Motorized Recreation on Public Lands

Alberta Wilderness Association (AWA) supports the safe and responsible use of motorized recreational vehicles when on designated trails in appropriate areas, and where there is no impact on vegetation, water, wildlife, or other low-impact recreational uses. Environmental damage from motorized recreation is well-documented (page 3), and designated trails and strict adherence to regulations are needed to avoid and eliminate ecological damage of Alberta's public lands.

The use of off-highway vehicles (OHVs) in Alberta's wilderness is a privilege, not a right. AWA supports a "closed unless open" approach to motorized recreation management on public lands; in the absence of a designated trail network, public lands should default to being off-limits to motorized recreation. This approach has been reinforced by existing Regional Plans for the Lower Athabasca (2012) and South Saskatchewan (2012) Regions which stipulate that "off-highway vehicle use is permitted only on existing off-highway vehicle trails and areas where a management plan, trails plan, regulation, sign, notice, or trail marker designates such use." Authorized use may be given only when the best available science shows that watershed, wildlife, and ecosystem integrity are not compromised.

Additionally, OHV use should be considered and regulated as a formal land use in Alberta. This requires their OHV trails to be captured within linear density footprints and future land use planning, as within sub-regional land use plans (e.g. Livingstone Porcupine Hills Linear Footprint Management Plan) created under the *Alberta Land Stewardship Act*.

To comply with *A Policy for Resource Management of the Eastern Slopes* (1984), a moratorium must be imposed on the use of off-highway vehicles (OHV) on existing trails within Prime Protection and Critical Wildlife Zones, as well as a moratorium on further OHV trail development in these Zones.

Permanent closure and decommissioning of all trails and roads must be implemented where core or critical habitat of threatened or endangered wildlife exists. OHV use must not be permitted in protected areas.

Points of Emphasis:

- Motorized recreation is often incompatible with maintaining ecological integrity and must be prohibited in sensitive wilderness areas. This includes, but is not limited to, areas protected through legislation or policy for the maintenance of environmental values, areas managed for the protection of environmental values, areas identified by the province as Environmentally Significant, and other undisturbed wilderness areas.
- As OHV use has an extremely high impact on watercourses, riparian zones and wetlands, it is important for well-designed trails to avoid sensitive wet areas, and adhere to designated buffers for aquatic habitat.
- In Alberta, demand for motorized recreation opportunities has been low and from a small proportion of Alberta's residents. In 2015, only six percent of outdoor recreationists in Alberta engaged in motorized recreation, while 86 percent preferred other non-motorized forms of recreation (Praxis Survey, 2015). Between 2016 and 2020, the number OHV registrations in the province declined by nearly 22 percent (Alberta Vehicle Geographical Statistics, 2020).

- As the majority of Albertans using public lands are seeking a wilderness experience of solitude, vast landscapes and freedom from noise, most areas should prohibit motorized use.
- Motorized recreation must be permitted only on roads, trails, and routes expressly designated and constructed for their use. Off-route travel must be prohibited.
- Clear signage is needed at the trailheads/staging areas of designated motorized trails describing the rules and regulations. Signage should be designed with the goal of educating users about the potential for environmental damage caused by OHVs.
- Regular patrolling, monitoring and enforcement of regulations must be in place wherever motorized recreation is allowed. Enforcement will motivate responsible use of our public lands and is an effective means of educating the public.
- Seasonal route closures must be implemented for periods of high sensitivity for terrain (e.g. seasons of high precipitation, snow melt, soft soils) and stressful times for wildlife (e.g. mating and calving seasons).
- OHVs need to have noise mufflers, spark arrestors, and pollution control devices to minimize fire and safety risks, as well as other impacts.
- Regulations and education are needed to establish the minimum snow conditions for winter riding in order to prevent disturbance to underlying vegetation and soils.
- Permit systems should be implemented to ensure that trail use does not exceed the local environmental carrying capacity. Violating ecological and safety regulations should result the user permit being revoked.

