

I, Barrie K. Gilbert, Ph.D., declare as follows:

1. I am a Senior Scientist (Emeritus) in the College of Natural Resources at Utah State University where I taught courses in wildlife management, animal behavior, endangered species and conservation biology. I received my Ph.D. in Zoology from Duke University in 1970, and since that time have held a number of academic posts in the fields of ecology and zoology. I am the author or co-author of dozens of scientific papers, technical reports, book chapters, presentations, and other documents on a variety of scientific subjects including ecosystem conservation, human-bear interactions, black bears, and grizzly bears. In conservation biology, I examine how large mammals as individuals and populations and their habitat are affected by interactions with humans. Most of this work has focused on grizzly bears over 40 years in the U.S. and Canadian Rockies, Alaska and coastal British Columbia.

2. In addition to my written work, I have also been invited by the U.S. Forest Service to lecture on carnivore habitat concepts and management. I served on a task force at the request of former Yellowstone National Park Superintendent Robert Barbee to review grizzly bear closure policies for the Park in 1985, and am currently a Scientific Advisor to the Northern Rockies Conservation Cooperative, which is a non-profit organization that seeks to advance conservation for the common good by generating reliable knowledge and scientific data. I have also consulted on grizzly bear management issues in Banff and Jasper National Parks in Canada. As part of my scientific research, I have spent a substantial amount of time observing and studying grizzly bears often at close range, beginning in Yellowstone National Park. Indeed, I have been involved in two park-funded research projects in Yellowstone including a 1976 study of grizzly

bears. Since that time, I have attended and presented papers at various international conferences, workshops, and seminars on bears and their conservation, routinely engage in discussions with grizzly bear experts about the status of, threats to, and conservation needs of the grizzly bear, and am knowledgeable about the grizzly bear scientific literature. A copy of my *curriculum vitae* is attached to this declaration.

3. The Greater Yellowstone Ecosystem, of which Yellowstone National Park is a prominent part, provides critically important habitat for grizzly bears in the lower-48 states. Though once widespread throughout North America, the grizzly bear in the United States can now be found in only 3% of its original range.

4. In this document I address the likely impacts on the Yellowstone grizzly bear population caused by the Wyoming and Idaho plans to offer 23 permits to kill bears this fall. Proposing a legal hunt on an animal population, under the best practices and principles of modern wildlife management, requires evidence that the population's reproduction (natality over mortality) is adequate and sufficient to sustain a surplus for harvest without reducing that population. I concur with the well-documented analysis of Dr. David Mattson, as set forth in his expert declaration, regarding the vulnerability of grizzly bears to over-exploitation because of their extremely low level of cub production and population replacement when hunted.

5. Since habitat productivity plays such a major role in determining productivity, condition, and ultimately survivorship of cubs of adult female grizzlies in the Yellowstone area, the impact of hunting mainly male bears in a food-limited population needs attention. The cascading effects of deaths of adult males leading to a surge in subadult males increasing sexually-selected infanticidal losses of young has been

confirmed in a number of studies. This is especially the case currently when bears are more oriented toward a meat-dominated diet, a situation which poses risks to cubs and young at carcasses of livestock, gut piles near hunter camps and elk and bison remains.

6. The switch of Yellowstone grizzlies to a more meat-dominated diet has mortality implications arising from conflicts that are not currently being addressed or prevented. Although the Interagency Grizzly Bear Study Team has documented a radical increase in the known and probable deaths, there have been inadequate preventative measures taken. Hunter-related deaths went from an average of 5 per year in 2004-2006 to over 15 per year in 2017, an increase of 4.9% between 2002 and 2017. In addition, livestock-related deaths went from 2-3 per year in 2004-2006 to 14 per year in 2017. These exceedingly high levels of mortality portend a worrisome future for Yellowstone's grizzlies. If the planned sport hunt proceeds, the hunting mortality will be additive to current increases in human-caused and natural mortality, a process threatening to reduce the population. The additive effects of hunting have been empirically documented in a variety of carnivore species, including cougars, wolves and American black bears (citations for this evidence are provided in Dr. Mattson's declaration). No investigations show that hunter-related mortality is compensatory for other mortality causes. This year the level of human-caused mortalities is already running ahead of where it was at this point in the year in 2015, confirming that mortality prevention is currently ineffective. Added to that there will be hunting mortality that did not occur in 2015.

