

# 1. Introduction

Kodiak—The name conjures up images of mystery, grandeur, and power. An integral part of that mystique is the Kodiak bear (*Ursus arctos middendorffi*). Kodiak bears are valued locally and worldwide as a symbol of what is great about Alaska's indigenous wildlife. Kodiak bears generate income for the tourism industry, hunting and viewing guides, wildlife photographers, and many other businesses. Further, stable or increasing bear populations provide multiple recreational opportunities throughout the Kodiak archipelago, including on the Kodiak National Wildlife Refuge (KNWR). It is assumed that, through existing and creative management practices, these activities can be managed compatibly and nonexclusively. However, opportunities for using Kodiak bears are *not* unlimited, and the cumulative effects of too many people using the resource can reduce those opportunities for all. Above all, there is a desire as well as a need to ensure that Kodiak bears will be available for future generations to use and enjoy.

Although Kodiak bears are recognized as a valuable resource to the community, they are also sometimes viewed as competitors and predators by some cattlemen and commercial fishermen; as nuisances to anglers and deer hunters; and as potential threats to human safety or life. The history of how people and bears have lived together on the Kodiak archipelago is a reflection of local, national, and international influences and attitudes. This history also highlights the fact that, with understanding and tolerance, people can coexist with a healthy population of the world's largest bears.

## 1.1 The Reason for a Management Plan

Although the best available scientific information indicates the Kodiak bear population is being sustained at a healthy level, human pressures on bears and their habitat, throughout the Kodiak archipelago, have increased in the last 100 years. Road construction; clearcut logging; livestock ranching; and commercial, residential, recreational, and industrial developments are altering bear habitat. Meanwhile, increasing human activity in bear country is leading to increasing bear-human interaction through hunting, fishing, viewing, and other forms of wildland recreation. Such interactions may result in the displacement of bears or, in some cases, in bear mortality in defense of life or property (DLP).

The purchase of lands and conservation easements from private and public entities within KNWR and in other strategic locations across the Kodiak archipelago was a dominant habitat-protection activity during the 1990s. Funding for these efforts was derived from civil and criminal settlements associated with the *Exxon Valdez* oil spill, from the Land and Water Conservation Fund, and from private organizations, principally the Kodiak Brown Bear Trust and The Conservation Fund.

By 2000, nearly 290,000 acres of valuable wildlife habitat on the refuge and more than 100,000 acres of habitat for the Alaska State Park System on Shuyak and Afognak islands had been purchased. These purchases from willing sellers provided additional management of key habitats, provided public access, and reduced the potential of habitat infringement through developments in remote areas. Opportunities for habitat acquisition continue to exist and should be pursued.

Private and public resource managers have taken a number of positive measures to address these concerns about Kodiak bears and their habitat. In 2000, the Alaska Department of Fish and Game (ADF&G), in response to the public's interest in Kodiak bears, spearheaded a public process to develop a bear-management plan for the Kodiak archipelago.

Those who live, work, and recreate in proximity to these bears came together and produced this management plan, which reflects current research in bear biology, habitat, and behavior while recognizing both traditional and contemporary uses of the resource. The purpose of this plan is to recommend measures to help ensure the sustainability of the Kodiak bear population, to respond to the public's desire for uses of this wildlife resource, and to address public safety concerns.

Although the population of bears on the Kodiak archipelago is presently healthy and its habitat generally well protected, a management plan had not previously been formalized. Because management of bears and their habitat is a shared responsibility of ADF&G and the U.S. Fish & Wildlife Service (USFWS), which manages KNWR, these two agencies pooled their resources to work with the public in developing this plan.

Other government agencies—local, state, and federal—also were involved in and committed to the plan's development and to ensuring that it be fully implemented. The public's involvement with, in fact its ownership of, the plan was considered crucial to the planning process; such a plan needs to reflect the public's desires and concerns for continued use of and coexistence with bears if it is to have credibility and validity. (The public process designed for development of this plan is detailed in section 1.4.)

Recognizing a responsibility for quality resource management justifies development and prompt implementation of a Kodiak bear-management plan. The healthy status of the Kodiak bear population is quite phenomenal when compared to most brown or grizzly bears elsewhere in the world. Many have been driven to extinction (California and Great Plains grizzlies), are listed as threatened (Rocky Mountain West), are seriously depleted (parts of Russian Far East), or are of growing scientific concern to the extent that hunting seasons have been closed (British Columbia). Only in the remoter parts of Alaska, northern Canada, and Russia do healthy populations remain. None of these bears in other populations, however, can compare in physical size to the Kodiak bears, which have among the highest population densities. Achieving this plan's proactive goals will ensure the health of the Kodiak bear population into perpetuity.

