

9. Recommendations

Synopsis: Chapters 3 through 8 contain recommendations specific to the subject matter of the individual chapters. The recommendations made on the subjects of Kodiak bear habitat, harvest issues, redefining bear-management strategy, bear-human interactions, research and monitoring, and education are listed in this chapter, with cross-references back to the original chapter text.

9.1 Chapter 3, “Kodiak Bear Habitat”

Based on information provided in chapter 3, the Citizens Advisory Committee (CAC) makes the following recommendations regarding Kodiak bear habitat.

9.1.1 **Recommendations about Introduced Species**

See section 3.1.1 for background information.

- Identify funding sources to study effects of introduced species on bear habitat (see also chapter 7, “Research and Monitoring”).
- Conduct research to determine if a problem exists with introduced species depleting bears’ food resources or otherwise damaging bear habitat. When evaluating the results of research on introduced species, consider social issues (e.g., subsistence hunting). Research should be subject to peer review (also see chapter 7, “Research and Monitoring”).
- Federal and state governments work with villages and other landowners to maintain the species that currently exist on the Kodiak archipelago.
- Guard against the introduction of additional nonindigenous species that could prove harmful to bears and their habitat. (See also section 6.4.1.)

9.1.2 **Recommendations about Salmon as a Part of Bear Habitat**

See section 3.1.1 for background information.

- Endorse the Kodiak Area Salmon Management plans that regulate commercial fishing on and around the archipelago.
- Continue to collect salmon escapement data to ensure the sustainability of salmon stocks.
- Support operation of essential weirs islandwide and acquire weir sites where appropriate.
- Ensure that easements for access to weir sites be restricted to use by essential personnel.

- Continue to design all salmon enhancement and rehabilitation projects to minimize disturbance of bears and to avoid unnecessary damage to their wild habitats (see Appendix F for more information about salmon enhancement and rehabilitation projects).
- Recognize that the protection of riverine and coastal habitats for bears will help sustain the annual Kodiak salmon commercial harvest, which generates an average exvessel value of \$35 million and provides as many as 5,000 associated jobs.

9.1.3 Recommendations Regarding Afognak Island

See section 3.2.1 for background information.

- Establish an education plan and explore economic incentives aimed at encouraging public and private landowners to consider the effects of motorized access on bears.
- Establish an education plan and explore economic incentives aimed at encouraging private landowners to continue land-management programs that are consistent with wildlife conservation.
- Teach outdoor recreationists to be bear-aware.
- Urge ADF&G, sports enthusiasts, and wildlife conservation groups to cooperate with private landowners to help make their forest practices as compatible as possible with conservation of bears (e.g., continued adherence to the Forest Practices Act and continued use of responsible garbage-management practices).
- Respect private property rights, while recognizing private land owners' responsibilities to adhere to applicable laws in the conservation of bears and their habitats.

9.1.4 Recommendations Regarding Human Activities in Bear Habitat

See section 3.2.2 for background information.

- Maintain or enhance the current high-quality bear habitat on the Kodiak archipelago by protecting riparian areas, including water quality and salmon resources; protecting healthy and contiguous upland areas; and continuing the type of human uses of the area that fosters coexistence.
- Strongly encourage education of outdoor recreationists about bear behavior, impacts to bear habitat, bear-human interactions (e.g., resulting from improperly handled food and trash), field safety practices, and use of bear-resistant containers and electric fences, etc. (see also chapter 3, "Kodiak Bear Habitat").
- Distribute to refuge users educational materials on building safe campfires (see also chapter 3, "Kodiak Bear Habitat").

9.1.5 Recommendations for Land Use, Land Acquisition, and Planning

See section 3.2.3 for background information.

