

## 7.0 BENCHMARK AREAS

The Churn Creek Protected Area offers a significant opportunity to learn more about how grassland ecosystems function. One of the key tools that will be used to monitor larger grassland ecosystems is a number of grassland Benchmark Areas. These Benchmark Areas will be designated as a Special Feature Zone and will be managed as natural areas without cattle grazing, horse use or recreation activities. It is expected that naturally occurring primary grazers such as sheep and deer will continue to use these areas.

### Criteria

The following criteria were used to identify Benchmark Areas:

1. Negligible impacts on ranching operation, including both cattle movement and important areas for grazing.
2. Representation of all three grassland biogeoclimatic subzones (Upper, Middle and Lower Grasslands); representative site series within these biogeoclimatic subzones; and transition areas between biogeoclimatic subzones.
3. Minimal use of fencing.
4. Areas with climax or late seral stage plant communities.

### Objectives

- Determining Potential Natural Community in the absence of cattle grazing (larger benchmarks contain less edge and a larger variety of plant communities than smaller exclosures).
- Increase understanding of grassland ecosystem processes in absence of cattle grazing. Some of these processes include grassland succession; wildlife use (both large and small mammals, invertebrates and birds); lichen colonization and growth; soil biology, including the accumulation of litter and development of microorganisms such as fungi and mycorrhizia in soil.

### Strategies for Benchmark Areas

- Hunting is permitted in all three benchmarks.
- No overnight camping in any of the benchmarks.
- Recreational use will not be encouraged in the benchmarks.
- High Lake and West Churn benchmarks are closed to horseback riding.

- The trail through the Clyde Mountain benchmark will be opened to recreational, not commercial horseback riding. Signs will indicate the purpose and sensitivity of the benchmark and will ask riders to stay on the trail. If impacts to the grasslands are identified, or if riders are not staying on the trail, the area may be closed.

## 1. High Lake

This small benchmark is focused on High Lake, the highest elevation kettle lake in the Protected Area. Key features include:

- ◆ Small kettle lake with well-developed riparian edge.
- ◆ Relatively small at 72 hectares.
- ◆ Upper Grasslands, primarily in late seral stage.
- ◆ Wide variety of diverse ecosystems associated with IDFx<sub>m</sub>, including timbered edges, moist swales, ridges, meadows, kettle lakes and mature Douglas-fir. Some encroachment. Represents a continuum from wet to dry site series.
- ◆ Natural ecological boundaries.
- ◆ No natural barriers to cattle, will require complete fencing.

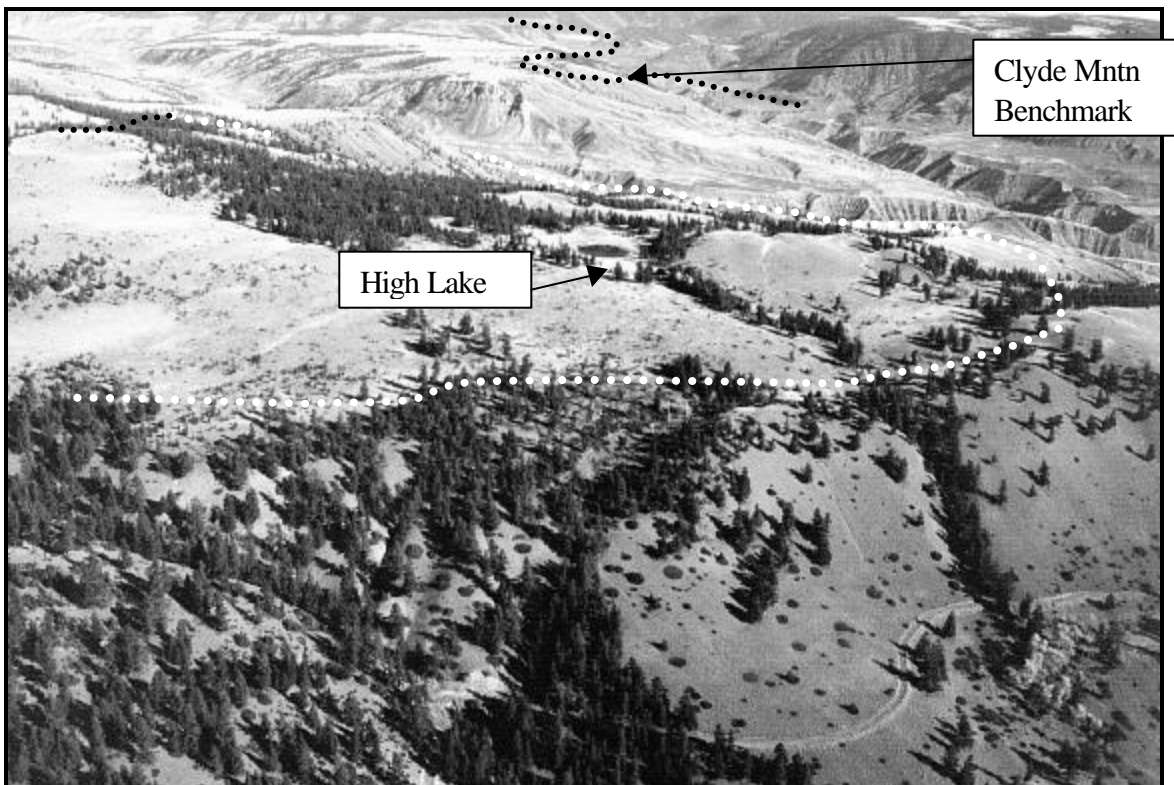


Photo by Ordell Steen

**Photo Twenty-four. Portions of the High Lake Benchmark can be seen surrounded by the white dotted line. Portions of the Clyde Mountain Benchmark are shown by the black dotted line in the background.**

