

Management of the Grizzly Bear in Alberta With a Focus on the Rocky Mountain Foothills



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Summary:

It is estimated that perhaps 6000 grizzly bears once lived in Alberta, including the prairie and parklands portions of the province. However, since the coming of agriculture, industrial use, and millions of people, the grizzly has been in decline. Today there are estimated to be about 600 grizzlies remaining in our province, mostly restricted to the mountains and foothills.

Loss of grizzly bears is primarily due the increase in roads and accompanying access, which result in loss and degradation of habitat, road kills, and legal and illegal hunting of bears.

The grizzly bear is an umbrella species that reflects the ecological health of our forests. Albertans greatly value the continued existence of this magnificent creature. Government commitments to ensure its continued presence have been unsuccessful, perhaps because planning was based on faulty data (as has been recently revealed). However, in spite of persistent population declines and the vocal concerns of many scientists the government continues to permit a grizzly hunt and refuses to deal meaningfully with access management by limiting the number of roads built and available for public use.

What grizzly bears need is solitude. Protected areas are a strategy that will contribute to this need, and combined with better access management, could lead to the recovery of grizzly bears in the province.

History of the Issue

In **1975** a study was done to determine the best sites in Alberta for future grizzly bear studies. It stated this:

Of the four proposed study areas, this one [the Little Smoky in the Rocky Mountain Foothills] has the highest recorded frequency of grizzly bear sightings. P. 53

Nielsen, Pia. L. 1975. The Past and Present Status of the Plains and Boreal Forest Grizzly Bear in Alberta. Canadian Wildlife Service. Edmonton. AB

In **1984** a report was written on the status of wildlife in Alberta. These were some of the points made (p. 70):

- Grizzly bear now exist only in wilderness areas, with the largest number found in the foothills and subalpine belts of the Rocky Mountains. Populations have declined during the 1960s but have increased since the 1970s.
- The current estimate in Alberta outside the national parks is 500- 1000 animals.
- The long range goal is to retain a minimum of 1,000 bears including those in national parks and seasonally inhabit Alberta.
- The key to achieving this goal is to retain sufficient wilderness habitat.
- The habitat goal is to maintain the 106,000 sq. km. of grizzly range with emphasis on protecting key habitats.

Alberta Energy and Natural Resources. 1984. Status of the Fish and Wildlife Resource in Alberta. Alberta Fish and Wildlife. Edmonton. 123 pp.

In **1988** Wildlife Concerns Relative to the Berland Resources Road Proposal [area of the Little Smoky endangered forest] were reported on. The following is a summary of that document:

Based on the concerns expressed at the public hearings in 1979 by the Fish and Wildlife Division a grizzly bear study was conducted by the Wildlife Ecology Unit of the Alberta Environmental Centre (Nagy et ale 1987) . Population characteristics of grizzly bears were determined by capturing, marking, and radio tracking bears in the Berland River area of west-central Alberta during 1981-85. Eighteen mile and 20 female grizzly bears were captured. The average enumerated post-emergence spring grizzly bear population was 37 animals, giving a density of 4.6 bears/1000 m2 on the minimum effective trapping area. The grizzly bear population had low density, was comprised primarily of adults (63.1%) J and was characterized by poor productivity (1.8 cubs/female and a reproductive interval >4 years). These data .collectively suggest that the population was declining. This decline was considered to reflect the affects of .long term legal harvest, encroaching resource development activities, and habitat deterioration on that population.

Legal harvest was curtailed in 1988 by initiating a limited entry (permit) hunt on draw. A recommendation to close the season in the Berland Area entirely in 1989 has been made in the Alberta Grizzly Bear Mgmt. Plan. The document entitled "Status of the Fish and Wildlife Resource in Alberta" (1984) indicates that the key to achieving the long range goal of maintaining grizzly bear populations in Alberta is to retain sufficient wilderness habitat for these reclusive large-range animals. The Berland Road proposal does not support this goal.

Smith, K. and J. Edmonds. 1988. Wildlife Concerns Relative to the Berland Resources Road Proposal. Forestry, Lands and Wildlife Fish and Wildlife Division Edson, AB.

In **1989** a study was done to investigate the population of grizzly bears in the area of the Hinton FMA to evaluate the results of allocation of logging rights in 1980.

