Kenai Fjords National Park

2013 Interim Bear Management Plan

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I. INTRODUCTION AND MANAGEMENT OBJECTIVES

Bears occur throughout Kenai Fjords National Park (KEFJ) and represent a significant wildlife component of its ecosystem. Bears are a focal attraction for park visitors and the opportunity to see a bear in its natural habitat contributes significantly to enjoyment of the park. This interaction, however, can increase the potential for conflict between humans and bears and alter normal bear behavior. Park management and visitor activities can also affect use of habitat by bears and all bears are capable of injuring people and damaging property. These factors present a challenge to management when trying to maintain or conserve bears as an integral component of the ecosystem while providing for reasonable public safety.

Black bears (*Ursus americanus*) are abundant along the park's 400 mile coastline, while brown bears (*Ursus arctos*) are restricted to the southern and northern regions of the park (Nuka Bay and Exit Glacier/Resurrection River valley). Along the KEFJ coast, bears generally inhabit a narrow terrestrial strip between the offshore marine ecosystem and the Harding Icefield characterized by rocky shorelines, shallow mudflats, gravel beaches, tidal marshes, beach grass meadows, salmon streams, protected lagoons, alder and salmonberry shrubfields, Sitka spruce/mountain hemlock forests, and open bogs and fens. A unique mosaic of plant communities including alpine meadows, wetlands, deciduous riparian forest, coastal rainforests, and boreal forests characterizes the Exit Glacier and Nuka Bay areas of the park where both brown and black bears occur.

In 1999, KEFJ partnered with the University of Alaska at Fairbanks (UAF) and the US Geological Survey Biological Resources Discipline (USGS-BRD) to initiate a comprehensive black bear study program aimed at obtaining critical ecological information on species abundance, distribution, and habitat use, and at examining how increasing human activity impacts black bear distribution and abundance in sensitive coastal habitats.

In order to better understand habitats important to black bears and determine if human activities displace bears from these habitats, 21 black bears in Aialik and Two Arm Bays were instrumented with GPS radio-collars over the course of three summers (2000 – 2002). Preliminary data analysis indicates that black bears in these areas of the park prefer tall shrub and herbaceous habitats and avoid dwarf shrub, sparsely vegetated, deciduous mixed forests and barren habitats during the months surveyed (July and August). Human activity appeared to have very little overall effect on black bear habitat selection, but males had significantly reduced activity patterns when humans were present during the late summer berry season. Home range sizes did not differ significantly between males and females, with mean home range sizes for males averaging 11.6 +/- 3.6 (SE) km^2 and 16.9 +/- 8.3 km^2 for females (French 2003). A concurrent study of black bear summer (June – August) seasonal diet preferences based on scat analyses revealed a wide range of food items in black bear diets with the most important being salmonberry, blueberry and herbaceous vegetation (forbs and grasses) (Crews 2002). This study highlights the critical importance of salmonberry thickets, mature forests with blueberry understories, and open forb/graminoid communities for coastal black bears in KEFJ.

In 2002 and 2003, USGS and NPS biologists developed and implemented research protocols to assess black bear response to a variety of human activities presently occurring in coastal areas (e.g., bear-kayak, bear-vessel, bear-campers, etc.) using controlled approaches by foot, kayak, and motorboat. Remote time-lapse video cameras were also used to document bear behavior in beach meadows while humans were both present and absent from the area (Smith et al. 2012). Based on findings from the study, the authors recommend a minimum approach distance of 170 m for skiffs and kayaks and 116 m for hikers to minimize bear displacement by visitors to the park. In addition, the authors suggest people avoid camping in saltmarsh areas so as to leave bears undisturbed. This study underscored the importance of beach grass meadows and the intertidal zone for foraging black bears especially in spring when snow still blankets much of the landscape.

Genetic diversity and connectivity among black bears on the Kenai Peninsula including KEFJ are described by Robinson et al. (2007). Using non-invasive genetic sampling techniques, this study found a high level of genetic connectivity among black bears on the Kenai with more restricted gene flow between the Kenai and mainland. Black bears on the Kenai Peninsula were found to be historically distinct from mainland populations, suggesting that connectivity has been restricted since the end of the Pleistocene Ice Age (7,000 ybp). Three genetically distinct groups that cluster geographically in the Kenai Peninsula, Alaskan mainland and Prince William Sound areas were identified. Genetic diversity was similar among all groups and connectivity moderate between groups. Topographic and anthropogenic landscape features appear to have influenced gene flow within and the among population units (Robinson 2007). Corridors such as the Nuka and Resurrection River valleys appear to be critically important for maintaining connectivity between coastal regions and inland portions of the peninsula separated by the heavily glaciated Kenai Mountains (Robinson et al. 2007).