Background: Environmental Impacts of Motorized Recreation

Off-highway vehicles (OHVs) are "any motorized mode of transportation built for cross-country travel on land, water, snow, ice or marsh or swamp land or on other natural terrain and, without limiting the generality of the foregoing, includes, when specifically designed for such travel" (Government of Alberta 2014). These vehicles can be used for travel on land, water, snow, and ice, and include all-terrain vehicles (ATVs) such as quads and “side-by-side” vehicles, snowmobiles, motorcycles, motorized tricycles, and highway vehicles being driven off-road.

Impacts on Land and Soils

OHV use increases and facilitates access to backcountry wilderness areas. Wilderness values of these areas are compromised by this excess use.

OHV use can directly and indirectly affect soils, streams, and vegetation. OHV use can cause intense soil and disruption through erosion, compaction and sedimentation (Olive and Marion 2009). Soil compaction diminishes water infiltration and promotes water and wind erosion, which in turn reduces soil moisture available to plants and increases runoff from precipitation (Ouren et al. 2007).

The impacts of soil compaction can persist anywhere from years, even after only initial disturbance (Ouren *et al.* 2007); for this reason, it is critically important to avoid new disturbance within wilderness areas. Soil and water disruption impact the soil's ability to support vegetation after disturbance, encouraging the elimination of natural vegetation and potential introduction of exotic species to an area. This speaks to the necessity for users to keep to well-designed, designated trails. The ability of plants to regenerate in many areas of the Rocky Mountains and Foothills is limited, and it can take decades to centuries for certain plant ecosystems to recover to their intact state after damage.

OHVs widen existing backcountry trails and lead to the breakdown of trail edges. A backcountry horse or foot trail is often 12 to 24 inches wide, whereas OHV routes are five to eight feet wide and often wider. Wider trails have greater negative ecological effects than narrower trails. The ecological effects of roads and trails are well-documented and include the disruption of natural vegetation patterns, ground and surface water flow, and natural disturbance regimes. They also cause well-documented disturbances to wildlife through factors such as habitat fragmentation and increased mortality.

Impacts on Watercourses

In Alberta, it is illegal to drive in any watercourse, waterbody or wetland. Where trails directly cross water courses, driving through stream beds or other waterways can disturb or destroy trout redds and other aquatic habitat, and decrease the abundance of native fish (Valdal and Quinn 2010). This underlines the need for not only well-designed bridges on designated trails, but rerouting trails away from watercourses and sub-watersheds containing threatened and endangered aquatic species. OHV use imposes significant wear and tear on bridges, so they need to be maintained properly to prevent the erosion at the foundations and along the sides that will contribute to water contamination. AWA supports the Government of Alberta in enforcing this law and educating the public land users on keeping wheels out of the water.

The use of wide trails by motorized vehicles leads to siltation and sedimentation into watercourses. During spring run-off and times of precipitation, trails erode. This needs to be minimized through proper design.

OHVs can deposit oil, transmission fluid and other liquids on trails and into watercourses. Through erosion, these pollutants can flow from the trail along with disturbed soils downhill into streams and rivers. Soil compaction from OHV use makes the soils impermeable and exacerbates rut formation and runoff (Ouren et al. 2007).

OHV use has an extremely high impact on riparian zones and wetlands because of soft soils and the fragile nature of stream beds. Soil disruption, such as through tire tracks, leads to erosion and siltation in riparian zones. Suspended sediment, if present in sufficient quantity and for a sufficient duration, will kill trout eggs and larvae, and will chronically stress adult and juvenile fish (Mayhood 2013).

Impacts on Wildlife

Roads and trails can cause direct (e.g. vehicle collision, poaching) and indirect wildlife mortality (e.g. habitat loss). Use of motorized recreational trails may lead to the displacement, habitat fragmentation and extirpation of local wildlife populations (Naylor et al. 2009, Ladle et al. 2018, Wisdom et al. 2018), as well as increased stress and energy demands (Ciuti et al. 2012). Habitat fragmentation has serious

impacts on species that require large block of continuous habitats, impacts predator-prey relationships, and has strong effects on animal movement (Ouren et al. 2007). Stress caused by OHV disturbance can lead to a weakened physical condition or death, the abandonment of territories, and lower reproduction rates.

