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PROJECT WEBSITE

www.canadianrockies.net/Grizzly Most of the ESGBP publications plus considerable other related material can be found here and are available for downloading.

AFTERWORD

Stephen Herrero

It is easy to convince people who value nature that it is worthwhile to maintain grizzly bears and the ecosystems that support them. For people who seek to understand and who may love nature, the evolution of living systems can become a grand pageant of life. Grizzly bears are one of this drama's stars. They are stars because they are the largest land Carnivores left in the world. People readily recognize the awesomeness of such an animal. Such megafauna take millions of years to evolve but can be lost in decades. Human beings had a major role in the extinction of large mammalian species in North America such as mammoths and mastodons. These species flourished until Clovis hunters began expand their populations about 13,000 years ago. Today in the Central Rockies Ecosystem and elsewhere grizzly bears will die out or survive because humans decide that these bears are, or are not, valuable. But valuing grizzly bears is not sufficient for their conservation. In addition we must be willing to plan and execute our activities in grizzly bear habitat to meet their needs and only those needs of humans that do not cause grizzly bear population decline. This is a big order for a development-oriented society like ours.

Because of their size, power and the ability to kill or injure other animals, as well as their focused and gentle care for cubs, people are fascinated by grizzly bears. People knowing they may encounter such an animal naturally seek out information about the bear's behavior and ecology. At the least, grizzlies and people who seek to conserve them, have a broad audience. But how does interest become translated into conservation action when most people live in cities and don't have a direct, day by day, interest in what goes on in grizzly bear habitat? Large animals like grizzly bears require productive land to survive. Human beings are attracted to such land for development and recreation. The temptation is to take from land whatever we can make money on. In the Central Rockies Ecosystem activities such as oil and gas development, forestry, recreation and resort development represent obvious economic opportunities. In the pursuit of these opportunities the needs of grizzly bears are usually not primary.

As a society we are at a crossroads for managing the effects of people's activities and developments on sensitive species such as grizzly bears. The Eastern Slopes Grizzly Bear Research Project and other research present a scientific assessment of the status and needs of grizzly bears in our region. We must understand and meet these needs if the bears are to survive. As I see it, where we are able to maintain sensitive species like grizzly bears and woodland caribou, we are living sustainably, within our means. To me species are our kin and keys to understanding the pageant of life on earth and the potential we have to live with and learn from this pageant.

I find hope for grizzly bear conservation and for living more sustainably without dismembering nature. This hope comes from the energy and commitment of the researchers and assistants who were part of our project. The primary researchers, the graduate students, gave major portions of their lives to doing a good job. Long, long hours, physical hardship, danger—these things may sound exciting when one reads about them but staying in the field while they are happening requires toughness and dedication. But today's grizzly bear researcher is not only tough; they also must be smart, for the interface from the field to the computer happens often and with as many demands on the brain as on the body.

I also find hope from the financial supporters of the ESGBP. The ESGBP was planned to be a 6 year project with 5 years of field data and 1 year for write up. After 5 years we found out that because of the low reproductive output of the grizzly bears we were studying, we would need at least 8 years of data to have acceptable confidence in birth, death and population growth rates. Supporters dug deep into their budgets and in the end 9 years of field data and 2 years of write up were supported. I think this is a strong vote for the importance of research on grizzly bears in the Central Rockies Ecosystem. It also indicates that our many and diverse financial supporters continued to believe in the desirability of basing grizzly bear conservation on scientific research.

The enormous economic juggernaut of our society is very rapidly transforming planet earth. The biological fabric that evolved over billions of years is now going through human-caused transformations and extinctions. If we maintain grizzly bears in the CRE without decline then we will have taken our step toward sustainable and inspired living.

APPENDICES

Appendix 1: Page 28 from, Haroldson, M.A., and K. Frey. 2003. Grizzly bear mortalities. Pages 24-28 *in* C.C. Schwartz and M.A. Haroldson, editors. Yellowstone grizzly bear investigations: annual report of the Interagency Grizzly Bear Study Team, 2002. U.S. Geological Survey, Bozeman, Montana.

Table 13. Annual count of unduplicated females with cubs-of-the-year (COY), known and probable[a] human-caused grizzly bear mortalities within the Recovery Zone and the 10-mile perimeter, 1993-2003. Calculations of mortality thresholds (USFWS 1993) do not include mortalities or unduplicated females with COY documented outside the 10-mile perimeter.

