

## 6. Bear-Human Interactions

*Synopsis: Bears and humans have inhabited the Kodiak archipelago for more than 7,000 years. As the human population expands, however, and there is increasing human activity in areas once considered bear habitat, the potential for bear-human interactions also increases. These interactions can be positive for humans or they can have negative impact, sometimes with dangerous consequences that could result in human or bear mortality. This chapter looks at habituation and food-conditioning of bears by humans, bear mortality in defense of life or property, and a number of circumstances in which humans and bears are coming or will increasingly come in contact. These include solid-waste management, storage of human and pet food, livestock ranching, remote cabins, and bear-viewing opportunities. The last of these—bear viewing—was perhaps the single most complicated issue discussed by the Citizens Advisory Committee (CAC). For each situation, the CAC makes recommendations to avoid negative bear-human interactions and to protect Kodiak bears and their habitat.*

Over centuries, bears and humans have co-existed successfully on the Kodiak archipelago. As the human population expands, however, and there is increasing human activity in areas once considered bear habitat, the potential for bear-human interactions also increases. These interactions can be positive for humans, as with the pleasure derived from bear viewing, or they can have negative impacts and result in dangerous situations, which sometimes result in human or, more likely, bear mortality.

As human presence in bear habitat becomes more common, bears can become accustomed to that presence. The level and nature of this habituation of bears to humans and their activities can determine the type of impact to bears and humans alike.

This chapter discusses habituation of bears by humans and then looks at a variety of situations in which bears and humans interact:

- bear mortality in defense of life or property (section 6.2)
- solid-waste management and storage of human and pet food (section 6.3)
- livestock ranching (section 6.4).
- bear-viewing activities (section 6.6)
- use of aircraft (section 6.7)
- public-use and remote cabins (section 6.8)
- other recreational activities (section 6.9)

Figure 6-1 shows the major drainages, refuge boundaries, public-use cabins, permitted setnet sites, and the communities on the Kodiak archipelago that are discussed in this chapter.



## 6.1 Habituation and Food-Conditioning of Bears by Humans

Habituation of bears is of concern to archipelago residents, resource managers, hunters, and recreationists. A generally accepted definition of habituation is “an absence of response (from bears) that comes about after repeated, benign interactions with humans.” Habituation in and of itself does not result in “bad” bears. *Neutral* habituation is an acceptable process at several world-class viewing areas such as McNeil River, Pack Creek, and Anan Creek. Neutrally conditioned bears neither avoid humans nor actively seek them or their property.

At least one study indicates that habituation of females with cubs reduces incidents of fear-induced bear attacks on humans (Jope 1985). Evidence indicates that maternal females and subadults are more likely to habituate than are adult males. Irregular occurrences of human activity in remote sites seldom lead to habituation, of bears but may displace or disturb bears in their use of that habitat.

*Food-conditioning* is a behavior learned when a bear receives food, fish, or garbage from people. This is undesirable behavior that may result in property loss or damage, human injury, or defense of life or property (DLP) mortality of bears.

Repeated negative encounters between bears and humans could prove stressful to bears and, in the case of food-conditioned bears, could create a significant danger to humans. It can be anticipated that many more bear-human interactions, especially bear shootings in DLP, will occur if the number of food-conditioned bears increases on the archipelago.

### 6.1.1 **Recommendations about Habituation and Food-Conditioning of Kodiak Bears**

- To understand human habituation and its effects on bears, ADF&G and USFWS conduct long-term research into the effects of sport fishing and bear viewing on Kodiak bears (see also chapter 7, “Research and Monitoring”).
- Enforce regulations prohibiting the feeding of food, garbage, or fish to bears.
- Provide education to prevent food conditioning of bears by humans (see also chapter 8, “Education”).

## 6.2 Bear Mortality in Defense of Life or Property

Alaska state law allows anyone to kill a bear to defend life or property (5 AAC<sup>12</sup>92.410, Appendix I). For a bear to be legally killed under this provision, the person must demonstrate that he or she did not unreasonably invade a bear’s habitat, provoke an attack, or cause a problem by leaving food or garbage lying around. Prior to killing the bear, the person must take every practical, nonlethal means to protect life or property. For the purposes of this provision, property means a person’s dwelling, means of travel, pets, or other valuable property necessary for livelihood or survival. If a bear is killed in DLP, the person is required to remove the hide

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<sup>12</sup> Alaska Administrative Code

(including claws) and the skull and give them to the Alaska Department of Fish & Game (ADF&G). Meat will be donated to anyone who wants it. The person who kills the bear must also notify ADF&G as soon as possible and fill out a questionnaire related to the DLP killing.

The DLP provision was included in Alaska law in 1926. It has gone through a number of revisions, but the basic premises remain the same:

- First, and foremost, it gives people the right to defend themselves from bears. This is especially important in a state such as Alaska where self-reliance is a cherished and necessary part of daily life, especially in remote areas.
- Second, the provision seeks to protect bears from unnecessary persecution. The person has a responsibility to do everything possible to avoid lethal action. The bear must be taken while it is in the act of causing a problem and cannot be hunted down or baited.
- Third, the provision accommodates the needs of wildlife managers. Requiring prompt notification of authorities, a written report, and surrender of the hide and skull allows managers to gather information on the sex and age of the bear and the circumstances of the kill. Recovery of the hide and skull also acts as a deterrent for unnecessary kills and reduces opportunities to profit from the illegal sale of bear parts.

Unfortunately, the strict stipulations of the provision sometimes deter people from reporting DLP mortalities of bears. ADF&G believes that fewer than half of the bears killed on the Kodiak archipelago under DLP provisions have been reported. Reporting rates vary by year and by user group. The most common reason for not reporting DLP bear kills is fear of prosecution. People are either unaware of the provisions of the law or are concerned about their proper compliance with the law.

Another reason given for not reporting DLPs is the inability or refusal to skin the bear and remove its skull. Lack of complete information, because of unreported DLP mortalities, is hampering wildlife biologists' ability to make complete assessments of human impacts on the bear population and to understand various human uses of bears on the archipelago.

### **6.2.1 Recommendations Relating to Defense of Life or Property Kills**

- Continue to follow state regulations regarding bears killed in DLP.
- The Kodiak Fish and Game Advisory Committee should propose a change in state hunting regulations to establish and authorize use of depredation permits.<sup>13</sup>
- ADF&G should develop strict criteria for issuance of depredation permits for problem bears. These permits should be issued only after reasonable, nonlethal methods to deal with problem bears have been exhausted.
- Conduct research and monitoring to evaluate the effectiveness of depredation permits (see also chapter 7, "Research and Monitoring").

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<sup>13</sup> Depredation permits would be issued to an individual, to allow killing of a problem bear, in a specific incident and would only be available after careful consideration by ADF&G's Kodiak area biologist. Reporting and salvage requirements would be the same as under the DLP provisions.

- Encourage village residents, village public safety officers (VPSOs), and appropriate agencies to work together to develop information and education materials and strategies to reduce bear-human conflicts in the villages (see also chapter 8, “Education”).
- State troopers and U.S. Fish & Wildlife Service (USFWS) should provide information to rural residents about the laws, rights, and duties regarding DLPs (see also chapter 8, “Education”).
- Through a co-management agreement with the state, use village committees and VPSOs to take responsibility for working on DLP issues in villages, including solid-waste management issues; this should include a significant educational component (e.g., schools, videos, and employing elders) (see also chapter 8, “Education”).

### **6.3 Solid-Waste Management and Storage of Human and Pet Food**

Bears spend much of their time seeking food to replenish fat reserves between denning periods. This need, coupled with their high levels of strength and intelligence, makes bears effective predators and scavengers. Concentrated food sources, be they natural (e.g., salmon streams, tide flats, or berry patches) or human-made (e.g., dumps, landfills), are especially attractive, and bears often develop creative means of utilizing these resources. They also develop complex social structures and communication skills while in close proximity to other bears that have also been attracted to feeding sites.

Bear concentrations at natural feeding sites are essential elements of a healthy bear population. They are indications that bears are taking advantage of high-quality food sources, and they allow people to observe bear behaviors and learn about them. Bear concentrations at human-made feeding sites, however, have been shown to increase undesirable bear-human encounters.

As late as the 1940s, bear viewing at dumps was a sanctioned activity at many U.S. national parks. At Yellowstone National Park, bleachers were erected near the dump, and rangers gave informative lectures each day. In 1903, Theodore Roosevelt noted that tourists were as interested in the bear shows as they were interested in the geysers. Bear populations increased as a result of the open dumps, and rough estimates of the park’s grizzly population amplified from 40 in 1920 to 260 by 1933. Unfortunately, along with this increase came a commensurate increase in bear-human encounters as the bears began to equate human habitations—be they tents, cars, or cafeterias—with places to find a meal. In 1960, the National Park Service curtailed the practice of feeding bears at the dumps and prohibited visitors from loitering in the vicinity of the dumps. In the early 1970s, dumps were closed completely, and many bears were killed as they responded to the closures by becoming more aggressive in their attempts to procure human food and garbage.

Similar situations continue to this day throughout North America. Even though the lessons learned at Yellowstone are still valid, the temptation to have a reliable place to see bears prompts some individuals or communities to dispose of their garbage in locations where bears can easily get to it. It is also easier and cheaper in the short term to throw waste in a centralized location with no fencing or coverage. Federal and state regulations prohibit such disposal, but

enforcement of those regulations is often times lax. Bears using unregulated dumps may have higher productivity than other bears, but they are subject to increased exposure to toxins and physical threats.

