

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

STREAM: Willanch Creek (MS-278)
BASIN: Coos Bay
SURVEY TYPE: Post-Tx
DATE: July 27, 2005
SURVEY CREW: Kevin Cellura, Eric Himmelreich
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 20.1 km²
USGS MAPS: North Bend
ECOREGION: Coast Range Coastal Uplands

GENERAL DESCRIPTION:

The Willanch Creek habitat survey extended 858 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 7.0 (range: 2.7-16.5). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 2.1 percent. Riffles (88%) dominated stream habitat. Gravel (36%), sand (26%) and cobble (23%) dominated stream substrate. Wood volume was low at 15.4 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

T25S-R12W-S09SW

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 | 7.0 | VWI Range: | 2.7 - 16.5 |

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 Channel | 858 | 1,910 | 0 |
| Secondary Channel | 0 | 0 | 0 |
| Off-Channel Units | 22 | 46 | 1 |

Channel Dimensions (m)

| <u>Wetted</u> | <u>Active</u> | <u>Floodprone</u> n = 5 | <u>First Terrace</u> n = 5 |
|---------------|---------------|-------------------------|----------------------------|
| Width: 2.3 | Width: 4.3 | 6.7 (4 - 8.3) | 7.2 (4.2 - 9) |
| Depth: 0.14 | Height: 0.4 | 0.8 (0.7 - 1) | 1.0 (0.8 - 1.3) |

W:D ratio: 10.9
 Stream Flow Type: LF
 Average Unit Gradient: 2.1%
 Water temperature (°C): 12.5 - 12.5

Entrenchment (ACW:FPW ratio): 1.6
 Habitat Units/100m (total channel length): 3.2
 Habitat Units/100m (primary channel length): 3.3

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

| <u>Bank Status</u> | <u>Percent Reach Length</u> | <u>Shade (% of 180)</u> |
|--------------------|-----------------------------|-------------------------|
| Actively Eroding: | 3% | Reach avg: 86% |
| Undercut Banks: | 15% | Range: 61 - 100 |

Large Wood Debris

| | <u>Total</u> | <u>Total / 100m primary channel</u> |
|-----------------------------|--------------|-------------------------------------|
| All pieces (>=3m x 0.15m): | 122 | 14.2 |
| Volume (m ³): | 132 | 15.4 |
| Key pieces (>=12m x 0.60m): | 1 | 0.1 |

OREGON DEPT OF FISH AND WILDLIFE

WILLANCH CREEK POST-TX (3-MS, 278)

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

7/27/2005

| REACH 1 | | T25S-R12W-S09SW | | | | | 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 |
| DRY CHANNEL | 1 | 8 | 2.2 | 0.00 | 17 | 0 | 0 | 20 | 40 | 30 | 10 | 0 |
| POOL-LATERAL SCOUR | 4 | 34 | 3.2 | 0.48 | 125 | 4 | 16 | 28 | 28 | 15 | 5 | 7 |
| POOL-PLUNGE | 1 | 2 | 2.3 | 0.35 | 5 | 0 | 10 | 40 | 40 | 10 | 0 | 0 |
| RAPID/BOULDERS | 2 | 58 | 1.6 | 0.08 | 80 | 6 | 0 | 10 | 25 | 28 | 13 | 25 |
| RIFFLE | 18 | 778 | 2.2 | 0.08 | 1,726 | 81 | 2 | 25 | 38 | 26 | 6 | 4 |
| STEP/LOG | 2 | 1 | 2.4 | 0.02 | 3 | 0 | 5 | 45 | 40 | 10 | 0 | 0 |
| Total: | 28 | 880 | 2.3 | 0.14 | 1,956 | 91 | Avg: 4 | 26 | 36 | 23 | 6 | 5 |