## 1.2 Goals of this Plan

The *Kodiak Archipelago Bear Conservation and Management Plan* is intended to provide to the resource- and land-management agencies guidance regarding planning and regulatory decisions for Kodiak bears (see section 1.4.2). It is intended to be a dynamic document that allows for reasonable flexibility in management and thus is subject to change in ensuing years. In developing this plan, the Citizens Advisory Committee (CAC) (see section 1.4.1) recognized the need to build on the successful ADF&G and USFWS sustainable hunting policies currently in place in order to achieve the following goals:

- design the best brown-bear conservation and management strategy in the world
- address major threats to the well-being of Kodiak bears and their habitat

- address social, economic, and cultural concerns regarding bears and bear management
- ensure that a healthy and secure population of bears is maintained throughout the Kodiak archipelago
- ensure that important bear habitat is protected
- mitigate potential conflicts among interest and user groups
- ensure the continuation of opportunities for public use and enjoyment of Kodiak bears and their wildland habitats on the Kodiak archipelago

Although the recommendations made by the CAC and included in this plan are based on scientific information provided by qualified wildlife biologists, the plan itself is not intended as a scientific report and does not adhere to conventional scientific reporting styles, citations, and the like.

The recommendations included in this plan are intended to be consistent with state and federal laws, rules, and regulations. In cases where this is not so, the CAC has recommended appropriate changes to state or federal laws, rules, and regulations, which would have to be promulgated by the appropriate state or federal agencies through standard planning, review, and management processes.

In some instances, recommendations made by the CAC will entail increased agency capabilities, such as staffing, funding, or enforcement. Finding the means of meeting these increased needs will be part of the implementation strategies developed by the Intergovernmental Planning Group (IPG) (see section 1.4.2).

This plan recognizes and honors all terms of conservation easements negotiated with Native land owners. Recommendations in this plan incorporate respect for private property rights while recognizing that private land owners have responsibilities to adhere to applicable laws in the conservation of bears and their habitat.

### **1.3 Background**

Many factors influence the development of a management plan for bears on the Kodiak archipelago: the geography and climate, the wildlife, and the people who live, work, and play there.

#### **1.3.1 The Kodiak Archipelago**

One of the primary reasons for the success of the Kodiak bear population is the quality of the habitat on which it depends (see also chapter 3, “Kodiak Bear Habitat”). A major reason the Kodiak archipelago supports one of the highest density of bears in the world is the biological productivity of this ecosystem. The high density of bears is due in part to the diverse and abundant favored bear foods (including plants, berries, and salmon), the fact that most of the archipelago is undisturbed by permanent human development, and the intensively managed and regulated bear-hunting regime that is in place.

The Kodiak archipelago is located in southcentral Alaska, 252 miles southwest of the city of Anchorage. The archipelago's three main islands (Kodiak, Afognak, and Shuyak) and numerous smaller islands encompass about 5,000 square miles, stretching 150 miles from north to south and 40 miles from east to west (see Figure 1-1). The archipelago is in a geologic uplift zone, and the present landscape has been sculpted by extensive glacial activity. Kodiak Island has numerous mountains with elevations greater than 3,000 ft along its central spine, with the highest being Koniag Peak at 4,470 ft. The southwestern portion of Kodiak Island and neighboring islands have more moderate terrain, and Shuyak Island has only slight relief. The coastline of the island group is typified by rugged headlands, rock outcroppings, gravel- and boulder-strewn beaches, and intertidal flats. Deep and narrow bays, with numerous branching arms and islets, are abundant.

The region has a cool, maritime climate characterized by overcast skies, fog, windstorms, and moderate to heavy precipitation. Summer temperatures average between 50° and 60° F and seldom exceed 75° F. Winter temperatures average in the low 20s (F) and rarely drop below 0° F. Precipitation occurs primarily as rain near sea level and as snow at high elevations from October through April. Annual precipitation varies widely among years and specific sites, but usually ranges from 40 to 80 in. Consistent winds of 30–60 mph are common.