7. In light of the foregoing discussion, these are the salient considerations regarding the impact of the planned grizzly bear hunts: (1) the hunting mortality planned for 2018 is likely to be additive rather than compensatory, (2) the combined effect of

hunting plus other human-caused mortality in 2018 presents a high risk of population decline for the Yellowstone population, and (3) this level of mortality is unsustainable on a longer-term basis and makes the task of achieving recovery of the Yellowstone grizzly bear population more difficult.

8. As with other hunted species, wounded and unrecovered grizzlies will occur but rarely be documented. Some will survive with an additional handicap in habitat use, partly due to a learned aversion to people. Those that do survive will add to the risk to a healthy population but their numbers will go untallied.

Pursuant to 28 U.S.C. § 1746, I hereby declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed August 27, 2018 in Wolfe Island, Ontario, Canada.


Dr. Barrie K. Gilbert

ATTACHMENT 1. C. V. BARRIE K. GILBERT

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EDUCATION

M.A. Ph.D. Zoology
Duke University

Durham, North Carolina

B.A. Biology
Queens University

Kingston, Ontario

PROFESSIONAL EXPERIENCE

N.S.F Postdoctoral Fellowship
Utah State University
1970-1972

University Faculty
1976-2001
Utah State University
Logan, UT

Fish and Wildlife Biologist
1974 – 1976
Alberta Fish and Wildlife
Edmonton, AB

Problem Wildlife Biologist
Alberta Agriculture
Edmonton, AB

1972 – 1974

AWARDS AND HONORS

Giant of the Bear World: Award by the Great Bear Foundation, 1996 for “lifetime dedication to bear conservation and research”.

PUBLICATIONS AND REPORTS

Gilbert, B.K., W.C. Mahaney 2010. Geophagy in Bears: Observations of Grizzly Bear Selection of Underwater Volcanic Ash and Analysis of Chemical Composition. (In Prep).

Gilbert, B.K. 2007. No Wild, No Wildlife: The Threat from Motorized Recreation. Part III Environmental Impacts. IN: George Wuerthner (ed.) Thrillcraft: the environmental consequences of motorized recreation. Foundation for Deep Ecology.

Horejsi, B.L., B.K. Gilbert, 2006. Conservation of Grizzly Bear populations and habitat in the northern Great Bear Rainforest. *Biodiversity*. Vol. 7, no. 2, pp. 3-10.

Horejsi, B. L., B. K. Gilbert. 2005. Wayward Course: British Columbia Fails to Meet Protected Areas Standards for the Conservation of Grizzly Bear (*Ursus arctos*) Populations and Habitat in the Northern Great Bear Rainforest

Nevin, O.T and B.K. Gilbert, 2005. Perceived risk, displacement and refuging in brown bears: positive impacts of ecotourism? *Biological Conservation*. 121 (4): 611-622.

Nevin, O.T. 2005. Measuring the cost of risk avoidance in brown bears: further evidence of positive impacts of ecotourism. *Biological Conservation*. 123 (4): 453-460.

Nevin, O.T. and Barrie K. Gilbert. 2005. Observations of autumn courtship and breeding in Brown Bears, *Ursus arctos*, from coastal British Columbia. *Canadian Field-Naturalist* 119(3): 449-450.

Morris, A.E.L., J.M. Stark, and B.K. Gilbert. 2005. Evaluation of isotopic fractionation error on calculations of marine-derived nitrogen in terrestrial ecosystems. *Canadian Journal of Forest Research*. 35:1604-1616.

Gilbert, B., L. Craighead, B. Horejsi, P. Paquet, W. McCrory 2004. Scientific Criteria for Evaluation and Establishment of Grizzly Bear Management Areas in British Columbia.