| 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 | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |
| Scour Pools | 5 | 36 | 3.0 | 0.45 | 130 | 6.63% | 4 | 3.1 | |
| Glides | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |
| Riffles | 18 | 778 | 2.2 | 0.08 | 1,726 | 88.26% | 81 | 4.7 | |
| Rapids | 2 | 58 | 1.6 | 0.08 | 80 | 4.10% | 6 | 7.5 | |
| Cascades | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |
| Step/Falls | 2 | 1 | 2.4 | 0.02 | 3 | 0.14% | 0 | 0.0 | |
| Dry | 1 | 8 | 2.2 | 0.00 | 17 | 0.87% | 0 | 0.0 | |
| Culverts | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |

| POOL SUMMARY | | | |
|---------------------------------------|--------------|------------------------------|--|
| | <u>Total</u> | Total of all Channel Lengths | |
| | | <u># / Km</u> | <u>Primary Channel Length</u> <u># / Km</u> |
| All Pools: | 5 | 5.7 | 5.8 |
| Pools >=1m deep: | 0 | 0.0 | 0.0 |
| Complex pools (LWD pieces>=3): | 0 | 0.0 | 0.0 |
| Pool frequency (channel widths/pool): | 41.1 | | |
| Residual pool depth (avg): | 0.39 | | |

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

WILLANCH CREEK POST-TX
GCG: 3-MS SITE ID: 278

Survey Date 7/27/2005
Report Date: 4/26/2006

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

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

| | |
|---------------------------------|------|
| Total hardwoods/1000 | 1666 |
| Total conifers/1000 ft | 305 |
| Total conifers >20" dbh/1000 ft | 0 |
| Total conifers >35" dbh/1000 ft | 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 | 0.0 | 4.7 | 0.0 | 8.0 | 3.3 | 3.7 | 3.3 | 16.3 |
| 15-30cm | 0.0 | 3.0 | 0.0 | 3.7 | 1.3 | 1.7 | 1.3 | 8.3 |
| 30-50cm | 0.0 | 1.7 | 0.0 | 1.0 | 0.3 | 0.0 | 0.3 | 2.7 |
| 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 | 0.0 | 9.3 | 0.0 | 12.7 | 5.0 | 5.3 | 1.7 | 9.1 |

Canopy closure and ground cover

| | Zone 1 0-10 meters | | Zone 2 10 - 20 meters | | Zone 3 20 - 30 meters | |
|------------------|-----------------------|--|--------------------------|--|--------------------------|--|
| | (%) | | (%) | | (%) | |
| Canopy closure | 71 | | 73 | | 67 | |
| Shrub cover | 46 | | 58 | | 61 | |
| Grass/forb cover | 46 | | 23 | | 26 | |

Predominant landform in each zone

| | Zone 1 0-10 meters | | Zone 2 10 - 20 meters | | Zone 3 20 - 30 meters | |
|-------------------|-----------------------|--|--------------------------|--|--------------------------|--|
| | (%) | | (%) | | (%) | |
| Hillslope | 50 | | 67 | | 83 | |
| High terrace | 50 | | 33 | | 17 | |
| 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 (%) | 28 | | 23 | | 42 | |

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 | 1666 |
| Total conifers/1000 ft | 305 |
| Total conifers >20" dbh/1000 ft | 0 |
| Total conifers >35" dbh/1000 ft | 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 | 3.3 | 16.3 |
| 15-30cm | 1.3 | 8.3 |
| 30-50cm | 0.3 | 2.7 |
| 50-90cm | 0.0 | 0.0 |
| >90cm | 0.0 | 0.0 |