Individual bears may also gain access to human foods by raiding homes or camps. Household garbage and pet food are frequently stored in unsecured areas near homes. Bears living in the vicinity of these homes may be tempted by the smell of these items and may investigate. The same scenario might also develop with fish-drying racks, game hanging near camps, or food or fish left in camps. If bears are rewarded for their curiosity by obtaining food, they usually become bolder in their efforts to get food from human sources. These efforts may result in destruction of property or life-threatening situations. Frequently, the bears involved are killed.

The CAC recognizes that it is undesirable for bears to obtain food from any kind of human source (see section 6.1 for more on food-conditioning) and that it is more effective to prevent bears from getting food or garbage initially than it is to re-educate them once food or garbage has already been obtained.

Translocation (moving bears to a new area) is seldom an effective solution. Bears have a proved ability to return to home ranges from long distances and over rugged terrain. Those that do not return are likely to continue to be involved in bear-human conflicts in new locations. Although translocation is often preferred by the public, because of its demonstrated ineffectiveness, human safety concerns, and the high expense, it is generally inappropriate to spend time and funds on such efforts (see also Appendix O).

Bear-human interactions are a communitywide concern. This issue cannot be viewed as a “Fish and Game problem” or as “the refuge’s bears,” or as something that “the troopers have to do something about.” Everyone in the community, visitor and resident alike, is an integral part of the problem and of the solution. To instill this critical concept, public officials have an obligation to educate the public about bear behavior, the current situation, and the best available courses of action.

The CAC recognizes that a community-based, multifaceted approach has been successful in reducing bear-human encounters along the Kodiak road system in recent years. Continuation and refinement of that program, with efforts to expand it, with appropriate modifications, to villages, lodges, and remote cabins will be more effective in reducing bear-human conflicts than will translocation of “problem” bears.

### **6.3.1 Landfill Management**

Public landfills and dumps are the most readily accessible source of human food for bears. Management of these areas will impact bear-human encounters tremendously. Although it is impossible to bear-proof a solid-waste facility, there are effective techniques to make them much less attractive to bears.

The residents of the Kodiak Island Borough (KIB) have made a commitment to keep bears out of their landfill. In July 1998, an electric fence surrounding the borough landfill near Monashka Bay was completed and energized. Vegetative cover within the fence was removed, and garbage is covered often, thus drastically reducing the attractiveness of the site to bears.

Initially, a few bears tested the fence and learned to dig under it, but borough staff have been able to identify the weak areas of the fencing and reinforce them. Prior to these landfill-management efforts, as many as 12 bears frequented the site; in 2000, no bears were observed within the fence.

Other landfills on the archipelago have not received the level of financial and community commitment that KIB's landfill has. Efforts have been made, however, to move landfills and dumps away from village centers and to fence them. In some cases, incineration has been attempted, but with limited success. No electric fences have been erected (other than in Ouzinkie), and brush remains adjacent to most sites. The CAC has specifically identified the Larsen Bay solid-waste disposal site as an area that deserves immediate attention.

#### *6.3.1.1 Recommendations about Landfill Management*

- Encourage KIB and individual communities to develop community-specific waste-management plans that include implementation and funding strategies.
- Encourage village governments to seek federal, state, and local funding such that village landfills can meet federal standards and Alaska Department of Environmental Conservation (DEC) regulations and such that those regulations can be enforced at solid-waste disposal sites, thereby reducing their attractiveness to bears.
- Request the State of Alaska to increase funding for the Revenue Sharing/Safe Communities programs, which would provide additional funding to small city governments (see also section 6.3.1.2).
- Encourage cities to utilize additional funding for employment of electric fencing, incineration, and bulldozers for regular and frequent covering of garbage at landfills (see also section 6.3.1.2).
- Enforce DEC regulations at dump sites, thereby reducing their attractiveness to bears.
- Enforce existing landfill regulations from the federal government and for DEC.
- Distribute the ADF&G Policy on Solid Waste Management and Bears in Alaska to agencies and communities and ensure that it is adhered to (see also section 6.3.1.2, and Appendix L).
- Encourage owners of remote cabins and lodges to use properly managed public landfills whenever possible; when private solid-waste disposal sites are necessary, encourage landowners to work with wildlife managers to devise appropriate ways to minimize bear encounters.
- Prohibit, by borough or other local ordinance, bear viewing at solid-waste disposal sites.
- Clear areas adjacent to landfills of trees, brush, and tall grass that can serve as cover for bears (the distance to be cleared depends on the terrain and habitat of the area and should be determined with assistance of wildlife managers).

- Cover landfills often and thoroughly, keeping the active area of waste deposition minimal (at sites where bears are frequent visitors, increased covering and/or compaction of garbage will reduce the area in which bears can search for food; as that active area of garbage gets smaller, competition among bears increases, and subdominant bears opt to find other food sources).
- Encourage recycling programs to reduce the amount of waste deposited in landfills.
- If possible, use incineration to reduce space necessary for landfills and to reduce odors and food sources.
- Install electric fencing around a landfill after the site has been cleared and bear numbers have declined through reduction of active areas. (Electric fences should be well-designed to suit the needs of individual sites and maintained by qualified personnel. Periodic inspections should be scheduled to look for damaged portions of the fences, to remove debris from the fences, and to look for places where bears have tried to burrow under the fences. The fences should remain electrified at all times except during maintenance.)
- Install safe, effective, and easy-to-operate gates (self-closing, if possible) at each landfill and make specific individuals responsible for ensuring that gates remain closed.
- Prior to erecting an electric fence, and immediately after it is up and running, inform residents of the program and the fact that some bears will be displaced (Appendix M). (Note that an increase in bear-human encounters can be expected for the first couple of years the fence is operating.)
- Encourage wildlife managers, residents, and civil officials to work together to devise improvements to keep bears out if they continue to gain access to properly designed landfills.

#### 6.3.1.2 *Larsen Bay Solid-Waste Management*<sup>14</sup>

One of the most challenging situations currently on the Kodiak archipelago is the management of Larsen Bay's solid-waste disposal site. A number of circumstances make this site stand out as an area that needs to be addressed to minimize the harmful effects on bears and to reduce the level of negative bear-human interaction for which Larsen Bay has become known.

Larsen Bay is located in a high-density area for bears and is home to one of the largest salmon canneries on Kodiak. During the summer months, the human population swells with cannery workers and fishermen. The amount of waste increases as well; it is taken to a waste site on a hill overlooking the city. This area is surrounded by alder and thick brush that allow bears to move freely in and out of the waste site in relative security. Very often, garbage is simply left lying on the ground and has become a great attractant to bears that roam the area.

Over the past few summers, the number of bears that have been food-conditioned at Larsen Bay's solid-waste disposal site has grown to more than 15. As a result, the site has become a popular bear-viewing area. Several sport fishing and hunting lodges have also opened in the last

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<sup>14</sup> The CAC identified this issue as being of current concern and one for which the CAC is making recommendations for immediate action.



few years, increasing the number of people who frequent the community. The dump, where large numbers of bears can be viewed from vehicles, has been a popular stop for many of the lodges' clients. While lodge owners enjoy the benefit of predictable bear viewing, other residents are less enthusiastic. After the cannery closes in early September, less garbage is available, and bears begin to move into the city and around the cannery buildings. This frequently results in bears destroying property and an increase of DLP mortalities. As the days become shorter and children go back to school, issues of safety become a concern.

Steps need to be taken to reduce the number of bears that are habituated to humans at Larsen Bay's solid-waste disposal site. These bears pose a threat to the bear viewers themselves, who often have no background or knowledge of Kodiak bears. The diet of garbage the bears live on can be harmful for the bears, and the learned behavior (associating people with food) these bears acquire frequently leads to the destruction of property or destruction of bears.

Funding for remediation of this situation is, of course, always an issue, and Larsen Bay is no exception. Kodiak Salmon Packers pays a fee to the city for the garage it takes to the site, but this is not sufficient to do all that is necessary to solve the problem.

#### *6.3.1.3 Recommendations Regarding Larsen Bay Solid-Waste Disposal Site*

- Remediate the Larsen Bay solid-waste site situation in a stair-step approach:
  - Clear the area around the waste site of alders and brush to create a barren zone to make the bears uncomfortable
  - Quickly bury the garbage.
  - Construct an electric fence around the sited and a with means restricting access to the site.
- Seek funding for the necessary measures to reduce food-conditioning and habituation by humans of bears at the Larsen Bay solid-waste disposal site.
- The CAC recognizes the Larsen Bay waste site is a high-priority area for remediation and should be addressed as quickly as possible.
- Prohibit, by borough or other local ordinance. bear viewing at solid-waste disposal sites.

#### **6.3.2 On-Site Food Storage and Waste Management**

Storage of food and solid waste near human habitations can bring bears literally face-to-face with people where they live. Bears may be attracted to odors, or they may chance upon human food while transiting an area. Human-food-conditioned bears that habitually forage at dumps are notoriously persistent in their attempts to get food from people. If proper solid-waste site management techniques are used to keep bears out of these facilities, bears may initially be more tempted to seek human food from nearby residences or camps.

Potential increases in bear problems can be reduced by weaning bears from their bad habits before completely closing off access to landfills. At solid-waste disposal sites in which bears are frequent visitors, increased covering and/or compaction of garbage will reduce the active area where bears can search for food. As the active area of garbage gets smaller, competition among bears increases, and subdominant bears opt to find other food sources.

