



2-495 Wallinger Avenue Kimberley BC V1A 1Z6 • 250.427.9325 • info@wildsight.ca • wildsight.ca

Approval of David Harley's Zincton proposal for an all-season mountain development in the Central Selkirk Mountains would have a significant impact on wildlife in the Selkirk system, reducing the amount of suitable and secure core habitat for sensitive species, limiting connectivity, and threatening already stressed wildlife populations.

Key issues with the proposal include:

- The Central Selkirk Mountains are a crucial connectivity link and core habitat for grizzly bears, including many areas with dense huckleberries that are important for grizzlies, especially females. Development within the corridor, all-season use, including intensive mountain biking, will displace grizzlies from important habitat and threaten connectivity.
- The Central Selkirks are also a crucial connectivity link and core habitat for wolverines. Areas north of highway 31a have amongst the highest wolverine density in the West Kootenay region (Kortello). The project will result in habitat loss for females in particular, who avoid high levels of non-motorized, dispersed human activity (Heinemeyer et al, 2019) both within the boundaries of the lift access and with (to be expected) substantially increased access to adjacent, more remote, valleys. The project will also greatly increase traffic volumes on the Highway 31A corridor which in the past has not been a barrier to wolverine movement. This increase in traffic could result in the loss of wolverine connectivity across highway 31A due to higher traffic levels and human activity along the corridor.
- Mountain goats are extremely sensitive to disturbance from human recreation. With highly-used goat habitat in many parts of the proposed tenure, the impact on goats would be high.
- The Frog and Bear Lake areas and upland areas within the proposed project area are critically important habitats for Western Toads. The annual toad migrations have resulted in high mortality due to the motorized Highway 31a corridor. Adding high levels of vehicular traffic in this corridor will result in significantly increased mortality and potential population declines. In addition, heavy recreational usage will result in increased mortality in upland habitats as toads utilize human trails.

## Cumulative effects and further fragmentation

The Central Selkirks are the most heavily tenured adventure tourism area of the province. This continues to lead to a situation where sensitive wildlife populations like mountain goats, wolverine and mountain caribou (Goat Range park - north) are being impacted by disturbance and displacement from intensive use recreation and backcountry development. It also continues to lead to increased user conflict in the region. Currently the proposed area overlaps with existing two tenures - Retallack cat skiing and Stellar Heliskiing. There are also pending applications for further tenure amendments (Retallack) and new tenure applications (Lyle Creek Lodge). Further development and fragmentation within this corridor will erode this landscape's ability to provide core habitat for sensitive species. A development of this scale and in this location is also likely to fragment the corridor to wide ranging carnivores like grizzly bears and wolverines.

## Impacts On Species Of Management Concern

The proponent has failed to acknowledge both the wildlife and biodiversity values within the proposal area. Species of global conservation concern such as mountain goats (BC has more than half of the worlds goats), wolverines, grizzly bears, and western toads are found within and adjacent to the proposal area. The area also has a significant role in regional connectivity as bears and wolverines move across the Highway 31A corridor with relative ease because of low vehicle traffic. The proposal is between two protected areas which are believed to act as source populations for regional grizzly bear and wolverines. Grizzly bears and wolverines in the neighbouring Goat Range Provincial Park, Purcell Wilderness Conservancy, and Kokanee Provincial Park disperse out and find new home ranges. For the long term persistence of wolverines and grizzly bear populations in the Central Selkirks, these populations cannot be hindered by fragmentation associated with permanent development, heavy recreational use, and fragmenting barriers such as high-traffic volume highways.

## Wolverines

Wolverines are known to abandon dens from what are typically thought to be low impact activities such as a backcountry skier getting within 200m of a den. Female wolverines are extremely sensitive to human disturbance. A recent study illustrated that once recreational activities get above a certain level of usage, wolverines (particularly females) are displaced (Heinemeyer et al. 2019). This also can have reproductive costs.

Further studies have documented that wolverine density in the Columba region, including within the proponent's project area, is higher in protected areas, including Goat Range Provincial Park, and lower outside of protected areas and areas with high road density (Mowat et al. 2019). The cumulative pressures from industrial use, recreational activities intensive development, may erode the capacity of an area to support wolverine populations, especially reproductive females (Heim et al. 2017; Kortello et al. 2019; Mowat et al. 2019).

The proponents proposed expansions would result in more skiers and users across the landscape. This increase in year round use has been quantified by the proponent at 1500 skiers per day and up to 1700 daily users year round. This intense development and usage will result in the area no longer being suitable for wolverines especially females. This will impact and likely displace sensitive species such as wolverines as they avoid areas with intensive use winter recreation and development (Heinemeyer et al. 2019).

