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## Bighorn Wildland Continues to Face Recreation Challenges

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Illegal off-highway vehicle (OHV) use and serious trail damage are two of the main challenges facing the Bighorn Wildland, according to the results of a recreation monitoring study. The study, conducted by AWA, is in its third year. The results show there is still significant violation of the three-year-old regulations governing motorized use in the area, and the government is finding that enforcement of those regulations can be difficult and frustrating.

The Bighorn Wildland was opened to motorized access in October 2002 under Alberta Sustainable Resource Department's (SRD) Bighorn Backcountry Access Management Plan, where six forest land use zones (FLUZ) were established. Previously the area had been managed primarily under the Alberta Eastern Slopes Policy as prime protection zone, which prohibits motorized recreation.

The Bighorn Wildland, a 4000 km<sup>2</sup> area located adjacent to Banff and Jasper National Parks in west central Alberta, is one of Alberta's last remaining large and relatively intact wilderness areas. The area supports irreplaceable habitat for grizzlies and other wildlife, maintains intact forest and soils that support major headwaters, and provides backcountry recreation opportunities that are among the best in the province. Human use, however, particularly equestrian and motorized, is a growing threat to landscape and watershed integrity.

In response to the government's decision to allow motorized vehicle use in the Bighorn Wildland, AWA initiated a study of the impacts of motorized and other types of recreation use in one FLUZ. Monitoring the impacts of both new and traditional recreational uses of this area is crucial for effective long-term management and decision-making.

The study area within Bighorn Wildland is being subjected to intensive recreational use, predominantly in the form of OHV and equestrian use. These recreation types have resulted in environmental degradation including off-trail use, braiding, rutting and erosion of trails, and illegal off-trail/out of season use.

Additional environmental impacts from recreational activity include the trampling and removal of native vegetation, landscape fragmentation, wildlife disturbance, and degradation of watersheds. With the increasing demand for outdoor recreation, it is critical that the impacts of recreational activities be well managed within wilderness areas.

### Illegal OHV Use

In spite of increased and improved signage, monitoring and regulation enforcement, illegal OHV activity persists in the area. The study area had trails that are designated for motorized use during certain months of the year. These are generally main trails into the area, often old, hard-packed exploration roads. Branching off these trails are many secondary trails that are not designated for motorized use, but may be used by other users. Both types of trails were surveyed for use.

Data on illegal motorized use was gathered directly by special counters or inferred from tracks or damage left behind. Illegal use occurred during restricted times, when designated trails were closed to motorized use, or when users left the designated trails and used non-designated trails or created non-designated frolic areas. While only a small percentage of recorded OHV use in the study area was illegal, it was still





significant. Use recorded by counters did not capture all instances of off-trail illegal use. A greater percentage of illegal activity occurred during weekdays rather than on weekends.

In July, AWA resumed field trips into the study area. In more than one area, we observed vehicle tracks on trails that had signs indicating they were off limits to OHVs either seasonally or permanently. In some cases signs were torn down, and occasionally mutilated, before riders proceeded on undesigned trails.

Significant damage was seen at a trailhead in the Whitegoat Creek area of the Job/Cline FLUZ. The tracks continued for at least seven kilometres up the trail on which off-highway and snow vehicles are only permitted from December 1 to April 30. Near the trailhead recent vehicle tracks bypassed the main trail in favour of a boggy, grassy meadow, turning it into a muddy mess.

An SRD representative recounted the adventures of two individuals who not only ignored signs but the creeks swollen from heavy rainfall in June. They attempted to drive across a creek on a trail restricted from motorized use and got stuck in the water. The vehicle spent the night in the river before being towed, but the riders were rescued by a local outfitter.

SRD says they are well aware of this illegal activity and are making efforts at enforcement, despite the inherent difficulties in doing so, and are formulating strategies and actions to address the problem.

Our concern remains that despite the best intentions and actions of SRD and local OHV groups to have riders adhere to the regulations under which they were allowed to have motorized vehicle access into the area, illegal access continues. Ongoing structural and vegetation damage will lead to continued degradation of the ecological integrity of the area.

### Trail Damage

Of the approximately 30 kilometres of trail surveyed, over 50% showed structural or vegetation damage that ranged from negligible to severe. Damage was measured on three trails designated for motorized use and 49 trails not designated for motorized use.

Although OHVs have trails designated for their activity, the total area of damage they cause on and off-trail is much greater than that of equestrian users, who are legally allowed to leave the trail. More intensive equestrian use was found on the one designated trail which is only open to OHVs in the winter. It is likely that users wished to avoid OHVs on other trails, but this has resulted in further damage.

Two main types of damage were measured. Structural damage was a measure of the level of degradation of the trail and consisted of such measures as braiding, rutting and erosion. Vegetation damage was a measure of the amount of vegetation remaining on the trail. Four main habitat types were recognized: forest, shrub/shrub meadow, grass meadows, and marsh. About half of the overall damage occurs in shrub habitat.

