

REACH 1

T23S-R7W-S11SE

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 avg: 6.8 range: 5.0-10.0

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 | 986 | 2,618 | 0 |
| Secondary | 47 | 81 | 1 |

Channel Dimensions (m)

| <u>Wetted</u> | | <u>Active</u> | | <u>Floodprone</u> | <u>First Terrace</u> |
|---------------|------|---------------|-----|-------------------|----------------------|
| Width | 2.4 | Width | 4.4 | 6.6 | 8.5 |
| Depth | 0.27 | Height | 0.5 | 0.9 | 1.6 |
| | | W:D ratio | 9.8 | Entrenchment | 1.5 |

Stream Flow Type: MF Water Temp: 12.0-12.0°C
Avg. Unit Gradient: 2.5% Habitat Units/100m: 7.3

Riparian, Bank, and Wood Summary

| | <u>Primary</u> | <u>Secondary</u> |
|----------------------|----------------|------------------|
| Land Use: | ST | LG |
| Riparian Vegetation: | D30 | D3 |

Bank Condition and Shade

| <u>Bank Status</u> | <u>Percent Reach Length</u> | <u>Shade (% of 180)</u> |
|--------------------|-----------------------------|-------------------------|
| Actively Eroding | 14% | Reach avg: 77% |
| Undercut Banks | 7% | Range: 39-100 |

Large Woody Debris

| | <u>Total</u> | <u>Total/100m</u> |
|---------------------------------------|--------------|-------------------|
| All pieces ($\geq 3m \times 0.15m$) | 85 | 8.6 |
| Volume (m ³) | 155 | 15.8 |
| Key pieces ($\geq 10m \times 0.6m$) | 5 | 0.5 |

HABITAT UNIT SUMMARY

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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 | Cbbl | Bldr | Bdrk |
| CULVERT CROSSING | 1 | 13 | 1.9 | 0.10 | 25 | 0 | 5 | 35 | 30 | 30 | 0 | 0 |
| DRY UNITS | 1 | 11 | 2.2 | 0.00 | 24 | 0 | 5 | 10 | 25 | 50 | 5 | 5 |
| GLIDE | 4 | 56 | 2.4 | 0.18 | 136 | 7 | 1 | 16 | 26 | 11 | 10 | 35 |
| POOL-BACKWATER | 2 | 8 | 1.5 | 0.50 | 14 | 1 | 5 | 15 | 15 | 33 | 13 | 20 |
| POOL-LATERAL SCOUR | 25 | 286 | 3.0 | 0.46 | 864 | 73 | 4 | 31 | 15 | 11 | 8 | 31 |
| POOL-PLUNGE | 1 | 5 | 3.5 | 0.60 | 19 | 0 | 0 | 5 | 20 | 60 | 5 | 10 |
| POOL-STRAIGHT SCOUR | 1 | 5 | 3.2 | 0.40 | 16 | 6 | 5 | 25 | 20 | 25 | 20 | 5 |
| RAPID/BEDROCK | 10 | 180 | 2.5 | 0.19 | 468 | 45 | 0 | 6 | 9 | 7 | 11 | 67 |
| RAPID/BOULDERS | 3 | 33 | 1.9 | 0.17 | 64 | 30 | 0 | 5 | 7 | 11 | 47 | 30 |
| RIFFLE | 11 | 243 | 1.7 | 0.11 | 469 | 21 | 1 | 15 | 27 | 28 | 9 | 19 |
| RIFFLE W/ POCKETS | 5 | 167 | 2.8 | 0.19 | 544 | 69 | 0 | 9 | 11 | 18 | 19 | 43 |
| STEP/BEDROCK | 8 | 22 | 2.1 | 0.13 | 53 | 0 | 0 | 1 | 0 | 0 | 11 | 88 |
| STEP/COBBLE | 2 | 4 | 0.9 | 0.05 | 4 | 0 | 0 | 8 | 50 | 33 | 3 | 8 |
| STEP/LOG | 1 | 1 | 0.4 | 0.05 | 0 | 0 | 0 | 57 | 5 | 38 | 0 | 0 |
| Total: | 75 | 1,033 | 2.4 | 0.27 | 2,698 | 252 | Avg: 2 | 18 | 16 | 15 | 11 | 38 |