Also using non-invasive genetic sampling, Robinson et al. (2009) generated baseline estimates of black bears in coastal fjord areas of KEFJ. Population estimates ranged from 73-324 black bears in each of the three bays where data were sufficient for analysis (Aialik, Two Arm and Nuka Bays). More intensive sampling would be required to achieve more precise estimates for establishing trends of black bear abundance.

In 2006, KEFJ partnered with other agencies to conduct research to obtain an estimate of brown bear population numbers on the Kenai Peninsula. A pilot study using non-invasive hair snare "mark and recapture" methods was completed during the 2006 field season. One site in the pilot project was within the park in the Exit Glacier area. The federal cooperating agencies (FWS, FS, and NPS) worked diligently to address numerous concerns raised by the State of Alaska. However, the State remained uncomfortable with the fundamental experimental design and would not issue the research permit needed to sample off federal lands. It is impossible to obtain a scientifically defensible population estimate for the Kenai Peninsula without sampling on non-federal lands. The importance of this estimate is no less than when the proposal was prepared in 2003, but we did not have the four-agency partnership that we were seeking. Therefore, the park returned NPS funding for this project to the Washington Office in late 2009.

This bear management plan is an interim plan because it is designed to use an adaptive management approach. Given the nature of the bear management situation in the park, managers

determined that a plan to provide guidance for operations in the interim is warranted. As we field test protocols and procedures, the plan will be refined until it will no longer be considered interim.

The 1916 Organic Act mandated the National Park Service (NPS) to *"…conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."*(16 USC 1). NPS Management Policies (2006) guide management of native animals:

Whenever possible, natural processes will be relied upon to maintain native plant and animal species, and to influence natural fluctuations in populations of these species. The Service may intervene to manage individuals or populations of native species only when such intervention will not cause unacceptable impacts to the populations of the species or to other components and processes of the ecosystems that support them. The second is that at least one of the following conditions exists:

- *Management is necessary*
    - *because a population occurs in an unnaturally high or low concentration as a result of human influences (such as loss of seasonal habitat, the extirpation of predators, the creation of highly productive habitat through agriculture or urban landscapes) and it is not possible to mitigate the effects of the human influences;*
    - *to protect specific cultural resources of parks;*
    - *to accommodate intensive development in portions of parks appropriate for, and dedicated to, such development;*
    - *to protect rare, threatened, or endangered species;*
    - *to protect human health as advised by the U. S. Public Health Service (which includes the Centers for Disease Control and the NPS Public Health Program);*
    - *to protect property when it is not possible to change the pattern of human activities; or*
    - *To maintain human safety when it is not possible to change the pattern of human activities.*
- *Or, removal of individuals or parts thereof*
    - *is part of an NPS research project described in an approved management plan, or is part of research being conducted by others who have been issued a scientific research and collecting permit;*
    - *is done to provide plants or animals for restoring native populations in parks or cooperating areas without diminishing the viability of the park populations from which the individuals are taken; or*

- *Meets specific park management objectives.*

Within the context of the NPS mission, the goals of this plan (BMP) are to:

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

It is important to recognize that each bear-human incident may involve unique circumstances for which strict adherence to the procedures outlined in this plan may not be appropriate. Management action will begin with the least manipulative method relative to the situation.

II. ORGANIZATION AND RESPONSIBILITIES

The primary responsibility for implementation of this plan lies with the Interpretation, Visitor and Resource Protection and RM Teams.

Interpretation Team

The major roles of the Interpretation Team in bear management include interpretation and public information:

- Providing public information, including public education, accurate and timely information to park users, and information to the press.
- Responding appropriately as first on the scene at bear incidents.
- Ensuring that wildlife incidents or situations are reported to the RM or VRP team as needed.
- The Chief of Interpretation or delegate represents the park on the Kenai Brown Bear Committee (KBBC).
- Members of this team may be designated and trained for the Bear Incident Response Team.