- Continue acquiring small parcels of high-priority bear and salmon habitat from informed, willing sellers.
- Consider bear habitat when evaluating lands for acquisition.
- In any land transfer, recognize subsistence activity, consistent with state and federal laws.
- When their lands are affected, involve village representatives and individuals associated with remote camps in land-acquisition planning.
- Consider bear habitat when conducting land disposals on state land.
- Pursue the acquisition of high-priority bear and salmon habitat on Afognak and Shuyak islands to complete the planned state park units there.
- Through land-use planning, maintain contiguous bear and salmon habitat (i.e., avoid patchwork development).
- Retain state and federal agency access to salmon populations to allow monitoring of stock status. Retain historical salmon rehabilitation and enhancement options identified in Kodiak's comprehensive salmon plan (i.e., lake fertilization, stocking of barren lakes, hydroacoustic surveys of smolt and presmolt populations, use of barrier nets in terminal harvest areas, monitoring of weir sites and fish passes, lake monitoring through limnology assessment, smolt enumeration through mark and recapture, and conducting egg-takes for out-stocking programs) (see also Appendix F).
- Encourage private landowners (e.g., via the use of conservation easements, economic incentives, and education) to consider bear habitat when making land-management decisions.
- Encourage a high level of cooperation among various landowners to achieve ecosystem management objectives for bears.
- Urge all parties to work cooperatively to ensure successful implementation of the conservation easement agreement on the Karluk and Sturgeon rivers watersheds.
- Urge ADF&G, in cooperation with USFWS, to identify key habitat linkages to ensure free movement of bears throughout their natural ranges and to avoid habitat fragmentation.
- Encourage Bureau of Land Management, USFWS, the public, and landowners to together review controversial 17(b) easements and corridors, renegotiate terms and conditions if proved necessary to prevent resource damage, and consider relocating or relinquishing easements that adversely impact important bear habitat. The CAC strongly recommends discouraging off-road vehicle (ORV) use on easements not currently used by ORVs.

9.1.6 Recommendations to Minimize Habitat Degradation

See section 3.2.3 for background information.

- Urge ADF&G, in close cooperation with USFWS, to identify and monitor threats to bears and their habitats and take effective actions to alleviate these threats.
- Encourage appropriate agencies to mitigate damage to bear habitat.
- Urge ADF&G, in close cooperation with USFWS, Kodiak Island Borough, and private landowners, to identify and map all important brown-bear habitats in the archipelago and design action strategies to protect them.

9.1.7 Recommendations Regarding the Shearwater Peninsula²³

See section 3.3 for background information.

- State lands should continue to be managed consistent with terms of the 1981 Terror Lake Agreement (see Appendix S).
- Alaska Department of Natural Resources should work with ADF&G and USFWS to identify important bear habitat within the Shearwater Peninsula that should be classified as wildlife habitat and protected from land disposal.
- Support fair and timely consummation of the proposed Old Harbor Village Corporation land exchange of Sitkalidak Island for lands on Kiliuda Bay on the Shearwater Peninsula.

9.1.8 Recommendations Relating to Bear-Use Areas

See section 3.4.1 for background information.

- USFWS should work with ADF&G and the Kodiak Unified Bear Subcommittee (KUBS) when reexamining refuge areas that are closed or proposed to be closed to the public and commercial operators (see section 1.4.5).
- On USFWS land, restrict back-country use (e.g., require permits) before resorting to total closure to use (USFWS must be equipped to do so).
- Continue to seek enhanced funding for identification and study of important and critical bear habitat.
- Manage critical bear habitat to prevent adverse impacts.
- Consider restricting human use on important streams if there are documented adverse impacts on salmon stocks, bears, or both.
- Mandate an open public process prior to restrictions and ensure that nothing in these recommendation will conflict with federal and state subsistence laws.

²³ The CAC identified this issue as being of current concern and one for which the CAC is making recommendations for immediate action.

9.1.9 Recommendations Regarding Motorized Access

See section 3.4.1 for background information.

- Create baseline information regarding ORV use throughout the archipelago in order to evaluate areas of problems (see chapter 7, “Research and Monitoring”).
- The CAC strongly recommends discouraging ORV use on easements not currently used by ORVs.
- Limit ORV use in important bear habitat areas (i.e., restrict recreational use of ORVs to designated-use areas [e.g., corridors] near villages).
- Develop statewide legislation to require the licensing and registration of ORVs.
- Kodiak Island Borough (KIB) coordinate efforts among ADF&G, USFWS, private landowners, ORV users, and other interested parties to initiate an ORV planning process.
- Commend private property owners’ existing policies restricting motorized public access and encourage continuation of these policies.
- Formally recognize the Kodiak Snow Bruins for its policies regarding responsible snowmachine use.
- To minimize snowmachine impact on bears, additional research is needed to provide the facts necessary to identify highly sensitive areas of brown-bear habitat (e.g., denning areas) (see chapter 7, “Research and Monitoring”).
- Develop snowmachine limitations (e.g., closures) for sensitive denning areas.
- Develop an education and enforcement plan for responsible use of ORVs to minimize negative impacts on bear habitat.
- The CAC objects to ORV manufacturers and retailers whose advertising (commercials) encourage unethical and damaging use of ORVs on public lands.
- Seek the cooperation of ORV user groups to encourage more responsible use of ORVs while in bear habitat.
- Prohibit air boats and personal watercraft (e.g., jet skis) in important bear habitat.

9.1.10 Recommendations about Road Building in Bear Habitat

See section 3.4.2 for background information.

