sup>2</sup> ) | Percent |
| Dammed & BW Pools | 3                 | 0.36%   |
| Scour Pools       | 422               | 52.67%  |
| Glides            | 0                 | 0.00%   |
| Riffles           | 237               | 29.52%  |
| Rapids            | 0                 | 0.00%   |
| Cascades          | 0                 | 0.00%   |
| Step/Falls        | 32                | 4.05%   |
| Dry               | 100               | 12.45%  |
| Culverts          | 8                 | 0.94%   |

**RIPARIAN ZONE VEGETATION SUMMARY**

**REACH 1** **REACH 1**

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

|                                 |      |
|---------------------------------|------|
| Total hardwoods/1000            | 1199 |
| Total conifers/1000 ft          | 264  |
| Total conifers >20" dbh/1000 ft | 41   |
| Total conifers >35" dbh/1000 ft | 20   |

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**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                   | 0.7      | 0.0                      | 3.3      | 0.7                      | 3.3      | 1.0                      | 7.3      |
| 15-30cm             | 0.0                   | 2.0      | 0.0                      | 4.0      | 2.0                      | 4.3      | 2.0                      | 10.3     |
| 30-50cm             | 0.0                   | 0.7      | 0.3                      | 0.3      | 0.3                      | 0.7      | 0.7                      | 1.7      |
| 50-90cm             | 0.0                   | 0.3      | 0.0                      | 0.0      | 0.3                      | 0.0      | 0.3                      | 0.3      |
| >90cm               | 0.0                   | 0.0      | 0.3                      | 0.0      | 0.0                      | 0.0      | 0.3                      | 0.0      |
| Total/100m2         | 0.3                   | 3.7      | 0.7                      | 7.7      | 3.3                      | 8.3      | 1.4                      | 6.6      |

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**Canopy closure and ground cover**

|                  | Zone 1<br>0-10 meters |  | Zone 2<br>10 - 20 meters |  | Zone 3<br>20 - 30 meters |  |
|------------------|-----------------------|--|--------------------------|--|--------------------------|--|
|                  | (%)                   |  | (%)                      |  | (%)                      |  |
| Canopy closure   | 81                    |  | 92                       |  | 92                       |  |
| Shrub cover      | 34                    |  | 26                       |  | 29                       |  |
| Grass/forb cover | 62                    |  | 75                       |  | 69                       |  |

**Predominant landform in each zone**

|                   | Zone 1<br>0-10 meters |  | Zone 2<br>10 - 20 meters |  | Zone 3<br>20 - 30 meters |  |
|-------------------|-----------------------|--|--------------------------|--|--------------------------|--|
|                   | (%)                   |  | (%)                      |  | (%)                      |  |
| Hillslope         | 33                    |  | 67                       |  | 83                       |  |
| High terrace      | 33                    |  | 33                       |  | 17                       |  |
| Low terrace       | 0                     |  | 0                        |  | 0                        |  |
| Floodplain        | 17                    |  | 0                        |  | 0                        |  |
| Wetland/meadow    | 0                     |  | 0                        |  | 0                        |  |
| Stream channel    | 0                     |  | 0                        |  | 0                        |  |
| Roadbed/Railroad  | 17                    |  | 0                        |  | 0                        |  |
| Riprap            | 0                     |  | 0                        |  | 0                        |  |
| Surface slope (%) | 16                    |  | 16                       |  | 22                       |  |

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**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 | 41   |
| Total conifers >35" dbh/1000 ft | 20   |

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

| Diameter<br><u>class (cm)</u> | Zones 1-3<br><u>0-30 meters</u> |                 |
|-------------------------------|---------------------------------|-----------------|
|                               | <u>Conifer</u>                  | <u>Hardwood</u> |
| 3-15cm                        | 1.0                             | 7.3             |
| 15-30cm                       | 2.0                             | 10.3            |
| 30-50cm                       | 0.7                             | 1.7             |
| 50-90cm                       | 0.3                             | 0.3             |
| >90cm                         | 0.3                             | 0.0             |

