

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

STREAM: Bear Creek Upper (N-365)
BASIN: Nestucca River
SURVEY TYPE: Pre-Tx
DATE: September 6, 2007
SURVEY CREW: Lanoah Babcock, Kara Morris
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 5.0 km²
USGS MAPS: Beaver
ECOREGION: Coast Range Coastal Uplands

GENERAL DESCRIPTION:

The Bear Creek habitat survey extended 391 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 8.2 (range: 5.0-20.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 2.3 percent. Riffles (80%) dominated stream habitat. Cobble (46%) and gravel (36%) dominated stream substrate. Wood volume was very low at 7.6 m³/100m.

COMMENTS:

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

REACH 1

T03S-R09W-S08SW

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 | 8.2 | VWI Range: | 5 - 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 Channel | 391 | 1,317 | 0 |
| Secondary Channel | 0 | 0 | 0 |
| Off-Channel Units | 7 | 8 | 0 |

Channel Dimensions (m)

| <u>Wetted</u> | <u>Active</u> | <u>Floodprone</u> n = 5 | <u>First Terrace</u> n = 5 |
|---------------|---------------|-------------------------|----------------------------|
| Width: 3.4 | Width: 5.1 | 6.4 (5.6 - 7.2) | 8.7 (6.4 - 15.2) |
| Depth: 0.25 | Height: 0.3 | 0.6 (0.6 - 0.8) | 1.0 (0.75 - 1.35) |

W:D ratio: 16.2
 Stream Flow Type: MF
 Average Unit Gradient: 2.3%
 Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.3
 Habitat Units/100m (total channel length): 6.3
 Habitat Units/100m (primary channel length): 6.4

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

| <u>Bank Status</u> | <u>Percent Reach Length</u> | <u>Shade (% of 180)</u> |
|--------------------|-----------------------------|-------------------------|
| Actively Eroding: | 12% | Reach avg: 97% |
| Undercut Banks: | 16% | Range: 83 - 100 |

Large Wood Debris

| | <u>Total</u> | <u>Total / 100m primary channel</u> |
|-----------------------------|--------------|-------------------------------------|
| All pieces (>=3m x 0.15m): | 19 | 4.9 |
| Volume (m ³): | 30 | 7.6 |
| Key pieces (>=12m x 0.60m): | 2 | 0.5 |

OREGON DEPT OF FISH AND WILDLIFE

BEAR CREEK UPPER PRE-TX (1-NC, 365)

HABITAT INVENTORY

Report Date: 11/14/2007

Survey Date:

9/6/2007

| REACH 1 | | T03S-R09W-S08SW | | | | | 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 |
| POOL-LATERAL SCOUR | 7 | 65 | 3.3 | 0.53 | 219 | 0 | 6 | 24 | 45 | 26 | 0 | 0 |
| RIFFLE | 15 | 321 | 3.2 | 0.16 | 1,056 | 0 | 1 | 11 | 35 | 50 | 3 | 0 |
| STEP/COBBLE | 3 | 12 | 4.3 | 0.07 | 50 | 0 | 0 | 7 | 26 | 68 | 0 | 0 |
| Total: | 25 | 398 | 3.4 | 0.25 | 1,325 | 0 | Avg: 2 | 14 | 36 | 46 | 2 | 0 |

| 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 | 7 | 65 | 3.3 | 0.53 | 219 | 16.56% | 0 | 0.0 | |
| Glides | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |
| Riffles | 15 | 321 | 3.2 | 0.16 | 1,056 | 79.67% | 0 | 0.0 | |
| Rapids | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |
| Cascades | 0 | 0 | | | 0 | 0.00% | 0 | 0.0 | |
| Step/Falls | 3 | 12 | 4.3 | 0.07 | 50 | 3.77% | 0 | 0.0 | |
| Dry | 0 | 0 | | | 0 | 0.00% | 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> | Primary Channel Length <u># / Km</u> |
| All Pools: | 7 | 17.6 | 17.9 |
| Pools >=1m deep: | 0 | 0.0 | 0.0 |
| Complex pools (LWD pieces>=3): | 0 | 0.0 | 0.0 |
| Pool frequency (channel widths/pool): | 11.1 | | |
| Residual pool depth (avg): | 0.44 | | |

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

BEAR CREEK UPPER PRE-TX
GCG: 1-NC SITE ID: 365

Survey Date 9/6/2007
Report Date: 11/7/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

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

| | |
|---------------------------------|-----|
| Total hardwoods/1000 | 447 |
| Total conifers/1000 ft | 488 |
| Total conifers >20" dbh/1000 ft | 20 |
| 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 | 0.7 | 1.3 | 0.0 | 0.3 | 0.3 | 0.7 | 1.0 | 2.3 |
| 15-30cm | 0.0 | 1.7 | 1.7 | 0.7 | 2.7 | 0.3 | 4.3 | 2.7 |
| 30-50cm | 0.0 | 0.3 | 0.0 | 0.7 | 2.3 | 0.0 | 2.3 | 1.0 |
| 50-90cm | 0.0 | 1.3 | 0.0 | 0.0 | 0.3 | 0.0 | 0.3 | 1.3 |
| >90cm | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total/100m2 | 0.7 | 4.7 | 1.7 | 1.7 | 5.7 | 1.0 | 2.7 | 2.4 |