- Explore alternatives to building new roads in important bear habitat areas.
- Support closure (i.e., decommissioning) of obsolete logging roads on public and privately owned lands.
- Continue existing practices to limit motorized public access to logging roads.

9.2 Chapter 4, “Harvest Issues”

Based on the information presented in chapter 4, relating to harvesting activities that involve or impact Kodiak bears, the CAC makes the following recommendations.

9.2.1 Recommendations on Management of Bear-Harvesting Activities

See section 4.1 for background information.

- Endorse ADF&G’s current bear-management objectives, as modified by recommendations made by the CAC in this management plan (see also chapter 5, “Redefining Bear-Management Strategy”).
- Continue to prohibit the baiting of bears throughout the Kodiak archipelago.
- Manage bear populations on carrying capacity and density as well as on harvest objectives (see chapter 5, “Redefining Bear-Management Strategy”).
- Recommend that ADF&G refine population estimates in order to maintain a bear population that can sustain a 6 percent annual sport harvest (see chapter 7, “Research and Monitoring”).
- Develop a co-management agreement with villages to reduce DLPs (see section 6.2) in and around villages and to provide economic incentives to conserve bears; this would include expansion of bear-safety practices, solid-waste management, encouraging Natives to become registered big-game guides, and consideration of bear-hunting permits in areas adjacent to villages.
- ADF&G, USFWS, and other appropriate groups should develop informational and educational materials to help minimize bear-human conflicts and thereby improve hunter image. These materials should be developed for multimedia use and include the following subjects (see chapter 8, “Education”):
 - trip planning and physical conditioning
 - meat handling and storage skills
 - bear behavior and safety
 - a safety-in-bear-country video for wide distribution and use

9.2.2 Recommendations on Village Subsistence Use of Kodiak Bears

See section 4.2 for background information.

- Continue to provide opportunities for subsistence uses of bears by local residents, consistent with conservation provisions essential to sustain the resource.

9.2.3 Recommendations about Sport Hunting of Kodiak Bears

See section 4.3 for background information.

- Maintain the tradition of bear hunting, consistent with the conservative management and regulatory regime that avoid overharvest of the resource.
- Maintain the tradition of bear hunting, consistent with the highest ethical standards of safety and fair chase.
- Ensure that all hunters are provided with the Boone & Crockett fair-chase statement²⁴ and that it is printed on all ADF&G and USFWS materials relating to hunting, as appropriate (see also Appendix C).
- If reductions in harvest are necessary, consider ways of reducing the female harvest prior to reducing permit numbers (i.e., skull-sex minimums in southwestern Kodiak).
- To better achieve wildlife-acceptance capacity (see section 5.3) along the Kodiak road system, increase bear harvest by extending the spring bear-hunting season to May 31.

9.2.4 Recommendations Relating to Guiding

See section 4.4 for background information.

- Strongly support the restrictive guide system currently in use on federal lands of the Kodiak archipelago and encourage reinstatement of this system on other lands.
- Support the Alaska Board of Game resolution 98.127, 1998, (see Appendix R) requesting reinstatement of the Big-Game Commercial Services Board.
- Guides/outfitters and transporters should make bear-safety educational materials available to elk hunters.

9.2.5 Recommendations on Other Resource-Extraction Activities

See section 4.5 for background information.

9.2.5.1 Recommendations about Sport Hunting

- Urge ADF&G to continue to track the number of bears killed by deer, elk, and goat hunters to minimize such bear mortality and make a serious effort to mitigate this problem through education of big-game hunters on how to avoid dangerous situations involving bears (see also chapter 8, “Education,” and chapter 7, “Research and Monitoring”).
- Require mandatory hunter education, which should include bear-safety instruction, before entering the field in GMU 8 (see also chapter 8, “Education”).
- Encourage hunters to quickly remove kill meat to a safe distance from the kill site.

²⁴ Fair Chase, as defined by the Boone and Crockett Club, is the ethical, sportsmanlike and lawful pursuit and taking of any free-ranging wild, native North American big-game animal that does not give the hunter an improper advantage over such game animals.