The grizzly bear population had low density, was comprised primarily of adults (63.1%), and was characterized by poor productivity (1.8 cubs/female and a reproductive interval >4 years). These data collectively suggest that the grizzly bear population was declining. This decline was considered to reflect the effects of long-term legal harvest, encroaching resource development activities, and habitat deterioration on that population. (From the Abstract)

Nagy, J. A., and A.W.L. Hawley, M.W. Barrett and J.W. Nolan. 1989. Population characteristics of grizzly and black bears in west central Alberta. Wildlife Biology Group, Alberta Environmental Centre. Vegreville, AB. 33 pp.

In **1990** a management plan for grizzly bears in Alberta was released. It reported an estimate of 790 grizzly bears in Alberta, including those in the National Parks. (p. iv) It listed this as one of the management goals:

The provincial grizzly bear population will be increased to 1000. P. vi.

Forestry, Lands and Wildlife Fish and Wildlife Division. 1990. Management Plan for Grizzly Bears in Alberta. Government of Alberta, Edmonton. 164 pp.

In **1996** a report was produced on the status of Alberta wildlife. It reported the following about the grizzly bear:

Currently sustaining its population under a very restrictive sport hunting regime. Greatest threat is loss and degradation of wilderness habitats through resource extraction and recreational development. P. 21

Alberta Environmental Protection. 1996. The Status of Alberta Wildlife. Government of Alberta. Edmonton. 44 pp.

In **1997** a booklet on the bears in Alberta was produced. It stated the following about the grizzly bear:

- *At one time, there may have been 6,000 grizzlies in what is now Alberta; the prairies and parklands to the south were home to many of these great bears. With the coming of settlement, agriculture and thousands of people, most of the grizzlies did not survive. Today there are some 800 grizzlies remaining in our province, mostly restricted to the wildest parts of the western mountains and foothills. P. 1*
- *Bears are a part of the natural fauna of Alberta, and most people agree that they have a right to be here. P. 5*
- *The best occupied range existed in the forests of the Kakwa, Smoky and Wapiti rivers south of Grande Prairie and extended as far east as the Swan Hills. P. 11*
- *The best kind of management of the privacy-loving bears might be no management at all. Because most of their remaining habitat in Alberta has in some way been modified by human use, proactive plans are clearly in the interests of all. Planning for future wildlands and wildlife will help ensure a positive future for bears and ultimately will assist us in living with and learning from these great and fascinating animals of our northern forests and western mountains. P. 24*

Alberta Environmental Protection. 1997. Bears in Alberta: Their Characteristics, History, Behavior and Management. Edmonton, AB. 24 pp.

In **2000** a strategic framework for grizzly bear conservation in the Alberta Yellowhead Ecosystem was developed. This is an area which includes Hinton. It includes the following statements:

- *Grizzly bears are considered an excellent indicator of ecosystem integrity. (from Executive Summary)*
- *The Strategic Framework was developed over a two-year period in full consultation with government, industry and public stakeholders in the study area. The document commits to the establishment of suitable landscape conditions, which will need to be met to ensure the continued presence of grizzly bears on the landscape. These landscape conditions will be developed based on research currently being carried out in this area and vetted by a Regional Carnivore Management Group. (from Executive Summary)*
- *There is some urgency in putting a more coordinated management program in place in the Alberta Yellowhead Ecosystem. The region is thought to have approximately 30% of the provincial bear population. P. 1*

- *This [maintaining a healthy and functional ecosystem] will place Alberta in a stronger and more competitive position in world markets. P. 1*

North East Slopes Environmental Resources Committee. 2000. Grizzly Bear Conservation in the Alberta Yellowhead Ecosystem: A Strategic Framework. Government of Alberta and Parks Canada.

The Executive Summary of the government status report on the grizzly bear (2002) states:

The grizzly bear (Ursus arctos) is considered "May be at Risk" in Alberta according to the General Status of Alberta Wild Species 2000. As of 1996, then Alberta Environmental Protection (AEP) considered the grizzly bear to be sustaining its population levels under a very restricted sport-hunting regime.

The first province-wide population estimate for Alberta grizzly bears was made in 1988. This estimate, made by Alberta government wildlife biologists was based on a conservative extrapolation of population density estimates from several relevant research projects. In 1988, there were an estimated 575 grizzly bears on Alberta provincial lands. Another 215 grizzly bears were estimated to occur in Waterton Lakes, Banff and Jasper National Parks, for a total provincial population of 790 animals. The 1990 Alberta Grizzly Bear Management Plan set a goal of increasing the 1988 population (including national parks) from 790 to 1000 bears.