HABITAT SUMMARY

| Habitat Group | No. Units | Total Length (m) | Avg Width (m) | Avg Depth (m) | Wetted Area (m ²) | Percent | Large Boulders Number | #/100m ² |
|-------------------|-----------|------------------|---------------|---------------|-------------------------------|---------|-----------------------|---------------------|
| Dammed & BW Pools | 2 | 8 | 1.5 | 0.50 | 14 | 0.53 | 1 | 7.0 |
| Scour Pools | 27 | 297 | 3.0 | 0.47 | 899 | 33.32 | 79 | 8.8 |
| Glides | 4 | 56 | 2.4 | 0.18 | 136 | 5.05 | 7 | 5.1 |
| Riffles | 16 | 410 | 2.1 | 0.14 | 1,013 | 37.53 | 90 | 8.9 |
| Rapids | 13 | 213 | 2.4 | 0.18 | 532 | 19.70 | 75 | 14.1 |
| Cascades | 0 | 0 | - | - | 0 | 0.00 | 0 | 0.0 |
| Step/Falls | 11 | 26 | 1.7 | 0.11 | 56 | 2.09 | 0 | 0.0 |
| Dry | 1 | 11 | 2.2 | 0.00 | 24 | 0.87 | 0 | 0.0 |

POOL SUMMARY

| | | |
|---------------------------------------|--------------|-------------|
| All Pools | <u>Total</u> | <u>#/Km</u> |
| | 29 | 28.1 |
| Pools ≥1m deep: | 0 | 0.0 |
| Complex pools (LWD pieces ≥3): | 10 | 9.7 |
| Pool Frequency (channel widths/pool): | 8.0 | |
| Residual pool depth (avg) | 0.38m | |

STREAM SUMMARY

BRAD'S CREEK (PRE-TX)

| Number Units | Total Length (m) | Avg Width (m) | Avg Depth (m) | Total Area (m ²) | Substrate Percent Wetted Area | | | | | | Total Large Boulder |
|-----------------|------------------------|---------------------|---------------------|------------------------------------|----------------------------------|------|------|------|------|------|---------------------------|
| | | | | | S/O | Sand | Grvl | Cbbl | Bldr | Bdrk | |
| 75 | 1,033 | 2.4 | 0.27 | 2,698 | 2 | 18 | 16 | 15 | 11 | 38 | 252 |

| Habitat Group | Wetted Area | |
|-----------------|-------------------|---------|
| | (m ²) | Percent |
| Scour Pool | 899 | 33.3 |
| Backwater Pools | 14 | 0.5 |
| Glide | 136 | 5.1 |
| Riffle | 1,013 | 37.5 |
| Rapid | 532 | 19.7 |
| Cascade | 0 | 0.0 |
| Step | 56 | 2.1 |
| Dry | 24 | 0.9 |

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

| | |
|---------------------------------|-----|
| Total hardwoods/1000 ft | 569 |
| Total conifers/1000 ft | 284 |
| 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 | 0.7 | 3.0 | 0.0 | 0.0 | 0.7 | 1.0 | 1.3 | 4.0 |
| 15-30cm | 0.7 | 2.7 | 0.3 | 0.7 | 1.0 | 0.7 | 2.0 | 4.0 |
| 30-50cm | 0.3 | 0.7 | 0.7 | 0.3 | 0.3 | 0.3 | 1.3 | 1.3 |
| 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/100m ² | 1.7 | 6.3 | 1.0 | 1.0 | 2.0 | 2.0 | 1.6 | 3.1 |

Canopy closure and ground cover

| | Zone 1 0-10 meters | | Zone 2 10-20 meters | | Zone 3 20-30 meters | |
|------------------|-----------------------|--|------------------------|--|------------------------|--|
| | (%) | | (%) | | (%) | |
| Canopy closure | 60 | | 48 | | 51 | |
| Shrub cover | 62 | | 40 | | 42 | |
| Grass/forb cover | 37 | | 57 | | 54 | |

