

**ALBERTA WILDERNESS ASSOCIATION
BIGHORN WILDLAND RECREATION MONITORING PROJECT**

2005 INTERIM REPORT

**Monitoring of Recreation Uses and Impacts in Bighorn Wildland, Alberta
Study Location: Hummingbird Forest Recreation Area**

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Abstract: Monitoring of equestrian and motorized recreation activities was conducted in the Bighorn Wildland during the four month 2005 field season. Approximately 58 kilometres of trails were measured. The volume and frequency of OHV activity was monitored on legal trails with seasonal restrictions as well as on illegal trails. Illegal activity occurred on 4.8% to 31% of the days monitored, depending on the trail section. There was no clear trend as to whether this illegal activity was more likely to occur on weekdays versus weekends and holidays. Damage to trails, campsites, water-crossings, and secondary trails (illegal for OHV use) was measured. More than 13 kilometres, or 22.5% of the lengths of the trails studied, had some level of damage, with more than 78% of the damage being in moderate/severe to severe categories. Fewer than 8% of water-crossings had any crossing structures in place. These locations are susceptible to structural damage and soil erosion into watercourses. Random campsites had extensive structural and vegetation damage. 40% of secondary trails, which are illegal trails for motorized vehicle use, were created by or used primarily by motorized vehicles. The report concludes that due to the chronic nature of the illegal OHV activity, current enforcement of regulations is inadequate. It also questions the sustainability and appropriateness of motorized recreation and equestrian activities and recommends reexamining the multiple-use strategy as well as developing and employing a comprehensive area management.

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EXECUTIVE SUMMARY

Wilderness recreation is a popular and growing pastime in Alberta; however, wilderness degradation from human use and misuse, particularly from motorized off-highway vehicle (OHV) and equestrian use, is of increasing concern. With increasing demand for outdoor recreation, it is critical that the impacts of recreational activities be well-managed within wilderness areas to address both vital ecological integrity and economic sustainability issues.

In Alberta's Bighorn Wildland, equestrian and motorized vehicle use is an escalating threat to ecological and watershed integrity. In 2003, Alberta Wilderness Association (AWA) initiated a four-year study to monitor recreation use and impacts in the Eastern Slopes Bighorn Wildland Upper Clearwater/Ram Forest Land Use Zone (FLUZ). (Figures 1 & 2) The study, by assessing the pattern, intensity, extent and impact of recreational use in the area, encompasses the following:

- 1) Monitoring of legal and illegal OHV activity
- 2) Measuring of trail conditions of legal and illegal trails