Past research has suggested that wolverines occupy this area of the Central Selkirks. Wolverines were detected at bait stations in the Kane Creek area (Kortello 2019, personal communications). Local sightings have also documented a wolverine mother crossing the Highway in the Three Forks area with two young kits in 2018. Reproductive females are very rare and sensitive to disturbance. The Selkirk range north of the Kaslo-New Denver highway has the highest density of wolverine relative to other ranges sampled in the West Kootenay region (Kortello, 2019, personal communications).

Increased vehicular traffic on Highway 31A could fragment the corridor for wolverines. Currently Highway 31A is not a major fragmentation barrier to wolverine populations (Kortello as per comms). High usage highways to the North such as the Trans Canada are fragmenting barriers to wolverine populations. Past research has suggested that as few as 300-500 daily vehicles in winter on a highway can fragment a wildlife movement area for wide ranging carnivores like wolverines (Alexander 2005). There is a significant risk that this development could isolate and fragment wolverine populations.

## **Grizzly Bears**

Grizzly bears populations to the North of Highway 31A are believed to be healthy. This area which includes both the Central Selkirks and Central Purcell mountains is unfragmented all the way to the TransCanada Highway near Rogers Pass. It forms one of the most important large core areas for grizzly bears in the region. Past estimates from Dr. Michael Proctor suggest that upwards of 600 grizzly bears inhabit this core area (Highway 3 and 31a north to Highway 1) and it is important for the long term future of the regional bear population that this large core area remain unfragmented (Trans-Border Grizzly Bear Project). The proposed project is within a critical movement area for bears. Currently the Highway 31A corridor does not pose a connectivity barrier for grizzly bear populations. With increased vehicular traffic, permanent settlement, and intensive year round recreation the project would fragment a key north south movement corridor in the Central Selkirk Mountains.

Goat Range Provincial Park to the north act as a source population for grizzly bears in the Selkirk system (Proctor et al 2008). For the long term persistence of grizzly bear populations in the Central Selkirks, the population cannot be must not be hindered by fragmentation associated with permananant development, heavy recreational use, and fragmenting barriers such as high-traffic volume highways like the Trans Canada or Highway 3. The proposed project will result in fragmentation from significantly increased vehicle volume on Highway 31A and permanent development in the middle of the Central Selkirk Mountains.

The long term viability and persistence of grizzly bear populations in their Southern range is directly linked to the amount and type of human activity on the landscape (Herrero 2005). The proposed tenure area occupies significant high value habitat for the Central Selkirk grizzly population. Female grizzly bears in particular select habitats within their home range that provide abundant food forage and minimize human disturbance and they avoid disturbed areas and slopes that have high human activity during daylight hours (Martin et al 2010).

The proponent is proposing a lodge located in upper Goat Creek. Upper Goat Creek is an important movement area as there is a low elevation pass at the head of Goat Creek that animals can move through to the Kane Creek watershed. A large scale ski lodge could sever this important wildlife movement area.

Places like Whitewater Creek and the London Ridge area are important grizzly bear habitat areas. These areas provides vital foods like huckleberries, in addition to high value avalanche paths where early spring and late fall foods are found. Whitewater Creek is also a key north-south movement corridor as the pass at the head of the valley is not steep and leads into a high value and intact drainage, South Cooper Creek and Goat Range Park.

There is also an increased risk of human-bear conflict associated with mountain biking compared to hiking (Herrero and Herrero 2000). Downhill mountain biking in particular is characterized by high speeds and relatively quiet movements. Bikes often travel at speeds in excess of 30 km/hr. This makes bikers particularly vulnerable to sudden and unexpected encounters with wildlife due to the speed of travel and the relatively quiet movements of bikes. These encounters often occur in close proximity and can put the bear into a defensive or protective positioning particularly if it's a mother and cubs. Herrero and Herrero (2000) looked at 33 grizzly bear-bicyclist encounters or confrontations that occurred mainly in Alberta (26/33). Most of these encounters occurred in close proximity and bears were estimated at less than 50 metres away. Grizzly bears charged or chased the bicyclers in 29 of 33 (88 percent) of these mountain biker/grizzly bear confrontations. More than half of these confrontations involved female grizzlies protecting cubs (Herrero and Herrero 2000). With the projects proposed intensive use biking occurring in grizzly bear habitat there is an increased likelihood of human bear conflict.

## **Mountain Goats**

The province has conducted few goat inventories in this Management Unit. The goat population in this area (MU-4-18) was last estimated at 45 goats. Mountain goats are known to occupy alpine and subalpine areas near Mt Brennan, portions of Whitewater Creek and upper Goat Creek. These areas also overlap with recently drafted goat habitat maps done by FLNRO Habitat Biologists as core goat winter habitat and high capability winter range.