- Using the ADF&G Web site and brochures, educate hunters about terrain issues (see also chapter 8, “Education”).
- Urge ADF&G to develop other educational tools (e.g., videos using local people) to educate hunters about hunting in bear country (see also chapter 8, “Education”).
- Submit an article about hunting on Kodiak (written by Hank Pennington) to a sporting magazine (see chapter 8, “Education”).
- Place educational materials in places (and with people) where they can be readily accessed (e.g., Web site, airport, magazines, tourism offices, USCG base, villages, guide/outfitters, public libraries, schools, museums, ferries, tribal council offices, Fish & Wildlife Protection officers, Alaska State Park offices and state parks staff, public radio, and television) (see also chapter 8, “Education”).
- Recommend strongly that elk hunters hunt in groups or teams.
- Limit the harvest of deer to the number of animals the hunter can handle.
- Encourage hunters to promptly gut the harvested animal and move it to a safe, visible location.
- Encourage hunters to store meat responsibly so it won’t attract bears (e.g., high in trees, within electric fences); use of mini-electric fences is advised.
- Encourage hunters to be aware of carcasses or gut piles from animals harvested by others.
- Urge ADF&G, USFWS, and other appropriate groups to develop educational materials to eliminate conflicts between deer hunters and bears (e.g., how to handle meat, safety, location, bear posture) (see also chapter 8, “Education”).

9.2.5.2 Recommendations Regarding Commercial Fishing

- Salmon escapement goals should continue to allow for natural predation by bears and other wildlife (see Appendix F, “Principles and Criteria for Sustainable Salmon Fishing,” and Appendix U, “Policy for Statewide Salmon Escapement Goals”).
- Continue evaluating species-specific salmon escapement levels against drainage-specific bear use of salmon; investigations should emphasize an ecosystem overview (e.g., salmon biological escapement goal [BEG] rather than bear densities) (see chapter 3, “Kodiak Bear Habitat” and chapter 7, “Research and Monitoring”).
- Continue monitoring salmon escapement trend data and subsequent species-specific productivity; evaluate salmon harvest strategies for all human user groups. (see Appendix F, “Principles and Criteria for Sustainable Salmon Fishing”).

9.2.5.3 Recommendations Regarding Sport Fishing

- Urge ADF&G to evaluate whether increased human activity will lead to increased negative bear-human encounters in areas of especially high bear use (see chapter 7, “Research and Monitoring”).

- Identify areas where hardened²⁵ fishing campsites would minimize bear-human conflicts (see chapter 7, “Research and Monitoring”).
- Encourage Kodiak Unified Bear Subcommittee (KUBS), ADF&G, and USFWS to work together to identify areas where there may need to be restrictions on camping and other activities because of the potential displacement of bears (see chapter 7, “Research and Monitoring”).
- Designate food-storage areas, especially at Bare Creek.
- Continue use of electric fences or other practical means of excluding bears from anglers’ food caches on KNWR and in other areas and jurisdictions of the Kodiak archipelago.
- Develop an educational program for anglers in cooperation with professional organizations, agencies, and sportsmen’s groups to include information about proper food and fish storage and cleaning of fish (see chapter 8, “Education”).
- Encourage the use of bear-resistant food containers and require their use in areas of high bear concentrations (e.g., along prime sport fishing streams).
- In certain bear-feeding areas, there is a predictable, seasonal increase in potential bear-human conflicts related to sport fishing activities. The CAC recognizes that ADF&G Division of Sport Fish biologists are not authorized to write emergency orders to manage a sport fishery to address bear conservation. The CAC recommends that ADF&G Divisions of Sport Fish and of Wildlife Conservation cooperatively prepare an integrated management plan for approval by the combined Board of Fisheries and Board of Game, with the prime purpose of the management plan being to reduce bear-human conflicts associated with sport fishing. This plan should determine the carrying capacity for anglers and guide operations at favored fishing sites and the setting of limits necessary to maintain a high-quality wilderness sport fishing experiences.

9.2.5.4 Recommendations Regarding the Harvest of Plants and Berries

- Develop methods to objectively document annual abundance and availability to bears of vegetation in representative habitats on the Kodiak archipelago.
- Research the impact on bears of commercial use of salmonberries and blueberries.

9.2.6 Recommendations on Regulations and Enforcement

See section 4.6 for background information. Following are those recommendations for regulations and enforcement other than those relating to DLPs (which are discussed in chapter 6, “Bear-Human Interactions”).

²⁵ A “hardened” campsite is one that is designed to minimize negative bear-human interactions. A hardened campsite is strategically located to avoid bear travel corridors. It typically provides bear-resistant food storage options, campsites, and necessary facilities, commensurate with the level of human use, to provide a safe recreational experience.