Northern islands of the archipelago, including the northeastern portion of Kodiak Island, are forested with extensive stands of Sitka spruce. On Kodiak Island, the forest edge is slowly advancing southward. Large areas of forestland on Afognak and Kodiak islands have been commercially harvested. A diversity of habitat types occurs throughout the remainder of the archipelago, with shrub-grass-forb complexes predominant throughout lowland (less than 500 ft) and mid-slope (to 1,500 ft) areas. Representative species are Sitka alder, salmonberry, European red elder, willows, ericaceous shrubs (heath), sedges, bluejoint grass, ferns, fireweed, and cow parsnip. Cottonwood and willow communities are common along stream bottoms. Extensive areas of regularly spaced hummocks (1–4 ft tall) are abundant on southwestern Kodiak Island. Vegetation in upland (above 1,500 ft) areas is composed of various mixtures of low willow, heath, sedge, grass, and forbs.

The brown bear is one of six indigenous mammals that inhabit the Kodiak archipelago, the others being red fox, river otter, short-tailed weasel, little brown bat, and tundra vole. Introduced mammals include Sitka black-tailed deer, Roosevelt elk, mountain goat, reindeer, snowshoe hare, beaver, and red squirrel. Marine mammals such as harbor seals, Steller sea lions, sea otters, porpoises, and whales are common along the coast. Some 123 bird species are common on the archipelago, and 114 additional species have visited at one time or another.

The City of Kodiak, on the northeastern corner of Kodiak Island, is one of the nation's major fishing ports. Five species of Pacific salmon spawn in rivers and streams on the archipelago. Dolly Varden trout are widely distributed throughout the area, and rainbow trout are found in many watersheds. Summer salmon fisheries are a main ingredient of a diverse, year-round commercial fishery participated in by residents in every community on the archipelago, a popular sport fishery, and the subsistence lifestyle of a number of archipelago residents. These salmon also are a mainstay in the diet of most Kodiak bears.

