



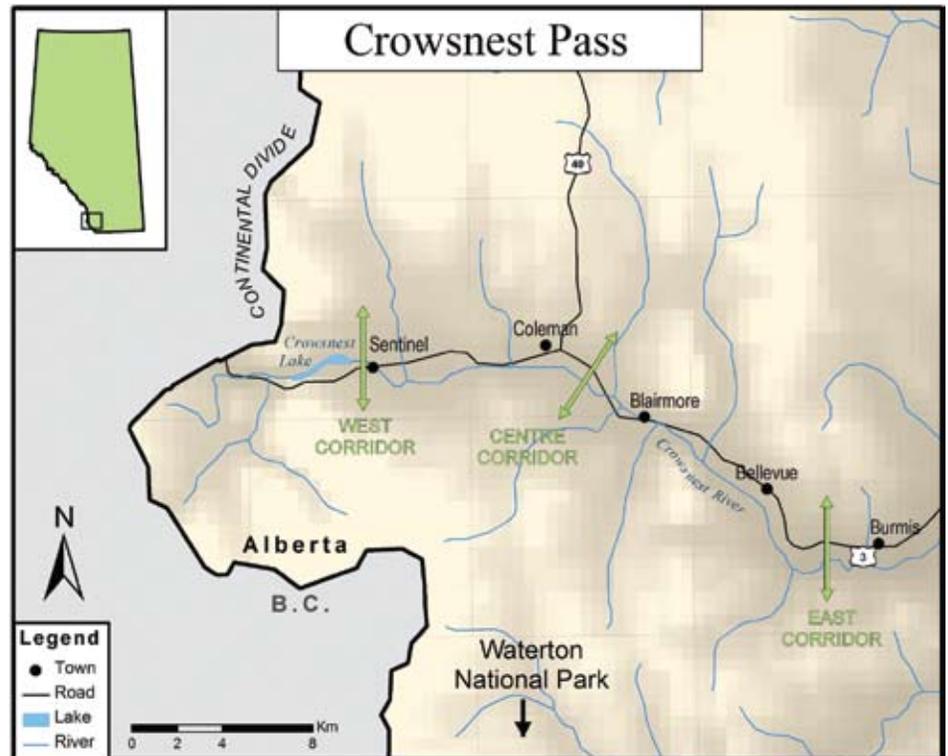
CARNIVORE CORRIDORS THREATENED IN THE CROWSNEST

By Barbara D. Janusz

The section of the southern Canadian Rockies between Banff National Park and Glacier National Park supports the most diverse, intact system of carnivores in North America. Carnivores are at the top of the food chain and tend to influence the behaviour of their prey, interactions among other animal species, and supporting vegetation. For conservation planning, carnivores serve as an appropriate focal species. The lack of resilience of some carnivore species in the midst of intense human pressures was, therefore, a primary factor contributing to their selection for a study designed to determine existing options that would facilitate and preserve connectivity of wildlife populations through changing landscapes. The study was led by Drs. Clayton Apps and John Weaver, in partnership with the Wildlife Conservation Society and with funding from the Wilburforce Foundation.

A team of five researchers identified the important core areas and linkage zones for carnivores in the southern Canadian Rockies, with emphasis on landscapes bisected by the Crowsnest Highway (Hwy 3). To gather data on the viability, security, and movement of carnivore populations in the region, the researchers selected six carnivores indigenous to the southern Canadian Rockies — grizzly bear, wolverine, badger, wolf, bobcat, and lynx. They conducted modeling and field research during 2001-2004 to determine the impact of Hwy 3 on habitat and connectivity, and in September 2007 released *Carnivores in the Southern Canadian Rockies: Core Areas and Connectivity across the Crowsnest Highway* (the Carnivores Report, www.wcscanada.org/media/file/crowsnest_web.pdf).

Hwy 3, running east-west, bisects several conduits for wildlife movement in the Rocky Mountains. The natural



The Carnivores Report identified three wildlife corridors in the M.D. of Crowsnest Pass, referred to as West, Centre, and East. MAP: AWA FILES

connectivity in the southern Rockies for the six carnivore species chosen for the study is becoming increasingly vulnerable to fracturing not only by Hwy 3, but also by the Canadian Pacific Railway, other intersecting roadways, and expanding human development and recreation. Hwy 3, however, poses particularly difficult challenges to carnivores due to the narrowing of the valley at this juncture, the high volume of traffic, negligible conservation management in the region, and the high concentration of private and corporate ownership of land abutting the transportation corridor, which raises the potential for development that may further fracture populations of wide-ranging species.

As this network of human development intensifies, carnivore populations are increasingly subjected to fragmentation into smaller and more vulnerable units, reducing the flow of individuals and genes as necessary to

maintain populations that are healthy and resilient, and that can shift in response to climate change.