Annual updates of the 1988 population estimates by the Alberta government indicate that the number of grizzly bears on Alberta provincial lands has increased from 575 to 841. Recent empirical population estimates in two areas of the province matched or significantly exceeded current population estimates as projected by the Fish and Wildlife Division. Presumed increases have resulted primarily from reduced legal hunting mortality associated with limited-entry hunting regulations imposed and maintained since 1988. Similar population projections are not available for the national parks. However, a recent conservative population estimate for national park populations is 175-185 bears in addition to the 841 on provincial lands.

Despite recent successes in population management and the reduction of grizzly bear mortality in Alberta, longer-term threats to this inherently sensitive species remain. The most serious threat to Alberta grizzly bear populations is human-caused mortality resulting from uncontrolled human access and activity. It is inevitable that human population densities and access into grizzly bear ranges will continue to increase in Alberta. The extent to which future human activities affect grizzly bear habitat and populations will depend on the degree to which management interventions are successful at limiting mortality risk and habitat displacement of grizzly bears. Management interventions with the greatest potential to mitigate effects on grizzly bears include the following: 1) continuation of limited-entry draw hunting restrictions; 2) access management in multiple use

areas; and 3) intensive management to reduce problem bear conflicts in agricultural areas.

In addition to the need for management strategies, more research and population inventories are required to determine scientifically based approaches and limits to land use compatible with maintaining grizzly bear populations. Active cooperation between government, industry and the public will be required to support these studies and to understand their implications to shared land use activities.

Kansas, J.L. 2002. Status of the Grizzly Bear (*Ursus arctos*) in Alberta. Alberta Wildlife Status Report No. 37. Alberta Sustainable Resource Development. <http://www3.gov.ab.ca/srd/fw/status/reports/grizzly/body.html> 45 pp.

In **2002** a film reported on the death of a grizzly bear in the Hinton area. Some of the points included these:

- In the last four years 26 grizzlies have been killed illegally. Biologists figure for every dead bear they find there's another dead one out there, meaning the actual number of dead grizzlies is closer to 50.
- Roads are the common thread in the death of almost every grizzly Stenhouse has seen.
- As part of his work with grizzlies, Gord Stenhouse has watched the web of industrial roads spread along the foothills of the Rocky Mountains.
- Brad Stelfox, a landscape ecologist, keeps track of roads and cuts in the forest. He calls them linear features.
- Stelfox says Alberta has to put the breaks on roads and turn them back into forest.
- Mike Cardinal, Alberta's minister of sustainable resource development, doesn't believe the roads increase poaching.

McDiarmid, Margo. 2002. Who killed Mary? Bear experts blame drive-by poaching for the illegal killing of grizzlies in Alberta. Feb. 19. Canadian Broadcasting Corporation.

In **2002** the Alberta Endangered Species Conservation Committee recommended that the grizzly bear be listed as a threatened species. The recommendation was based on small population size, low reproductive rate, limited immigration from populations outside Alberta, and increasing alteration of habitat. The recommendation has not been acted upon by government.

Alberta Grizzly Bear Recovery Team Update. March 2005. Alberta Government website.

A **2003-04** Nature Canada article on species at risk highlighted the plight of the Alberta grizzly bear. It pointed out:

- The Alberta governments Endangered Species Conservation Committee recommended that the grizzly bear be listed as ‘threatened’ and that a moratorium be placed on the grizzly hunt. This was not done.
- Grizzly bear numbers were estimated to be 600 rather than 800.
- The hunt should be discontinued until the numbers are accurate.

Portman, Tina. 2003/2004. Nature Canada.

A newspaper article **2004** reported that an Alberta study by Neilson (see below) found that relatively little prime grizzly habitat is safe from humans. Neilson indicated most concern for grizzly bears on provincial lands.

Ogle, Andy. 2004. Grizzly preservation an uphill fight. May 26, 2004. The Edmonton Journal.

In **2004** the grizzly bear recovery team submitted the draft recovery plan to government. It has not been approved.

Alberta Grizzly Bear Recovery Team Update. March 2005. Alberta Government website.