Mountain goats are extremely sensitive to human activity and disturbance. Goats in this area also likely deal with helicopter traffic from winter based helicopter skiing. During a high snow year mountain goat survival is already difficult in the deep snows of the Central

Selkirks. Adding additional stress, disturbance, and intensive recreation will create a situation where their long term survival is precarious. The project will infringe on key goat wintering grounds particularly in areas such as Mt Brennan, portions of Whitewater Creek and upper Goat Creek. The project will result in goats abandoning key winter habitat areas.

The project will result in constant disturbance from year-round high intensity recreation. With 1500 daily skiers in the winter, this sort of high intensity recreation and disturbance can be linked to reduced reproduction, high rates of mortality, habitat abandonment, making this small mountain goat populations' long term viability and persistence in the Central Selkirks precarious.

## **Western Toads**

Western Toads are federally listed under the Species at Risk Act as a species of special concern. Western Toads are also extremely vulnerable to threats and declines, 95 percent of females only breed once in their lifetime (COSEWIC 2013). Western Toads are extremely vulnerable to habitat loss and fragmentation due to human settlement and transportation corridors, which can isolate sub-populations, leading to increased risk of extinction (COSEWIC 2013). Another risk to their survival is road mortality during their mass migrations to and from breeding sites.

The Frog and Bear Lake areas and upland areas within the proposed project area are critically important habitats for Western Toads. The annual toad migrations in this area results in high mortality due to the motorized Highway 31a corridor. Adding high levels of vehicular traffic in this corridor will result in significantly increased mortality, habitat loss, and potential population declines. In addition, heavy recreational usage from mountain bikers and hikers in lower elevations will result in increased mortality in upland toad habitats as they utilize human trails.

## **Impact On Quiet Recreation**

The Central Selkirks are a renowned area for quiet recreation. Tourists and visitors visit the Highway 31A corridor to enjoy opportunities to enjoy wilderness and year-round quiet recreation in close proximity to the towns of New Denver and Kaslo. The Highway 31A area has seen a major growth in quiet, backcountry winter based recreation. Increasingly there are fewer places to enjoy quiet recreation in the Central Selkirks. The Central Selkirks have lost many of the public and quiet recreation areas of the past due to intensive adventure tourism development and significant motorized recreation in part due to legacy mining and forestry roads.

The Zincton proposal should not go any further within the resorts application process due to its significant impact on wildlife in the Selkirk system, reducing the amount of suitable and secure core habitat for sensitive species, limiting connectivity, and threatening stressed wildlife populations.

## Works Cited

Alexander, S.M., N.M. Waters and P.C. Paquet. 2005. Traffic volume and highway permeability for a mammalian community in the Canadian Rocky Mountains. *The Canadian Geographer* 49:321-331

COSEWIC. 2013. COSEWIC assessment and status report on the western toad *Anaxyrus boreas* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa.

Heim, N., Fisher, J.T., Clevenger, A., Paczkowski, J., and Volpe, J. 2017. Cumulative effects of climate and landscape change drive spatial distribution of Rocky Mountain wolverine (*Gulo gulo* L.). *Ecol. Evol.* 7(21): 8903–8914. doi:10.1002/ece3.3337.

Heinemeyer, K., Squires, J., Hebblewhite, M., O’Keefe, J.J., Holbrook, J.D., and Copeland, J. 2019. Wolverines in winter: Indirect habitat loss and functional responses to backcountry recreation. *Ecosphere* 10(2). doi:10.1002/ecs2.2611.

Herrero, J., and S. Herrero. 2000. Management options for the Moraine Lake Highline Trail: grizzly bears and cyclists. Parks Canada, Banff National Park, Banff, Alberta. 23 pp.

Kortello, A., Hausleitner, D., and Mowat, G. 2019. Mechanisms influencing the winter distribution of wolverine *Gulo gulo luscus* in the southern Columbia Mountains, Canada. *Wildlife Biol.* 1. doi:<https://doi.org/10.2981/wlb.00480>.

Kortello, A. 2019. Personal Communications via Email.

Mowat, G., Clevenger, A.P., Kortello, A., Hausleitner, D., Barreto, M., Smit, L., Lamb, C.T., Dorsey, B., and Ott, P.K. 2019. The Sustainability of Wolverine Trapping Mortality in Southern Canada. *J. Wildl. Manage.* doi:10.1002/jwmg.21787.

Trans Border Grizzly Bear Project. Current Status.

<http://transbordergrizzlybearproject.ca/research/status.html>