## **2. East Clyde Mountain**

The East Clyde Mountain Benchmark Area is a large and very diverse area stretching from the lower grasslands along the Fraser River to the Middle Grassland benches and the Upper Grasslands of Clyde Mountain. Key features include:

- ◆ Full transition from Lower to Upper Grasslands. Highest elevation grasslands in Protected Area. Grasses range from mid-climax to full climax on steeper slopes. Some areas are early to mid seral due to sheep use.
- ◆ 957 hectares, of which 150 hectares are on benches and top of Clyde.
- ◆ Habitats for a large number of red and blue listed species, including critical lambing areas for California bighorn sheep, Flammulated owls, Lewis's woodpeckers, and Long-billed curlews.
- ◆ Selectively logged areas represent opportunities for research.
- ◆ Fencing minimized by natural barriers and existing fences.
- ◆ Contains a variety of ecosystems, including forested areas, timbered edges, springs, benches, and a wide variety of aspects. Some encroachment.



Photo by Chris Hamilton

**Photo Twenty-four. Looking north along the Lower Grassland benches of the Clyde Mountain Benchmark Area.**

### **3. West Churn Flats**

This medium sized Benchmark Area is located at the extreme west end of Churn Creek Flats, capturing a small mesa naturally separated from the rest of the flats by a gully, and a number of large grassy “slump terrain” areas. It also includes the area from the breaks north to Churn Creek. Key features include:

- ◆ Primarily Middle Grasslands, with most areas in full climax, with the exception of areas adjacent to sheep escape terrain.
- ◆ 382 hectares, of which 35 hectares are on Churn Flats
- ◆ Ecological diversity is high, including all aspects, riparian, forested, aspen copses, creek, benchlands, moist swales, steep breaks and meadows.
- ◆ Natural barriers mean minimal fencing.
- ◆ Critically important winter range for the Yalakom Mountain/Churn Flats migratory California bighorn sheep herd.

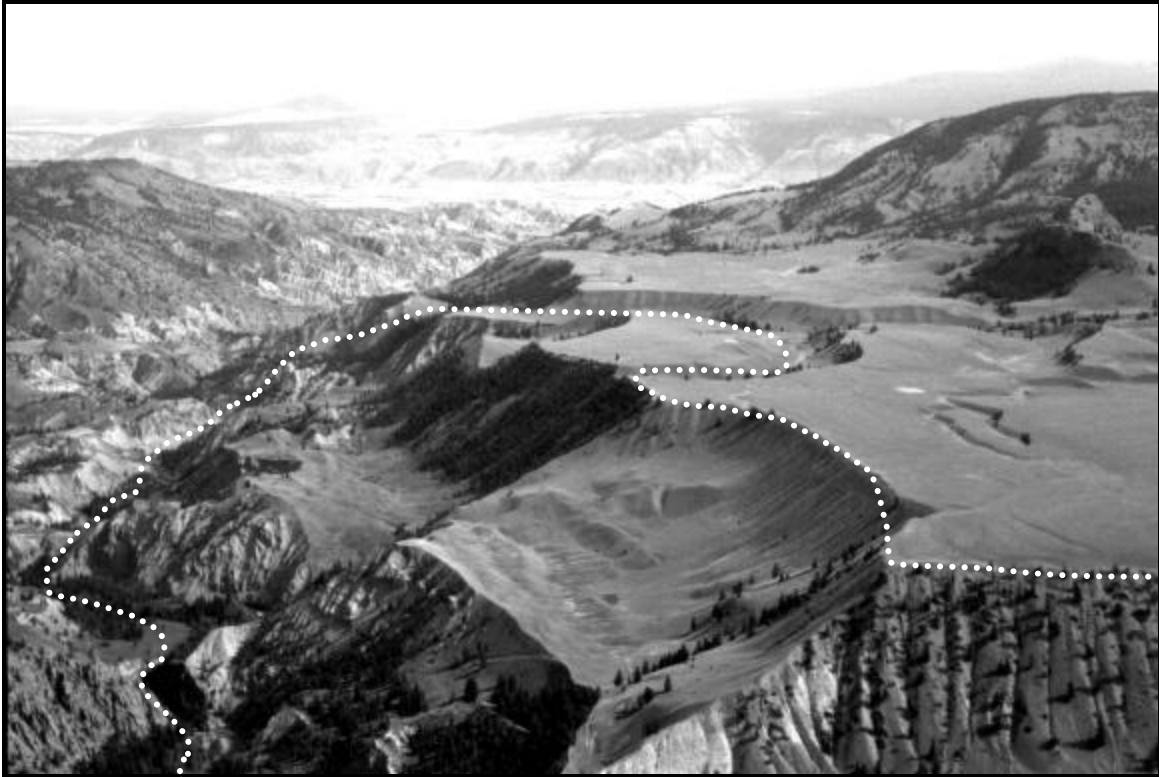


Photo by Chris Hamilton

**Photo Twenty-five: Looking east along a portion of the West Churn Benchmark Area.  
The Benchmark Area is located within the dotted line.**



Photo by Chris Hamilton

**Photo Twenty-six: Another photograph of the West Churn Benchmark Area. The Benchmark Area is located to the left of the dotted line and stops at Churn Creek.**