Visitor and Resource Protection (VRP) Team

The major roles of the Visitor and Resource Protection Team in bear management include:

- Posting and maintaining advisory and warning signs
- Conducting law enforcement contacts, including enforcing food storage and garbage handling requirements

- Implementing and maintaining temporary closures
- Working with RM for notification of bear incidents to kayak and water taxi call lists as defined in Bear Incident Response Guidelines
- Investigating and documenting bear-human interactions, in conjunction with resource management staff.
- Maintaining and issuing firearms and ammunition to park staff.
- Most field members of this team will be designated and trained for the Bear Incident Response Team.

Resource Management (RM) Team

The major roles of the RM Team in bear management are providing professional technical assistance to minimize the effects of human activities on the distribution, abundance and behavior of black and brown bear populations as part of an intact ecosystem.

Employees of the RM Team have primary responsibility for:

- Advising park staff and management on bear biology and behavior.
- Investigating and documenting bear-human interactions, in conjunction with VRP staff.
- Maintaining routine liaison and communication with biologists from other agencies and develop cooperative management, research and monitoring strategies. Coordinate NPS representation on Kenai Brown Bear Policy and Management Group (KBBPMG) and Interagency Brown Bear Study Team (IBBST).
- Data collection and record-keeping including: 1) Incident tracking and management of the KEFJ bear incident database, 2) Annual summaries or progress reports on the bear management program, 3) Bear research and monitoring in the park, 4) use of bear pepper spray under the NPS Integrated Pest Management program.
- Maintaining and providing bear pepper spray to park staff.
- Most members of this team will be designated and trained for the Bear Incident Response Team.

Facilities Management Team

The Chief of the Facilities Management Team is responsible for implementing some of the prevention measures outlined in this plan. These responsibilities include enacting measures to properly handle garbage and to exclude animals from structures, including garbage and recycling containers. Facilities Management employees will ensure that all work crews, including volunteer trail crews, comply with requirements for proper food storage, garbage management, and general sanitation at work and housing sites. Members of this team may be designated and trained for the Bear Incident Response Team.

Bear Management Team

The Bear Management Team is composed of the Chief of the Resource Management (RM) Team and the Chief of the Visitor and Resource Protection Team. The Chief of Interpretation and the Chief of Facilities Management will serve as members of the team as appropriate to specific incidents at the discretion of the Superintendent. This team is responsible for:

- Determination of operational management response to specific bear incidents occurring in the park.
- Formulation and oversight of written and verbal information on bear safety and incidents provided to employees and the public, including the press. This information will be consistent with that disseminated by the NPS Alaska Regional Office and the interagency Kenai Brown Bear Policy and Management Group.
- Development of bear safety training standards and coordination for annual staff training.
- Review and revision of this Bear Management Plan, as needed. At a minimum, the plan will be reviewed annually.
- Advising the Superintendent on all matters regarding bear management.

Bear Incident Response Team

The Bear Incident Response Team consists of park staff trained, and available, to respond to bear incidents and who may be involved in aversive conditioning operations. These individuals will be identified on an annual basis and will include staff from both the VRP and RM Teams, although staff from other teams who receive the appropriate training and are available for response may also be included. This team is responsible for implementation of management response to specific bear incidents.

Regional Wildlife Biologist

The Regional Wildlife Biologist located in the NPS Alaska Regional Office will serve as a technical advisor to park staff on bear management issues and may participate in or implement various management actions within the park. In the event of a bear emergency and the absence of the Superintendent and Chief of RM and the Chief of VRP, park staff may contact the regional wildlife biologist and he will then have authority to make bear management decisions for KEFJ.

Kenai Brown Bear Policy and Management Group (KBBPMG)

The KBBPMG is an interagency group consisting of representatives from Kenai Fjords National Park, Kenai National Wildlife Refuge, Chugach National Forest, and the Alaska Department of Fish and Game.

This group was created by a Memorandum of Understanding to:

- Facilitate the continued conservation of Kenai brown bears.
- Act as an umbrella group to address policy and management issues regarding Kenai brown bears that affect the interest and responsibilities of member agencies.

- Facilitate interagency collaboration and funding to support resource management and information needs.
- Charter the Interagency Brown Bear Study Team (IBBST) as a subcommittee, provide guidance to and oversee the IBBST.
- Proactively identify management and information needs across jurisdictional boundaries.