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**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 |                       |
| 20   | LF   | 3    | HS      | 25    | 95              | 5     | 95    | Conifer  |                     |       |       | 1     |     | VINE MAPLE            |
|      |      |      |         |       |                 |       |       | Hardwood | 2                   | 1     | 1     |       |     |                       |
| 20   | LF   | 2    | HS      | 27    | 95              | 20    | 85    | Conifer  |                     |       |       |       |     | 1 METER DBH STUMP     |
|      |      |      |         |       |                 |       |       | Hardwood |                     | 2     | 1     |       |     |                       |
| 20   | RT   | 1    | FP      | 12    | 90              | 30    | 70    | Conifer  |                     |       |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood |                     |       |       |       |     |                       |
| 20   | RT   | 2    | HS      | 20    | 95              | 10    | 90    | Conifer  |                     |       |       |       | 1   |                       |
|      |      |      |         |       |                 |       |       | Hardwood | 3                   |       |       |       |     |                       |
| 20   | RT   | 3    | HS      | 15    | 95              | 25    | 75    | Conifer  |                     |       |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood | 5                   | 3     |       |       |     |                       |
| 20   | LF   | 1    | RB      | 8     | 60              | 25    | 75    | Conifer  | 1                   |       |       |       |     | ELDERBERRY            |
|      |      |      |         |       |                 |       |       | Hardwood |                     |       |       |       |     |                       |
| 40   | LF   | 1    | HT      | 8     | 85              | 40    | 60    | Conifer  |                     |       |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood |                     |       |       |       |     |                       |
| 40   | LF   | 3    | HT      | 8     | 90              | 35    | 65    | Conifer  |                     |       |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood | 1                   | 7     | 1     |       |     |                       |
| 40   | RT   | 1    | HS      | 30    | 75              | 55    | 45    | Conifer  |                     |       |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood | 2                   |       |       |       |     |                       |
| 40   | RT   | 2    | HS      | 22    | 85              | 25    | 75    | Conifer  |                     |       |       | 1     |     | RABBIT HOLE?          |
|      |      |      |         |       |                 |       |       | Hardwood | 5                   | 1     |       |       |     |                       |
| 40   | RT   | 3    | HS      | 37    | 95              | 5     | 85    | Conifer  | 1                   | 6     |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood |                     | 2     |       |       |     |                       |
| 40   | LF   | 2    | HT      | 1     | 90              | 5     | 95    | Conifer  |                     |       |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood |                     | 2     |       |       |     |                       |
| 55   | RT   | 3    | HS      | 20    | 95              | 55    | 45    | Conifer  | 1                   |       |       |       | 1   |                       |
|      |      |      |         |       |                 |       |       | Hardwood |                     |       |       |       |     |                       |
| 55   | LF   | 1    | HT      | 8     | 80              | 50    | 50    | Conifer  |                     |       |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood |                     | 2     |       |       |     |                       |
| 55   | RT   | 2    | HS      | 14    | 90              | 35    | 65    | Conifer  |                     |       |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood | 1                   | 5     |       |       |     |                       |
| 55   | RT   | 1    | HS      | 29    | 95              | 5     | 70    | Conifer  |                     |       |       |       |     | BIG LEAF MAPLE SEV MN |
|      |      |      |         |       |                 |       |       | Hardwood |                     | 4     | 2     | 1     |     |                       |
| 55   | LF   | 3    | HS      | 25    | 80              | 50    | 50    | Conifer  |                     |       |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood | 2                   |       |       |       |     |                       |
| 55   | LF   | 2    | HT      | 10    | 95              | 60    | 40    | Conifer  |                     |       |       |       |     |                       |
|      |      |      |         |       |                 |       |       | Hardwood | 1                   | 2     |       |       |     |                       |

# Comment Summary

## Oregon Plan Monitoring Sites 2003

MONITORING AREA: **2-MC**      SITE ID: **206**      WOLF CREEK TRIBUTARY PRE-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> |
|--------------|-------------|-------------|------------------|-----------------|-----------------------|-----------------------|
| 1            | CC          | 00          | 15               | CC              | 10.5 DEG C @ 9:25 AM  | 1.6M DIAMETER CULVERT |
| 8            | LP          | 00          | 58.3             |                 | COHO FRY              | FRY RSN               |
| 10           | LP          | 00          | 68.3             |                 |                       | FRY                   |
| 11           | SC          | 00          | 70.1             |                 | DRY SEEP?             |                       |
| 13           | RI          | 00          | 83.8             |                 | RSN (2)               |                       |
| 14           | PP          | 00          | 91.7             |                 |                       | RSN X 2 FRY TROUT     |
| 23           | LP          | 01          | 134.1            |                 |                       | FRY                   |
| 28           | LP          | 00          | 164.3            |                 | RSN FRY (TROUT)       | SOFT CLAY BOTTOM RSN  |
| 34           | LP          | 00          | 215.2            |                 |                       | SOFT CLAY BOTTOM      |
| 35           | SC          | 00          | 218.4            |                 | AMMO CETES            |                       |
| 37           | RI          | 00          | 233.2            | DJ              |                       |                       |
| 44           | LP          | 02          | 265.1            |                 | PGS                   | DRY UNIT BELOW, PGS?  |
| 48           | LP          | 00          | 286.3            |                 |                       | SOFT CLAY BOTTOM      |
| 51           | RI          | 00          | 304.8            | DJ              |                       |                       |
| 57           | LP          | 01          | 351              | SS/ DJ          | SS/                   |                       |
| 59           | SC          | 00          | 356.2            | DJ              |                       |                       |
| 60           | LP          | 00          | 364.5            |                 | REDBACK SALAMANDER    |                       |
| 64           | SC          | 00          | 390.1            | DJ              | RSN/BV                |                       |
| 65           | PP          | 00          | 393.5            | COHO            |                       |                       |
| 68           | LP          | 00          | 411.2            |                 |                       | SOFT CLAY BOTTOM      |
| 70           | PP          | 00          | 422.5            |                 |                       | SOFT CLAY BOTTOM      |