A **2005** thesis on a grizzly bear study which included a large portion of the West Fraser FMA south of Hinton contained the following:

“Industrial resource extraction activities, including forestry, threaten the persistence of grizzly bears (Ursus arctos L.) in North America (Banci et al., 1994; Clark et al., 1996; McLellan, 1998) by fragmenting secure (free of human disturbance) habitats and increasing human access to previously remote landscapes. This is especially evident in the Central Rockies Ecosystem of Canada where unprecedented growth of human population and resource extraction has co-occurred (Schneider et al., 2003).” P. 11.

Conclusion:

“Based on scenario models, grizzly bear populations in the foothills of west-central Alberta should be considered threatened. Neither two-pass forestry, nor natural disturbance-based forestry [larger clearcuts] (on Crown lands) resulted in the persistence of effective adult female grizzly bear territories or necessary habitat conditions within the foothills during a 100 year simulation. Despite predicted gains in habitat quality and potential carrying capacity, road

development (>3-fold increase) overwhelmed gains in habitat quality by increasing risk of human-caused mortality beyond what we predict can be sustainable. Simulations suggest that only the large mountainous parks provided long-term suitable adult female grizzly bear territories, while effective (secure) grizzly bear territories on Crown lands were largely displaced within 30 years.”
P. 230

Management implications:

“We suggest that risk models be integrated with habitat models for identifying key habitat sinks and secure areas for active management and protection respectively. P. 89 Primary habitats were identified for continual protection of secure habitats and reserve planning, while primary sinks depicted areas most in need of mitigation of mortality risk.” P. 190

Nielsen, 2005. Habitat Ecology, Conservation, and Projected Viability of Grizzly Bears (*Ursus arctos L.*) in West-Central Alberta, Canada. Thesis submitted for a Doctor of Philosophy in Environmental Biology and Ecology, Department of Biological Sciences. University of Alberta. Spring 2005.

From the Conclusion of the **2005** final report of the Foothills Model Forest Grizzly Bear Research Program:

Based on scenario models, grizzly bear populations in the foothills of west-central Alberta should be considered threatened. Neither two-pass forestry, nor natural disturbance-based forestry (on Crown lands) resulted in the persistence of effective adult female grizzly bear territories or necessary habitat conditions within the foothills during a 100-year simulation. Despite predicted gains in habitat quality and potential carrying capacity, road development (>3-fold increase) overwhelmed gains in habitat quality by increasing risk of human-caused mortality beyond that which we predict can be sustainable. Simulations suggest that only the large mountainous parks provided long-term suitable adult female grizzly bear territories, while effective (secure) grizzly bear territories on Crown lands were largely displaced within 30 years. P. 229.

Stenhouse, G.B. and Graham, Karen. 2005. Foothills Model Forest Grizzly Bear Research Program 1999-2003. Final Report. <http://www.fmf.ca/publications.html>

The Minister of Sustainable Resource Development Mike Cardinal commissioned a report to critically examine the process that has been used for the last 15 years to estimate grizzly bear populations, and therefore guide decisions about the grizzly bear hunt and the number of hunting licenses issued. This was one of the conclusions from the **2005** report:

The review found that the model currently used in predicting population size and thus the allocation of licenses is incomplete and will continue to predict

exponential growth rates when this is not biologically possible. Solutions and modifications to this model are suggested that will improve the allocation of hunting licenses to prevent possible overharvest. (From Executive Summary)

Stenhouse, G., M. Boyce and J. Boulanger. 2005. Amended Report on Alberta Grizzly Bear Assessment of Allocation. For the Minister of Sustainable Resource Development, Government of Alberta. Edmonton.

Also in **2005** the Grizzly Bear Alliance of Alberta provided the following summary of the above mentioned Amended Report:

*The Contrary to the **Alberta** government's recent suggestion that it is being "proactive, conservative, and innovative" in its management of a "stable" **grizzly bear** population, a close read of this report clearly indicates that the government has been mismanaging the "threatened" grizzly bear in this province for at least the last 15 years.*

Has the Alberta government been responsibly and proactively managing Alberta's threatened grizzly bear population?