The KEFJ Superintendent represents the park on the KBBPMG. The NPS Alaska Regional Science Advisor represents the NPS Alaska Region on the KBBPMG.

Interagency Brown Bear Study Team (IBBST)

The Interagency Brown Bear Study Team is an interagency group consisting of wildlife biologists representing Kenai Fjords National Park, Kenai National Wildlife Refuge, Chugach National Forest, and Alaska Department of Fish and Game. This group was created as a subcommittee under the KBBPMG to conduct research and collect and analyze data to support management of Kenai Peninsula brown bears and their habitat. Currently, the park's Ecologist represents the NPS on this team.

Kenai Brown Bear Committee (KBBC)

The Kenai Brown Bear Committee is composed of federal, state and local government representatives, as well as representatives from non-governmental organizations having an interest in brown bear management on the Kenai Peninsula. This group primarily focuses on education and outreach concerning brown bears. The Chief of Interpretation represents the park on the KBBC.

III. MANAGEMENT AREAS

For the purposes of this plan, there are six management areas in the park. These areas are differentiated by degree of development, intensity of management, human visitation, and bear activities. The areas are unique to this plan and may or may not correspond to other planning documents.

These descriptions are not intended to be hard and fast boundaries or prescriptions, but rather to provide a general framework for bear management responses according to different use patterns and needs. They will be most effective if viewed as somewhat flexible and dynamic.

Exit Glacier Developed Area

This area includes the Pedestrian and Visitor Services Zones from the Exit Glacier Plan and broadly includes the Exit Glacier Road, parking area, employee housing, administrative camp (aka "TrailBuilders Camp"), campground, buildings near the parking area, and the lower trail system to the Outwash Plain and glacial terminus.

This small area is frequented by many bears and many park visitors. Therefore, a moderate management tolerance for habituation is necessary, but the situation results in frequent bear-human encounters, especially in early summer. This requires intensive monitoring and ability to respond quickly to incidents **as well as very low tolerance for actual or potential food conditioning.** Situations where bears should be hazed by residents or staff include:

- bears loitering (as opposed to passing by/through) the campground cook shelter, employee housing area, picnic area, parking lot, Trailbuilders camp and cook tent.
- bears in physical contact with a structure or human object (e.g. tools, water bottle, pack, fuel can, etc.).
- Generally, bears within 10 feet of a structure, except that a bear should not be hazed if it leaves the area upon seeing or hearing a person.

Hazing should stop as soon as the bear moves away or stops the inappropriate activity.

Exit Glacier Non-Developed Areas

This area includes the other zones within the Exit Glacier Study Area, including the Harding Icefield Trail, the Paradise Creek drainage, ridges and slopes adjacent to the glacier, and those other areas south of Exit Creek.

High bear populations in this small area require a moderate management tolerance for habituation, but moderate to low visitation may result in bear-human encounters, especially in mid to late summer. This requires moderately intensive monitoring and ability to respond quickly to incidents as well as very low tolerance for actual or potential food conditioning.

The Harding Icefield Trail corridor receives moderate visitation with frequent bear-human encounters during much of the summer. Discrete (i.e. limited in duration and / or spatial extent to the degree necessary to avoid conflicts) trail closure is a viable management option as needed.

Coastal Campsites

This area includes all backcountry beaches and associated upland where visitors camp, picnic, or otherwise use for an appreciable period of time. Conceptually, it includes easement sites where the park has management authority and responsibility, though actions taken on those sites would be done in coordination with the land owner.

Moderate to low visitation occurs throughout most of this area, though some beaches, particularly in Aialik Bay, receive relatively heavy use throughout the summer season. Bear activity is frequently concentrated on these same beaches due to natural food availability and topography, creating moderate to high potential for bear-human conflict. Selective short term closures are possible response measures. Geographic isolation, solitude, weather, limited transportation and similar factors compound the safety issues for visitors when conflicts occur (e.g. when a tent or boat is damaged, there may be no other place to go easily and few other people to help). Moderate to intensive monitoring (including obtaining information from backcountry users), education, low tolerance of actual or potential food conditioning, and aggressive early aversive conditioning capabilities are all key management tools in this zone.

