



Domestic Livestock Grazing on Public Lands

Alberta Wilderness Association (AWA) is a non-profit, public interest conservation group formed in 1965 by a group of ranchers, outfitters and wilderness enthusiasts. On public lands, AWA's primary objective is the long-term and representative protection of Alberta's six Natural Regions, and the conservation of larger core roadless* areas free of industrial development (e.g. logging, energy development, mining) as well as smaller unique sites (e.g. rare plant or geological site).

Many of Alberta's communities are concerned about wise, sustainable land use, continuation of domestic livestock grazing, and the need for a strong voice in the management of public lands management their community. As a public interest group, AWA is a strong supporter of public involvement and works with communities to achieve long-lasting sustainable conservation of provincial public lands and protected areas.

It is AWA's view that grazing of domestic livestock on public lands, including protected areas, can be compatible with ecological integrity in a variety of situations, primarily in the Grassland and Aspen Parkland Natural Regions of Alberta. The following reflects AWA's position on domestic grazing since the late 1970s.

- 1. AWA supports continued domestic livestock grazing on public lands in the Grassland and Aspen Parkland Natural Regions**, including protected areas, where it is compatible with ecologically-based management objectives and where measures are in place to continually monitor and adapt management to maintain ecological health.
- Although not a perfect replacement for free-ranging bison, **AWA believes that grazing by domestic livestock can be a useful tool in grasslands to maintain a variety of native plants and animals. Without grazing, some species could be placed in jeopardy.** Native prairie species have adapted to grazing; some species are adapted to heavy grazing (e.g. Endangered Mountain Plover, SE Alberta), while others are adapted to light or no grazing (e.g. Baird's Sparrow, a species of Special Concern). Most grassland species tolerate light to heavy grazing, which is where beneficial range management practices maintain range condition. Range management should be dependent on local species.
- AWA is particularly concerned about improving management for key species and sensitive habitats (e.g. riparian habitats, wetlands, springs, sand dunes) and supports the implementation of beneficial range management practices on public lands.** Specific habitats can be managed by increasing or decreasing stocking levels of domestic livestock.
- AWA is committed to local management and supports extended tenure for local disposition holders to ensure long-term care for environmentally significant areas.** Many of AWA's proposed areas for protection are candidates because of past and continuing beneficial range management practices. However, there have been instances where the original disposition holders have sold their leases or had them reduced by government, resulting in less ecologically-friendly practices by new disposition holders. Many large leases have also been subdivided into many smaller leases, making management as an ecological unit more challenging.





5. **AWA believes that legislated protection for our candidate areas is essential for the long-term conservation of grasslands and which safeguards both public and community interests.** The need for a long-term commitment to protection through legal designation has been confirmed time and again by industrial and commercial incursions into *de facto* wildlands. Legislated protection that satisfies local long-term interests and protects valued ecological components can be achieved through collaboration between community, conservation, and government stakeholders. A good example of this is the implementation of Heritage Rangelands, a protected area designation which supports healthy native prairies while recognizing the importance of management at the local level.
6. **AWA strongly supports public involvement** and continues to work with local communities in the designation and management of protected areas, e.g. Milk river Canyon, Milk River Ridge, Wainwright Dunes, Rumsey.
7. **AWA advocates a reasonable and responsible approach to access on public lands, defined in area management plans.** Foot access should generally be permitted in all but the most fragile and sensitive areas.
8. **Motorized access, other than for management purposes, is not compatible with wildland protection.**
9. **AWA generally opposes domestic livestock grazing on public lands where it is ecologically inappropriate or where a full complement of native grazers already exist,** principally the Alpine and Subalpine Rocky Mountains; Central Mixed Wood; Northern Mixedwood, Upper and Lower Boreal Highlands; Peace-Athabasca Delta; and Sub-arctic Boreal Forest; Athabasca Plain and Kazan Uplands Canadian Shield; and Upper Foothills. Increased conflicts with native wildlife include predator control, competition with native grazers, compromising endangered and threatened species.