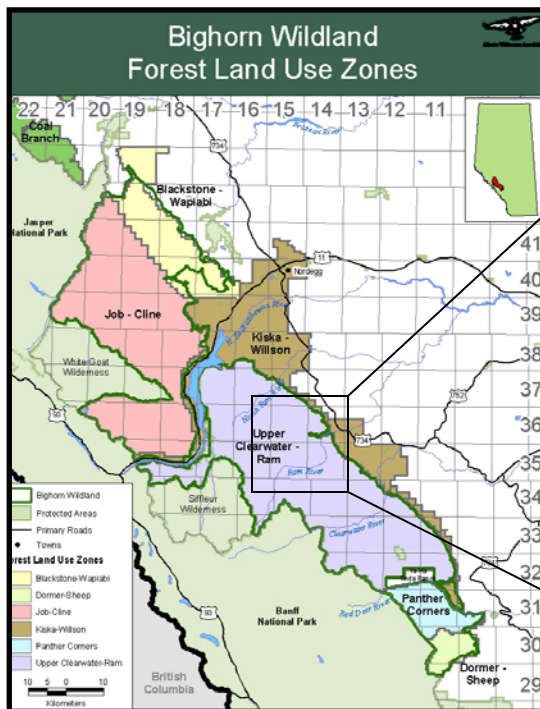


Figure 1. General location of study area

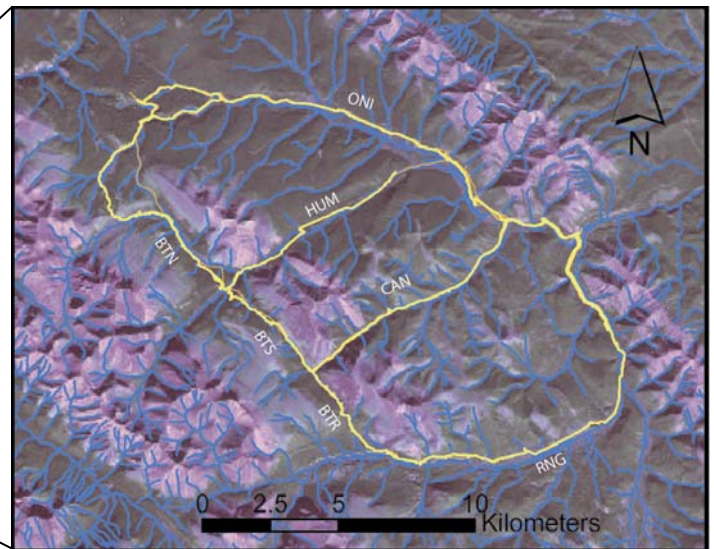


Figure 2. Specific study area and trail sections

Observations to date in the study area have revealed the following:

1) Illegal OHV activity appears to be chronic on all trails:

a) During out-of-season restrictions.

- Illegal use was recorded on 7 of 8 trails monitored. The 8th trail with no activity was a short trail with no real destination. The range of days when illegal use was recorded varied by trail section and ranged from almost 5% to a disturbingly active 31%. This may suggest a deficiency in enforcement resources.

b) On illegal secondary trails.

- 36 secondary trails were observed with 41.7% (15 trails) attributed to motorized vehicles as the prime user. Although 52.8% (19 trails) were equestrian trails, all trails for horses are legal; whereas, all secondary trails for motorized use are illegal.

c) Signage and enforcement may be inadequate with respect to a) and b)

- A number of sites were observed with inadequate signage where trails were clearly receiving motorized traffic on secondary trails reaching into higher alpine areas.

2) Trail damage (on legal and illegal trails):

a) Of the trails measured in 2005 (approximately 58 kilometres), over 22% of their length (more than 13 kilometres) was damaged. Occurrence of damaged sites averaged 2.6 sites per kilometre. Nearly 60% of sites were assessed with severe damage and approximately 80% assessed at moderate/severe to severe levels. The average length of a damage site was 88 metres and the average maximum depth was 0.35 metres.

b) Structural damage ranged from negligible to severe with high percentages of trails and sites having damage at moderate/severe (18.8%) to severe levels (59.7%) resulting in more than 78% of sites experiencing serious damage. There is little and selective trail engineering and/or management to contain and repair damage. Some trails sections received extreme damage from this year's floods.

c) Vegetation damage, ranging from none to severe occurred in all types of grass, shrub, forest, and marsh habitat. A high percentage of trails and sites had vegetation damage at severe levels (84.6%).

d) Impacts from random camping ranged from light to heavy. Low-impact camping techniques were not prevalent and sites were generally not cleaned up with infrastructure removed in the fall. Garbage and/or "permanent" infrastructure was present in 63.6% of sites.

e) Very few water-crossings have crossing structures in place and there was evidence that these were sometimes not used, thus creating damage to streams. Only 4 of 54 (7.4%) water-crossings observed had some type of crossing structure in place.