Public Use Cabins

This management area includes the Holgate and Aialik public use cabins, decks, and outbuildings, and associated trails immediately adjacent to them (i.e. within 100 feet).

These discrete sites, particularly the two in Aialik Bay, have heavily concentrated human and bear use in the summer months. Historically, bear-human encounters are moderate, but some degree of bear damage to the buildings is common annually. Management tolerance for habituation at the cabins is very low, and early and consistent hazing and/or aversive conditioning is critical, along with education and low tolerance for actual or potential food conditioning.

Coastal Field Stations

This management area includes the Aialik Bay Ranger Station (ABRS) and any temporary field camp used for a period of five nights or more.

These discrete sites have heavily concentrated administrative use in the summer months. Management tolerance for habituation at these sites is very low, and early and consistent hazing and/or aversive conditioning is critical, along with education and low tolerance for actual or potential food conditioning. Except for the Aialik Bay Ranger Station, closure and/or relocation of field camps is also a viable management response to high levels of bear activity.

Other Non-Developed Areas

This includes all portions of the park which are not included in the other five bear management zones. It is primarily composed of undeveloped areas of the coast and on the Harding Icefield. Visitor and administrative use in this area is dispersed and varies seasonally and annually. As a general rule, natural bear behavior should be allowed to proceed uninhibited in this area and human presence should be unobtrusive. Bear management activities, other than possibly research, should be minimal in this area.

IV. BEAR BEHAVIOR AND "PROBLEM" BEARS

To avoid confusion, we followed Smith et al.'s (2005) definitions of a bear sighting and encounter.

<u>bear sighting</u>: When a person sees a bear, but the bear is apparently unaware of the person.

<u>bear–human encounter/interaction:</u> When a person and bear(s) are mutually aware of one another. Bears may react with seeming indifference, by leaving the area, or by approaching the person. An encounter is synonymous with interaction.

bear incident: An incident is an interaction between a bear(s) and a person(s) in which the bear acts aggressively. Bear incidents are a subset of bear–human interactions and have outcomes ranging from benign to injury.

bear attack: An attack is the intentional contact by a bear resulting in human injury. Bear attacks are a subset of incidents.

We use the term overt reaction distance (ORD, Herrero et al. 2005), rather than terms such as individual distance or personal space. ORD refers to the distance at which a bear overtly reacts to another bear or a person. A bear may react internally before reacting in a manner people can observe.

In KEFJ, "PROBLEM BEARS" are bears that are involved in INCIDENTS.

Habituation is a waning of response to a repeated, neutral stimulus (Whittaker and Knight 1998). Habituation differs from "conditioning" where a bear's behavior is rewarded with a positive stimulus (i.e., food-conditioning) and "aversion" where a negative consequence is associated with a stimulus (i.e., aversion-conditioning). Habituation response follows a continuum and is not an either/or situation. Habituation may be context specific (Peeke and Petrinovich 1984): a bear habituated to a stimulus may display an attraction or avoidance response to the same stimulus at a different location. Habituation can also be unstable, so that if a stimulus is withheld, habituation wanes over time and the response recovers (Petrinovich 1973, in Braaten and Gilbert 1987).

If a bear were "habituated" to human food it would mean that the bear ignores it. Conversely, a food conditioned bear is one that has obtained human food on at least one occasion and, as a result, is conditioned to seek such food again.

Research indicates that "habituated" bears are involved in a disproportionate number of negative bear/human interactions due to their increased exposure to attraction stimuli (i.e., anthropogenic food) found in human environments. However, if efforts in KEFJ are successful in discouraging food-conditioning of bears, habituation should not result in excessive risk to humans. In fact, what is more likely is just the opposite ─ habituation will reduce the risk associated with close encounters, which are common at sites like Exit Glacier, because habituated bears are more tolerant of humans in close proximity. It follows then, using the above definition, that habituation may be a desirable level of response to achieve in bears under certain circumstances.

Bears are individuals and as such they have varying levels of response to proximate stimuli based on genetic predisposition and their separate learned behaviors whether derived vicariously or developed through cultural transmission. Labeling a bear as either "habituated" or "non-habituated" fails to capture important variations in the level of individual responses.

Additional research will be needed to unravel how a bear's level of habituation affects its propensity to be involved in bear/human interactions in KEFJ. From a management perspective, some level of habituation is acceptable in KEFJ. However, food conditioning is not acceptable within the park at any location or at any time.