Livestock grazing may be appropriate within parts of the Dry Mixed Wood Boreal Forest, Montane Rocky Mountains and Lower Foothills, but must be considered on a case-by-case basis.

** Roadless refers to the absence of roads that are built and maintained for regular or continuous use.*





**Quick Facts on Domestic Livestock Grazing in
Parkland and Grassland Protected Areas**

Since the 1960s, AWA knows of no instances in Alberta where grazing has been eliminated due to the establishment of a protected area. On the contrary, numerous protected areas have either retained or facilitated grazing where there was none before.

Rumsey Aspen Parkland: Grazing continues as before in the Ecological Reserve and surrounding lands. AWA participated in management planning for the whole area, including the Ecological Reserve.

Milk River Mixed Grassland: Upon its designation, grazing was introduced to the Milk River Natural Area, which had not been grazed for nearly 20 years prior. As a control, a portion of the area, including a permanent creek, remains off limits to all but periodic grazing. In participation with the local Fish and Game Association and ranchers, AWA helped to form a management society for the Natural Area. The Milk River Management Society (MRMS) is responsible for implementing a management plan that was jointly developed with public input; the plan sets out grazing objectives, guidelines, and a comprehensive monitoring program.

Wainwright Dunes Parkland: Grazing continues as before in the Ecological Reserve; local ranchers advocated increasing the size of the Ecological Reserve to facilitate management. A monitoring program has been designed with the local grazing association to investigate the effects of grazing around a large wetland. As needed, adjustments in grazing season and intensity are made based on the monitoring program and in consultation with the grazing association. AWA serves on the management committee.

Cypress Hills: Grazing continues in the Cypress Hills. AWA has supported public workshops and field trips with local ranchers and other interest groups to explore management strategies for the forests and grasslands in this unique region.

Heritage Rangelands: Heritage Rangelands and Heritage Rangeland Natural Areas are protected area categories which recognize the value of domestic livestock grazing for managing native grassland ecology. Within the Alberta Parks system, there are currently two Heritage Rangelands (Black Creek and OH Ranch), and six Heritage Rangeland Natural Areas (Beaverhill Lake, Killarney-Reflex Lakes, Onefour, Ribstone Creek, Tolman Badlands and Twin River). Areas designated as 'Heritage Rangeland Natural Areas' are sites established under the Special Places 2000 program, which the Government of Alberta intends to eventually re-designate as 'Heritage Rangelands'.



Domestic Livestock Grazing and Protected Areas

In Alberta, there is a range of protected area designations and compatible uses (see chart). **Domestic livestock grazing and other forms low-impact recreation are allowed in all but the Wilderness Area designation.** Public land domestic livestock grazing in Alberta's Grassland and Aspen Parkland Natural Regions may help fill the vital ecological niche that bison once occupied.

SELECTED ACTIVITIES IN PROTECTED AREAS SUBJECT TO MANAGEMENT GUIDELINES						
Activity	Wilderness Area	Ecological Reserve	Natural Area	Heritage Rangeland	Wildland Provincial Park	Provincial Park
Foot access	1	1	1	1	1	1
Random Camping	1	3	2	3	1	3
Fishing	3	3	1	1	1	1
Hunting	3	3	1	1	1	2
Livestock Grazing	3	2	2	1	2	2
Horse Use	3	3	2	1	2	2
Bicycling	3	3	1	3	2	1
Auto Camping	3	3	3	3	3	1
Motor Boats	3	3	2	3	3	2
Off-Highway Vehicles	3	3	3	3	2*	3
Snowmobiles	3	3	3	3	2*	3
New Oil and Gas Development	3	3	3	3	3	3
Resorts/Golf Courses	3	3	3	3	3	3
Cultivation	3	3	3	3	3	3
Commercial Logging	3	3	3	3	3	3
Surface Mining	3	3	3	3	3	3
Road Construction	3	3	3	3	3	2
1 - Regularly Permitted 2 - Occasionally Permitted 3 - Normally Prohibited * <i>Off-highway vehicles and snowmobiles may be accommodated on designated trails within some Wildland Provincial Parks</i>						





Definitions

Grazing: The interaction between herbivores and the surrounding landscape. Grazing consists of three major components: 1) defoliation, 2) trampling, and 3) redistribution of nutrients. In the presence of these disturbances, the structure and function of the surrounding landscape and ecosystem will be altered relative to its native or pre-disturbance condition.