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

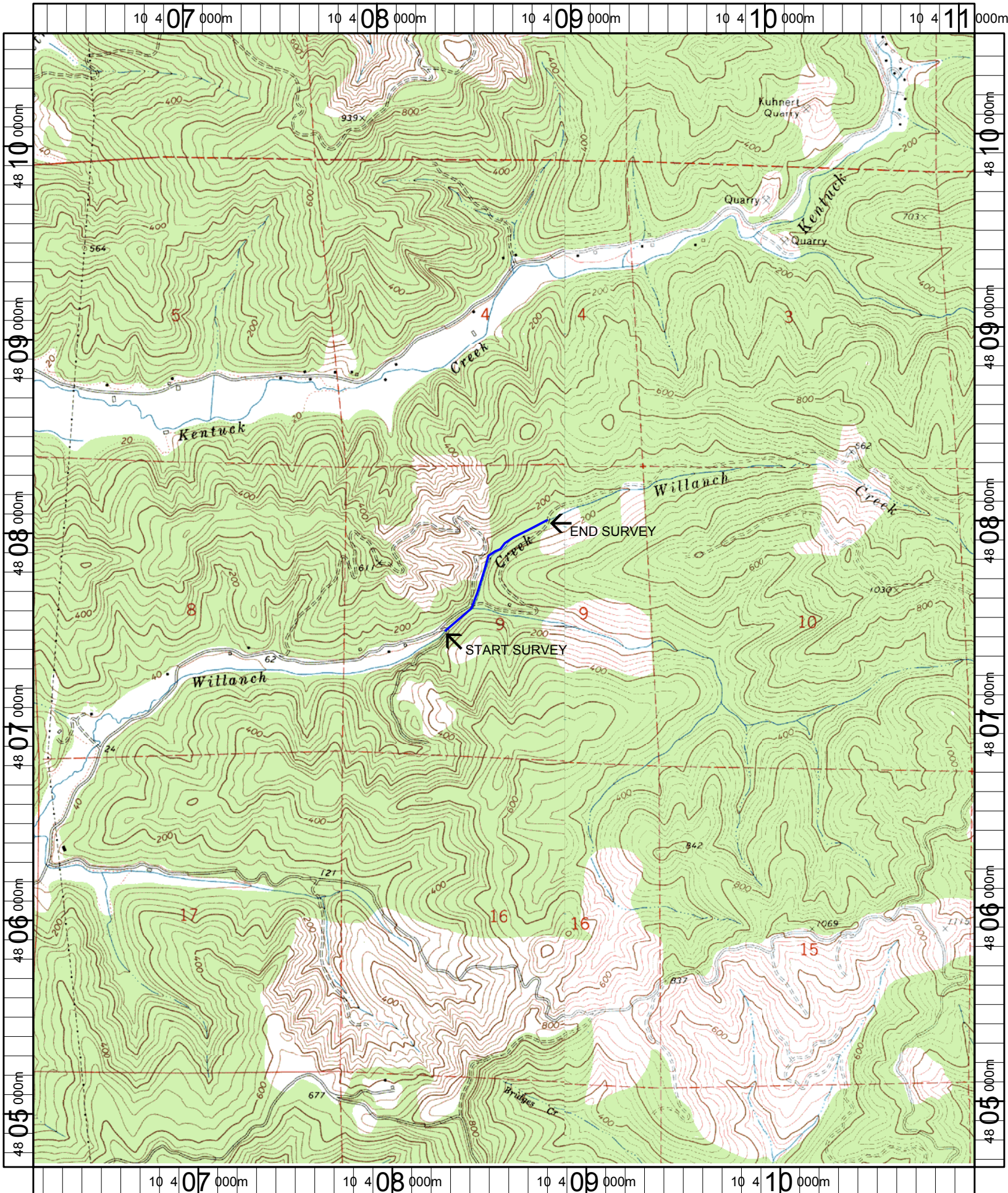
| Unit | Side | Zone | Surface | Slope | Cover (percent) | | | | Diameter class (cm) | | | | | Notes | |
|------|------|------|---------|-------|-----------------|-------|-------|----------|---------------------|-------|-------|-------|-----|-------|---------------------------|
| | | | | | Canopy | Shrub | Grass | | 3-15 | 15-30 | 30-50 | 50-90 | >90 | | |
| 12 | LF | 2 | HS | 20 | 40 | 60 | 20 | Conifer | | | | | | | 408444, 4807645 |
| | | | | | | | | Hardwood | 3 | | | | | | |
| 12 | RT | 1 | HT | 0 | 35 | 95 | 0 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | 1 | | | | | | |
| 12 | RT | 2 | HT | 0 | 60 | 95 | 0 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | | | | | | |
| 12 | RT | 3 | HT | 0 | 65 | 95 | 0 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | | | | | | |
| 12 | LF | 3 | HS | 80 | 30 | 50 | 20 | Conifer | 10 | | | | | | |
| | | | | | | | | Hardwood | | | | | | | |
| 12 | LF | 1 | HS | 85 | 30 | 70 | 25 | Conifer | | | | | | | BLACKBERRY AND NETTLES |
| | | | | | | | | Hardwood | 2 | | | | | | |
| 17 | LF | 1 | HS | 60 | 90 | 20 | 70 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | 4 | | | | | | |
| 17 | LF | 2 | HS | 60 | 70 | 40 | 50 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | 3 | 2 | | | | | |
| 17 | LF | 3 | HS | 60 | 60 | 50 | 40 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | 1 | | | | | |
| 17 | RT | 1 | HT | 0 | 80 | 10 | 70 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | 7 | 9 | 2 | | | | |
| 17 | RT | 2 | HT | 0 | 85 | 30 | 20 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | 17 | 5 | | | | | |
| 17 | RT | 3 | HS | 40 | 80 | 60 | 30 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | 8 | 3 | | | | | |
| 27 | LF | 2 | HS | 20 | 90 | 85 | 10 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | 1 | 1 | 1 | | | | |
| 27 | RT | 2 | HS | 40 | 90 | 40 | 40 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | 3 | 2 | | | | |
| 27 | LF | 1 | HT | 5 | 95 | 30 | 65 | Conifer | | | | | | | 408741, 4807996 |
| | | | | | | | | Hardwood | | | 2 | | | | |
| 27 | RT | 3 | HS | 40 | 90 | 40 | 40 | Conifer | | 4 | 1 | | | | |
| | | | | | | | | Hardwood | | | | | | | |
| 27 | RT | 1 | HS | 20 | 95 | 50 | 45 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | | 1 | | | | |
| 27 | LF | 3 | HS | 30 | 75 | 70 | 25 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | 3 | 1 | | | | | |

