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**DOMESTIC LIVESTOCK GRAZING ON PUBLIC LANDS**

Alberta Wilderness Association (AWA) is a non-profit, volunteer, public interest group formed in 1965 by ranchers, outfitters and wilderness enthusiasts. On public lands, AWA's prime concern is the long-term protection of representative (e.g. parkland on glacial lake surface materials) and 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). The main concerns of many communities are wise land use, continuation of domestic livestock grazing, and their need for a strong voice in the management of public lands in their communities. AWA is a strong supporter of public involvement and will continue working with communities on public land management and protected area designations. **It is the 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.** Until 1994, the AWA did not document a formal policy on domestic livestock grazing; however, the following reflects our practice 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.
2. 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, many species could be placed in jeopardy. Some species are adapted to very heavy grazing (e.g. endangered Mountain Plover, extreme SE Alberta) while others are adapted to light or no grazing (e.g. threatened Baird's Sparrow in moister mixed grassland and fescue grasslands). Most species fall in between which is where beneficial range management practices have attempted to maintain range condition. The emphasis in each area should be dependent on the species being managed for.
3. AWA supports beneficial range management practices on public lands as a whole and is **particularly concerned about improving management for key species and sensitive habitats** (e.g. riparian habitats, wetlands, springs, sand dunes). In some cases AWA has advocated for increased stocking levels of domestic livestock, while in others we have suggested reduced levels in specific habitats.
4. 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 the AWA's proposed areas for protection are candidates because of past and continuing beneficial management. However, there are several instances where the original family operations have sold their leases or had them reduced by government. Sometimes, the result has been that less ecologically enlightened individuals now manage the area, for example, corporations or people who are not part of the local community. In addition, large leases have been subdivided into many smaller leases (up to eight in at least one circumstance), making management as an ecological unit much more difficult.
5. AWA believes that **legislated protection for our candidate areas is essential** for long-term protection that safeguards 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. By working with communities, we believe that we can define legislated protection that satisfies local long-term interests and that protects the valued ecological components.





6. AWA continues to **strongly support public involvement** and continues to work with local communities in the designation and management of protected areas, e.g. Milk River, Wainwright Dunes, Rumsey.
7. AWA advocates a **reasonable and responsible approach to access on public lands** that should be defined in area management plans. Foot access should generally be permitted in all but the most fragile/sensitive areas. **Motorized access for other than management purposes is not compatible with wildland protection.** In exceptional circumstances, designated vehicle access routes have been permitted in protected areas due to local desires.
8. While AWA supports grazing in the Grassland (Mixedgrass, Northern Fescue, Foothills Fescue, Dry Mixedgrass Subregions) and Aspen Parkland (Central, Peace River and Foothills Subregions) Natural Regions, there are some natural regions and subregions where AWA does not support grazing or where the support for grazing is qualified. Due to conflicts with prime recreation lands and with native wildlife (e.g. predator control, competition with native grazers, rare species) and the fact that many Natural Regions have marginal rangelands, AWA **generally opposes domestic livestock grazing on public lands where it can be shown to be ecologically inappropriate or where populations of the full complement of native grazers 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. In a few portions of the Dry Mixed Wood Boreal Forest, Montane Rocky Mountains and Lower Foothills, certain types of domestic livestock grazing may be appropriate on some public lands but not in others and should be approached on a case by case basis. Bigger land use issues here may be industrial activity, uncontrolled OHV access, random camping and feral horses.

*\* 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 instance where grazing has been eliminated because of protected area establishment, in fact, the opposite is true - grazing has occurred 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*** - grazing was actually introduced to this Natural Area which had not been grazed for about 20 years; as a control, a portion of the area, including a permanent creek, remains off limits to all but periodic grazing; with the local Fish and Game Association and local ranchers, AWA helped form a management society that manages the Natural Area according to the plan they jointly developed with public input; the management plan sets out grazing objectives and guidelines as well as a comprehensive monitoring program.

***Wainwright Dunes Parkland*** - grazing continues as before in this 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 look into the effects of grazing around a large wetland. If needed, adjustments in grazing season and intensity will be made based





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on this monitoring program in consultation with the grazing association; AWA serves on the management committee.

**Cypress Hills** - grazing continues; AWA has supported public workshops and field trips with local ranchers and other interest groups to explore management strategies for the forests and grasslands.

### **Domestic Livestock Grazing and Protected Areas**

There is a range of protected area categories and compatible uses (see chart). **Domestic livestock grazing and other non-motorized traditional uses are allowed in all but the Wilderness Area category. Most new wildlands would likely be protected under the proposed Wildland category, which is more flexible** in how protection is maintained and less restrictive in non-motorized traditional uses. As previously mentioned, in the Grassland and Aspen Parkland Natural Regions, where most public land domestic livestock grazing now occurs, it may help fulfill the vital ecological role that bison once played.