Predominant landform in each zone

| | Zone 1 0-10 meters | | Zone 2 10-20 meters | | Zone 3 20-30 meters | |
|-------------------|-----------------------|----|------------------------|----|------------------------|----|
| | Hillslope | 17 | | 67 | | 67 |
| High terrace | 83 | | 33 | | 33 | |
| 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 (%) | 10 | | 20 | | 27 | |

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

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

| | |
|---------------------------------|-----|
| Total hardwoods/1000 ft | 569 |
| Total conifers/1000 ft | 284 |
| Total conifers >20" dbh/1000 ft | 0 |

Average number of trees in a 5-meter wide band

| <u>Diameter</u> <u>class (cm)</u> | <u>Zones 1-3</u> | |
|--------------------------------------|------------------|-----------------|
| | <u>Conifer</u> | <u>Hardwood</u> |
| 3-15cm | 1.3 | 4.0 |
| 15-30cm | 2.0 | 4.0 |
| 30-50cm | 1.3 | 1.3 |
| 50-90cm | 0.0 | 0.0 |
| >90cm | 0.0 | 0.0 |

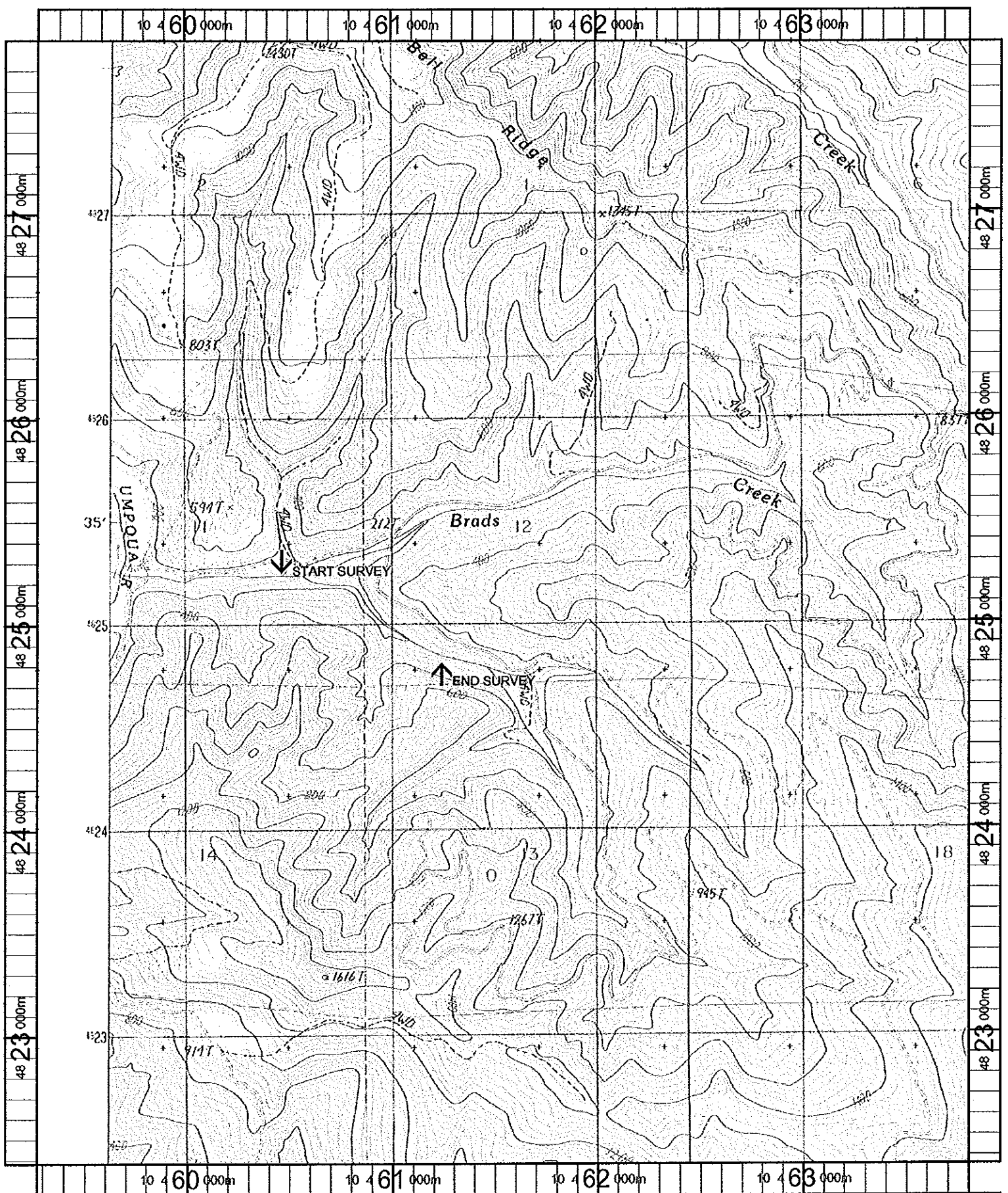
RIPARIAN ZONE VEGETATION

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VEGETATION DETAIL

| Unit | Side | Zone | Surface | Slope | Cover (percent) | | | | Diameter class (cm) | | | | | Notes |
|------|------|------|---------|-------|-----------------|-------|-------|----------|---------------------|-------|-------|-------|-----|-------------------|
| | | | | | Canopy | Shrub | Grass | | 3-15 | 15-30 | 30-50 | 50-90 | >90 | |
| 23 | LF | 1 | HT | 5.0 | 60 | 5 | 95 | Conifer | 0 | 0 | 0 | 0 | 0 | ALDER, MYRTLEWOOD |
| | | | | | | | | Hardwood | 3 | 2 | 1 | 0 | 0 | |
| 23 | LF | 2 | HT | 5.0 | 0 | 0 | 100 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 23 | LF | 3 | HT | 5.0 | 0 | 0 | 100 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 23 | RT | 1 | HS | 15.0 | 80 | 30 | 60 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 4 | 4 | 1 | 0 | 0 | |
