

6.0 MONITORING STRATEGY

Monitoring the continued recovery of the grasslands in the Churn Creek Protected Area is a significant component of this management plan. The monitoring program should build on the Ministry of Forests' Range Reference Program. The Ministry of Forests has established a number of exclosures and photopoints across the Protected Area.

Objectives

- Monitor seral condition trends of the principal ecosystem groups identified in *Appendix K – Current Condition of Principal Ecosystem Units by Biogeoclimatic subzone*. Special attention will be given to ecosystems which currently do not meet seral stage objectives or are of special value as wildlife habitat.
- Assess seral condition trends for each biogeoclimatic unit based on a summary of trends for principal ecosystem groups.
- Compare seral condition trends on sites grazed and not grazed by livestock and on sites heavily and lightly used by wildlife.
- Monitor the site-specific recovery of selected important habitats such as riparian ecosystems and small aspen stands.
- Monitor site-specific changes in the incidence and extent of noxious weeds.
- Monitor effectiveness of measures to control forest encroachment of grasslands.
- Monitor percentages of non-native species across all seral stages.

Strategy

Monitoring will be based on periodic reassessments, both site specific and extensive. Site specific monitoring will include detailed plot measurements within range exclosures and other fenced areas and repeat photographs at photopoints.

Extensive monitoring will include seral condition estimates over relatively large areas, similar in detail to those described in section 4.1 – *Grasslands Restoration and Management*. Extensive monitoring will assess general trends in grassland condition across the Protected Area and place the site specific monitoring in the context of these general trends. It will also provide estimated trends for ecosystems that do not have site-specific monitoring.

Site Specific Monitoring

1. Existing range exclosures.

Existing Ministry of Forests range exclosures are located on Airport Flats, McGee Flats, Wycott Flats, Sheep Point, Hartman Pasture (2) and Eagle Tree (2). The exclosures are

located in representative areas and exclude livestock grazing within a fenced area of approximately 1 ha. Monitoring will be based on periodic reassessments of vegetation within the enclosure and immediately outside of it to document seral stage recovery in the absence and presence of livestock grazing.

2. New range enclosures

Additional range enclosures will be located on Alkali Flats, Churn Flats, New Pasture, and Fraser South Range Units. Over time and as resources are available, additional enclosure may be located in other areas. The new enclosures will be monitored in the same manner as the existing enclosures.

3. Existing photopoints

Existing photopoints will be identified on maps and on-the-ground. New photographs, with a scale and composition similar to the existing photographs, will be periodically taken at each existing photopoint. Comparisons of photographs taken over time will visually document vegetation changes.

4. New photopoints

New photopoints will be established in selected riparian areas and aspen groves. A comparison of photographs taken over time will visually document vegetation changes associated with range management practices.

5. Benchmark Areas.

Benchmark Areas will be an important part of the monitoring program. They will provide reference areas, with a diversity of contiguous ecosystems, against which to evaluate trends on grazed areas. Over the long-term, they will also provide a benchmark for describing the characteristic of grassland ecosystems which have little or no impact from domestic livestock, but which may have impacts from wildlife. *See Section 7.0 Benchmark Areas* for details and strategies.

6. Additional fenced areas.

In addition to the range enclosures described above, fences to exclude livestock grazing are currently in place or will be built at Onion Lake, Coffeestain Lake, and Two Cabin Lake. These enclosures are primarily to monitor riparian vegetation development on areas heavily impacted in the past by livestock. Access for livestock watering will be provided.

7. Monitoring Plots.

Monitoring plots and transects will be established to examine species composition and the presence of non-native species.

Extensive Monitoring

Reconnaissance surveys of the principal ecosystems identified in Section 4.1 will be used to periodically estimate the proportion of each seral stage in each principal ecosystem. Comparison of estimated proportions over time will document major changes in grassland seral

condition. Special attention will be given to ecosystems currently not meeting seral stage objectives.