Canopy closure and ground cover

| | Zone 1 0-10 meters | | Zone 2 10 - 20 meters | | Zone 3 20 - 30 meters | |
|------------------|-----------------------|--|--------------------------|--|--------------------------|--|
| | (%) | | (%) | | (%) | |
| Canopy closure | 80 | | 62 | | 68 | |
| Shrub cover | 37 | | 25 | | 23 | |
| Grass/forb cover | 58 | | 68 | | 68 | |

Predominant landform in each zone

| | Zone 1 0-10 meters | | Zone 2 10 - 20 meters | | Zone 3 20 - 30 meters | |
|-------------------|-----------------------|--|--------------------------|--|--------------------------|--|
| | (%) | | (%) | | (%) | |
| Hillslope | 17 | | 17 | | 17 | |
| High terrace | 83 | | 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 (%) | 9 | | 5 | | 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 | 447 |
| Total conifers/1000 ft | 488 |
| Total conifers >20" dbh/1000 ft | 20 |
| 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 | 1.0 | 2.3 |
| 15-30cm | 4.3 | 2.7 |
| 30-50cm | 2.3 | 1.0 |
| 50-90cm | 0.3 | 1.3 |
| >90cm | 0.0 | 0.0 |

RIPARIAN ZONE VEGETATION

Reach 1

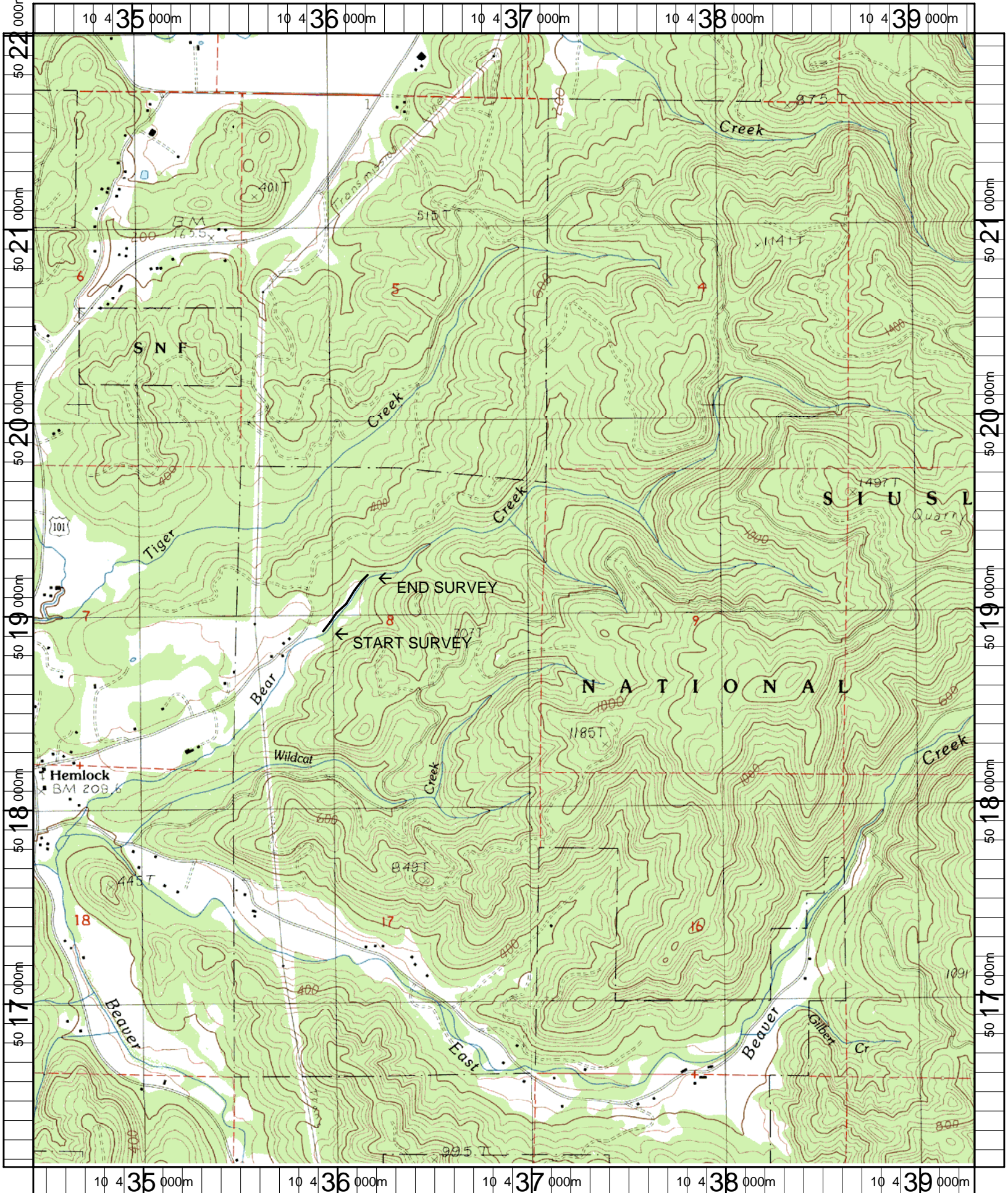
Reach 1

| Unit | Side | Zone | Surface | Slope | Cover (percent) | | | | Diameter class (cm) | | | | | Notes | |
|------|------|------|---------|-------|-----------------|-------|-------|----------|---------------------|-------|-------|-------|-----|-------|--------|
| | | | | | Canopy | Shrub | Grass | | 3-15 | 15-30 | 30-50 | 50-90 | >90 | | |
| 13 | LT | 1 | HT | 0 | 65 | 30 | 70 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | 1 | | | | | |
| 13 | LT | 2 | HT | 0 | 75 | 0 | 90 | Conifer | | 3 | | | | | |
| | | | | | | | | Hardwood | | 1 | | | | | |
| 13 | LT | 3 | HT | 0 | 90 | 20 | 50 | Conifer | | 2 | 2 | | | | |
| | | | | | | | | Hardwood | | | | | | | |
| 13 | RT | 1 | HT | 0 | 70 | 80 | 20 | Conifer | 2 | | | | | | |
| | | | | | | | | Hardwood | 1 | | | 1 | | | |
| 13 | RT | 2 | HT | 0 | 60 | 80 | 20 | Conifer | | 1 | | | | | |
| | | | | | | | | Hardwood | | | | | | | |
| 13 | RT | 3 | HT | 0 | 85 | 70 | 30 | Conifer | | 2 | 2 | | | | |
| | | | | | | | | Hardwood | | | | | | | |