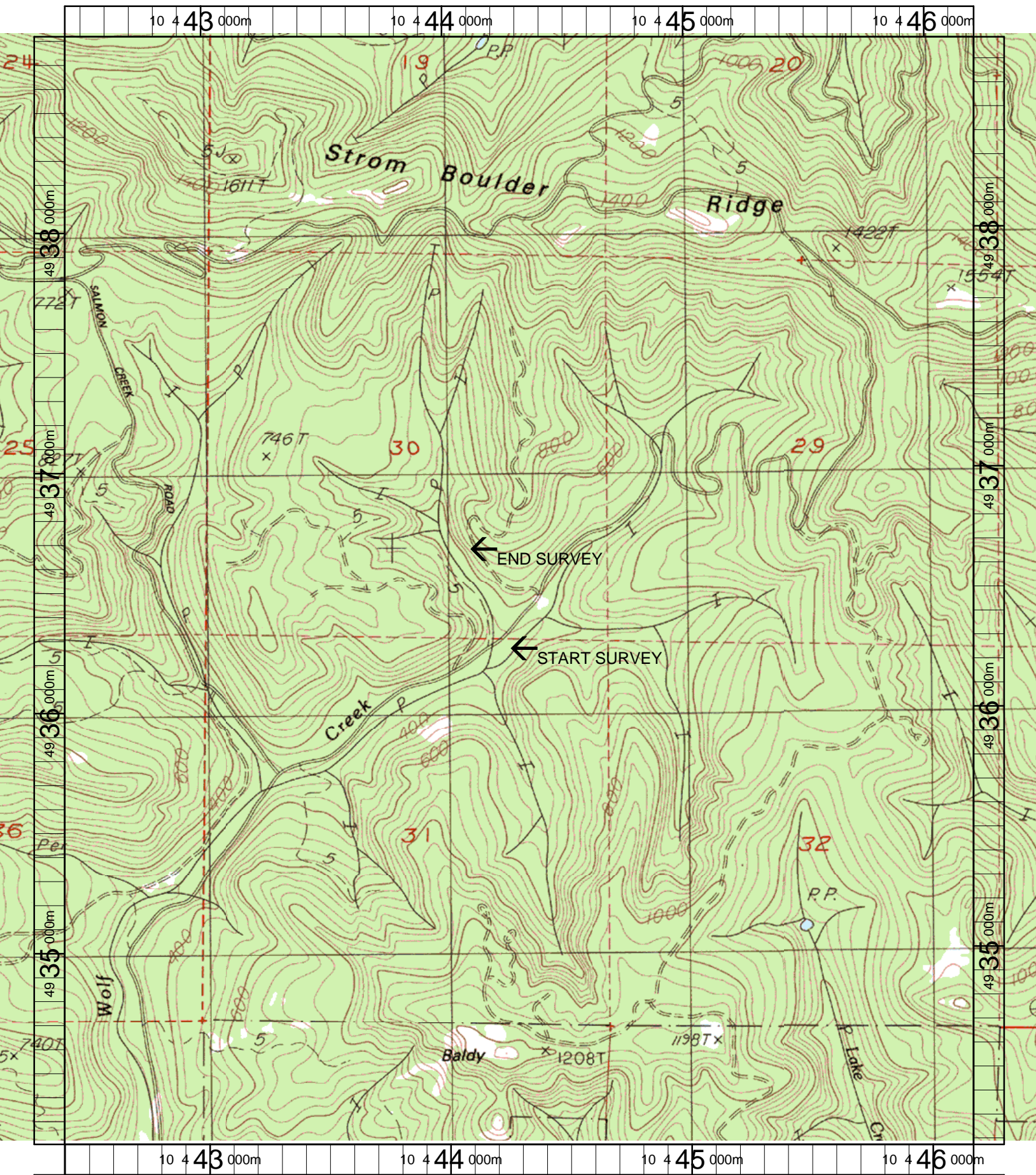


# Comment Summary

## Oregon Plan Monitoring Sites 2003

MONITORING AREA: **2-MC**    SITE ID: **206**    WOLF CREEK TRIBUTARY PRE-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> |
|--------------|-------------|-------------|------------------|-----------------|-----------------------|-----------------------|
| 71           | RP          | 00          | 428.4            | SS/             | SS/                   | SOFT CLAY BOTTOM      |
| 74           | LP          | 00          | 443.3            |                 | BV                    |                       |
| 76           | LP          | 00          | 463.2            | SS/             | SS/                   | SOFT CLAY BOTTOM      |
| 80           | RP          | 00          | 499.5            |                 |                       | VERY SOFT CLAY        |
| 82           | RP          | 00          | 510.6            |                 | DJ                    |                       |
| 83           | LP          | 01          | 515.4            |                 |                       | COHO DJ,              |
| 84           | IP          | 10          | 515.4            |                 | RSN /FRY (COHO)       | COHO, RSN             |
| 85           | RP          | 00          | 523.6            | DJ X 2          | TEMP 12.0 DEG C       |                       |



Name: HARLAN  
 Date: 5/20/2003  
 Scale: 1 inch equals 1666 feet

Location: 10 444297 E 4936500 N  
 Caption: WOLF CREEK TRIBUTARY RESTORATION SITE -  
 YAQUINA BASIN