

REACH 1

T14S-R8W-25SW

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: 6.0 range: 4.0-7.0

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 | 467 | 2,525 | 0 |
| Secondary | 60 | 107 | 0 |

Channel Dimensions (m)

| <u>Wetted</u> | | <u>Active</u> | | <u>Floodprone</u> | <u>First Terrace</u> |
|---------------|------|---------------|------|-------------------|----------------------|
| Width | 5.2 | Width | 8.6 | 16.9 | 11.7 |
| Depth | 0.28 | Height | 0.5 | 0.9 | 1.0 |
| | | W:D ratio | 18.9 | Entrenchment | 1.8 |

Stream Flow Type: MF Water Temp: 15.0-15.0°C
 Avg. Unit Gradient: 3.0% Habitat Units/100m: 6.3

Riparian, Bank, and Wood Summary

| | <u>Primary</u> | <u>Secondary</u> |
|----------------------|----------------|------------------|
| Land Use: | YT | 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 | 7% | Reach avg: 93% |
| Undercut Banks | 12% | Range: 75-100 |

Large Woody Debris

| | <u>Total</u> | <u>Total/100m</u> |
|---------------------------------------|--------------|-------------------|
| All pieces ($\geq 3m \times 0.15m$) | 59 | 12.6 |
| Volume (m ³) | 56 | 12.0 |
| Key pieces ($\geq 10m \times 0.6m$) | 3 | 0.6 |

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 |
| GLIDE | 1 | 13 | 3.9 | 0.30 | 49 | 3 | 0 | 9 | 32 | 55 | 5 | 0 |
| POOL-BACKWATER | 1 | 7 | 2.3 | 0.25 | 15 | 0 | 90 | 5 | 0 | 5 | 0 | 0 |
| POOL-LATERAL SCOUR | 8 | 100 | 4.6 | 0.51 | 474 | 31 | 4 | 8 | 23 | 42 | 11 | 12 |
| RAPID/BOULDERS | 8 | 226 | 4.7 | 0.23 | 1,164 | 154 | 1 | 7 | 15 | 40 | 37 | 0 |
| RIFFLE | 6 | 81 | 5.6 | 0.19 | 511 | 61 | 2 | 7 | 20 | 46 | 14 | 11 |
| RIFFLE W/ POCKETS | 2 | 69 | 3.3 | 0.33 | 191 | 9 | 5 | 23 | 20 | 45 | 8 | 0 |
| STEP/BEDROCK | 1 | 4 | 9.0 | 0.01 | 37 | 0 | 0 | 0 | 0 | 5 | 0 | 95 |
| STEP/BOULDERS | 3 | 13 | 5.3 | 0.18 | 72 | 21 | 2 | 5 | 10 | 34 | 49 | 0 |
| STEP/COBBLE | 3 | 14 | 8.3 | 0.09 | 120 | 6 | 2 | 8 | 15 | 63 | 3 | 8 |
| Total: | 33 | 527 | 5.2 | 0.28 | 2,632 | 285 | Avg: 5 | 8 | 17 | 42 | 20 | 8 |

HABITAT SUMMARY

| Habitat Group | No. Units | Total Length (m) | Avg Width (m) | Avg Depth (m) | Wetted Area (m ²) | Percent | Large Boulders Number | Boulders #/100m ² |
|-------------------|-----------|------------------|---------------|---------------|-------------------------------|---------|-----------------------|------------------------------|
| Dammed & BW Pools | 1 | 7 | 2.3 | 0.25 | 15 | 0.58 | 0 | 0.0 |
| Scour Pools | 8 | 100 | 4.6 | 0.51 | 474 | 17.99 | 31 | 6.5 |
| Glides | 1 | 13 | 3.9 | 0.30 | 49 | 1.87 | 3 | 6.1 |
| Riffles | 8 | 150 | 5.0 | 0.23 | 702 | 26.66 | 70 | 10.0 |
| Rapids | 8 | 226 | 4.7 | 0.23 | 1,164 | 44.20 | 154 | 13.2 |
| Cascades | 0 | 0 | - | - | 0 | 0.00 | 0 | 0.0 |
| Step/Falls | 7 | 31 | 7.1 | 0.12 | 229 | 8.70 | 27 | 11.8 |
| Dry | 0 | 0 | - | - | 0 | 0.00 | 0 | 0.0 |

POOL SUMMARY

| | Total | #/Km |
|---------------------------------------|-------|------|
| All Pools | 9 | 17.1 |
| Pools ≥1m deep: | 0 | 0.0 |
| Complex pools (LWD pieces ≥3): | 5 | 9.5 |
| Pool Frequency (channel widths/pool): | 6.8 | |
| Residual pool depth (avg) | 0.39m | |