								U.S. Fish and Wildlife Service Grizzly Bear Recovery Plan mortality thresholds				
									Total human-caused mortality		Total female mortality	
	Unduplicated	Human-caused mortality			Human-caused mortality 6-year running averages			Minimum	4% of			
Year	females with COY	Total	Female	Adult female	Total	Female	Adult female	population estimate	minimum population	Year result	30% of total mortality	Year result
1993	19	3	2	2	3.8	1.8	1.0	241	9.6	Under	2.9	Under
1994	20	10	3	3	4.7	2.0	1.5	215	8.6	Under	2.6	Under
1995	17	17	7	3	7.2	3.2	2.0	175	7.0	Exceeded	2.1	Exceeded
1996	33	10	4	3	7.3	2.8	1.8	223	8.9	Under	2.7	Exceeded
1997	31	7	3	2	8.5	3.3	2.2	266	10.7	Under	3.2	Exceeded
1998	35	1	1	1	8.0	3.3	2.3	339	13.6	Under	4.1	Under
1999	32	5	1	1	8.3	3.2	2.2	343	13.7	Under	4.1	Under
2000	35	16	6	3	9.3	3.7	2.2	354	14.2	Under	4.2	Under
2001	42	19	8	6	9.7	3.8	2.7	361	14.5	Under	4.3	Under
2002	50	15	7	4	10.5	4.3	2.8	416	16.6	Under	5.0	Under
2003	35	11	6	3	11.2	4.8	3.0	416	16.6	Under	5.0	Under

a Beginning in 2000, probable human-caused mortalities are used in calculation of annual mortality thresholds.

DESCRIPTIONS OF AND CREDITS FOR ILLUSTRATIONS AT THE BEGINNING OF EACH CHAPTER

Stephen Herrero

The map of the ESGBP study area and surround was created by Scott Jevons of Alberta Community Development and enhanced by Karin Herrero of KH Communications. This map appears on each Chapter's frontispiece. It is accompanied by photographs and our logo (see lower right of page) which was created by Rob Storeshaw of Parks Canada. Our sincere thanks to all who contributed images, and apologies to the "unknown" photographers.

Chapter #	Illustration description	Photographer
Chapter 1	Eastern slopes grizzly bear project meeting	Stephen Herrero
Chapter 1	Jack Butler (right in photo), then forest ranger at the Bighorn Ranger Station and John Wambeke, with large, home-made bear trap used by ranchers to trap problem grizzlies in the Sheep River, Alberta (photo, about 1947).	Courtesy of Mary Dennings
Chapter 2	The Bow River, the core of the ESGBP study area. Grizzly bear family feeding on elk in river.	Joe Owchar
Chapter 3	Bear #97 with eye protection during handling.	Kananaskis Country
Chapter 3	Dr. Todd Shury, project veterinarian, handling Bear #26.	Parks Canada
Chapter 4	Warden Ron Leblanc handling bear #51	Stephen Herrero
Chapter 4	Research crew weighing bear #26	Parks Canada
Chapter 5	Female with older cubs in meadow	Bill Vroom
Chapter 5	Grizzly bear cub at water's edge	David Crossley
Chapter 6	Grizzly bear killed by bus near Lake Louise	Stephen Herrero
Chapter 6	Grizzly bear inspects bear "proof" garbage can	David Crossley
Chapter 7	Bear #56 against fence	Cedar Mueller
Chapter 8	Elk are an important, though infrequent grizzly bear food	Stephen Herrero
Chapter 8	Grizzly bear grazing	Parks Canada
Chapter 9	Cessna 337 Skymaster used for aerial telemetry	Unknown
Chapter 9	Colleen Campbell doing ground telemetry	Mike Gibeau
Chapter 10	Female bear #70 on Driftwood Trail	M. Jokinen
Chapter 10	Female grizzly bear with one older cub	Bill Vroom
Chapter 11	Bear #70 on Three Sisters Pathway	M. Jokinen
Chapter 11	Bear #16 removed from Banff Park to Calgary Zoo	Hal Morrison
Chapter 12	Overpass, Trans Canada Highway, Banff National Park	Parks Canada
Chapter 12	Grizzly bear walking on highway	Unknown
Chapter 13	Bear #67, Trans Canada Highway mortality near Lake Louise	Hal Morrison
Chapter 13	Highway billboard on Trans Canada Highway near Highway 40. Grizzly bear used to advertise regional development.	Stephen Herrero
Chapter 14	Grizzly bear family den site in Cascade Valley, Banff National Park.	Stephen Herrero
Chapter 15	Electric fence at Lake Louise—an effective form of passive aversive conditioning.	Parks Canada
Chapter 15	Warden Hal Morrison with visitors at the ESGBP's "Bear Affair," an outreach event at the Calgary Zoo	Stephen Herrero