An essential part of reducing bear access to garbage is securing access to these food sources at garbage-collection sites. Along rural areas of the Kodiak road system and at the U.S. Coast Guard (USCG) base, bear-resistant dumpsters are used from April through December. These dumpsters are all metal, have doors that cannot be opened by bears, and are compatible with existing collection equipment. Dumpsters are placed away from natural food sources (salmon streams), brush, and school-bus stops. USCG has taken additional steps by putting all dumpsters in open, lighted, centralized locations away from residences and posting bear-safety information at each site.

Alaska State Parks has removed all open garbage cans in its park units and replaced them with bear-resistant dumpsters and will be installing additional bear-resistant garbage cans and food storage lockers in three popular camping areas in 2002.

Public outreach programs urging residents to ensure that garbage and food near their homes are secured from bears is another essential element in convincing bears to use natural foods. In the City of Kodiak, people are educated to keep garbage and pet foods indoors and to work with neighbors to ensure that there are no bear attractants in their areas. In addition, local police and state troopers enforce state laws prohibiting feeding bears and littering (13 AAC<sup>15</sup> 02.530 and 5 AAC 92.230) (see Appendix P).

The CAC recognizes that it is undesirable for bears to obtain food of any kind from human sources (see section 6.1) and that it is more effective to prevent bears from getting food or garbage initially than it is to re-educate them once food has already been obtained. A community-based, multi-faceted approach has been successful at reducing bear-human encounters along the Kodiak road system in recent years, and the CAC encourages continuation and refinement of that program. Efforts should also be made to expand the program, with appropriate modifications, to villages, lodges, and cabins.

The policies established to minimize bear access to human food and solid waste must include components dealing with public education, landfill management, and on-site storage.

The CAC also recognizes that funding from local, state, and federal sources should be sought as soon as possible to implement appropriate landfill improvements. When applying for grants, applicants should work with wildlife managers to reference all appropriate research that has already been done regarding bears and solid-waste management. Reference of these studies and management experiences can serve to expedite grant approval and subsequent action. The waste-management program of the Kodiak Island Borough should be developed as a blueprint example of how to keep bears out of landfills.

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<sup>15</sup> Alaska Administrative Code

*6.3.2.1 Recommendations about Food Storage and Solid-Waste Management*

- Develop better regulations and enforcement regarding food, garbage, and fish-handling in bear areas.
- Vigorously enforce littering laws and regulations prohibiting feeding of bears.
- Encourage residents to work within their neighborhoods to identify and correct potential problem areas that attract bears.
- Encourage residents to keep garbage in enclosed areas and to empty garbage often during the summer months. Plastic trash bags should be used to line garbage cans, and cans should be washed periodically.
- Encourage residents to store pet and domestic livestock food indoors (if pets are fed outdoors, care should be taken to only provide the amount of food that can be eaten within an hour).
- Encourage residents to house pets and domestic livestock in bear-resistant enclosures when not attended (electric fencing is an effective and inexpensive tool for separating bears and livestock).
- Remove trees, brush, and grass that can serve as cover for bears near residences, bus stops, playgrounds, garbage-storage areas, and pet or livestock pens.
- Ensure that residents have access to information on how to use noise-makers and lighting to chase bears from their yards; rubber bullets, bean-bag shells, and pepper spray are also effective, but should only be used by trained operators (prior to using any deterrents, all potential food sources should be removed from the area).
- Use bear-resistant dumpsters (all metal, designed in a manner that is compatible with existing collection equipment, relatively easy to use by most people, and preferably with self-closing lids) wherever there is dumpster service on Kodiak Island; close coordination with waste-management contractors is essential.
- Locate dumpsters as far as possible from school-bus stops and other places where children congregate; do not place dumpsters near natural food sources (such as salmon streams) or domestic livestock; brush-clearing and lighting near dumpsters are desirable.
- Establish appropriate collection schedules to ensure that dumpsters do not become overly full.
- Encourage KIB to monitor waste-collection schedules and take appropriate action, as needed.
- If there are persistent bear problems in an area, temporarily remove the dumpster; if it is removed, a sign should be placed at the site to inform residents of when it was removed, why it was removed, where it was taken, and when it is expected to be returned.
- In villages, assign specific individuals to provide collection services (e.g., emptying dumpsters, if appropriate); these individuals should receive adequate compensation for their duties and should be held accountable for their performance.

- Encourage everyone using remote areas to remove all solid waste from the area (i.e., pack it in and pack it out) (see also chapter 8, “Education”).
- As soon as possible, seek funding from local, state, and federal sources to implement appropriate solid-waste management improvements (KIB should be made a blueprint example of how to keep bears from getting food or garbage from areas of human habitat).
- Recognize the following groups for their efforts to reduce bear-human encounters around Kodiak and encourage continuation and expansion of these activities:
  - fish processors for collecting garbage from setnet sites
  - air-taxi operators for taking out garbage for campers, hunters, and anglers
  - logging camps on Afognak and remote cannery operators for developing effective waste-management techniques
  - Alaska State Parks and Kodiak National Wildlife Refuge for developing and enforcing waste-management policies at remote cabins
  - Kodiak Island Borough and the U.S. Coast Guard for taking leadership roles in establishing effective solid-waste management techniques on the Kodiak road system
- To minimize bear problems, educate people about handling personal property, including chicken pens, drying sheds, food-storage areas, and pet food (see also chapter 8, “Education”).
- Develop an intergovernmental working group composed of representatives from wildlife management agencies (ADF&G, USFWS), the Kodiak Fish & Game Advisory Committee, public safety agencies (Alaska State Troopers, local and military police departments), local governments (city, village, and borough), and Alaska State Parks. The working group should meet at least once each spring to review current policies to reduce bear-human encounters and to coordinate efforts for the upcoming year (see also chapter 8, “Education”).
- Establish lines of communication among agencies with various areas of responsibility (Appendix J provides an example of how bear reports on the Kodiak road system are handled) (also see chapter 8, “Education”).
- Provide public information on actions planned by the intergovernmental working group and encourage public input and questions regarding those actions (see also chapter 8, “Education”).
- Make available public information in a variety of media, including print, radio, public television, and personal appearances; attempt to meet the special needs of various cultures and ethnic groups (see also chapter 8, “Education”).
- Make the public outreach program ongoing, with emphasis on bear behavior and suggestions on how to minimize negative bear-human interactions (see Appendix K) (comparisons of bear behavior around food and garbage to dog behavior in similar situations can be helpful in improving understanding).

- Advertise laws and regulations relating to leaving food or garbage in a manner that attracts wildlife (see also chapter 8, “Education”).
- Encourage agencies to disclose management actions such as moving dumpsters, citing individuals for littering, aversive conditioning of bears, and lethal actions against problem bears (all actions relating to bear-human interactions are matters of public record).
- Encourage the public to report to authorities observations of bears near human habitations (these observations can help to track the activities of individual bears and allow managers to alert school principals and residents of areas in which to be especially cautious; observations should not be advertised to the general public, however, to minimize peoples’ seeking out bears) (see also chapter 8, “Education”).
- Disseminate to the public information about ADF&G’s policy regarding relocation of nuisance bears (see Appendix L), which the CAC endorses.
- Locate on-site bear safety reminders on dumpsters (e.g., “Be Bear Aware”) and at collections sites (i.e., public landfills) (see also chapter 8, “Education”).
- Ensure that visitors are made aware of the efforts to keep bears away from human food and garbage; responsibilities of visitors should be outlined and disseminated so that they recognize their role in preventing problems (see also chapter 8, “Education”).

#### **6.4 Bears and Livestock Ranching**

Russians brought the first livestock to Kodiak soon after their arrival, and by the late 1790s, cattle, sheep, goats, and pigs were common assets at settlement sites. Cattle numbers varied through the 1800s, but continued to increase. Kodiak’s luxuriant grasslands tempted more and more ranchers, and in 1906, the U.S. Department of Agriculture established an experimental station in Kodiak to refine cattle breeds and to develop methods to take advantage of the seemingly limitless range.

In March 1939, the Alaska Game Commission sent wildlife agents to Kodiak to kill all bears seen in the proximity of any cattle range. The intention was to reduce bear numbers within the cattle area and to remove them whenever possible as a potential menace to livestock.

From May 1964 through June 1965, ADF&G biologists worked with ranchers along the Kodiak road system to determine the extent of the predation problem, the sex and age composition of the bear population, the origin of bears in the area, and movement patterns of bears in the area. They also actively pursued and killed all bears suspected of being cattle killers. Ranchers appreciated the efforts, but sportsmen were outraged. In spite of the concerns, the department continued its involvement in dispatching problem bears and attempted to capture and move some bears.

In November 1970, the department reevaluated its role in bear management on Kodiak, and the director of the Game Division wrote

The following shall be the Department's policy concerning predation of cattle by bear:

- *The Department shall not participate in bear depredation programs designed to alleviate cattle losses.*
- *The person suffering these losses may take bears in defense of life or property . . . Under no circumstances may bears be shot from airplanes or taken by means of any poisonous substance.*
- *That section of the regulations pertaining to immediate notification of the Alaska Department of Fish and Game upon taking a bear and to written documentation and salvaging of the hide will be strictly enforced.*
- *The Department will make every effort to keep sport hunting regulations liberal to make possible the effective removal of bears by hunters.*

This policy reiterated decisions made 30 years earlier by the Alaska Game Commission and appeared to close a long chapter in the relationship among cattlemen, government agents, and Kodiak bears. Ranchers were understandably upset with the decision, however, and they continued to devise creative ways to protect their livestock without government intervention.