CONCLUSIONS

- a) Illegal OHV activity appears to be chronic. Although this report focuses strictly on the results from this season, the results compared to data from last season shows the trend continuing, thereby suggesting that enforcement of existing regulations continues to prove a challenge.
- b) The damage on trails, campsites, water-crossings, and secondary sites is extensive.
- c) With respect to random camping, an educational plan needs to be developed to encourage users to practice low-impact techniques and to remove campsite infrastructure.
- d) Water-crossings are vulnerable to further damage and erosion. A comprehensive plan needs to be developed to manage water run-off and recreational crossings of watercourses.
- e) The development and continued use of illegal secondary trails needs to be addressed and a strategy developed to manage this issue.
- f) Without an adequate and comprehensive management strategy nor adequate financial resources and trail engineering expertise to employ that plan, recreational motorized vehicle use may be unsustainable. Increased damage in severity and spatial extent will result. Equestrian impacts may also require significant resources, education, and user involvement to ensure ecological sustainability of the area.

RECOMMENDATIONS

- 1) Increase officer presence and allocate more resources to enforcement of existing legislation. Vary the timing of patrols in the area to enforce regulations, trail designations, and penalties for non-compliance. Erect prominent information and educational signs at the base areas which should include the following:
 - a. Identify the Hummingbird Recreation Area as being part of the North Saskatchewan River watershed.
 - b. Inform users that this watershed provides drinking water for communities like Rocky Mountain House and Edmonton, and that by treading lightly and maintaining ecological integrity in this recreation area, they can contribute to maintaining high water quality for the downstream users.
 - c. State clearly the penalties for illegal use and activity.
 - d. Advise users that the area is situated within a Prime Protection Zone and that permission for motorized recreational use has been granted as an exception.
- 2) A comprehensive trail management and maintenance plan needs to be developed. Resources and/or expertise are lacking with respect to constructing proper trails and to ensuring adequate monitoring and maintenance are performed. Trail recovery should involve a combination of user education and where appropriate, temporary or permanent trail closure or relocation. Adequate resources need to be allocated and employed.
- 3) Develop an education program to encourage no-trace camping. Users should be encouraged to use previously established campsites whenever possible and to dismantle equestrian and camping infrastructure after use. SRD should ensure existing infrastructure is removed at least seasonally.

- 4) Construct more water-crossing structures. Educate users as to their purpose. Develop and implement a comprehensive plan to engineer the trail system to adequately manage water in the area so that trails do not deteriorate with use and to prevent new trails from developing to circumvent highly damaged sites. SRD must monitor all stream crossings to reduce and eliminate further stream bank erosion, pollution, and sedimentation.
- 5) Close and reclaim, where appropriate, secondary trails and braided sites to restore integrity and reduce the level of illegal off-trail and out of season use. Additionally, SRD's Bighorn Backcountry trail map needs to reflect more accurately the existing location of the trail near the north section of the trail approaching Onion Lake.
- 6) Revisit the multiple-use strategy and sustainability of current activities, especially in terms of continued degradation at current levels of activity under current management strategies and the potential further degradation with increased activity. Simultaneous use of one trail by motorized users and non-motorized users may not be compatible, and the sustainability of motorized recreation use is suspect, especially given continued, chronic illegal use and ongoing damage to trail systems in this Prime Protection Zone.
- 7) Develop a comprehensive management plan and strategy for the entire Hummingbird recreation area to address current problems and to manage any increases in recreational use. A vision of what the trail system should look like is needed, costs estimated to achieve this vision, and restoration priorities assigned. This process should be lead by SRD with equal input from all users as well as the public in general as the recreation area is public land.
- 8) Review concerns with how the area is presently being managed and administered under the *Public Lands Act* with respect to accumulation of garbage and waste material, injury to watershed and watershed capacity, injury to rivers and streams, and the creation of damage sites and subsequent soil erosion.
- 9) Continue cooperative communications between SRD's monitoring & maintenance teams and AWA.
- 10) Continue with AWA's Bighorn Wildland Recreation Monitoring Project for another season as was originally planned.

Serious consideration must be given to re-applying the initial recreational guidelines for an area zoned as Prime Protection area.