- Ensure a level of cooperative state and federal law enforcement deemed essential to achieve compliance with conservation laws, rules, and regulations; preventive education should be the first priority in this regard (see also chapter 8, “Education”).
- Provide better funding and staffing of the state Division of Fish & Wildlife Protection to achieve the optimum level of law enforcement presence on the Kodiak archipelago.
- Urge state and federal wildlife protection and enforcement agencies to take appropriate actions under existing law to prevent trade in Kodiak bear parts.
- Identify appropriate elders and leaders to work with village public safety officers (VPSOs) to help educate residents about conservation laws, rules, and regulations (see also chapter 8, “Education”).
- To foster cooperation, request that the Alaska Department of Public Safety, Division of Fish & Wildlife Protection, and the U.S. Fish & Wildlife Service conduct annual outreach programs, explaining regulations and enforcement issues (including DLPs) in communities throughout the Kodiak archipelago (also see chapter 8, “Education”).
- ADF&G and USFWS work with the USCG to identify those areas and seasons in which bears and hunters are particularly vulnerable to harassment by overflying and to encourage reinforcing USCG policy minimizing low overflight in these areas (see also sections 4.6 and 6.7).
- Continue education cooperation among the agencies annually, or more often as required, to alert new air crews to these concerns and policies and to continue good relations within the communities (also see chapter 8, “Education”).
- Encourage USFWS to make enforcement of off-road vehicle (ORV) regulations a priority on the Kodiak National Wildlife Refuge.
- Cross-deputize Division of Fish and Wildlife Protection officers and Kodiak National Wildlife Refuge officers to provide authority for enforcing pertinent state and federal sport fish, wildlife, and refuge laws.

9.3 Chapter 5, “Redefining Kodiak Bear-Management Strategy”

9.3.1 Recommendations on Redefining Kodiak Bear-Management Strategy

Based on the information provided in chapter 5, the CAC makes the following recommendations:

- ADF&G manage bear populations based on carrying capacity and density as well as on harvest objectives (see Figure 5-1 and Table 5-2).
- ADF&G reduce the bear population on northeastern Kodiak Island (i.e., along the road system; area 30 of management subunit #2 on Figure 5-1) by 10–20 percent below the current estimated level through liberalized sport hunting seasons in the spring (see also section 4.3) and issuance of appropriate depredation permits.

- Urge ADF&G and USFWS to dedicate funds to survey Afognak Island and the Kodiak road system (management subunit # 1 and area 30 of management subunit #2) as soon as possible to determine accurate bear populations (also see chapter 7, “Research and Monitoring”).
- Encourage ADF&G, USFWS, and village tribal councils to work together to gather data on bear populations and carrying capacity for management purposes.

9.4 Chapter 6, “Bear-Human Interactions”

Based on information provided in chapter 6, regarding various interactions between humans and bears, the CAC makes the following recommendations.

9.4.1 Recommendations about Habituation and Food-Conditioning of Kodiak Bears

See section 6.1 for background information.

- To understand human habituation and its effects on bears, the CAC recommends that 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”).

9.4.2 Recommendations Regarding Defense of Life or Property Kills

See section 6.2 for background information.

- 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.²⁶
- 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”).
- 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 USFWS should provide information to rural residents about the laws, rights, and duties regarding DLPs (see also chapter 8, “Education”).

²⁶ 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.

- 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”).

9.4.3 Recommendations Regarding Solid-Waste Management and Storage of Human and Pet Food

See section 6.3 for background information.

9.4.3.1 Recommendations about Landfill Management

- Encourage the Kodiak Island Borough (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.

9.4.3.2 Recommendations Regarding Larsen Bay Solid-Waste Disposal Site²⁷

- 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 site 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.

²⁷ The CAC identified this issue as being of current concern and one for which the CAC is making recommendations for immediate action.

9.4.3.3 Recommendations about Food Storage and Solid-Waste Management

- Strictly enforce regulations prohibiting feeding of bears.
- Develop better regulations and enforcement regarding food, garbage, and fish-handling in bear areas.
- Vigorously enforce littering laws and laws that prohibit feeding bears. Encourage residents to work within their neighborhoods to identify and correct potential problem areas.
- 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 has been proved as 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 (the KIB program should be developed as 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).
- Provide public information on actions planned by the intergovernmental working group and encourage public input and questions on 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 avoid encouraging peoples’ seeking out bears) (see 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; individual responsibilities of visitors should be outlined and disseminated so that they recognize their role in preventing problems (see also chapter 8, “Education”).

9.4.4 Recommendations Regarding Livestock Ranching

See section 6.4 for background information.

- 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.

9.4.5 Recommendation Regarding Compensation for Property Loss

See section 6.5 for background information.

The CAC decided that the institution of depredation permits, coupled with education about steps to take to minimize problems with bears, was more appropriate than seeking compensation for property loss at this time.

9.4.6 Recommendations Related to Bear-Viewing Activities

See section 6.6 for background information.

9.4.6.1 Recommendation Regarding Public-Use Restrictions on the Kodiak National Wildlife Refuge

See section 6.6.2.2 for background information.

- 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 yr old) and that the public-use potential, on which some of the closures were based has not been fulfilled and likely won't be.