Today livestock ranching remains an important and viable industry on Kodiak and adjacent islands. The largest herds occur on three leases on northeastern Kodiak Island (see Figure 6-2) and on separate leases on Sitkinak and Chirikof islands, where bears are not a problem.

The Kodiak Island leases encompass about 100,000 acres of state land and are used by approximately 300 cattle and 400 bison. Ranchers lease grazing rights from the Alaska Department of Natural Resources and work in close cooperation with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service to create and implement conservation plans that include stocking rates, range rotation plans, and fencing plans. These conservation plans ensure that both upland and riparian areas are used wisely and are protected. Although fencing is not required by the conditions of the leases, ranchers are encouraged to fence to minimize bear encounters, especially along riparian areas.

Land leased for grazing remains open to public access, per 11 AAC 58.800: "The lawful pursuit of the hunting of game, the taking of fish and trapping, or picking of berries shall not be denied on lands leased for agricultural or grazing purposes." However, when requested in writing, the director of the Department of Natural Resources can grant permission that all or a portion of the lessee's premises may be posted wherever necessary to protect the lessee and property.

Ranchers have learned ways to live with bears on their leased lands, and bears are not as great a problem as they were 40 years ago. Bison have proved to be less susceptible to bear predation, and electric fences are successfully used to protect livestock in select areas. Ranchers may also take advantage of federal grants to improve fencing to reduce bear predation. Individual bears do, however, continue to cause problems either through direct predation or by

moving cattle away from preferred ranges. On northeastern Kodiak Island, the primary tools to reduce bear-cattle conflicts remain a liberal sport hunting season and the DLP provisions.

The CAC also examined the effects of grazing on bear habitat. Conservation plans address issues of overgrazing with conditions regarding stocking rates and range rotation. Although ranchers may wish to implement controlled burns to increase grass production for grazing purposes, state law (11 AAC 58.710) addresses the issue of grazing lessees using fire: "Lessee will take all reasonable precautions to prevent, and take necessary action to suppress, destructive or uncontrolled fires within the leased premises."

#### **6.4.1 Farm Elk and Deer Propagation**

Although there are no problems at this time (i.e., January 2002), there is concern about the possible effects to Kodiak wildlife of certain diseases among cattle that could be communicated by farm elk and deer. It is possible that chronic wasting disease (related to spongiform encephalopathy), now occurring in captive elk herds in the Lower 48 states and Canada, could pass to wild deer or elk populations on the archipelago, with any resultant severe decline affecting bears. The possible transmittal of said disease to bears is unknown.

#### **6.4.2 Recommendations Regarding Livestock Ranching**

- Support the KIB Commercial Grazing and Conservation Zoning Plan.
- Encourage ranchers to continue practices that minimize bear predation.
- Recognizing the seriousness of foot and mouth disease and chronic wasting disease, the state should continue research about them and develop strategies to prevent their occurrence in Alaska.

### **6.5 Compensation for Property Loss**

In several western states under certain circumstances, cattlemen are compensated, by interest groups such as Defenders of Wildlife, for cattle killed by grizzly bears. Alaska, however, has never authorized similar compensation. There also are no provisions for state reimbursement for loss, due to bear predation, of cabins, drying sheds, or other personal property.

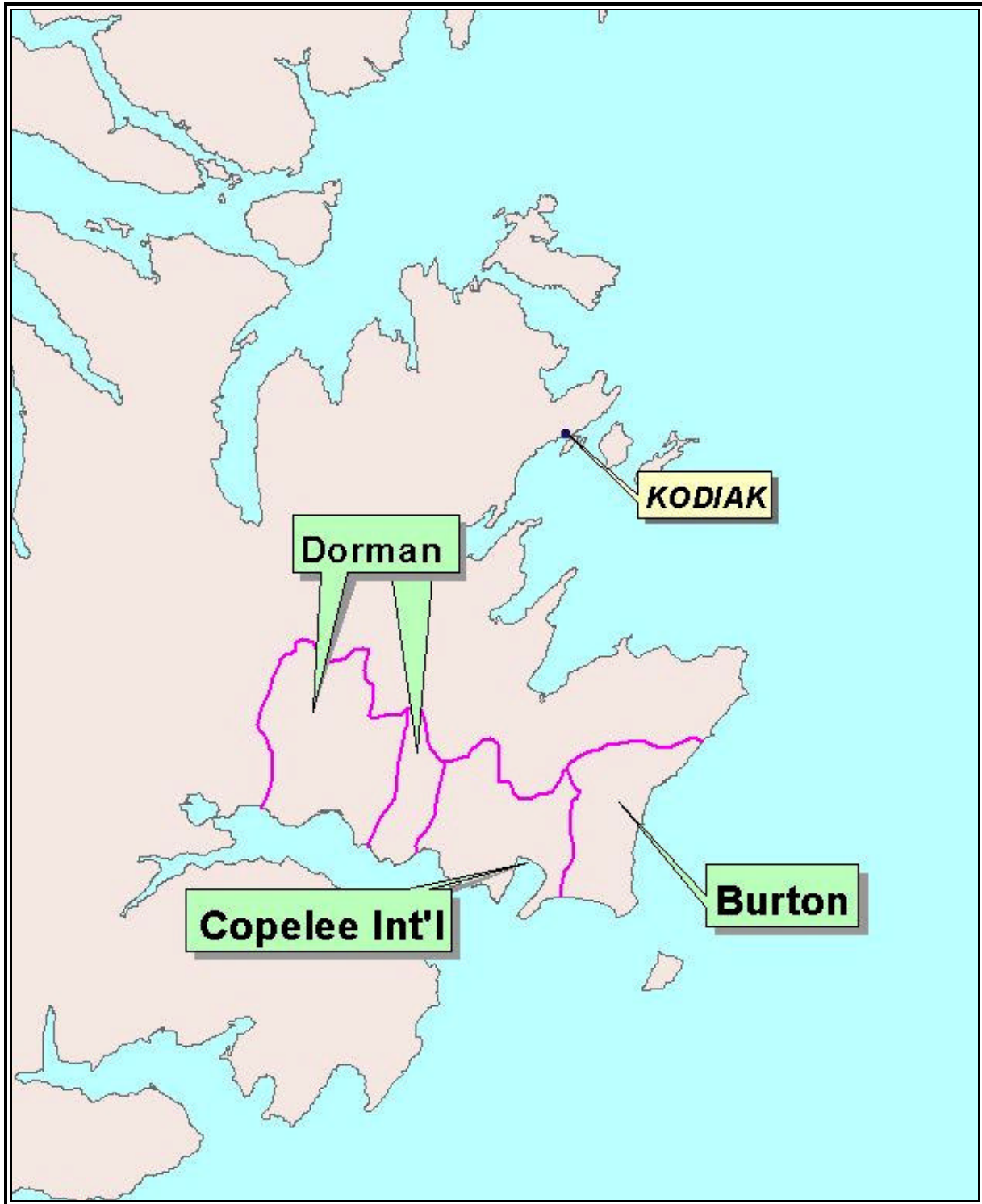


Figure 6-2. Approximate boundaries of grazing areas on the Kodiak archipelago leased by Charles Dorman, Copelee International, and Bill Burton



### **6.5.1 Recommendation Regarding Compensation for Property Loss**

While the CAC recognized that depredation of livestock and damage to personal property can be a significant loss to individuals, the group agreed that awarding compensation would be complicated by difficulty in verifying if the animal had actually been killed by a bear versus a bear scavenging on an animal that died from other causes; difficulty in determining if the property owner had taken necessary steps to minimize bear damage (e.g., used fencing, cleared brush around fish-drying sheds); difficulty in securing a source for funding; and the fact that, if depredation of livestock were related to overpopulation of bears in an area, it would be important that the population be stabilized before compensating for any loss.

The group decided that the institution of depredation permits,<sup>16</sup> coupled with education about minimizing problems with bears, was more appropriate than seeking compensation for property loss at this time.

## **6.6 Bear-Viewing Activities**

Bear viewing on the Kodiak archipelago is a recognized, legitimate activity, as are hunting, angling, boating, hiking, weir operations, and camping, and also occurs incidental to these activities. The demand for wildlife viewing as a primary activity is significant and expected to increase.

The impact wildlife viewing has on tourism-related businesses is significant. The Kodiak Island Convention and Visitors' Bureau (KICVB) reports that in 1997, 49 percent of the total tourism inquiries for specific information asked about wildlife viewing; in the first quarter of 2001, that rose to 64 percent. Of those requesting wildlife-viewing information, 95 percent were asking about Kodiak bears. Approximately 85 percent of the lodges with membership in KICVB advertise bear viewing as part of services they provide.

According to one study (Miller 1999), visitors' average willingness to pay for day trips involving wildlife-viewing opportunities varied from a low of \$108 to see Dall sheep to a high of \$355 to see grizzly bears. Alaska's wildlife resources are the best the nation has to offer, and Kodiak bears are likely the most sought-after by wildlife viewers visiting the Kodiak archipelago.

There are, of course, a variety of types of wildlife viewers. Some are looking to see a large number of animals or species in a brief period of time. Others are interested in spending more time observing bears and their behavior and interaction with their natural habitat. Still another type may wish to devote days or weeks to observing bears as far from structured viewing situations as possible. Kodiak is in a position to provide opportunities that meet all these desires.