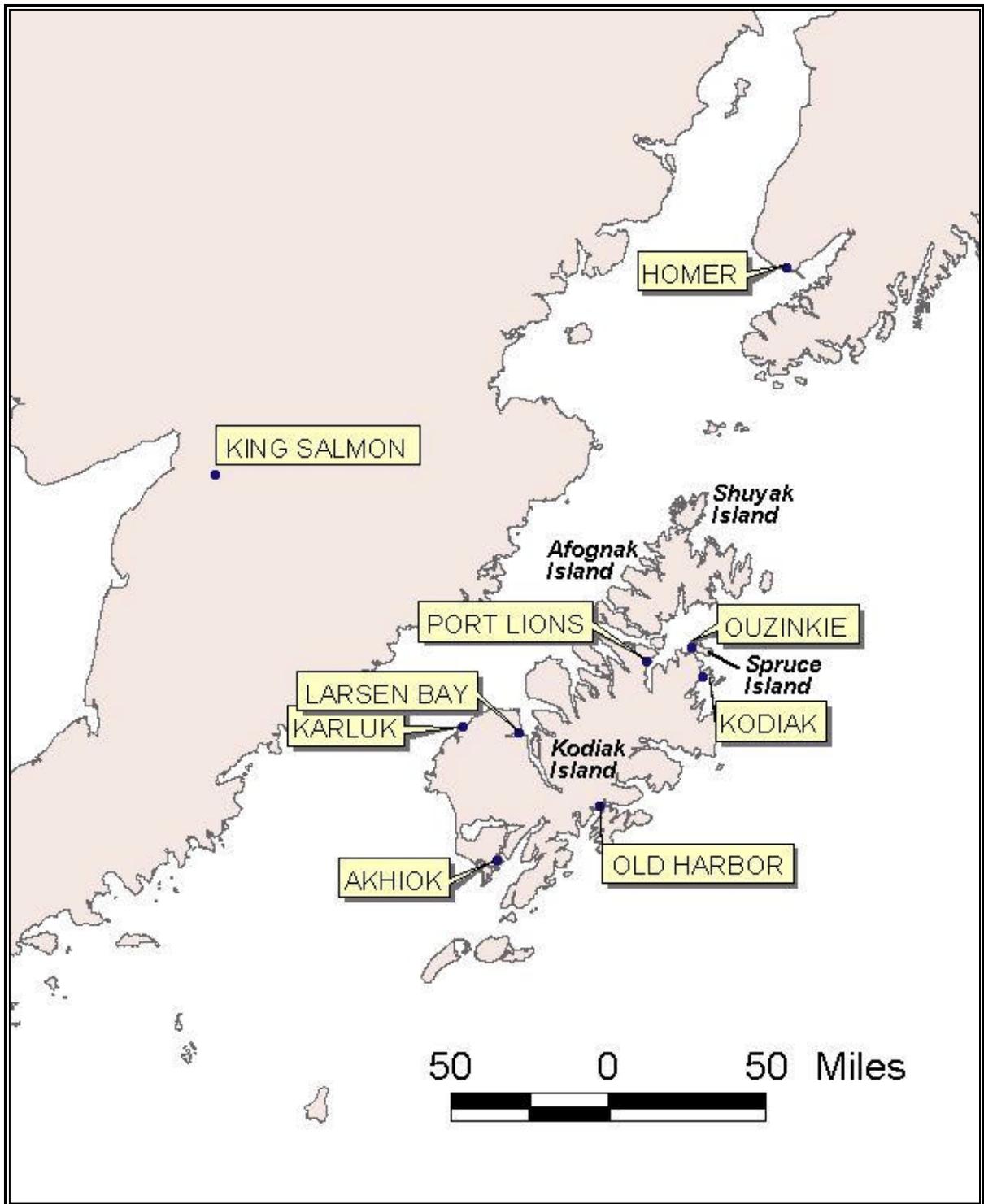


Figure 1-1. Kodiak archipelago

### 1.3.2 The Archipelago's Residents

The archipelago is also home for about 14,000 people, all residing in coastal areas. The City of Kodiak and associated road-connected communities include almost 13,000 people, with most of the remainder of the population residing in one of the six villages (see Figure 1-1) on Kodiak Island and nearby Spruce Island. During the summer, the human population increases dramatically and disperses throughout coastal areas. Remote cabins and lodges are used in support of commercial fishing and recreational activities. Human use of inland areas is usually transient, with the exception of Afognak Island where extensive year-round logging has been conducted for the past 25 years.

Kodiak bears contribute to Kodiak's economy by providing hunting, viewing, and other opportunities to enjoy wildlife and recreational pursuits in a natural setting. Along with Kodiak's commercial and sport fisheries, these activities contribute to every aspect of the area's economy, including tourism, lodging, transportation, and related professions such as guiding, charter boat operations, and air taxi operations. In fact, most businesses and jobs in Kodiak benefit directly or indirectly from the conservation of Kodiak bears and their habitat.

Bears also are responsible for economic losses to livestock ranchers, campers, and home owners, and bear-human interactions can result in destruction of private property and bear DLP mortality.

Kodiak's balanced ecosystem, of which people are an integral part, forms the baseline from which this management plan was designed. The plan is not intended to seek remedies for a threatened bear population; rather, it is an analysis of a successful coexistence between people and bears and an attempt to improve on that situation to accommodate shifts in human uses of bears. It also suggests ways to reduce bear-human conflicts in a mutually beneficial manner in the face of anticipated increases in human activities and related impacts on the archipelago.

## 1.4 Plan-Development Process

Development of this *Kodiak Archipelago Bear Conservation and Management Plan* was part of a four-phase process:

- Qualitative Research through review of background materials and interviews with citizens to better understand the relevant issues
- Creation of a Citizens Advisory Committee charged with developing a plan for the management of bears on the Kodiak archipelago
- Public Outreach efforts to involve the general public in review and further development of the management plan
- Implementation by an intergovernmental planning group charged with implementing the recommendations outlined in the plan

### **1.4.1 Citizens Advisory Committee**

To ensure that this plan reflects the experience, needs, and desires of the public concerned with the future of Kodiak bears, the members of the CAC were selected to represent 12 key interests involved with Kodiak bear conservation and management:

- agriculturalists and ranchers
- air taxi operators
- citizens at large
- commercial fishing
- commercial wildlife photographers
- conservationists
- guides
- Native large-land owners
- Native villages
- resident sportsmen
- the Kodiak Brown Bear Trust
- tourism

### **1.4.2 Intergovernmental Planning Group**

Representatives of state, federal, and local agencies having management and regulatory authority came together as the Intergovernmental Planning Group (IPG) to appoint members of the CAC, to develop a charter (see Appendix Q) for the CAC, and to develop and coordinate a strategy for implementing the recommendations of the CAC.