9.4.6.2 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.)²⁸

9.4.6.3 Recommendations Regarding Bear Viewing

See section 6.6 for background information.

The CAC has requested formation of the Kodiak Unified Bear Subcommittee (KUBS), (see also section 1.4.5). Among its other tasks, KUBS would 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 users and timing of bear use, accessibility to visitors, existing viewing use, proximity to local communities or dwellings, competing uses, and compatible uses.
- Develop a general set of operational guidelines relating to bear-viewing sites that protect all natural resources.
- 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)

²⁸ 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.

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- 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
 - Review the following areas, which may also have restrictions or closures to public access, to commercial operators, or to both:
 - Frazer fish pass
 - Lower Dog Salmon Falls
 - Humpy Cover
 - Red Lake SE Creek
 - Ayakulik River at its confluence with the Red River
 - If sites 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 on 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 soon²⁹.
- 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.
- 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:
 - 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 livestock 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

²⁹ 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.

- 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 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 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 also section 6.6.3 and 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.
- 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

9.4.7 Recommendations Regarding Use of Aircraft on the Kodiak Archipelago

See section 6.7 for background information.

- 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 the bear or bears.
 - 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.
- Enforce state and federal laws regarding the intentional harassment of bears with aircraft.
- 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.

9.4.8 Recommendation Regarding Public-Use Cabins

See section 6.8.1 for background information.

- Proposed new public-use cabins on, 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 reevaluated for relocation to more suitable sites.

9.4.9 Recommendation Regarding Other Remote Cabins

See section 6.8.2 for background information.

- 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.

9.5 Chapter 7, “Research and Monitoring”

Based on background information provided in chapter 7, the CAC made the following recommendations about research and monitoring activities.

9.5.1 Recommendations Regarding Monitoring (in priority order)

- Maintain the current bear-harvest monitoring regime, including permit reports, specimen requirements, and on-island bear sealing.
- Continue monitoring bear density on Kodiak Island and increase survey frequency to at least once every five years for the Aliulik Peninsula, Karluk Lake, Terror Lake, Kiliuda, and Spiridon survey areas.

- Continue monitoring salmon escapement trend data and subsequent species-specific productivity; evaluate salmon harvest strategies for all human user groups (see Appendix F, “Principles and Criteria for Sustainable Salmon Fishing”) (see chapter 4, “Harvest Issues”).
- Develop methods to objectively document annual abundance and availability to bears of vegetation in representative habitats on the Kodiak archipelago (see chapter 3, “Kodiak Bear Habitat”).
- Monitor the bear population carefully on an annual basis to ensure survival of the optimum sex and age distribution of bears.

9.5.2 Recommendations for Future Research

9.5.2.1 Research on Density and Harvest

- Research and monitoring should be done to evaluate the effectiveness of depredation permits in terms of density and harvest calculations (see footnote 16 on page 6-17 for information about depredation permits).
- Assess bear density on Afognak Island and the Kodiak road system with the goal of establishing routine density monitoring in these areas by 2005.
- Determine the optimum percent of adult male bears that should be harvested by hunters in order to maintain genetic diversity and vigor (fitness) in the population, and evaluate existing survival, productivity, harvest, and population data to determine appropriate harvest rates by area, by sex, and by age.
- Work with villagers, remote cabin and lodge residents and owners, and hunters to refine population estimates and to refine unreported bear-kill data in order to maintain a bear population that can sustain a 6 percent annual sport harvest. Include revised estimates in harvest analyses (see chapter 4, “Harvest Issues”).
- Explore methods to estimate subadult (from weaning to maturity) mortality and dispersal and apply results to existing survival estimates.
- Continue to track the number of bears killed by deer, elk, and goat hunters to minimize such bear mortality and make a serious effort to mitigate this problem through education of big-game hunters on how to avoid dangerous situations involving bears (see chapter 4, “Harvest Issues” and chapter 8, “Education”).

9.5.2.2 Research on Habitat

- Kodiak National Wildlife Refuge should detail its management intent for the Mt. Glottof Research Natural Area (RNA), especially with regard to uses by the public. While the CAC recognizes the importance to bears of the Mt. Glottof RNA, USFWS is urged to continue to allow existing human uses of the area, including hunting, hiking, and trekking. Any future management plans for the area should include substantial public input.