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<sup>16</sup> Depredation permits would be issued to an individual, to allow killing of a problem bear, in a specific incident and would only be available after careful consideration by ADF&G's Kodiak area biologist. Reporting and salvage requirements would be the same as under the DLP provisions.

### 6.6.1 Interface of Bear Viewing and Other Activities

Well-managed bear populations provide opportunities for diverse recreational activities throughout the Kodiak archipelago, including on the Kodiak National Wildlife Refuge (KNWR). It is assumed that through existing and creative management practices, these activities are compatible and nonexclusive.

It is the CAC's strong belief that, in general, bear viewing is compatible with other recreational and commercial activities (e.g., sport fishing, hunting, guiding, hiking) that take place in areas that might be considered for development of formalized bear-viewing opportunities. None of the recommendations made in this document are intended to displace these activities as long as the bears themselves and their habitat are not threatened in any way.

Numerous studies have been done to determine the compatibility of bear-viewing activities with other traditional uses of the same resource or area (e.g., commercial photography, bear hunting, sport and commercial fishing activities, camping and hiking). Extensive work by KNWR staff investigated bear-human interactions on the O'Malley and Thumb river drainages from 1991 through 1999. Results from one of those studies are summarized in a paper published in *Ursus* in 1998 (Wilker and Barnes 1998), an abstract of which can be found in Appendix V. Some of these studies looked at the interface from the human viewpoint:

- How far away do photographers have to remain from bear viewers?
- If a bear is habituated to human presence, is it "fair" to hunt it?
- Can anglers continue to fish in bear-viewing areas?
- Do weirs and other fisheries research tools have a negative effect on either bears or viewers?

Others considered the potential effects on bears:

- displacement
- disturbance
- human habituation
- competition for habitat resources (e.g., food, water, cover, space)

Generally speaking, when people establish patterns of use in particular areas, bears respect those patterns. Bears accommodate a level of human presence that works for them; if humans learn to read bears' actions and follow guidelines based on considerable study by wildlife professionals, that level of presence can work for people as well. Bears respond with neutral habituation (see section 6.1) to humans when people are present in a predictable, nonthreatening manner. Of course, management needs to set limitations on the numbers of humans and their activities to ensure that these are not detrimental to bears' well-being or to their habitat.

Responsible commercial wildlife photographers subscribe to a code of field ethics that advocates against bear disturbance or displacement (see Appendix H). Photographers do have equipment limitations regarding distances and locations, and thus their needs must be considered

when establishing guidelines for use of a bear-viewing site. Their presence, however, need not interfere with the activities of bear viewers any more than they do with the activities of the bears.

It has been noted that the bears that frequent formal viewing sites are rarely the same bears being sought by trophy hunters. Subadults, sows, and sows with cubs are usually the bears being observed by bear-viewers. The adult males tend to avoid bear-viewing areas, preferring either to feed on another part of the river or to feed at night when no bear viewers are present.

Conflicts between anglers and bears usually are related to a common interest in fish. With careful management of sport fishing activities (see section 4.5.3), most conflicts can be avoided. Similarly, by recognizing that bear viewers (or others) are in the area and adapting their fish-handling to that presence, anglers can avoid many potential conflicts between sport fishing and bear viewing.

Although bear viewers may not care for the aesthetics of weirs and other fisheries management tools appearing at a bear-viewing site, there is no evidence that such equipment in any way disturbs or displaces bears.

### **6.6.2 Existing Bear-Viewing Opportunities**

The Kodiak archipelago provides a wealth of opportunities to view bears in spectacular wild country. Bear viewing is enhanced in the spacious, open tundra-heath landscape of Kodiak Island. In contrast, the forest habitat found on Afognak and Shuyak islands makes bear viewing there more of a challenge.

Consistent with the CAC's preferred option of dispersed, low-density viewing in Kodiak's diverse natural setting, outstanding opportunities for viewing bears throughout the archipelago include the following:

- floating or fishing the hundreds of miles of wild rivers
- boating and kayaking along several thousand miles of ocean and lake shorelines
- trekking along animal trails in the backcountry
- flying (above 800 feet in altitude, using respectful flight patterns) over bear feeding and movement corridors
- visiting one of ADF&G's 18 salmon weir sites on major anadromous fish streams
- viewing incidental to hunting bears, deer, elk, mountain goats, waterfowl, or ptarmigan
- visiting one of the 700 anadromous fish streams that provide feeding opportunities for salmon-seeking bears
- taking a chartered boat trip to one of many bear-viewing areas
- boating or trekking out of the archipelago's approximately 50 backcountry lodges and camps to choice bear-viewing destinations such as Thumb River, Karluk Lake, Karluk River, North Kiliuda Bay, Frazer River falls, Uyak Bay, Uganik Bay, and Afognak River and Lake.

Kodiak Island Convention and Visitors Bureau conducted surveys during the summer of 2001 that indicate there are two major types of bear-viewing tourists. The first (about 25 percent of the total) comprises those who will pay a short-term visit to Kodiak, staying one to three nights. Of those, 30 percent say they wish to view bears during their visit. The other type of visitor plans to stay longer: about nine nights (of a total 11 nights in Alaska). Of those visitors, 5 percent indicate they want to view bears.

To accommodate these visitors, many commercial businesses are either devoted to bear viewing (e.g., lodges with day trips and camping and backpacking trips; charter aircraft that provide four hours of viewing, with description, or provide day trips in which the plane lands and the visitors are guided to viewing areas on the ground; charter boats; public-use cabins that provide bear-viewing opportunities). A number of commercial operations also provide bear-viewing opportunities as a component of sport fishing, hunting, kayaking, rafting, and hiking trips. Many of these unstructured bear-viewing opportunities are provided by commercial operations having special-use permits to take visitors onto KNWR.

Additional bear-viewing opportunities are provided on private land, some of which are managed by Native corporations. For example, Koniag, Inc., provides bear-viewing trips, out of Larsen Bay, to Camp Island.

Currently there are no formal state or federally managed bear-viewing opportunities on the Kodiak archipelago, but visitors to Alaska can see bears at these sites elsewhere in Alaska (see Appendix G for details):

- Anan Creek Wildlife Observatory 35 miles southeast of Wrangell
- Brooks Camp, Katmai National Park and Preserve, on the Alaska Peninsula
- McNeil River State Game Sanctuary, about 100 air miles west of Homer
- Stan Price State Game Sanctuary, at Pack Creek on Admiralty Island

There are also those areas, such as Wolverine Creek, across Cook Inlet from the Kenai Peninsula, that have become magnets for people who want to watch concentrations of bears in totally unstructured and unmanaged circumstances; this type of viewing, however, is not recommended.

#### *6.6.2.1 Bear Viewing on Kodiak National Wildlife Refuge*

Many of the unstructured bear-viewing opportunities are currently provided by commercial operations having special-use permits to take visitors onto KNWR. There is not, however, any structured bear viewing on the refuge at this time (January 2002), despite efforts to establish it in the past.

In March 1987, KNWR completed its first Comprehensive Conservation Plan (CCP) (U.S. Fish & Wildlife Service 1987). For a variety of reasons, the State of Alaska and the Kodiak Island Borough objected to proposed public-use restrictions. The final step-down Public Use Management Plan (PUMP), completed in 1993 (U.S. Fish & Wildlife Service 1993), proposed to restrict public access and use of nine critical bear-use areas during key bear-use times because “expanding public use threatens bear habitat and exposes bears to increased human habituation

and displacement if not managed carefully” (see section 6.6.2.2 for more details on the PUMP proposed restrictions). To date, only the seasonal closure at O’Malley Creek has been published as a final regulation in the Federal Register.

In 1999, the U.S. Fish & Wildlife Service (USFWS) began revision of the CCP for KNWR. One of the preliminary alternatives, developed in response to public concern about habituated bears being hunted, contained a proposed 100-square-mile closed area centered on O’Malley Creek; this alternative was a component of establishing a structured bear-viewing program at O’Malley Creek. Public comment, and subsequent analysis of data (see Appendix T) collected at the O’Malley site over a period of several years resulted in the refuge staff reducing the size of the proposed closure. Any proposed closures would be first presented to the Board of Game (BOG) for action, but the closure could be implemented by special regulation if the BOG did not take action. This alternative and other alternatives that would manage human use on the refuge have been modified since the public meetings in March 2000, and further development and presentation to the public were postponed pending the completion of this bear-management plan.

The CCP and the PUMP address conservation and management issues on refuge lands. One of the obvious changes occurring during the 1980s’ development of these plans was the rapid expansion of bear viewing and photography on the archipelago. Although these activities had always been popular, the publicity the islands and the bears received during and after the oil spill (1989) motivated people to come and see the bears in their natural habitat.

To address this public interest, a trial bear-viewing program, modeled after the McNeil River State Game Sanctuary program, was administered by the refuge at Dog Salmon River in 1990 and 1991. At O’Malley Creek, the refuge provided a structured viewing program in 1992. The following year, the plan was to allow a concessionaire to manage the bear-viewing program; however, the lengthy process dictated by the Alaska National Interest Lands Conservation Act (ANILCA) made that impossible, and there was no program in 1993. A private concessionaire was awarded a five-year contract to manage the program beginning in 1994, but the contract was halted after only a year because of a legal challenge to the procedures used in awarding the concession.