Grazing Intensity: The degree of impact grazing has on the landscape is dependent on four factors,

1. Intensity grazing events, measured through the amount of defoliation, trampling, and urine and feces deposited on the site;
2. Frequency and duration of grazing events;
3. Timing grazing events (e.g. seasonally or at various life stages of the plants); and
4. Length of recovery time between grazing events.

These factors can be manipulated with stocking rates, stocking densities and the grazing distribution.

Ecosystem integrity: Ecosystem integrity is the ability of an ecological community to maintain its natural character (species composition, richness and structure) and perform essential functions throughout the entirety of its defined area. (Adapted from IUCN definition).

Species composition: The identity of species within a given ecological community. Directly and indirectly affected by herbivore and domestic livestock grazing.

Species richness: The number of different species within a given ecological community. Directly and indirectly affected by herbivore and domestic livestock grazing.

Ecosystem structure: Vegetation stratification and its contribution to soil composition and availability of water. Trampling and defoliation will directly and indirectly affect vegetation structure, soil composition and water availability.

Beneficial management practices (BMPs): Range management actions which support ecosystem integrity, species at risk habitat, and the provision of ecosystem goods and services (EGS).

Public Land: According to the *Public Lands Act* (2000), “public land means land of the Crown in right of Alberta”. Provincial public lands are those lands owned by the provincial government, held in trust and managed on behalf of the Alberta public. Among many other public land designations, ‘public land’ can be used to describe provincial forests, public rangelands, and provincial protected areas.

For administrative purposes, the province is divided into two broad land use areas: Green Area and White Area. Public land in the Green Area, or forested portion, is primarily managed for watershed protection, wildlife and wildlife habitat, fisheries, recreational opportunities and sustained wood fiber production. Public land in the White Area, or settled portion, is largely managed for agriculture, in addition to recreation, water and soil conservation, fish and wildlife.





Management Practices

For millennia, mixed grass prairie, fescue grasslands and aspen parkland communities have adapted to being grazed by free-ranging bison (Guthrie 1970 and Hall 1981). However, bison were extirpated following European settlement, with only recent and geographically limited attempts at reintroduction.

While livestock may be used to apply similar grazing pressure in the areas that bison once roamed, it is important to recognize that livestock possess different physiological and behavioral traits from bison and are not an exact replacement for their ecological niche. However, with proper livestock management, it may be possible to produce similar grazing disturbances and ecological benefits for grassland communities. While AWA supports livestock grazing in grassland and parkland regions (dry mixed grasslands, mixed grasslands, fescue grasslands and aspen parklands), we are also supportive of partnerships between ranchers and other parties who are interested in restoring prairie wildlands with the full complement of natural processes and native species.

Ecologically appropriate areas for grazing are those where sustained use will benefit and maintain the native species composition, ecosystem function and structure, and thereby enable prolonged use as rangeland. The Boreal, Canadian Shield, Foothills, Sub-alpine and Alpine are inappropriate regions for domestic livestock grazing as they do not contain significant tracts of grasslands, and much of their landbase consists of important wildlife habitat. For instance, Montane regions along the Rocky Mountains and Cypress Hills provide essential wintering habitat for wild ungulates due of low snow depths and chinook conditions, which need to be carefully managed.

Beneficial management practices acknowledge that the environment and resources used by today's society will also be needed by future generations. We must maintain the health, integrity and resilience of our ecosystems so that we can continue to benefit from the resources and services they provide. To do this, we must identify the specific goals we have for ecosystem management and work collaboratively towards their implementation.