| 23 | RT | 2 | HS | 15.0 | 70 | 10 | 70 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 2 | 1 | 0 | 0 | |
| 23 | RT | 3 | HS | 30.0 | 50 | 10 | 70 | Conifer | 0 | 1 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 1 | 1 | 0 | 0 | |
| 37 | LF | 1 | HT | 20.0 | 30 | 90 | 10 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | ESTIMATED |
| 37 | LF | 2 | HT | 10.0 | 25 | 85 | 15 | Conifer | 0 | 0 | 1 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 37 | LF | 3 | HT | 10.0 | 35 | 75 | 25 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 1 | 0 | 0 | 0 | |
| 37 | RT | 1 | HT | 20.0 | 30 | 95 | 5 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | SLIDE |
| 37 | RT | 2 | HS | 30.0 | 25 | 90 | 10 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 37 | RT | 3 | HS | 35.0 | 30 | 85 | 15 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 51 | LF | 1 | HT | 0.0 | 90 | 60 | 40 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 2 | 2 | 0 | 0 | 0 | |
| 51 | LF | 2 | HS | 17.0 | 80 | 30 | 70 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 51 | LF | 3 | HS | 40.0 | 90 | 70 | 30 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 3 | 0 | 0 | 0 | 0 | |
| 51 | RT | 1 | HT | 0.0 | 70 | 90 | 10 | Conifer | 2 | 2 | 1 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 51 | RT | 2 | HS | 40.0 | 90 | 25 | 75 | Conifer | 0 | 1 | 1 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 51 | RT | 3 | HS | 40.0 | 100 | 10 | 85 | Conifer | 2 | 2 | 1 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |



Name: YELLOW BUTTE
 Date: 11/8/100
 Scale: 1 inch equals 2000 feet

Location: 10 461448 E 4825087 N
 Caption: BRADS CREEK RESTORATION SITE - UMPQUA BASIN