

GRIZZLY BEAR COMPENDIUM



Sponsored by The Interagency Grizzly Bear Committee

1987



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INTRODUCTION

On 1 September 1975, the grizzly bear was classified as a threatened species south of the Canadian border under provisions of the Endangered Species Act. The grizzly bear met the criteria for threatened status for the following reasons: 1) there exists both present and threatened future destruction and/or modification of its habitat; 2) there is at present a loss or potential loss of bears by illegal killing and by control actions involving grizzly bears threatening humans or killing livestock; 3) critical data are lacking on grizzly habitat conditions, carrying capacity, population estimations, annual reproduction, mortality and population trends; and, 4) some existing populations appear to be isolated from each other and cannot be reinforced by movements from other areas (Servheen 1982).

The grizzly bear in the lower 48 states presently numbers from 600-800 individuals (U.S. Fish and Wildlife Service 1982); approximately 75% of this population occurs in Montana. Historically, grizzly bears were distributed from the Pacific Ocean to the Mississippi River and from Mexico to the Arctic Circle. In the last century, grizzly bears disappeared from Texas, Kansas, Arizona, New Mexico, Oregon, Utah, California, North Dakota, South Dakota and perhaps Colorado and Washington (Craighead et al. 1974). At present, management is based on six recognized grizzly bear ecosystems, distributed over wilderness and park areas, and large national forests in the mountainous regions of Idaho, Montana and Wyoming (U.S. Fish and Wildlife Service 1982). Specific recovery plans have been approved for three of these areas: Yellowstone Grizzly Bear Ecosystem, Northern Continental Divide Grizzly Bear Ecosystem and the Cabinet-Yaak Grizzly Bear Ecosystem.

The grizzly bear in the conterminous 48 states is vulnerable to many threats, the greatest of which are habitat modification or loss, and human-caused direct mortality. Resource management activities, which include logging; geothermal, mineral and energy development; water impoundments; and livestock grazing, all lead to the destruction or modification of grizzly habitat (Knight 1977, U.S. Fish and Wildlife Service 1982). Man's activities not only lead to habitat loss, but activities such as subdivision development, commercial recreational development, livestock grazing, sport hunting and recreation increase the likelihood of bear/human conflicts and may lead to ultimate destruction of the bear (Knight 1977, Craighead et al. 1982, U.S. Fish and Wildlife Service 1982).

Craighead (1977) discussed management of grizzly bear populations, by stating; "To perpetuate the species and to expand the population where possible, as directed by the Endangered Species Act of 1973, federal and state agencies must develop guidelines and management programs that will alleviate direct competition between bears and man for the same geographic space and habitat." Agencies and the scientific community working with this species and its habitat must cooperate in developing this management plan.

In 1982, a Grizzly Bear Recovery Plan was prepared and approved. The specific objectives of the Plan (U.S. Fish and Wildlife Service 1982) are to:

1. Identify grizzly bear population goals that represent species recovery in measurable and quantifiable

terms for the several regions that were determined to have suitable habitat for such populations, and to provide a data base that will allow informed decisions.

2. Identify population and habitat limiting factors that account for current populations existing at levels requiring threatened status under ESA.
3. Identify specific management measures needed to remove population limiting factors that will allow the populations to increase or sustain themselves at levels identified in the recovery goals.
4. Establish recovery of at least three populations in three distinct grizzly bear ecosystems in order to delist the species in the conterminous 48 states.

Management must be based on the biology and life history of the grizzly bear, *incorporate all available scientific information* and take into account the social, political and economic context in which the species functions. To achieve the stated management goals for the grizzly bear, *a thorough review of research, management and policy information was identified as a priority need*. This information must be produced and published in a form readily available to researchers, managers and decision makers. Without this information, sound management decisions will be impossible. Production of the *Compendium on Grizzly Bears in North America* will hopefully accomplish this.

Completion of this project required a thorough review of all information available on the grizzly bear (both published and unpublished) in North America. Identification of previously compiled bibliographies (e.g., Tracy et al. 1982) on grizzly bears aided in assuring thoroughness of the *Compendium*. Information collection involved acquisition of literature from, but not limited to, the following sources:

1. computerized literature search services
2. library research
3. requests for information to grizzly researchers
4. state and provincial agencies; particularly Alaska, Wyoming, Washington, Idaho, Alberta, British Columbia, Northwest Territories, Yukon (reports, memorandums, etc.)
5. federal agencies; particularly U.S. Fish and Wildlife Service, U.S. Forest Service, National Park Service, Bureau of Land Management (reports, memorandums, etc.)
6. private conservation organizations.

Concurrent with identification and collection of the literature was reviewing and keywording each reference. An initial list of subject keywords was developed (Appendix B) and revised after review by the COTR. This list was used to assign subject keywords to describe each article.

The second task necessary for the completion of this project was the development of software for organizing and compiling references. Software was produced to achieve the following objectives:

FOREWORD

The Interagency Grizzly Bear Committee (IGBC), established in 1983, plays a major role in the conservation and management of the grizzly. The IGBC is composed of Regional Directors of the Fish and Wildlife Service and National Park Service, three Forest Service Regional Foresters, Montana State Director of the Bureau of Land Management, and State wildlife agency directors or representatives from the States of Idaho, Montana, Washington, and Wyoming. The primary objective of the IGBC is to serve as the coordinating mechanism for research and management related to the grizzly bear recovery program in the contiguous 48 United States.

The Grizzly Bear Compendium was developed in order to assemble all available information on the biology and management of the grizzly bear in North America. The Compendium was designed to be a source document for grizzly bear managers, researchers, and students. The Compendium has a format designed to facilitate review of all available information on any subject area of interest regarding grizzly bears. It contains both published and unpublished information from all North American sources. It also includes a complete reference list along with a detailed narrative summary by topic, which covers all aspects of grizzly bear biology and management. It is hoped that the Compendium will be used to enhance the management of the grizzly bear and thereby to assure its continued existence as a wild species.