Gilbert, B. K. 2003. Motorized access on Montana's Rocky Mountain Front: a synthesis of scientific literature and recommendations for use in revision of the travel plan for the Rocky Mountain Division. The Coalition for the Protection of the Rocky Mountain Front. 35 pp. <http://www.wildmontana.org/gilbertreport.pdf>

Noss, R., E. Dinerstein, B. Gilbert, M. Gilpin, B. Miller, J. Terborgh, and S. Trombulak. 1999. Chapt. 5: Core Areas. *Continental Conservation: Scientific Foundations of Regional Reserve Networks*, M. Soule & J. Terborgh (eds.) Island Press. 155 pp.

Scott, M., E. Norse., H. Arita, A. Dobson, J. Estes, M. Foster, B. Gilbert, D. Jensen, R.

Knight, D. Mattson, and M. Soule. 1999. Chapt. 2: Considering scale in the identification, selection and design of biological reserves. 28 pp. Continental Conservation: Scientific Foundations of Regional Reserve Networks. M. Soule & J. Terborgh (eds.) Island Press. 155 pp.

Horejsi, B., B. K. Gilbert and F. L. Craighead. 1998. British Columbia's Conservation Strategy. An independent review of science and policy. Western Wildlife Consulting Ltd., Calgary, AB. 64 pp.

Chi, D. K. and B. K. Gilbert. 2000. Planning for wildlife viewing among a host of confounding ecological variables: An adaptive management approach. 6th Western Black Bear Workshop.

Chi, D.K. and B.K. Gilbert. 1999. Habitat security for Alaskan black bear at key foraging sites: are there thresholds for human disturbance? *Ursus* 11:223-235.

Chi, D. K., D. Chester, and B. K. Gilbert. 1998. The effects of capture procedures on black bear activity on an Alaskan salmon stream. *Ursus* 10:563-569.

Olson, T.L., Squibb, R.C. & Gilbert, B.K. (1998) Brown bear diurnal activity and human use: a comparison of two salmon streams. *Ursus*, 10, 547-555.

Technical Reports

Nevin, O.T. and B.K. Gilbert. 2001. Further Analysis of Human-Bear Interactions: A Supplement to "BC Bear Viewing: An Analysis of Bear-Human Interactions, Economic and Social Dimensions with Recommendations for Best Practices" Department of Fisheries and Wildlife, Utah State University, Logan, Utah.

Nevin, O.T., B.K. Gilbert, and J.S. Smith. 2001. BC Bear Viewing: An Analysis of Bear - Human Interactions, Economic and Social Dimensions with Recommendations for Best Practices Department of Fisheries and Wildlife, Utah State University, Logan, Utah.

Nevin, O.T. and B.K. Gilbert. 2000. Evaluation of a model bear viewing program at Glendale River with policy recommendations Department of Fisheries and Wildlife, Utah State University, Logan, Utah.

Chi, D. K. and B. K. Gilbert. 1996. Human-bear interactions at Anan Creek, Tongass National Forest, Alaska. Final Rep. prepared for U.S.D.A. Forest Service. Contract No. 93-265. Utah State Univ., Logan. 122 pp.

Chi, D. K. and B. K. Gilbert. 1996. The plasticity of black bear behavior in response to people and their activities at Anan Creek Wildlife Viewing Area. Ann. Proj. Prog. Rep. prepared for U.S.D.A. Forest Service. Utah State Univ., Logan. 42 pp.

Chi, D. K. and B. K. Gilbert. 1995. The plasticity of black bear behavior in response to people and their activities at Anan Creek Wildlife Viewing Area. Annual Project Progress Report prepared for U.S.D.A. Forest Service. Utah State Univ., Logan. 25 pp.

Chi, D. K. and B. K. Gilbert. 1994. Investigation of black bear behavior and dispersal at Anan Creek and wildlife viewing area. Ann. Proj. Prog. Rep. prepared for U.S.D.A. Forest Service. Utah State Univ., Logan. 17 pp.