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **3-MS** SITE ID: **278** WILLANCH CREEK POST-TX

| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTE ESTIMATOR | NOTE NUMERATOR |
|-------|------|------|-----------|------------|------------------------|-----------------------------|
| 1 | RB | 00 | 8 | | T = 12.5 C | |
| 2 | LP | 00 | 19.3 | | | FRY |
| 3 | RI | 00 | 69.3 | HS | | |
| 4 | RI | 00 | 124.3 | HS, HS, HS | | |
| 5 | LP | 00 | 135.8 | | | FISH |
| 6 | RI | 00 | 174.1 | HS | /TJ | |
| 7 | RB | 01 | 224.1 | /TJ, BC | | T = 12.5 C, BC = WILLANCH L |
| 8 | RI | 11 | 224.1 | | TRIB 1 408410, 4807585 | TRIB 1 T = 13 C |
| 9 | DC | 12 | 224.1 | | ACW = 2.2 M | |
| 12 | RI | 00 | 297.5 | HS, HS | | |
| 13 | RI | 00 | 347.5 | HS | | |
| 15 | RI | 00 | 447.5 | SS/ | | |
| 16 | RI | 00 | 497.5 | | | BEDROCK = HARDPAN |
| 17 | RI | 00 | 547.5 | HS, HS | SS/ | FRY |
| 18 | PP | 00 | 549.6 | | | SS/ |
| 19 | SL | 00 | 549.9 | | H = .3 M | |
| 23 | RI | 00 | 676.2 | HS | | |
| 24 | RI | 00 | 726.2 | | | FRY |
| 25 | SL | 00 | 726.9 | | H = .4 M | |
| 26 | RI | 00 | 776.9 | HS | | |
| 27 | RI | 00 | 826.9 | | | OLD RUSTY CULVERT ON SI |



Name: NORTH BEND
 Date: 1/6/2005
 Scale: 1 inch equals 2000 feet

Location: 10 408614 E 4807622 N
 Caption: WILLANCH CREEK RESTORATION SITE - COOS BASIN