No. The Alberta government's own research indicates that it has been mismanaging Alberta's threatened grizzly bear population for at least 15 years. In recent years, the provincial government has:

- *Overestimated the provincial grizzly bear population by as much as 100 percent, despite the fact that scientific tools existed for more accurate estimates, and despite the fact such an overestimation can have serious negative consequences on the long-term survival of the population.*
- *Failed to collect accurate and up-to-date grizzly bear mortality data, despite the fact this was part of the 1990 Management Plan for Grizzly Bears in Alberta.*
- *Based decisions about the number of grizzly bears that can be hunted each year on a population estimate that is almost twice what the best-available science indicates is correct.*
- *Allowed the hunt to continue in 2002 despite the warnings and conclusions contained in this report.*
- *Failed to achieve its goal to decrease the total number of grizzly bears killed in the 2003 hunt by issuing fewer licenses.*
- *Failed to appropriately manage human access to grizzly bear habitat, even though human access is strongly correlated with increased human-caused grizzly bear mortalities. P. 18*
- *Increased human access into important grizzly habitat in the Bighorn, an area that has been identified as one of the most important habitats for female grizzlies, and an area this report flagged as a hotspot for human-caused female grizzly bear mortality.*

- *Failed to reduce female grizzly bear mortality to 35 per cent of total mortality, as set out in the 1990 Management Plan for Grizzly Bears in Alberta.*
- *Failed to implement the 1990 Management Plan for Grizzly Bears in Alberta.*
- *Reduced resources available for conservation officers to patrol important grizzly bear habitat for poachers, a leading cause of human-caused grizzly bear mortality in Alberta.*
- *Failed to list the grizzly bear as a threatened species, despite the 2002 recommendation of the Endangered Species Conservation Committee.*
- *Failed to effectively prevent problem bear occurrences in Alberta. P. 33*

Grizzly Bear Alliance. 2005. A Grizzly Report. Critical analysis of "Report on Alberta Grizzly Bear Assessment of Allocation"
www.grizzlybearalliance.org/Technical%20report%20backgrounder.pdf

In **2005** wildlife experts and others voiced concern about the future of Alberta's grizzly bears. For example:

Wildlife expert says quick action needed to protect grizzlies.

A wildlife expert at the University of Alberta says the province must act quickly to protect bear habitat or there will soon be no grizzlies left in the eastern Rockies.

Mark Boyce says access roads to forestry and oil, gas and mineral developments threaten the future of Alberta grizzlies.

Boyce says 90 per cent of bears die within 500 metres of a road.

He's calling on the government to do more to restrict public access to wilderness areas where grizzlies and other wildlife are most vulnerable.

Broadcast News. Feb. 5, 2005. Alberta News Roundup.

In **2005** a talk entitled "Landscapes of death: a requiem for Alberta's grizzly bears" was given at the University of Alberta in Edmonton. This was its description:

The Endangered Species Scientific Committee recommended threatened status for grizzly bears in Alberta based of IUCN criteria because the population size was less than 1,000. Former Minister of Sustainable Resource Development, Michael Cardinal, assigned a Grizzly Bear Recovery Team to develop a Recovery Plan, before he was willing to make a decision on threatened status designation. A major point of contention relates to the continuation of hunting for grizzly bears in Alberta, which would be precluded if the Minister were to designate threatened status. The focus on hunting, however, is a diversion from the primary issue

which is industrial development in western Alberta and consequent loss of habitat and increased mortality of bears. The Alberta Advantage as currently promoted by the Klein government is incompatible with a viable grizzly bear population in the province. Changes in the management of the industrial footprint must be implemented on Alberta's East Slopes if grizzly bears are to persist.

Boyce, Mark. Professor, ACA Chair in Fisheries & Wildlife Biological Sciences, University of Alberta. Feb. 10, 2005.

In **2005** nineteen scientists, including David Suzuki and David Schindler, have written a letter to Premier Ralph Klein asking him to take action. The scientists want the government to move on a recommendation from its own committee to protect grizzlies under the province's wildlife act.

CBC News, Edmonton March 3, 2005.

In **2005** Bill Bonko, Liberal MLA in the Alberta Government tried to benefit grizzly bears by urging non hunters to enter the draw for grizzly bear permits and then not use them.

Hume, Mark. 2005. MLA hopes long shot will foil grizzly hunt. Vancouver Sun. March.

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Stenhouse, G., M. Boyce and J. Boulanger. 2005. Amended Report on Alberta Grizzly Bear Assessment of Allocation. For the Minister of Sustainable Resource Development, Government of Alberta. Edmonton.