Currently, all commercial operators providing wildlife-viewing services on the refuge are regulated by special-use permits. O’Malley Creek is closed to all human access from June 25 through September 30. Special-use permits close some areas to commercial operators and restrict commercial use to daylight hours in other areas during key times when human presence is most likely to disrupt bear use. A guided bear-viewing program was conducted by a private operator on Koniag, Inc., land (a private inholding within the refuge boundaries) at Thumb River on Karluk Lake from 1995 through 1999.

In 1990, the refuge initiated a viewing permit system primarily because of newly developed bear-viewing services offered by guides and air taxi operators. Twenty-one commercial operations (e.g., guides, lodges, air taxi operators) presently use the refuge for wildlife-viewing purposes. The permit conditions require that viewing operations not cause habituation of bears to humans (see section 6.1) or displacement of bears except at weir sites. By using this permit system, refuge staff can quantify viewing use, maintain safe and compatible operations, and protect critical bear habitat.

The refuge presently supports a diversity of types of viewing opportunities, including flight-seeing, hiking in with a guide, boat-based, guided, and unguided. Most commercial, guided, walk-in viewing operations are site- and time-specific, highly controlled ventures where bears are typically within 50 to 300 yards of viewers and generally aware of viewer presence.

In 1991, the refuge began a study of bear viewing at O'Malley Creek, an area particularly suited for this activity because of the concentration of bears. Two more studies, at Thumb River and Uyak River in 1995 and 1996, respectively, were conducted by refuge staff. During the 1990s, viewing use expanded, and commercial viewing services increased in concert. The refuge developed permit stipulations to control guided use of sites, and the number of wildlife-viewing permits grew to 21 by 2001. According to USFWS, there is no evidence that human safety was jeopardized during any wildlife viewing operations on the Kodiak archipelago.

Currently, there are no site-specific objectives for the refuge related to bear use of critical foraging habitat (i.e., bear concentration areas). U.S. Fish & Wildlife Service indicates that such objectives need to be developed to determine the appropriate thresholds of compatible public use of bear-concentration areas. Apparent problems with bear-human conflicts and food-conditioning of bears by humans at sites on Dog Salmon and Ayakulik rivers do not stem from commercial viewing operations, but from concurrent operation of viewing and sport-fishing activities (see section 4.5.3).

The closure of O'Malley Creek to public entry on a seasonal basis (June 25–September 30), recreational-use fees charged on private lands in the refuge, and restrictive conditions imposed by special-use permits on commercial operations have effectively limited the number of sites available for, and restrained the growth of, short-duration fly-in bear viewing. Services offered by lodges and guides for multi-day bear-viewing opportunities currently (January 2002) appear to be underutilized.

#### *6.6.2.2 Public-Use Regulations for Kodiak National Wildlife Refuge*

Kodiak National Wildlife Refuge management intent and goal (in both 1993 and 2000) were proactive protection of bear site use and human safety; a balance of public use and resource protection; and employment of a mix of strategies to maintain compatibility between humans and bears and their habitat.

To this end, USFWS and ADF&G assessed 44 specific sites that were considered to be key bear habitat on KNWR and that were of highest concern because of easy access and very high seasonal bear densities where bears are dependent on salmon. The sites were identified and ranked by three criteria for five time periods. An expert team was convened in 1989 to rank the sites for accessibility, bear density, and conflict potential (bear-displacement risk; human safety risk). The evaluation was refined a year later, and nine sites were omitted.

In 1988, KNWR initiated its PUMP (U.S. Fish & Wildlife Service 1993). In preparing the PUMP, USFWS evaluated the remaining 35 seasonal bear concentration areas on the refuge. The evaluations did not look at current use in the areas, but at the potential for use, nor did they assess conflicts among users. Nineteen of these areas were given “high” or “critical” ratings for potential conflicts between wildlife and humans; these areas were considered for some level of public-use closure.

The recommended regulations from the PUMP process, which was completed in 1993, proposed the following seasonal closures (shown on map in Figure 6-3):

- Connecticut Creek closed July 15–August 31
- Humpy Creek closed July 15–September 15
- Seven Rivers closed July 15–September 15
- lower falls on the Dog Salmon River closed June 25–August 31

Day-use-only restrictions were proposed as follows:

- Red Lake River and lakeshore, July 1–August 31
- Upper Thumb River, July 1–August 31
- Southeast Creek (Red Lake), July 15–August 31
- Little River Lake lakeshore, July 15–August 31
- Deadman Bay Creek, August 15–September 30.

Six other restrictions are proposed as part of the PUMP:

- Two high-use bear denning areas are closed to snowmachines.
- Domestic pack animals require a special-use permit (dogs as pack animals not included).
- New tent platforms are allowed by permit only to replace existing platforms or cabins.
- Occupancy and use of commercial, administrative, or public-use cabins is by written authorization of the refuge manager.
- No camping is allowed within one-quarter mile of public-use cabins and 200 yards of federal and state administrative structures (e.g., the weir at Frazer fish pass).
- No deposit of fish offal is allowed within one-half mile of high-water mark of mainstem Ayakulik River, upstream from Bare Creek one and one-eighth mile (landing/take-off area), and downstream from Bare Creek one and three-eighths mile (Boulder Hole).

In 2000, KNWR proposed regulations were the same as those in the PUMP except that O'Malley Creek was closed to public use in 1996; some sites were omitted because access was re-evaluated; and some sites were added because they had since been acquired by USFWS. Other proposed restrictions on upland aircraft landing, jet drives on motorboats, camping limits, and public-use cabins were dropped.

#### *6.6.2.3 Recommendation Regarding Public-Use Restrictions on Kodiak National Wildlife Refuge*

- Recommend that KNWR initiate a step-down re-evaluation process for the PUMP area closures in light of the fact that new data are needed (research data are 12 years old) and that the public-use potential, on which some of the closures were based, has not been fulfilled and likely won't be.

**6.6.3 Developing Formal Bear-Viewing Sites**

Recognizing the increasing demand from the public—both Alaska residents and tourists—for bear-viewing opportunities on the Kodiak archipelago, efforts are underway to meet those needs in keeping with the desires and needs of local residents; commercial operators; state, federal, and local agencies having management authority; and those outside the area who are involved in planning activities on KNWR.

The fact that bear-viewing opportunities will be developed is not questioned. The emphasis is on who will determine the nature of those opportunities and how they will be implemented. The thrust of this document is to provide consensus recommendations supported by diverse interest groups. Over all, the concern is to protect bears and their habitat and to provide bear-viewing opportunities that are compatible with other uses such as hunting and sport fishing. The preferred viewing option is one of dispersed, low-density, unregimented viewing in Kodiak's diverse natural setting. One consideration, to enhance viewing opportunities for increased numbers of people, is the possibility of installing a remote viewing camera at a suitable site for linking to viewers in Kodiak city or via the Internet.

Regulating bear-viewing activities is not a new subject. Between 1932 and 1967, territorial and state regulations mandated that all nonresident bear photographers be accompanied by registered big-game guides. Several areas in the state attracted bears and photographers. In 1973, McNeil River State Game Sanctuary became the first area to establish a formal viewing program with limited entry for visitors.

Areas on the archipelago that are currently receiving a substantial amount of use as bear-viewing sites or that have the potential to receive a substantial amount of use in the near future are likely candidates for formal regulation by land managers. Those areas considered by the CAC to be of the most significant management concern are addressed in the CAC's recommendations.

The CAC does not wish to propose a specific site for establishment of this world-class<sup>17</sup> bear-viewing opportunity; rather it wishes to see a site selected based on certain criteria to be developed. However, the CAC members consider the O'Malley Creek site as a particular candidate because of high bear densities and the unique features that cause it to be acknowledged as the best site on Kodiak Island for an organized bear-viewing program (see Appendix T).

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<sup>17</sup> A world-class bear-viewing opportunity is one that provides a unique combination of natural phenomena that has worldwide human interest and value. In the case of Kodiak, a thriving population of bears, the largest land carnivore on earth, inhabiting a unique island wilderness, constitutes a spectacle of nature unique in the world. A model bear-viewing program should be consistent with perpetuation of the natural phenomena while allowing for high-quality public use and enjoyment.





Figure 6-3. Areas to receive protection under special rule for public access and use of Kodiak National Wildlife Refuge

In connection with developing criteria for evaluating sites for formal bear-viewing opportunities, it is important to develop guidelines for bear viewers and commercial operators (e.g., similar to principles of ethical field practices of the North American Nature Photographers Association [see Appendix H] or the best-management practices adopted by the Alaska Visitors Association [see Appendix N]). Avoidance of negative bear-human interactions, potentially resulting in food-conditioned bears, damage to property, injury to humans, damage to or destruction of bear habitat, or DLP mortality of bears depends on such guidelines and on an educated public. Similarly, such guidelines can strengthen continued use of the resource by multiple user groups and interests.

#### **6.6.4 Frazer Fish Pass<sup>18</sup>**

Bears and humans have shared the area of the Frazer River where the fish pass is located since the introduction of the Frazer Lake sockeye salmon run in the late 1950s and the construction of the fish pass. Bears feed on sockeye salmon in the Dog Salmon River from June through September and congregate near the fish pass, especially below the weir, making it a practical location for bear viewing. The fish pass facility, which includes staff housing, was constructed entirely within KNWR on land administered by USFWS and leased to ADF&G. The facility is operated by ADF&G, with personnel living on site from May through August each year, and is accessed via an off-road vehicle (ORV) trail from Frazer Lake.