For each of the six species, the researchers developed and applied regional models to identify likely areas of core habitat and security throughout the region, and potential zones of population linkage across Hwy 3. They then sampled actual occurrences of grizzly bears and lynx within a 10- to 20-km zone, adjacent to and including Hwy 3. The report describes the results and conservation implications of this research.

To shed light on the potential impact of future human development on carnivore populations in the Crowsnest Pass, this summary of the project's conclusions will be restricted to the three wildlife corridors identified in the Municipality of Crowsnest Pass, on the east side of the Continental Divide, referred to as the Crowsnest Municipality West, Centre, and East corridors.

The West Corridor

The West corridor facilitates wildlife circumvention of the western edge of Crowsnest Municipality and passage across Hwy 3. The study concludes that “[m]ajor residential developments in this area would likely hinder any remaining options for the carnivore movements through this corridor and would likely generate more human activity in Crown lands in the nearby core areas” (p. 87). The West corridor was rated by the researchers as having “high conservation significance, high limitation to passage, and very high vulnerability.”

Currently, no more than a dozen residences are located in Sentinel — a hamlet on the shore of Crowsnest Lake, adjacent to the Crowsnest River, and within the identified West corridor. In September 2005, however, Bridgecreek Development purchased a 26-acre parcel of land in Sentinel, with a view toward constructing a \$1.5 billion resort complex (the largest in Canada) next to the lake. The developer has yet to break ground on the shores of the lake, but according to Gordon Lundy, Chief Administrative Officer of the municipality, engineering drawings for extension of the municipal water and sewer lines to facilitate development of the proposed resort are nearing completion. Dorothy Lock, with Alberta Environment, confirmed that, as no upgrades to the municipal water treatment plant are planned, provincial regulatory approval for such infrastructure extension is not required.

In a telephone interview, Dr. John Weaver, one of the authors of the Carnivores Report, confirmed that the West corridor is the most viable of the three conduits. He stated that the Bridgecreek lake development will likely result in displacement of carnivores. He also cautioned that not only is the increased volume of highway traffic a cause for concern, but spin-off activity such as the use of hiking trails, caving, and rock climbing, could also further restrict carnivore movement. Requests for feedback from Bridgecreek Development regarding the corporation’s position on the resort’s potential impact on wildlife corridors have remained unanswered.

The Centre Corridor

A potential carnivore movement option between Coleman and Blairmore is highly tenuous because this second



The dry open grassland north and south of Highway 3, near Lundbreck, Alberta, is excellent habitat for the badger, one of the six species chosen for the carnivore study.

PHOTO: C. WERSHLER

conduit, the Centre corridor, is characterized in the report as having “less security cover, more human activity and greater distance to core habitat than the previous one to the west.” Accordingly, this conduit was rated as having “low conservation significance, very high limitation to passage and very high vulnerability.” Dr. Weaver also stated that the highly tenuous nature of this corridor has already resulted in displacement of carnivores to the adjacent West and East corridors. The “very high limitation to passage” rating is likely to become exacerbated by the recent approvals of six developments in the area.

In Coleman, south of Hwy 3 on the Parks Canada historic site of the Coleman Collieries, Luscar Ltd. (Canada’s largest coal producer) has recently conveyed 297 acres of land along the Crowsnest River to Green Mountain Company, an Edmonton developer. On October 9, 2007, with a view toward achieving a higher standard for reclamation of the site, Municipal Council passed a resolution to rezone this parcel of land to “residential.”

Also in Coleman, Municipal Council, despite local opposition, recently voted in favour of rezoning a 40-acre site “residential” to pave the way for the Sawback Ridge development along the Kananaskis-Highwood Road (Hwy 40). Slated to accommodate 27 residential lots and 78 condo units, Sawback Ridge is across the road from another development, Kananaskis Wilds, a

condominium project of 77 lots, which in 2006 ignited similar opposition from the same acreage owners.

According to Shane Stewart, a Crowsnest Pass resident and president of Stewart Investment Capital, one of the developers of both Sawback Ridge and Kananaskis Wilds, “The economic reality of development in the mountains is that without affordable density, you can’t afford to build.” Stewart is open, however, to Town Council addressing wildlife corridors in the development planning process, since wildlife and preservation of natural habitat is a key environmental amenity luring investors to the Crowsnest Pass.

Stewart Investment Capital’s Ironstone Lookout Condominiums, located along the north side of Hwy 3 in Coleman, was the first Crowsnest Pass project to actually break ground. Ironstone is a \$35-million project consisting of 70 duplexes and four-plexes, and an 80-unit condominium complex.

Further east, in Blairmore, the 100-acre Southmore subdivision is projected to accommodate 300 single-family dwellings. And a second Bridgecreek Development project, River Run, has progressed beyond the planning stage to excavation of the site in preparation for construction of a hotel and a combination of multi- and single-family dwellings.