STREAM SUMMARY

BUMMER 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 | |
| 33 | 527 | 5.2 | 0.28 | 2,632 | 5 | 8 | 17 | 42 | 20 | 8 | 285 |

| Habitat Group | Wetted Area | |
|-----------------|-------------------|---------|
| | (m ²) | Percent |
| Scour Pool | 474 | 18.0 |
| Backwater Pools | 15 | 0.6 |
| Glide | 49 | 1.9 |
| Riffle | 702 | 26.7 |
| Rapid | 1,164 | 44.2 |
| Cascade | 0 | 0.0 |
| Step | 229 | 8.7 |
| Dry | 0 | 0.0 |

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) (2 transects)

| | |
|---------------------------------|-------|
| Total hardwoods/1000 ft | 1,554 |
| Total conifers/1000 ft | 30 |
| 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 | 5.5 | 0.5 | 0.0 | 0.0 | 3.0 | 0.5 | 8.5 |
| 15-30cm | 0.0 | 7.5 | 0.0 | 1.5 | 0.0 | 3.0 | 0.0 | 12.0 |
| 30-50cm | 0.0 | 2.5 | 0.0 | 1.0 | 0.0 | 1.0 | 0.0 | 4.5 |
| 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 | 0.5 | 0.0 | 0.5 |
| Total/100m ² | 0.0 | 15.5 | 0.5 | 2.5 | 0.0 | 7.5 | 0.2 | 8.5 |

Canopy closure and ground cover

| | Zone 1 0-10 meters | | Zone 2 10-20 meters | | Zone 3 20-30 meters | |
|------------------|-----------------------|--|------------------------|--|------------------------|--|
| | (%) | | (%) | | (%) | |
| Canopy closure | 92 | | 80 | | 61 | |
| Shrub cover | 69 | | 55 | | 58 | |
| Grass/forb cover | 30 | | 45 | | 39 | |

Predominant landform in each zone

| | Zone 1 0-10 meters | | Zone 2 10-20 meters | | Zone 3 20-30 meters | |
|-------------------|-----------------------|----|------------------------|----|------------------------|---|
| | Hillslope | 17 | | 33 | | 0 |
| High terrace | 50 | | 50 | | 50 | |
| Low terrace | 33 | | 17 | | 17 | |
| Floodplain | 0 | | 0 | | 0 | |
| Wetland/meadow | 0 | | 0 | | 0 | |
| Stream channel | 0 | | 0 | | 0 | |
| Roadbed/Railroad | 0 | | 0 | | 33 | |
| Riprap | 0 | | 0 | | 0 | |
| Surface slope (%) | 3 | | 8 | | 0 | |

Summary of Riparian Zone (0-30m) for all reaches (2 transects)

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

| | |
|---------------------------------|-------|
| Total hardwoods/1000 ft | 1,554 |
| Total conifers/1000 ft | 30 |
| 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 | 0.5 | 8.5 |
| 15-30cm | 0.0 | 12.0 |
| 30-50cm | 0.0 | 4.5 |
| 50-90cm | 0.0 | 0.0 |
| >90cm | 0.0 | 0.5 |