Grazing regimes should have the following characteristics:

1. Design for a particular site, community or species, with a site-specific monitoring program used as a basis for making management decisions.
2. Management without imported nutrients.
3. Stock type that is appropriate to the community (often cattle).
4. Appropriate grazing intensity (generally moderate to low; however, areas of heavy grazing may be needed to maintain specific grassland species).
5. Seasonal control of grazing habits and rest periods.
6. Flexibility for adjustment as dictated by weather, growing conditions, other native grazers, accidental fire, drought and unpredictable circumstances.
7. Grazing leases should be granted extended tenure to facilitate long-term management strategies, with the caveat that the leaseholder applies beneficial range management practices.
8. Subdivision of leases should be avoided so that areas are large enough to be economically and ecologically viable.
9. Motorized access will be limited to management purposes only and not allowed in wilderness zones.





Specific Management Practices

Mixedgrass prairie: Overgrazing native grasses will result in a decline in biomass and surface litter, and create disturbed ground space and opportunities for invasion by exotic species (Vujnovic et al. 2002). With increased exotic species, the abundance of optimal forage decreases resulting in higher competition between livestock and native ungulates and forced use of less nutritious vegetation. In some cases and under specific conditions, heavily grazed patches can be required to support species that require closely cropped grasslands, e.g. McCown's Longspur and Mountain Plover (Bradley and Wallis 1996).

Fescue Grassland and Aspen Parkland: These natural subregions are the transitional areas between northern boreal forest and northern prairie grasslands. Generally characterized as dominated by aspen (*Populus tremuloides*) in moister areas, rough fescue grass (*Festuca scabrella*) in drier and warmer areas, and in some areas *Agropyron* spp., *Stipa* spp. and *Bouteloua* spp. Some dominant shrub species include *Symphoricarpos* spp., *Rosa* spp. *Elaeagnus* spp. and *Amelanchier alnifolia*. General practices used for mixed grass prairie apply likewise in these regions. Grazing and controlled burns can assist in halting encroachment by aspen stands (Fitzgerald and Bailey 1984).

Riparian Zones: These are transitional areas between upland terrestrial ecosystems and adjacent aquatic ecosystems, such as margins of streams, rivers, ponds, lakes, springs and other wetlands. These areas provide diverse habitat for fish, bird, amphibian, reptile and mammal species, but are also highly desirable for free roaming livestock. Riparian areas adjacent to streams play an important role in protecting watersheds from excessive river siltation, decreasing river velocity, reducing flooding and increasing soil moisture (Jansen and Robertson 2001). Stream and interior wetlands help filter and recharge ground water and aquifers.

Riparian areas are extremely prone to degradation and should not be treated with the same management strategies as upland sites. Heavy forage utilization as well as season long or continuous grazing practices are generally not suitable for riparian grazing but intense, short duration grazing might assist with invasive species management in these habitats. Grazing practices should be restricted to times when stream bank moisture is low (e.g. not in spring flood conditions) to prevent bank shearing (Fitch and Adams 1998). Grazing should not take place during late summer or fall, ensuring prevention of trampling or grazing of regenerating woody species. In certain cases, longer term restrictions of sites from grazing may be required to prevent habitat loss for various avian species that use riparian areas for nesting (Popotnik and Giuliano 2000).

Marsh: Low intensity grazing can be beneficial to reduce tall emergent vegetation, producing preferred habitat for adult duck nesting through easier access from open water and less predation (Kantrud 1986).

Bogs and peatlands: These areas cannot tolerate repeated trampling as it compacts peat layers and highly sensitive mat forming lichens, which after being fragmented more than once cannot regenerate successfully and are quickly eliminated (Crittenden 2000). Lichens in Alberta's Foothills and Boreal Forest Natural Regions are one of the main dietary components for threatened woodland caribou.





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