**SELECTED ACTIVITIES IN PROTECTED AREAS SUBJECT TO MANAGEMENT GUIDELINES**

<b>Activity Reserves</b>	<b>Ecological Areas</b>	<b>Wilderness</b>	<b>Wildlands Parks</b>	<b>Provincial Areas</b>	<b>Natural</b>
Foot Access	1	1	1	1	1
Primitive Camping	3	1	1	2	2
Fishing	2	3	1	1	1
Hunting	2	3	1	3	1
Livestock Grazing	2	3	2	2	2
Horse Use	3	3	2	2	2
Bicycling	3	3	2	1	1
Auto Camping	3	3	3	1	3
Power Boats	3	3	3	2	2
Off-highway Vehicles	3	3	3*	3	3
Snowmobiles	3	3	3*	3	3
Oil and Gas Developments	3	3	3	2	2
Resorts/Golf Courses	3	3	3	3	3
Cultivation	3	3	3	3	3
Commercial Logging	3	3	3	3	3
Surface Mining	3	3	3	3	3
Road Construction	3	3	3	2	3

1 - regularly permitted      2- occasionally permitted      3-normally prohibited

\* *Off-highway vehicles may be accommodated on designated routes in a few potential Wildlands such as the South Castle where an access management plan was negotiated between various public interests prior to the endorsement of the Special Places Policy.*





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### 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 disturbance factors the structure and function of the surrounding landscape and ecosystem will be altered relative to the landscape in their absence.

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

1. intensity of the grazing event, which is a measure of the amount of defoliation, trampling, and urine and feces deposited on the site;
2. frequency with which the event takes place;
3. timing of the event (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 distribution of grazers.

Ecosystem health - three primary attributes of ecosystems are: species composition, function and structure. These three attributes must be complete, intact and stable over time in order for the ecosystem to function properly.

Community species composition - includes the density and biomass of individual species, diversity of native species and the proportion and organization of those native species within a specific area. Directly and indirectly effected by herbivore and livestock grazing.

Ecosystem functioning - nutrient cycling between water and soil, microbes, primary producers, herbivores, carnivores and decomposers and the ecological succession of each stage. Effected directly and indirectly through defoliation, trampling, feces and urine.

Ecosystem structure - vegetation stratification and its contribution to soil composition and availability of water. Both trampling and defoliation will directly and indirectly effect vegetation structure, soil composition and water availability.

Ecosystem management - the management of human activities in accordance with the value of ecosystem integrity.

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. Among other kinds of public land, these lands include provincial forests, public rangelands, provincial parks, natural areas and ecological areas.

More than 60% of Alberta's land base is public land. For administrative purposes, the province is divided into two broad land use areas: Green Area and White Area. Land in the Green Area or forested portion is primarily used for sustained wood fiber production and typically not available for sale. Land in the White Area or settled portion is largely used for agriculture and may be sold. However, existing commitments and established resource management practices limit the amount of land that is sold.





### **Management Practices**

Mixed grass prairie, fescue grasslands and aspen parkland communities have adapted to being grazed through having co-evolved with free-ranging bison for millennia (Guthrie 1970 and Hall 1981). Since European settlement bison have been extirpated. Livestock may be used to apply similar grazing pressure in these areas. It is important to recognize that livestock possess different physiological and behavioral traits from bison and thus are not an exact replacement for the grazing patterns of bison. However, with proper livestock management it may be possible to produce similar grazing disturbances. While AWA supports livestock grazing in grassland regions, we are also interested in partnerships with ranchers and other parties who are interested in restoring prairie wildlands with the full complement of natural processes and native species of burrowing animals, grazers and predators.

Appropriate management takes into account that the environment and its resources used by today's society will also be needed by tomorrow's society. This entails that we recognize the ecological significance of the resources we manage. We must maintain the health and integrity of the environment so that we can continue to benefit from the resources we gather from it on a sustainable basis. We must recognize what specific goals we have and that those goals must be agreed upon with the cooperation and participation of all stakeholders and the goals of society.

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 the full complement of grassland species).
5. Seasonal control of grazing habits and rest periods.
6. Flexibility for adjustment as dictated by weather and growing conditions, other grazers (e.g. elk, rabbits, ground squirrels), accidental fire, drought and unpredictable circumstances.
7. Grazing leases should be granted with extended tenure to facilitate long-term management strategies and subdivision of leases should be avoided so that areas are large enough to make it economically and ecologically viable.
8. Motorized access will be limited to management purposes only and is inappropriate for wilderness zones.

Ecologically appropriate areas for grazing are those where sustained grazing will benefit and maintain the indigenous community species composition, ecosystem functions and ecosystem structure thereby enabling prolonged use as rangeland. Inappropriate areas for livestock grazing are Boreal, Canadian Shield, Foothills, Sub-alpine and Alpine. Grasses do not make up significant portions of these landscapes, some areas are inaccessible in summer and much is important habitat for many (some rare) wildlife species. Montane regions along the Rocky Mountain region and Cypress Hills are essential wintering habitat for wild ungulates because of low snow depths and chinook conditions during the winter. Particular attention needs to be paid to maintaining critical wintering areas for ungulates when attempting to integrate livestock use in the Montane region. Dry mixed grasslands, mixed grasslands, fescue grasslands and aspen parklands are considered appropriate grazing areas for livestock provided appropriate management is used.





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**Specific Management Practices**

Mixed grass prairie – these areas are most able to sustain grazing from livestock with appropriate management to maintain the health of the ecosystem. Overgrazing of the native grasses resulting in a decline in biomass and surface litter, creating disturbed ground space and the opportunity for invasion of exotic species (Vujnovic et al. 2002). With increased exotic species the abundance of optimal forage decreases resulting in higher competition between livestock and wild ungulates for less abundant optimal forage and forced use of less nutritious forage. Extensive heavily grazed patches in suitable grassland soil and vegetation types are required to support species that require closely cropped grasslands, e.g. McCown's Longspur and endangered species like Mountain Plover (Bradley and Wallis 1996).

Fescue Grassland and Aspen Parkland – are 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 fire can be used to assist with halting advance of 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 productive for 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 exposure to 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). These lichens are also main dietary supplements of Caribou and Reindeer.





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