- Delineate types and extent of bear habitat on the Kodiak archipelago using remote-sensing technology and ground-truthing.
- Use radiotelemetry data from previous studies to examine habitat preferences by bears on various parts of Kodiak Island (by season and by reproductive status).
- Examine bear use of spruce forests and adjacent habitats by conducting a radiotelemetry study on Afognak Island. Include documentation of bear use of newly cut and regenerating forests.
- Conduct baseline research on Sitka black-tailed deer and mountain goat habitat use and movements using radiotelemetry. Data collected from these investigations, and from data already collected on elk, will be used to focus future research on impacts of these species on bears.
- Develop methods to objectively document annual vegetative abundance and availability to bears in representative habitats on the Kodiak archipelago.
- To minimize snowmachine impact on bears, additional research is needed to provide the facts necessary to identify highly sensitive areas of brown-bear habitat (e.g., denning areas) (see chapter 3, “Kodiak Bear Habitat”).
- Identify funding sources to study effects of introduced species on bear habitat and conduct research to determine if a problem exists with introduced species depleting bears’ food resources or otherwise damaging bear habitat. When evaluating the results of research on introduced species, social issues (e.g., subsistence hunting) should be considered. Research should be subject to peer review (see chapter 3, “Kodiak Bear Habitat”).
- Research the impact on bears of commercial use of salmon berries and blueberries (see chapter 3, “Kodiak Bear Habitat”).
- Continue evaluating species-specific salmon escapement levels against drainage-specific bear use of salmon; investigations should emphasize an ecosystem overview (e.g., salmon biologic escapement goal [BEG] rather than bear densities) (see chapter 3, “Kodiak Bear Habitat”).

9.5.2.3 Research on Bear-Human Interactions

- Examine bear use, human use, and bear-human interactions in areas of high bear concentration where public use has been established and where regulations limiting public use and access may be considered.
- Compare survival rates, including vulnerability to hunters, of bears that frequent structured bear-viewing sites with those that do not.
- Delineate the movements and survival rates of bears that frequent solid-waste sites and other human-use areas.
- Assess the relationship between quality of visitor experience and different types of bear-viewing operations.

- Evaluate the effectiveness of landfill and on-site human food and garbage management strategies, including public education efforts, and refine efforts to improve their effectiveness.
- Evaluate the effectiveness of bear-safety public education efforts and refine to improve effectiveness.
- Identify areas where hardened³⁰ fishing campsites would minimize bear-human conflicts (see chapter 3, “Kodiak Bear Habitat”).
- Research and monitoring should be done to evaluate the effectiveness, in reduction of bear-human interactions, of depredation permits (see footnote 16 on page 6-17 for information about depredation permits).

9.6 Chapter 8, “Education”

9.6.1 Recommendations Relating to Bear-Education

Based on the information provided in chapter 8, the CAC makes the following recommendations:

9.6.2 User Education—General

- Develop an intergovernmental working group composed of representatives from wildlife management agencies (ADF&G, USFWS), public safety agencies (Alaska State Troopers, local and military police departments), local governments (city, village, and borough), the Kodiak Fish & Game Advisory Committee, 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 chapter 6, “Bear-Human Interactions”).
- Develop a bear education kit, similar to that developed on the Kenai Peninsula (see section 8.2.1), for Kodiak archipelago communities. It would include locally relevant materials that either already exist or need to be developed. A group of educators and biologists, similar to the one working on the Kenai kit, would work together to finalize and field test the Kodiak kit. Upon completion of the kit, ADF&G Project WILD staff and facilitators would develop and facilitate training sessions for teachers in each Kodiak archipelago community.
- Ensure a level of cooperative state and federal law enforcement deemed essential to achieve compliance with conservation laws and regulations; preventive education should be the first priority in this regard (see section 4.6).
- 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.) (See chapter 6, “Bear-Human Interactions.”)

³⁰ A “hardened” campsite is one that is designed to minimize negative bear-human interactions. A hardened campsite is strategically located to avoid bear travel corridors. It typically provides bear-resistant food storage options, campsites, and necessary facilities, commensurate with the level of human use, to provide a safe recreational experience.

- Strongly encourage education of outdoor recreationists about bear behavior, impacts to bear habitat, bear-human interactions (e.g., resulting from improperly handled food and trash), field safety practices, and use of bear-resistant containers and electric fences, etc.
- To minimize bear problems, educate people about handling personal property, including chicken pens, fish-drying sheds, food-storage areas, and pet food (see section 6.3.2).
- Ensure that visitors are made aware of the efforts to keep bears away from human food and garbage; individual responsibilities of visitors should be outlined and disseminated so that they recognize their role in preventing problems (see section 6.3.2).