| 16 | LT | 1 | HT | 0 | 90 | 10 | 90 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | 2 | | | | | | |
| 16 | LT | 2 | HT | 0 | 55 | 30 | 70 | Conifer | | 1 | | | | | |
| | | | | | | | | Hardwood | 1 | | | | | | |
| 16 | LT | 3 | HT | 0 | 80 | 35 | 65 | Conifer | | | 2 | | | | |
| | | | | | | | | Hardwood | | 1 | | | | | |
| 16 | RT | 1 | HT | 0 | 75 | 70 | 30 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | 1 | 2 | | 1 | | | |
| 16 | RT | 2 | HT | 0 | 15 | 20 | 80 | Conifer | | | | | | | FIELD |
| | | | | | | | | Hardwood | | | | | | | |
| 16 | RT | 3 | HT | 0 | 0 | 0 | 100 | Conifer | | | | | | | FIELDS |
| | | | | | | | | Hardwood | | | | | | | |
| 24 | LT | 1 | HT | 0 | 95 | 30 | 60 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | 2 | 1 | | | | |
| 24 | LT | 2 | HT | 0 | 90 | 20 | 75 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | | | | | | |
| 24 | LT | 3 | HT | 0 | 75 | 15 | 85 | Conifer | 1 | | 1 | 1 | | | |
| | | | | | | | | Hardwood | 2 | | | | | | |
| 24 | RT | 1 | HS | 55 | 85 | 0 | 75 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | | | 2 | | | |
| 24 | RT | 2 | HS | 30 | 75 | 0 | 70 | Conifer | | | | | | | |
| | | | | | | | | Hardwood | | 1 | 2 | | | | |
| 24 | RT | 3 | HS | 30 | 75 | 0 | 75 | Conifer | | 4 | | | | | |
| | | | | | | | | Hardwood | | | | | | | |

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 365 STREAM: BEAR CREEK UPPER PRE-TX

| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTES |
|-------|------|------|-----------|----------|--------------------------------------|
| 4 | RI | 00 | 63.7 | | SITE 43 = RESTORATION NUMBER 27 PCS. |
| 8 | RI | 01 | 131.9 | /TJ | |
| 9 | RI | 11 | 131.9 | | WIDTH= ACW |
| 10 | RI | 00 | 157.2 | RF | |
| 11 | LP | 00 | 164.2 | RSN | FLAG SITE 45. |
| 13 | LP | 00 | 184.7 | | FISH |
| 15 | RI | 00 | 234.2 | | SITE 46 = 6 KEY PCS |
| 17 | LP | 00 | 271.4 | | SITE 48 = 3 KEY PCS |
| 20 | RI | 00 | 307.3 | | SITE 49 = 4 KEY PCS |
| 21 | RI | 00 | 332.3 | | SITE 50 = 6 KEY PCS |
| 25 | RI | 00 | 390.9 | | END SIGN ON ALDER LEFT |



Name: BEAVER
 Date: 4/26/2007
 Scale: 1 inch equals 2000 feet

Location: 10 0436885 E 5019062 N
 Caption: BEAR CREEK UPPER RESTORATION SITE - NESTUCCA BASIN