Despite the Centre corridor’s very high limitation to passage, it should not be overlooked that “the entire Crowsnest Pass as a unit forms an integral landscape link for low-elevation, east-west movement of animals, plants, weather systems, etc. This is lowest pass in the southern Rockies” (Kevin Timoney, 1998, *Environmentally Significant Areas Inventory of the Rocky Mountain Natural Regions of Alberta*). Approval for rezoning by Municipal Council is only the first step in the development process. Subsequently, development plans are submitted for approval to a development officer and the Subdivision and Development Appeal Board, and at this stage, public input is crucial to ensure responsible density development.

Town Councillor David Cole says that the municipality’s Land Use Bylaw could be amended to require that Council address wildlife corridors when considering an application for rezoning.



The Crowsnest Centre wildlife corridor, with a view from northwest to southeast over Coleman (foreground) and Blairmore (background). PHOTO: C. APPS

Cole envisions a formal delegation of citizens and other interested parties appearing before Council to request such an amendment. Once such an amendment has been passed, Council can make appropriate recommendations to ensure that development proceeds in a manner consistent with preservation of identified wildlife corridors.

Kirk Olchowy with Fish and Wildlife in Blairmore would welcome such an amendment, as the potential for encounters with carnivores is likely to rise with development in the Pass intensifying. Olchowy also advised that his office does not have any current plans to facilitate wildlife crossings until the Department of Transportation and Infrastructure decides whether Hwy 3 through the Pass will be diverted or twinned. Metal culverts and bridges, according to Dr. Weaver, do not generally work well for carnivores, and Olchowy believes that the Canmore solution to establish 50-metre right-of-ways to accommodate wildlife movement through developments is simply ineffective.

The East Corridor

Although the East corridor is distant from core habitats for grizzly bears, the Carnivores Report concludes that it might facilitate north-south movement of cougars, badgers, bobcats, and wolves between the two communities of Bellevue-Hillcrest and Burmis. This

corridor is rated as “having moderate conservation significance, but with high limitation to passage and high vulnerability.” While the East corridor is not experiencing the same pace of development as the Centre corridor, in Bellevue, north of Hwy 3, two subdivisions of 30 lots each and in close proximity to one another have been approved for development.

Report Recommendations

To foster carnivore conservation and connectivity across Hwy 3, the Carnivores Report makes the following recommendations:

1. *Continue to maintain a network of core areas with a high level of security.... Important considerations include access management... and avoiding excessive mortality through appropriate hunting and trapping regulations.*
2. *Develop a proactive conservation plan to maintain connectivity across and around the Crowsnest Highway. This plan should consider assessment and planning of possible highway expansion, incentives for land-use covenants, and other practices.*

Some positive actions are already taking place in the municipality. One such effort is the ongoing work of Road Watch in the Pass. A project initiated by a local coordinator and the Miistakis Institute, Road Watch collects, analyzes, and communicates information highlighting

wildlife crossing locations across Hwy 3. In a January 2007 update they report 30 carnivore observations since November 2004, 17 of which crossed or were seen within 100 metres of Hwy 3. Also, between November 2004 and June 2007, Road Watch collected 226 bighorn sheep observations within 100 metres of Hwy 3. Their data highlight two key crossing areas, one near the Blairmore east access and the other at the west end of Crowsnest Lake. Both areas, for the time being, are devoid of inordinate human development, and it appears that wildlife is using these corridors to circumvent human activity.

The Karelian dog initiative, adopted in 2002 by the Fish and Wildlife office, is the first of its kind in Canada. Its aim is to reduce human-caused mortality of bears and to eliminate the need for relocation and extermination. The aversive conditioning techniques of associating people with discomfort and noise was pioneered by Montana wildlife biologist Carrie Hunt. The Karelian dogs – a breed originating in Finland, where it was used to track “nuisance bears.” After being sedated and kept overnight in a trap, the bear is conditioned to become averse to human contact by wildlife officers inciting the dogs to chase it back into the wild. More recently, wildlife officers have reduced roadkill of bighorn sheep near the Blairmore east access by training the Karelians to shepherd the ungulates across the Crowsnest River, beneath the bridge, and to condition them to avoid crossing the highway in order to connect with the southern wildlife corridor.

Ted Morton, Minister for Sustainable Resource Development, recently announced that “the major uses for the Eastern Slopes of the Rockies will be for watershed and recreation, with all other activities accommodating the priority uses” (*Calgary Herald*, January 12, 2008). It is incumbent upon us to appreciate, however, that recreation in affluent Alberta generates development, which significantly impinges on wildlife habitat, and that protection of such habitat safeguards the watershed and the wildlife that is increasingly being pushed to the brink of extinction.

Barbara D. Janusz is a lawyer, educator, poet, and freelance writer residing in the Crowsnest Pass.