Written statement of proposed testimony by Barrie K. Gilbert, PhD

Good afternoon Mr. Chairman, honorable Subcommittee members and attendees. I am grateful and honored to present information in support of grizzly bear conservation to this august body.

1. I am a United States citizen and 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 (detailed in the C.V. which I submitted to the sub-committee). 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. Many of the highlights of this work are contained in my book: *One of US: A Biologist's Walk Among Bears*, now in press.

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 panel, at the request of Yellowstone 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. I consulted on grizzly bear issues in Banff and Jasper National Parks. 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 literature.

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 contiguous United States can now only be found in 3% of its original range. While there is, and likely always will be, debate over the precise size and health of the Yellowstone Ecosystem grizzly bear population, there are a number of facts about Yellowstone grizzlies which are largely indisputable. One of those facts is that there are only four primary food sources for Yellowstone grizzlies: (a) cutthroat trout, (b) army cutworm moths, (c) whitebark pine nuts, and (d) ungulate carrion, especially elk killed during the severe winter months in Yellowstone and remains of hunter kills on the periphery of the park.

4. Unfortunately, all four of these primary food sources for Yellowstone grizzlies are threatened or in decline. First, cutthroat trout population have been decimated by non-native lake trout introduced illegally into Yellowstone Lake, and as a result far fewer of these highly-digestible and high energy content fish are available for grizzlies. Second, the production of whitebark pine nuts (one of the two most important grizzly bear foods), while variable depending on the year, has declined due to bark beetles and whitebark pine blister rust, a disease that is killing large numbers of whitebark pine trees throughout the Rocky Mountains. Indeed, scientists

have predicted that virtually all of the whitebark pine in the Yellowstone ecosystem is projected to be lost due to the combined effects of disease and global climate change. Third, army cutworm moths, which nest in alpine cirques, are threatened by pesticide use in lower elevation agricultural lands outside of Yellowstone National Park. Not all of these foods are available to grizzly bears year-round. Indeed, the majority of what little remains of cutthroat trout fishing occurs from mid-May to mid-July, foraging for army cutworm moths occurs from mid-July through the end of August, and whitebark pine nuts are available and heavily used from the beginning of September until denning.

5. The fact that all four of the Yellowstone grizzly primary foods are threatened causes many scientists, myself included, to be concerned about the short and long-term prospects of this important grizzly bear population. A major and significant consequence of the declines in the most energy-rich foods is the re-distribution of grizzly bears in the ecosystem and especially their emigration beyond the boundaries of protected areas.

6. In an earlier document I addressed the impacts on the grizzly bear population of recent proposals that Wyoming and Idaho had authorized to issue hunting permits for 23 grizzly bears. Proposing a legal hunt on an animal population, under the best practices and principles of modern wildlife management, requires (a) evidence that the population's reproduction (natality over mortality) is adequate and sufficient to sustain a surplus for harvest without reducing that population and (b) that initiating a legal hunt has broad social acceptance based on the general public's values in favor of such exploitation. Neither of these criteria was demonstrated and there is evidence to show that neither threshold criteria are attained with a consequent serious threat to the continued viability of the Yellowstone grizzly bear population.

I concur with the well-documented analysis of Dr. David Mattson, regarding the vulnerability of grizzly bears to over-exploitation because of their extremely low level of cub production and population replacement when hunted. I further validate his interpretations and the failures that he identifies among the conceptualization and execution of recovery processes by various federal government agencies. It is rather well accepted among bear scientists that state wildlife agencies are not as equipped or resourced to manage even at the level of federal managers and their management suffers from similar anti-grizzly bear political interference.

7. Given that the total population in the Greater Yellowstone Ecosystem is about 700 bears, a number that is not sufficient for assurance of genetic continuity, the impact of human-caused mortality in 2018 at the periphery of the population will have a deleterious impact on the population. Such high mortality from conflicts and interactions with people on these animals, will harm the population recovery, and may seal the fate for connectivity to other distant populations. Just because grizzlies are expanding their range further from the protected park does not indicate that there is a surplus available for legal killing, rather an interpretation of lowered density because of an impoverished food base is more likely

8. 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 impacts 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 increases sexually-selected infanticidal losses of young. 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 in hunter camps and elk and bison remains. All of these risks

from competition for meat are difficult to quantify and always presents a time lag in documentation of a potential population decline.

9. Neither the federal nor state wildlife agencies have provided evidence that the Yellowstone Ecosystem grizzly bear population has a surplus of bear numbers that can sustain the current rate of mortality without a decline in the population. In the past two years these agencies, have proceeded to plan a trophy hunt of grizzly bears which flies in the face of the values expressed in thousands of public comments, the overwhelming sentiment being against hunting these bears. This appears to violate a central precept of professional wildlife management. The public places a high aesthetic and economic value on sustaining a watchable population of grizzlies and rejects the vanishing tradition of killing this wilderness icon. This is a further reason why this Bill's call for independent scientists to review and oversee the scientific data and interpretations of the Interagency Grizzly Bear study team is essential.

10. If the grizzly bear is delisted, and followed by a hunt, the hunting mortality will be additive to the current increased mortality caused by humans and natural mortality; thus reducing the population again to threatened status.

11. Under an improved grizzly bear management regime, the incidence of bear destruction from defense of life and property (DLP), mortality can be expected to decrease as better education and enforcement are instituted. This scenario has not been sufficiently incorporated into planning in the past.

This completes my prepared testimony. I am happy to respond to question from the sub-committee.
Thank you very much for this opportunity to speak for the conservation of this majestic American icon.