Habitat fragmentation may also encourage potential introduction of exotic species to an area, which can outcompete native species. As vegetation species composition changes, fewer food sources and nesting areas may be available for certain wildlife species.

OHV emissions contain pollutants and carcinogens including benzene and carbon monoxide. These pollutants can be harmful to wildlife.

OHV use causes extreme noise. Wildlife is adversely affected by noise:

1. Masking: The inability to hear important environmental cues and animal signals;
2. Non-auditory physiological effects including anxiety, increased heart rate and respiration, decrease in reproductive output and general stress reaction; and
3. Behavioural effects which vary widely between species and noise characteristics and can result in the abandonment of territory and diminished reproductive opportunities.

Impacts on Other Recreational Users

According to a comprehensive 2015 survey commissioned by the Canadian Parks and Wilderness Society, approximately six percent of outdoor recreationists in Alberta engage in motorized recreational activities (The Praxis Group 2015). The majority of outdoor users in Alberta, on the other hand, participate in non-motorized activities such as hiking, cycling, walking, fishing, swimming, snow-shoeing, and skiing. This echoes the results of a 1999 Government report which found that only 6.5 percent of Albertans participate in motorized recreational activities including OHV and snowmobile use.

Most public land in Alberta is open to all kinds of outdoor recreation, including motorized access. When assessed in 2016, only about 9 percent of provincial crown land was closed to motorized recreation (see below table). These areas have been designated as protected areas, Public Land Use Zones, or Prime Protection Zone to conserve wilderness, aesthetic and low-impact recreation values. The use of OHVs in these wilderness regions is incompatible with environmental protection and other forms of recreational enjoyment.

OHV use must not be permitted in Provincial Parks or other protected areas. Motorized recreation is a conflicting use in protected areas, based on public values, science, and inherent wilderness values. A public opinion study completed for Alberta Tourism Parks and Recreation provides further evidence to support this assertion: “Albertans feel the top priority for Alberta Tourism, Parks and Recreation should be to set aside more land and leaving it in an undisturbed state (page 5). The area of lowest priority is infrastructure and land to support off-highway vehicle use (page 6)” (The Praxis Group 2008).

Conflicts frequently arise when motorized and non-motorized recreational users access the same areas. Because OHVs are faster and more mobile, they have the ability to use a larger area than non-motorized

users. As a result, non-motorized recreational users are often pushed out of these areas. The noise generated by OHVs makes them incompatible with non-motorized activities and recreationists who seek the peace and tranquility of public lands. Non-motorized users are more likely to report conflict with motorized use, as a result of reduced enjoyment from increased noise and trail-use displacement (Andereck et al. 2001, Vittersø et al. 2004).

Land Ownership in Alberta:

Alberta total land mass:	661,190 km²
Provincial Crown Land:	56.4% (372,911 km²)
Federal Land:	10.6%
Private Land:	28.4%
Other provincial:	4.6%

Provincial Crown Land where motorized recreation is prohibited:

PLUZ:	4,078 km²
Wilderness Areas:	1,010 km²
Willmore Wilderness Park:	4,597 km²
Provincial Parks:	3,600 km²
Ecological Reserves:	269 km²
Wildland Parks:	17,280 km² *
E. Slopes Prime Protection Zone:	4,304 km² **
Total:	35,138 km²
	or 9.4% of Provincial Crown Land

Conclusion: Less than 9% of provincial Crown Land is off-limits to motorized recreation or 91% of provincial Crown Land is open to motorized recreation.

* *Maximum figure - includes area of all Wildland Parks even though some Wildland Parks allow motorized recreation.*

** *Area of Prime Protection Zone not accounted for in other protected areas.*

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