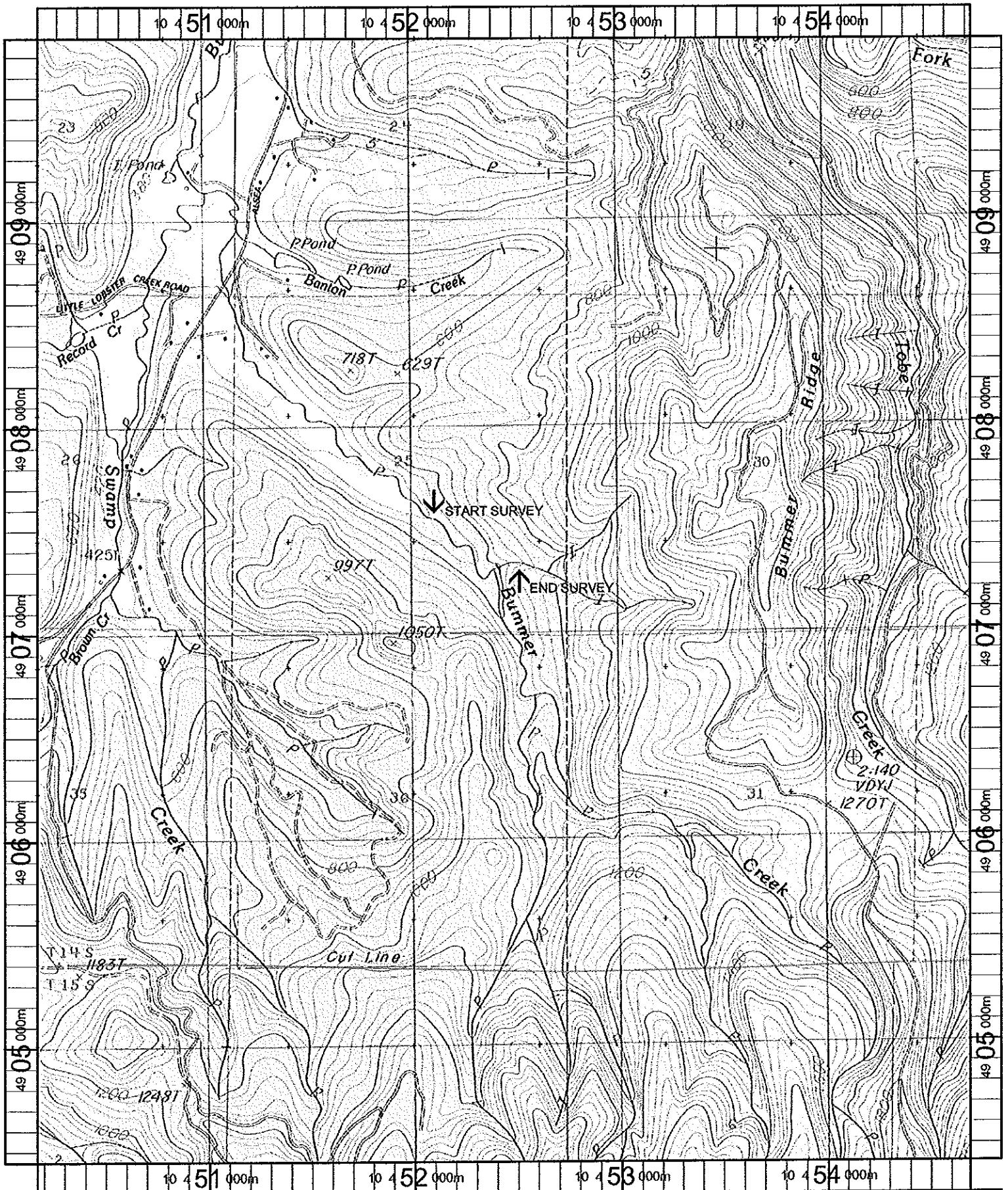
RIPARIAN ZONE VEGETATION

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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 | |
| 14 | LF | 1 | LT | 0.0 | 95 | 80 | 20 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 1 | 5 | 1 | 0 | 0 | BIG LEAF MAPLE, ALD |
| 14 | LF | 2 | HS | 10.0 | 50 | 50 | 50 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | NO TREES |
| 14 | LF | 3 | RB | 0.0 | 0 | 0 | 80 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | CLEARCUT |
| 14 | RT | 1 | LT | 0.0 | 80 | 50 | 50 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 1 | 2 | 1 | 0 | 0 | ALDER |
| 14 | RT | 2 | LT | 0.0 | 70 | 60 | 40 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 2 | 0 | 0 | 0 | OLD ROAD BED, ALDER |
| 14 | RT | 3 | LT | 0.0 | 60 | 100 | 0 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 2 | 1 | 1 | 0 | 0 | ALDER |
| 14 | LF | 1 | HS | 15.0 | 95 | 40 | 60 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 4 | 1 | 0 | 0 | 0 | |
| 14 | LF | 2 | HS | 20.0 | 85 | 45 | 55 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 14 | LF | 3 | RB | 0.0 | 35 | 30 | 70 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 2 | 2 | 1 | 0 | 0 | ALDER |
| 14 | RT | 1 | HT | 0.0 | 95 | 85 | 10 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 1 | 3 | 2 | 0 | 0 | |
| 14 | RT | 2 | HT | 0.0 | 90 | 75 | 25 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 2 | 0 | 0 | |
| 14 | RT | 3 | HT | 0.0 | 90 | 80 | 20 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 1 | 0 | 0 | 0 | 0 | |
| 30 | LF | 1 | HT | 0.0 | 95 | 90 | 10 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 1 | 4 | 1 | 0 | 0 | |
| 30 | LF | 2 | HT | 15.0 | 90 | 80 | 20 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 1 | 0 | 0 | 0 | |
| 30 | LF | 3 | HT | 0.0 | 85 | 75 | 25 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 1 | 3 | 0 | 0 | 0 | |
| 30 | RT | 1 | HT | 0.0 | 90 | 70 | 30 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 3 | 0 | 0 | 0 | 0 | |
| 30 | RT | 2 | HT | 0.0 | 95 | 20 | 80 | Conifer | 1 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 0 | |
| 30 | RT | 3 | HT | 0.0 | 95 | 60 | 40 | Conifer | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | Hardwood | 0 | 0 | 0 | 0 | 1 | |



| | |
|---|--|
| <p>Name: PRAIRIE PEAK Date: 11/8/100 Scale: 1 inch equals 2000 feet</p> | <p>Location: 10 452347 E 4907137 N Caption: BUMMER CREEK RESTORATION SITE - ALSEA BASIN</p> |
|---|--|