Each year, the Frazer–Dog Salmon system attracts numerous guided and unguided anglers targeting sockeye salmon and rainbow and Dolly Varden trout from June through August. The number of unguided anglers is currently unrestricted, and there are typically fewer than 12 unguided anglers per day on the system. Guided sport fishing on the Dog Salmon is restricted by USFWS, limiting the number of guided clients to eight per day.

Prior to 1983, bear viewing on the Dog Salmon mostly occurred as an informal, unguided activity at the fish pass and along the river by anglers, unguided photographers, or people staying at the USFWS public-use cabin two miles southwest of the river on Frazer Lake. Guided bear viewing has been conducted at the Frazer fish pass since the late 1970s, initially as an incidental activity for guided anglers and occasionally as guided wildlife photography.

In 1990, USFWS established a guided bear-viewing program at the Frazer fish pass with a viewing platform adjacent to the weir. The program was available to the public by lottery for the 1990 and 1991 summer seasons and was staffed by USFWS guides. In order to reduce disruptions in the vicinity of the bear-viewing program, USFWS closed the Dog Salmon River to commercial wildlife-viewing guides. Unguided anglers were restricted only by the existing state-regulated closure within 100 yards of weirs, but were encouraged by USFWS to avoid the bear-viewing program area.

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<sup>18</sup> The CAC identified this issue as being of current concern and one for which the CAC recommended immediate action. As a result, the Alaska Board of Fisheries, in January 2002, adopted the recommendation made by the CAC to prohibit fishing within 200 yards downstream of the Frazer Fish Pass from June 1 through August 31.

Due, in part, to negative public response to the 1990 closure of the Dog Salmon River to guided sport fishing and commercially guided bear viewing, USFWS relocated its structured bear-viewing program to O'Malley Creek on Karluk Lake for the 1992 season. The access restrictions on guided anglers and bear-viewers below the weir on the Dog Salmon River were eliminated, and those activities resumed in 1992.

Since the mid-1980s, the popularity of bear viewing as a tourist activity on Kodiak Island has increased; since reopening to the public in 1992, Frazer fish pass has become the highest-use bear-viewing site on Kodiak Island. Bear viewers visit the fish pass from mid-June through August, with an average of 500 visitors per season during the past six years, with occasional peak use days of as many as 50 visitors. Guided bear viewing at the fish pass has been conducted predominantly by air-taxi operators, regulated by USFWS wildlife-viewing conditional-use permits. Bear viewers accompanied by USFWS-permitted guides are required to remain on the ORV trail and on the viewing pad adjacent to the weir.

When anglers are in the river just below the weir, bears will usually move farther downstream to fish and are then out of sight of bear-viewers at the viewing pad. Some bear-viewers have reported their frustrations to USFWS. To help relieve potential conflicts between anglers and bear-viewers, USFWS added restrictions to the sport fish guide permits, prohibiting guided anglers from fishing within 200 yd downstream of the weir. Currently, no similar restrictions are placed on unguided anglers.

The section of the river within 200 yd downstream of the weir is moderately productive for sockeye, but most anglers prefer fishing in a bend of the river beginning about 400 yards below the weir. Guides affected by the USFWS 200-yd restriction say they feel this is a reasonable compromise that does not diminish the quality of their fishing opportunities and achieves a solution with the least possible loss of fishing area.

#### **6.6.4.1 Recommendation Regarding Frazer Fish Pass**

Recognizing the practical benefits of the solution implemented by USFWS for guided sport fishing, and in order to keep the rules fair and consistent for guided and unguided anglers, the following change should be made to State of Alaska sport fishing regulations: modify waters closed to sport fishing on the Dog Salmon River to prohibit fishing within 200 yd downstream of the Frazer fish pass from June 1 through August 31. (By recommending this closure, the CAC does not imply support for sport-fishing closures in other systems on the Kodiak archipelago to create bear-viewing opportunities.)<sup>19</sup>

#### **6.6.5 Recommendations Regarding Bear Viewing**

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 (see also section 1.4.5):

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<sup>19</sup> The CAC identified this issue as being of current concern and one for which the CAC recommended immediate action. As a result, the Alaska Board of Fisheries, in January 2002, adopted the recommendation made by the CAC to prohibit fishing within 200 yd downstream of the Frazer fish pass from June 1 through August 31.

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

Although bear viewing is a major issue that KUBS will address, the group would also 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.

Among its other tasks, KUBS would help ensure the implementation of the following recommendations in an open, public forum:

- Evaluate bear-viewing sites around the archipelago using a set of important criteria such as private or public land ownership, number of human visitors and timing of bear use, accessibility to visitors, existing viewing use, proximity of bears to local communities or dwellings, competing uses, and compatible uses.
- Develop a general set of operational guidelines, which protect all natural resources, relating to bear-viewing sites.
- Review the following lands within the borders of KNWR to consider suitability for re-opening (access to some of the following public and private lands is restricted or closed to the public, to commercial operators, or to both:
  - Area closed by regulation to all entry:
    - O'Malley River, June 25–September 30 (2,560 acres)
  - Areas administratively closed to all commercial users and their clients:
    - Connecticut Creek, July 15–August 31 (2,262 acres)
    - Dog Salmon River, June 25–August 31 (960 acres)
    - Humpy Creek, July 15–September 15 (2,879 acres)
    - Seven Rivers, July 15–September 15 (3,796 acres)
  - Areas administratively restricted to day-use only by all commercial users and their clients:
    - Red Lake River/lakeshore, July 1–August 31 (1,746 acres)
    - Upper Thumb River, July 1–August 31 (613 acres)
    - Southeast Creek, July 15–August 31 (1,108 acres)
    - Little River Lake/lakeshore, July 15–August 31 (480 acres)
    - Deadman Bay Creek, July 15–August 31 (951 acres)
  - Access restrictions imposed by private landowner (permit required):
    - Karluk Lake and River

- The following areas may also have restrictions of closures to public access, to commercial operators, or to both and should also be reviewed:
  - Frazer fish pass
  - Lower Dog Salmon Falls
  - Humpy Cover
  - Red Lake SE Creek
  - Ayakulik River at its confluence with the Red River
- If areas are selected for formal regulation as bear-viewing sites, formulate rules and guidelines for the use of viewing areas to address the following:
  - access
  - camping
  - education
  - bear safety
  - group size limits
  - firearm possession and use by viewers
  - food and garbage handling and storage
  - sport fishing
- Investigate sites in the northern archipelago for possible bear-viewing locations (e.g., Paul's Lake, Litnik, Portage, Foul Bay, Hidden Lake).
- Determine the optimum number of people who can use any area at any one time and that will best meet the public demand and still be compatible with refuge purposes and conservation. In the case of Frazer fish pass, this determination should be made soon<sup>20</sup>.
- Recommend USFWS monitor human activities in areas that have come to its attention as being of high interest or use; the amount of total use and the types of users (e.g., guided, unguided, viewers, anglers) should be recorded.
- Recommend USFWS encourage only those bear-human interactions that are compatible with maintaining the natural behavior of wild bears and protection of their wilderness habitat.
- Recommend that, if use of an area is found to consistently exceed an acceptable human saturation level or begins to consistently displace bears, the following controls, in descending order of implementation as needed, be implemented:

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<sup>20</sup> The CAC reminds USFWS and ADF&G that commercial operators and public users require adequate advance notice of regulatory changes and the time to respond.

- 1) a site-specific set of use regulations that applies to all users
  - 2) Limitations on group sizes
  - 3) required back-country permits for unguided users and a prospectus process for commercial operators
- If sites are selected for formal regulation as bear-viewing sites, develop a set of recommended allocation levels for guided and unguided use visitations that is designed to avoid conflict with the following:
    - sport fishing
    - hunting
    - agriculture and ranching
    - commercial fishing
    - weirs
    - setnet sites
    - public-use cabins
    - adjacent private land owners
    - human habitations
  - Develop requirements for levels of use, allocation of use, public and commercial access, and permitting based on experience and history of similar existing federal and state programs (see Appendix G for information about existing programs); these requirements should minimize conflicts between bear viewing and other wildland recreation interest groups.
  - Recommend USFWS conduct a needs assessment for bear-viewing opportunities on public land, and, when conditions warrant, establish a unique viewing area, on public land, with the following attributes and conditions:
    - use by tightly controlled small groups (no more than 12 persons per day) and supervised on-site activities
    - permits issued by drawing for off-site overnight stays of no more than three days
    - remainder of permits available for day use by guides, air taxi operators, and individuals
    - unsuccessful applicants and visitors to be provided with comprehensive information about alternative bear-viewing opportunities on the archipelago
  - Recommend USFWS reopen O'Malley Creek area to bear viewers June through September employing a management strategy that allows guided day-use bear viewing.
  - Manage any bear-viewing sites on KNWR lands consistent with refuge purposes.
  - Prohibit establishing industrial tourism viewing with infrastructure such as that at Brooks Camp.