Although final implementation is contingent on the standard policy processes of each agency or entity, IPG members will work together to facilitate the implementation of the recommendations from the *Kodiak Archipelago Bear Conservation and Management Plan*. The IPG comprises representatives from the following agencies:

- Koniag, Inc.
- U.S. Fish & Wildlife Service (USFWS)
- Alaska Department of Fish and Game (ADF&G)
- Kodiak Island Borough (KIB)
- City of Kodiak
- U.S. Coast Guard (USCG)
- Alaska Department of Natural Resources (ADNR), including the Alaska State Park System

- the tribal and/or city governments of the six rural villages on the Kodiak archipelago:
  - Akhiok
  - Karluk
  - Larsen Bay
  - Old Harbor
  - Ouzinkie
  - Port Lions

### **1.4.3 Kodiak National Wildlife Refuge Comprehensive Conservation Plan**

One objective of the process was to work with USFWS and help provide extensive citizen input to its planning process on KNWR, which comprises a major portion of Kodiak bear habitat. At the time ADF&G was designing the public process for developing the *Kodiak Archipelago Bear Conservation and Management Plan*, USFWS was undertaking an update of its Comprehensive Conservation Plan (CCP) (U.S. Fish & Wildlife Service 1987) for the refuge.

USFWS is cooperating with ADF&G and has agreed to incorporate the recommendations of the *Kodiak Archipelago Bear Conservation and Management Plan* into one or more of its alternatives for management on KNWR.

### **1.4.4 Public Outreach**

Because public acceptance of the plan is critical to its success, those involved with the Kodiak bear-management planning process were committed to an extensive public outreach program. All CAC meetings were open to the public, with opportunities set aside during working sessions and on some evenings for the public to ask questions and provide input. CAC members developed avenues of communicating with their constituencies to ensure concerns were addressed in development of the plan. Information about the plan's development, summaries of CAC meetings, announcements of upcoming CAC and public meetings, and the means for various interest groups to contact CAC members were published on the ADF&G Web site. Further, a newsletter was published and distributed (as well as posted on the Web site), and information was regularly provided directly to print and broadcast media.

### **1.4.5 Follow-up on Implementation of Recommendations**

The CAC, and members of the public participating in the process, devoted significant time and effort to the creation of this plan. Although the process for developing this management plan incorporates a means by which the recommendations will be implemented (see section 1.4.2), the CAC recognizes the need for an ongoing team to work with agencies not only to help implement these recommendations, but also to provide input consistent with this plan on issues that may arise in the future regarding Kodiak bears and their habitat. The intention is to maintain the continuity of the CAC process to work toward consensus among members representing diverse citizen groups and interests.

To that end, the CAC has requested formation of the Kodiak Unified Bear Subcommittee (KUBS), a local group consisting of representatives of a similar mix of public interests as those included in the CAC plus the addition of a single representative for each of the following interests:

- Kodiak Fish and Game Advisory Committee
- bear-viewing guides
- small property/lodge owners
- sport-fishing guides

KUBS would make recommendations to appropriate government agencies and boards concerning other Kodiak bear conservation and management issues. KUBS is envisioned as either an independent citizens advisory group that will secure its own funding or as a recognized subcommittee of the Kodiak Fish and Game Advisory Committee.

One of the items that might involve KUBS is working with ADF&G, and USFWS to identify areas where there may need to be restrictions on camping and other recreational activities because of the potential displacement of bears (see chapter 3, “Kodiak Bear Habitat”).

## **1.5 Organization of the Plan**

To facilitate discussion and development of recommendations, the plan is laid out as follows:

### Summary

1. Introduction
2. Biology, History, and Management of Kodiak Bears
3. Kodiak Bear Habitat
4. Harvest Issues
5. Redefining Bear-Management Strategy
6. Bear-Human Interactions
7. Research and Monitoring
8. Education
9. Recommendations
10. Resources

### Appendices

Within each chapter, a number of related subjects may be discussed and the background explained. After each of these subject discussions, the CAC’s recommendations on that subject are listed.

There are numerous instances where a recommendation may appear in more than one chapter. This is particularly true for recommendations involving educational efforts. For

instance, a recommendation about providing educational materials for anglers might appear in both the discussion about sport fishing and in the chapter on education. Or, a recommendation regarding the need for research on bear habitat may appear in the chapter on habitat as well as in the chapter on research and monitoring. Further, all recommendations are compiled in chapter 9, “Recommendations,” with cross-references to the chapters containing background information.

It was the intention of the CAC that each chapter be as comprehensive as possible and provide cross-references to related material in other chapters, consequently the reader will find instances of what appears to be duplication of information or recommendations.