

## **BEAR-HUMAN CONFLICT MANAGEMENT PLAN**

### **ACKNOWLEDGEMENTS**

Most of the elements in this plan were originally developed by John Dalle-Molle and Joe Van Horn, with input from Frank Singer, when the original Bear human conflict Management plan was developed and implemented in 1982. Since then many dedicated Wildlife Management Technicians have contributed to implementing this plan. Several people have worked on writing and updating this plan over the years including Ken Stahlnecker, Gordon Olson, Dave Schirokauer, Hilary Boyd, Pat Owen, Ed Vorisek, Jason Ransom and Kahlil Wilson. The success of this program is the result of all the employees of Denali National Park and Preserve being committed to minimizing Bear-human conflict.

### **INTRODUCTION**

Denali National Park and Preserve currently receives over 600,000 person days of visitor use per year in an area with grizzly bear (*Ursus arctos*) densities as high as 32 bears/1000km<sup>2</sup> (Dean 1987, Keay unpublished data). As visitation to Denali continues to increase, so will the potential for impacts to bear populations. Grizzly bears and black bears (*U. americanus*) are unpredictable animals that can seriously threaten human safety (Herrero 1985, 1989a, 1989b). In Denali National Park, many people have the opportunity to observe grizzly bears in their natural environment. In 1989, 95% of park visitors using the visitor transportation system were able to observe grizzly bears along the park road (Machlis 1990). The park provides a valuable opportunity for the public to foster an appreciation and understanding of bears. This appreciation and public support could enhance efforts to conserve threatened bear populations in other areas.

Visitor use in Denali continues to rise. Consequently, the potential for conflict between bears and people is a major concern. Bear-human conflicts result in loss of wild and free ranging bears and could threaten human safety. Bear behavior and ecology is strongly influenced by the motivation to obtain high energy sources of food. The availability of human foods increases as visitor numbers increase. Availability of human food and garbage at campsites, campgrounds, and other areas of human use may attract both black and grizzly bears. Habituation of bears to people by food rewards is the primary factor associated with bear-human conflicts in national parks (Herrero 1985, Herrero and Fleck 1989). Food-conditioned bears may behave aggressively toward people in order to obtain food. Although no human fatalities have occurred in the park and injuries are few, the number of bear-human incidents and encounters is high. In 1996, over 240 bear-human interactions were reported. Incidents involving property damage are an annual occurrence. The factors affecting bear-human conflicts must be actively managed and the effects of Management actions must be investigated. The continued experimental development and adaptive management implementation of a bear-human conflict management program, by professional biologists and highly trained technicians, is essential to visitor safety and resource protection.

The purpose of the Bear-Human Conflict Management Plan (BMP) is to provide general guidelines that minimize bear-human conflict in Denali National Park and Preserve



(DENA). A detailed project statement addressing bear-human conflict management in DENA can be found in the 1998 Resource Management Plan (Appendix A.).

The goals of the BMP are based on policies of the National Park Service (NPS) and legislation specific to DENA. The goals for bear-human conflict management are to:

1. Provide visitor safety by minimizing bear-human conflicts,
2. Minimize the effects of visitation on the distribution, abundance and behavior of black (*Ursus americanus*) and brown (*Ursus arctos*) bear populations by minimizing bear-human conflicts,
3. Ensure opportunities for visitors to observe, understand, and appreciate black and brown bears, as a part of an intact ecosystem, and
4. Achieve these goals with a minimum of intrusive management actions.

The implementation of the Bear-Human Conflict Management Program will follow three courses of action and their corresponding program elements: education, removal of unnatural food sources, and management actions in response to bear-human interactions

It is important to recognize that each bear-human incident may involve unique circumstances for which strict adherence to the procedures outlined in this plan are not appropriate. All the management actions outlined in the BMP emphasize starting with the least manipulative method, relative to the situation. All DENA employees involved in bear management actions must maintain lines of communication with any involved parties throughout the response period and ensure that management actions are documented. A bear's reaction to a particular management action must be documented in the Park's Bear Information Management System (BIMS) database. Analysis of these data will allow park managers and researchers to better understand the effects of management actions such as aversive conditioning.

The BMP will evolve in accordance with continued monitoring and evaluation of policies and programs. The Wildlife Biologist and the Wildlife Management Technicians will evaluate the Bear-human Conflict Management Program annually and document successes or inadequacies. An annual review of the program will include input from other members of the Park staff and bear biologists from other agencies. Reviews will evaluate written and verbal information provided to the public, current data gathering systems, and use of signs. In addition, these reviews will evaluate the Park and surrounding area's garbage and food storage and enforcement procedures. They will also consider staff and budgetary necessities for the implementation of the BMP. Any relevant research findings will be evaluated for incorporation into policy and programs. Efforts will be made to develop, review, and incorporate new or more effective aversive conditioning techniques into the bear-human conflict management program. The Wildlife Biologist and the Wildlife Management Technicians will provide annual summaries or progress reports associated with this review. Implementation of this policy will follow four objectives and their corresponding program elements.

## 1. Education

DENA personnel will educate park users and employees about bear behavior, ecology, and the causes and avoidance of bear-human conflicts. Education will



reduce these conflicts through improved individual awareness and compliance with regulations.

## **2. Removal of unnatural food sources**

All unnatural food sources will be made inaccessible to bears.

## **3. Management Actions in Response to Bear-Human Interactions**

When preventative methods of deterring bear-human interactions fail, the level of management action taken will be determined by the nature of the conflict.

## **4. Management Policy Evaluation**

The BMP will evolve through annual evaluations of the entire program.

**Note:** The reader's understanding of this document may be enhanced by looking at the definitions in the glossary. Some of the terminology used below has unique definition when used in the context of this plan.

## **DENALI NATIONAL PARK AND PRESERVE' S MANAGEMENT POLICY**

Preventative management will be the first step toward minimizing bear-human conflicts. Efforts will be focused on identifying and addressing the causes of bear-human conflicts. Park-wide management and education of visitors, businesses, and employees will minimize situations that could precipitate a bear-human conflict.

In circumstances where bears present a threat to visitors despite preventative measures, visitors will be restricted or removed from the area. If this procedure does not resolve the problem, more manipulative management actions such as aversive conditioning, relocation and removal will be initiated.

Bear behavior during bear-human conflicts will be classified as either defensive or threatening. Defensive behavior is considered natural with management responses directed toward the control of human activities. Threatening behavior is considered unacceptable and management responses will be directed towards modifying the bear's behavior. Removal of the bear will be considered as a last resort.

## **CONTENT OF EDUCATION PROGRAM**

Educational efforts will emphasize bear behavior along with techniques for minimizing conflicts with bears. Discussions will also emphasize the importance of the wilderness character of DENA to its natural bear population. Appendix B contains copies of written educational materials available in 2003.