9.6.3 User Education—Hunters

- Urge ADF&G, USFWS, and other appropriate groups to develop informational and educational materials to help minimize bear-human conflicts and thereby improve hunter image. These materials should be developed for multimedia use and include the following subjects (see section 4.1):
 - trip planning and physical conditioning
 - meat handling and storage skills
 - bear behavior and safety
 - a safety-in-bear-country video for wide distribution and use
- Encourage guide/outfitters and transporters to make bear-safety educational materials available to all hunters (see section 4.5.1).
- Encourage ADF&G to continue to track the number of bears killed by deer, elk, and goat hunters to minimize such bear mortality. ADF&G should make a serious effort to mitigate this problem through education of big-game hunters on how to avoid dangerous situations involving bears (see chapter 4, “Harvest Issues,” and chapter 7, “Research and Monitoring”).
- Require a mandatory hunter-safety course, which should include bear-safety instruction, before going afield to hunt in GMU 8 (see chapter 4, “Harvest Issues”).
- Encourage ADF&G to develop other educational tools (e.g., videos using local people) to educate hunters about hunting in bear country (see chapter 4, “Harvest Issues”).
- Submit an article (written by Hank Pennington) about hunting on Kodiak to a sporting magazine (see chapter 4, “Harvest Issues”).

9.6.4 User Education—Off-Road Vehicles

- Create an educational program to encourage responsible use of off-road vehicles (ORVs) to minimize negative impacts on bear habitat (see chapter 3, “Kodiak Bear Habitat”).

9.6.5 User Education—Anglers

- Develop an educational program for anglers in cooperation with professional organizations, agencies, and sportsmen’s groups to include information about proper food and fish storage and cleaning of fish (see chapter 4, “Harvest Issues”).
- Include bear biology, behavior, and safety information in the KNWR salmon camp curriculum..

9.6.6 User Education—USCG

- Continue education cooperation between ADF&G and the USCG annually, or more often as required, to alert air crews to their wildlife-conservation responsibilities and to promote good relations within the community (see sections 4.6 and 6.7).

9.6.7 Economic Incentives and Land Management

- Establish an education plan and explore economic incentives aimed at encouraging public and private landowners to consider the effects on bears of motorized access and to continue land-management programs that are consistent with wildlife conservation (see chapter 3, “Kodiak Bear Habitat”).
- Encourage private landowners (e.g., via the use of conservation easements, economic incentives, and education) to consider bear habitat when making land-management decisions (see chapter 3, “Kodiak Bear Habitat”).

9.6.8 Villages and Rural Residents

- Identify appropriate elders and leaders to work with village public safety officers (VPSOs) to help educate residents about conservation laws, rules, and regulations (see section 4.6).
- Encourage village residents, VPSOs, and appropriate agencies to work together to develop information and education materials and strategies to reduce bear-human conflicts in the villages (see chapter 6, “Bear-Human Interactions”).
- Encourage state troopers and USFWS to provide information to rural residents about the laws, rights, and duties regarding killing bears in defense of life or property (DLP) (see section 6.2).
- 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 section 6.2).

9.6.9 Outreach

- Place educational materials in places (or with people) where they can be readily accessed (Web site, airport, magazines, tourism offices, USCG base, villages, guide/outfitters, public libraries, schools, museums, ferries, tribal council offices, Fish & Wildlife Protection officers, Alaska State Park offices and state parks staff, public radio, and television) (see chapter 4, “Harvest Issues”).
- To foster cooperation, the Alaska Department of Public Safety, Division of Fish and Wildlife Protection, and the USFWS conduct annual outreach programs, explaining regulations and enforcement issues (including DLPs) in communities throughout the Kodiak archipelago (see section 4.6).
- Provide public information on actions planned by the intergovernmental working group and encourage public input and questions on those actions (see chapter 6, “Bear-Human Interactions,” and 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 section 6.3.2).
- 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) (see section 6.3.2).
- 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) (see chapter 6, “Bear-Human Interactions”).
- 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 avoid encouraging people seeking out bears) (see section 6.3.2).
- Locate on-site bear safety reminders on dumpsters (e.g., “Be Bear Aware”) and at collections sites (i.e., public landfill; see section 6.3.2).
- 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 section 6.6 and chapter 8, “Education”).
- Disseminate bear-viewing guidelines for the public and private sectors that reflect safety while viewing bears from the ground 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 (see Appendix H) (see section 6.6 and chapter 8 “Education”).

- 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 could get a close-up view of habitat areas for bears, goats, ducks, eagles, 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 section 6.6 and chapter 8 “Education”).

9.6.10 Funding

- Seek funding for islandwide education and regulation of bear-viewing businesses through, but not limited to, the following (see section 6.6 and chapter 8 “Education”):
 - reasonable permit fees
 - sale of Kodiak Wildlife Viewing stamps
 - Wildlife Restoration funds
 - Land and Water Conservation Act 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.