Chi, D. K. and B. K. Gilbert. 1993. Project progress report and management recommendations for black and brown bear populations at Anan Creek and bear observatory. Special Interim Status Rep. prepared for U.S.D.A. Forest Service. Utah State Univ., Logan. 17 pp.

SCIENTIFIC AND PROFESSIONAL PRESENTATIONS

Chi, D.K. and B.K. Gilbert. 2000. Black and brown bear compatibility: the role of cascading disturbance from people and superabundant food. Poster presented at the 7th Western Black Bear Workshop, Coos Bay, OR.

Chi, D. K. and B. K. Gilbert. 1997. Planning for wildlife viewing among a host of confounding ecological variables: An adaptive management approach. Oral presentation given at the 6th Western Black Bear Workshop, Ocean Shores, WA.

Chi, D. K., D. Chester, and B. K. Gilbert. 1995. The effects of trapping and collaring procedures on black bear distribution and activity levels on an Alaskan salmon stream. Poster presented at 10th International Conference of Bear Research and Management, Fairbanks, AK.

Chi, D. K. and B. K. Gilbert. 1993. Responses of black bear to manipulated levels of human disturbance at Anan Creek, Tongass National Forest, Alaska. Poster presented at the 5th Western Black Bear Workshop, Provo, Utah.

PROFESSIONAL ACTIVITIES

Conservation Biology Society

International Association for Bear Research and Management

SERVICE AS EXPERT WITNESS

- Gadd v. United States, et al., United States District Court for the District of Utah, Central Division, Civil No. 2:94CV 0527S. 1995 (Stephen Roth, Esq., Assistant United States Attorney)
- May v. United States of America. United States District Court, Eastern District of Wisconsin. Complaint 86-C-0385. Filed "86 APR P1:51 in E. District, Wisc. 1986

CONSULTING AND INVENTIONS FOR SAFETY IN BEAR COUNTRY

- Grizzly Bear Foraging in the Two Jack Campground. Prepared for Parks Canada, Banff National Park, November 20, 2001.
- Effects of Capture and Handling on Grizzly Bears. Final report to the Interagency Grizzly Bear Research committee. Contract #14-16-0006-85-088. 23 January 1987. Contract to Dr. B.K. Gilbert by invitation of Dr. Chris Servheen, U.S. Fish and Wildlife Service grizzly bear recovery coordinator.
- Served on Yellowstone National Park blue ribbon committee to evaluate closure zones on tributaries of Yellowstone Lake for grizzly bear habitat security. Experts invited and convened by Superintendent Robert Barbee. May 1992.
- Invented prototype of bear-proof backpack container. “The original idea of a plastic cylinder food container for storing backpack food was conceived by Dr. Barrie Gilbert of Utah State University in 1979.” Unpublished report by Michael A. Coffey, Sequoia and Kings Canyon National Parks, Three Rivers, CA. Dec. 1, 1983.
- Invited to review Bear Safety Guidelines for Fieldwork in Alaska 1978 by US Geological Survey, Branch of Alaskan Geology, Menlo Park, CA
- Professional review 2 videos on safe working in bear country produced for Canadian government and NW Territorial government as official training video.
- Authored “Black Bear Conflicts and Safety in Utah Campgrounds.” Published by Institute for Outdoor Recreation and Tourism. No. NR/RF/013. June 2003.

His research experience has extended more than 35 years and included studies of deer, moose, pronghorn, coyotes, African hunting dogs, dolphins, bears (black, brown, polar), Jungle Fowl and survey and population monitoring of birds in Puerto Rico and Cayman Islands. For the last 15 years he directed studies of human-bear interactions along salmon streams in Katmai National Park, AK, and in Southeast Alaska, and more recently in the coastal rainforests of British Columbia. Dr. Gilbert consulted for Canadian and U.S. federal, provincial and state agencies on forest wildlife conservation issues, grizzly bear responses to people, and habitat needs of bears.