Just over half of the damaged areas were due to OHV use, about a third were due to random camping and about a tenth were due to equestrian use. Each of these three primary activities creates its own type and severity of damage. OHV trails were approximately three times wider through all habitats compared to equestrian trails, with the widest in shrubby meadow habitat.

Braiding, the most common type of trail damage, was the cause of 80% of the total damage measured, and was due to both horses (43%) and OHVs (57%). Of the amount of damage caused by horses or OHVs, 80% was in the form of braiding.





In forest areas, braids are usually formed by users attempting to avoid larger water and mud puddles. Whereas in shrub and grass habitat, they may be due more to the existence of a longer line of sight, allowing users to take shortcuts and explore off-trail areas more easily, or by horses leaving the trail to allow OHVs to pass.

However, these activities differed in the types of habitat impacted. With equestrian use, 94% of braiding damage occurred in shrub and forest habitat with 6% in grass habitat. While OHV use caused a little less braiding than equestrian use in forest and shrub habitat (82%), it caused three times as much damage in grass meadows (17%).

The creation of frolic areas is an activity exclusive to OHVs. Ten percent of damage caused by OHVs is in the form of frolic areas and all of the damage measured was in marshy areas. Many of the frolic areas have signs posted by the Bighorn Heritage ATV Society at the main access point to discourage illegal use. As of late July 2004, it appeared that most frolic areas had not been used yet that season although damage caused in earlier years was still visible.

Another type of structural damage, ruts or erosion events, caused 10% of all the damage measured and they are typically exacerbated by water runoff. Equestrian trails appeared to be the most susceptible to this type of damage with 80% of erosion events occurring on equestrian trails and only 20% on OHV trails. 75% of erosion events from equestrian use occurred in grass habitat and 19% in shrub habitat. Ruts ranged from a depth of 36cm to 76cm, with the deepest found on equestrian trails.

Of the non-designated trails inventoried, 63% were predominantly horse trails, half of them in forest habitat. Half showed moderate to severe structural damage. Regardless of the severity of structural damage, the impact on vegetation was high for all habitat types.

Of the 37% non-designated trails that were multi-use trails, including illegal OHV use, 20% showed moderate to severe structural damage, and all showed vegetation damage. Vegetation damage was slight in grass meadows, but moderate/severe to severe in more than 80% of sites measured. All forested sites had moderate to severe vegetation damage.

Random camping is an unrestricted and increasing activity which can produce damage if not properly managed. The damage is mostly to vegetation, but some structural damage can also occur. The sizes of the campsites surveyed ranged from 11m<sup>2</sup> to 1665m<sup>2</sup>. Moderate to severe vegetation damage was observed in 64% of the sites. The extent of damage to these campsites was partially caused by a lack of distinct access points.

A third of the camps contained horse camp infrastructure comprised primarily of straw and cut trees wedged between live trees for tying horses. Adding to the impact was that 68% of sites had garbage strewn across them in such forms as beer and pop cans, hubcaps, metal pipes, and broken glass.

In the long term, there are legal activities that are cause for concern if not adequately managed. With increasing use of the area for these activities, unavoidable impacts will occur. Therefore, an early knowledge of what types of activities contribute to what kinds of damage is essential to preparing a strategy to mitigate the negative effects that come with increased volume of use.

### Recommendations for the Future

AWA remains opposed to motorized use in the Bighorn Wildland. The continued illegal activity, difficulties in enforcement of the regulations pertaining to motorized use, and continuing trail damage support this view. In the meantime we are recommending the following measures:





- (1) Secondary trails and braided areas along the Onion Lake, Ranger Creek, and Hummingbird Creek trails should be closed and reclaimed to restore site integrity and reduce the level of illegal off-trail and out of season use. Furthermore, due to large areas of braiding and other damage, designated trails must be better demarcated within the landscape to deter illegal use and avoid increased damage.
- (2) Close and reclaim trails not designated for motorized use and discourage their creation. Repair designated trails and avoid continued damage. Erect appropriate stream-crossing structures to reduce and eliminate further stream bank erosion, pollution, and sedimentation.
- (3) Post more signs with clear and concise messages at the entrance to all trails, and provide educational outreach for all users.
- (4) Increase officer presence and alternate the timing of patrols in the area.
- (5) Reduce the total number of random campsites and have clearly defined rules about random camping. Designate some formal campsites.

The government needs to ensure that proper resources and expertise is available for education, repair and restoration of damaged areas, and effective enforcement of existing regulations. AWA maintains communication with SRD's monitoring and maintenance teams and we will continue our own monitoring project for two more seasons.

In August 2004, AWA met with SRD to highlight sites of immediate concern within the study area. These sites were considered to be those most in need of improvement such as closure and restoration. In September new trail upgrades had been made on a few of the areas outlined in the August meeting. They included reseeding and closure of some secondary trails as well as the erection of new signage.

Long term, the need is clear for legal protection for the Bighorn Wildland to conserve watersheds, ecological integrity, and wildlife populations. These were the public's priorities when the Bighorn was designated as prime protection zone under the Eastern Slopes Policy in 1977 and they remain priorities today.

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