- Disseminate bear-viewing guidelines for the public and private sector that reflect safety while viewing bears from the ground, from the air, or by walking, and procedures to alert bears to human presence. These guidelines should stress low-impact bear viewing by all users in all locations and should be similar to those of the North American Nature Photographers Association (NANPA; see Appendix H) (see chapter 8, “Education”).
- Require ADF&G and USFWS training, and oversight of pertinent regulations, for all guided bear-viewing programs.
- Recommend that ADF&G and USFWS conduct annual bear-viewing guide clinics.
- Encourage private landowners that develop bear-viewing opportunities on private land to do so within accepted state and commercial guidelines.
- Work with service providers to make available to all visitors educational materials emphasizing bear safety, realistic expectations for bear viewing (including cost of access), Kodiak bear life history, and proper wildlife management. These materials should include ADF&G and KNWR bear-safety brochures and all materials specific to bear viewing (see also chapter 8, “Education”).
- Create economic incentives for bear management, including bear viewing, in the villages.
- Investigate road-accessible wildlife- and bear-education opportunities that would minimize negative bear-human conflicts (a suggested area is along Buskin Lake near the golf course). The area could include interpretive signs dealing with wildlife management, habitat, track identification, realistic bear-viewing opportunities, and safety. Small spotting scopes, such as those at Fort Abercrombie, could be installed so that visitors can get a close-up view of habitat areas for bears, goats, ducks, eagle, etc. Other areas suggested for bear education/interpretive signing/viewing possibility on the road system are Buskin River State Recreation Site and Fort Abercrombie State Historical Park (see also chapter 8, “Education”).
- Seek funding for islandwide education and regulation of bear-viewing businesses through, but not limited to, the following (see also chapter 8, “Education”):
  - reasonable permit fees
  - sale of Kodiak Wildlife Viewing stamps
  - Wildlife Restoration funds
  - Land and Water Conservation Fund
- Recommend the statewide sale of Wildlife Stamps (similar to Duck Stamps or Colorado Wildlife stamps) to both Alaska residents and nonresidents. Sales should be broad-based and aimed at nonconsumptive users of wildlife rather than at commercial operators.
- Encourage bear-viewing visitors to constantly attend food and garbage or store food in bear-resistant containers and to not display or consume food in a manner that may attract bears.

- Recommend that USFWS make its policies concerning wildlife photographers consistent with those of USDA Forest Service, National Park Service, Bureau of Land Management, and Alaska State Parks.
- Recommend that USFWS and ADF&G continue to research bear viewing on KNWR (see also chapter 7, “Research and Monitoring”).
- Recommend that USFWS implement practical, site-specific, and biologically based objectives and compatibility standards for wildlife viewing in bear concentration areas using the best technical information and a stakeholder planning process. Guidelines for development of objectives and standards include the following:
  - sites with established viewing use—based on existing amount and pattern of bear use and public use
  - sites with no established viewing use—based on amount and pattern of bear use before public use introduced

## **6.7 Use of Aircraft on the Kodiak Archipelago and its Effect on Bears**

As is the case with most of Alaska, use of aircraft for transportation, public safety, and recreation is common on the Kodiak archipelago.

There are both federal and state laws and regulations that prohibit disturbing wildlife with an aircraft. Applicable federal laws and regulations include the Airborne Hunting Act (Title 16, Chapter 9, United States Code, Section 742j-I) and Code of Federal Regulations (Title 50, part –19, Airborne Hunting). These laws prohibit any person while airborne in an aircraft from shooting or attempting to shoot or harassing any bird, fish, or other animal.

For the purpose of these laws and regulations, an aircraft is defined as any contrivance used for flight in the air. Harass means to disturb, worry, molest, rally, concentrate, harry, chase, drive, herd, or torment.

Penalties for violating these laws and regulations include a fine, revocation of airman certificates, and/or forfeiture of guns, aircraft, and other equipment used in violation of these laws.

### **6.7.1 Recommendations Regarding Use of Aircraft on the Kodiak Archipelago**

- Enforce federal and state laws and regulations that prohibit disturbance of wildlife with an aircraft.
- Manage aircraft use in wildlife-viewing operations: Develop—through the cooperation among appropriate regulatory agencies, private landowners, and commercial service groups—guidelines describing minimum altitudes, flight paths, horizontal distances, and access points. Following are suggested guidelines:
  - When viewing from an airplane while in the air, remain more than 800 feet from any bear.
  - Prohibit intentional bear viewing by helicopter.



- While flying near viewing areas, transit the area quickly, avoid circling or directly overflying the viewing area, and be considerate of viewers on the ground.
- Do not take off or land within 300 feet of visible bears.
- Encourage commercial providers of bear-viewing services to adopt standards of operation.
- Urge commercial operators to ensure that all equipment, guides, pilots, and boat operators meet all federal, state, and local requirements that apply to their operations.
- To minimize disturbance to bears, develop guidelines for overflying by helicopters for recreational purposes.
- To minimize disturbance to bears, develop guidelines for overflying by fixed-wing aircraft for recreational purposes.

## **6.8 Public-Use and Other Remote Cabins**

Public-use and remote cabins present specific concerns in relation to bear-human interactions and to potential conflicts among user groups.

### **6.8.1 Public-Use Cabins**

On the whole, public-use cabins focus human use, which can be a positive management tool for containment of human activities in bear habitat. However, commercial operators are affected by regulations about public-use cabins on KNWR. For example, commercial operators cannot camp with clients anywhere within a mile of KNWR public-use cabins. Thus, any time a new public-use cabin is established and it focuses human use in an area, commercial guide activities are limited to avoid the presence of too many people in that area.

It is the perception of some that the refuge's decision to restrict the use of setnet cabins to setnet operations, unless they are being used by hunters, has increased some of the problems with bear-human interactions among campers and other back-country users. Thus, some see a strong need to have more public-use cabins available to focus human use and provide bear-resistant facilities, while at the same time acknowledging that a proliferation of public-use cabins restricts the activities of commercial guides.

#### **6.8.1.1 Kodiak National Wildlife Refuge Public-Use Cabins**

There are presently seven public-use cabins on KNWR.<sup>21</sup> The PUMP allows for as many as nine, and that number is deemed appropriate for refuge lands given high public demand for public cabins and the seasonal nature of cabin use. (The PUMP also allows for conversion to public use of abandoned cabins or cabins on newly acquired lands, where they are located in appropriate areas.) These cabins are in areas accessible only by float plane or boat. Brush and terrain make hiking very difficult, and there are no roads or maintained trails on the refuge.

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<sup>21</sup> They are located at Blue Fox Bay, Viekoda Bay, Uganik Island, Uganik Lake, Little River Lake, South Frazer Lake, and North Frazer Lake.

Commercial air taxi operators who land on the refuge must have special-use permits to transport clients to public-use cabins. Cabin reservations are scheduled by lottery, with the maximum number of nights they can be reserved ranging from seven to 30, depending on time of year.

Efforts are made to ensure that use of these cabins does not lead to negative bear-human interactions. The cabins are equipped with meat caches, and all fish or game meat must be stored in them. Cabin users must haul out *all* trash, unused food, and fuel cans; garbage cannot be buried.

Existing public-use cabins on KNWR are presumed to be properly located where they do not pose a threat to existing bear habitat. The refuge is encouraged to evaluate siting and use of any new cabins proposed (see section 6.8.1.3).

#### **6.8.1.2 *Alaska State Parks Public-Use Cabins***

Alaska State Parks presently has six public-use cabins. Four of the cabins and a ranger station and visitor center are on Shuyak Island. There is one cabin on Afognak Island, and a second one, a refurbished USDA Forest Service cabin (Laura Lake), is being added.

These cabins have all been sited in remote areas away from portions of the parks in which the public usually camps. Although they are not sited in areas of bear concentrations, there are small concentrations within a few miles of most of the cabins. Bears concentrate in these areas during late August and early September during the salmon runs, with the exception of the Laura Lake cabin, where early runs of sockeye salmon attract concentrations of bears between Laura and Paul's lakes throughout the summer season.

Although the Pillar Lake cabin on Afognak does not have any salmon streams in its vicinity, it is along a frequently used trail corridor for bears and there have been frequent sightings of bears. Over the past few years, one bear (or perhaps more) has learned to break into game-hanging sheds adjacent to public-use cabins in Shuyak Island State Park. Remedial action was taken to solve the game shed problem in 2000, and efforts are underway to consider new strategies for game-shed management in the future to avoid bear problems. Alaska State Parks acknowledges the need to continue to provide bear-country information at its public-use cabins.

#### **6.8.1.3 *Recommendation Regarding Public-Use Cabins***

- Proposed new public-use cabins, or those acquired through land acquisition, on KNWR that cause serious adverse impact on important bear habitat or serious conflicts with guides or other user groups should be re-evaluated for relocation to more suitable sites.

#### **6.8.2 *Other Remote Cabins***

Remote cabins offer local residents and visitors safe and comfortable alternatives to camping or staying at lodges. Although KNWR currently has seven public-use cabins, and the Alaska State Park System has six public-use cabins, the use of other existing cabins may be limited to specific uses and time periods that do not permit opportunities for use by bear-viewers.

However, an abundance of remote cabins throughout the archipelago may cause adverse impacts on bear habitat by focusing additional human use in specific areas.

#### *6.8.2.1 Recommendation Regarding Other Remote Cabins*

- All new remote cabins, or land disposals for the purpose of building new remote cabins, that cause serious adverse impacts on important bear habitat or serious conflicts with guides or other user groups should be re-evaluated for location at more suitable sites.

### **6.9 Other Recreational Activities**

Recreational activities such as hiking, camping, trekking, and wildlife viewing can involve negative bear-human interactions if bear-safety guidelines are not heeded. In the section on bear viewing (section 6.6) and in chapter 8, “Education,” the CAC addresses necessary educational efforts and general guidelines for behavior while in bear habitat.