V. MANAGEMENT TOOLS:

Staff Training

The BMT will develop specific bear safety training requirements and training curriculums for all KEFJ staff. Three recommended levels of staff training are identified below, however; these may be modified by the BMT as needed to meet park goals. Reference appendix 10.

Recommended training levels for KEFJ staff:

1. **All KEFJ staff**, including volunteers, are required to obtain a basic bear safety and management orientation. Any non-staff residents of park housing at Exit Glacier or on the coast (for example, family members of park staff) should also attend this orientation. This training should be completed prior to the summer season. The primary goals of the training are to increase the safety of staff working in bear country, ensure that a consistent bear safety message is communicated to the public, and instruct all staff on how to respond to and report bear incidents. At a minimum this training will include the following topics:

   a. Overview of the KEFJ bear management program
   b. KEFJ and NPS policies and regulations regarding bears and bear safety
   c. KEFJ bear safety message for the public
   d. Basic bear behavior, biology and natural history
   e. Living, traveling, camping and working safely in bear country (remember abort or modify mission, packs on trails etc)
   f. Bear safe food storage and garbage management
   g. How to handle a bear encounter
   h. Reporting a bear incident

   Topics a, b, c, & h must be addressed in an instructor led discussion. Instructors will be assigned by the BMT as needed. These training topics can be readily incorporated into all employee training, tail gate safety sessions, team meetings, etc. **This discussion should be attended ANNUALLY by all employees.** This training is currently listed as 'Bear Safety Training' in the KEFJ Training Database.

   Topics d, e, & g can be addressed by viewing the 48 minute video "Staying Safe in Bear Country". The revised, 30-minute, 2008 version of the video "Staying Safe in Bear Country" will address this training requirement if approved by the Chief of RM. A written evaluation / assessment may be used by the BMT to test knowledge transfer and retention. **This video should be viewed before the employee's first field season and at least once every other field season thereafter, unless significant changes in safety recommendations warrant greater frequency**. This training is currently listed as 'Bear Safety Video' in the KEFJ Training Database.

   Topic f can be addressed through a self paced computer based program which has not yet been developed. Until development is complete, it should be covered in discussion above. **This material should be covered before the employee's first field season and at least**

once every other field season thereafter, unless significant changes in safety recommendations warrant greater frequency. This topic is currently covered with Bear Safety Training.

2. KEFJ staff from any team who will be assigned to work activities or projects **in the field** at Exit Glacier or on the Coast, and will be carrying bear spray for their own or visitors safety, are required to attend at least an additional 2-4 hours of hands-on, field-based annual training. Classroom based, combining lecture and hands on activities, **this training should be completed prior to their first field assignment, renewed annually, and should cover**:
    a. Use of pepper spray as a bear deterrent
    b. Initial response to bear/human incidents (what to do if you are the first on the scene or take a visitor report, who should you call, etc)
    c. Setting up electric fence, if needed for their project.
    d. If possible, field bear incident scenarios
    e. How and when haze a bear

    This training is currently listed as 'Bear Spray Training' in the KEFJ Training Database.

3. KEFJ staff designated as Bear Incident Responders who may be involved in hazing or aversive conditioning of bears are required to attend an additional 16 - 24 hours of recent training in the following topics:
    a. Advanced bear behavior
    b. Advanced bear incident response
    c. Crowd control and public information
    d. Bear hazing and aversive conditioning
    e. Carnivore attack site protocols
    f. Incident scenario walkthroughs
    g. NPS Firearms qualification *
    h. Basic Incident Command System (Appendix 4, ICS 220)

    *Employees who have not previously completed a basic shotgun course through the NPS will be required to obtain Firearms Certification for Non-Law Enforcement Personnel by successfully completing a NPS firearms training program in accordance with Alaska Region Policy 110-006 before issuance/use of a firearm in the park (see Appendix 10).

4. Non-NPS researchers staying at the ABRS site, and any project specific groups, such as SCA, staying at the Exit Glacier Trail Builders Camp will receive a bear orientation by BMT designated park ranger or resource management staff upon arrival in the park. Viewing of the video "Staying Safe in Bear Country "is not required but highly recommended as part of this orientation. Topics covered will include:
    a. Overview of the KEFJ bear management program
    b. KEFJ and NPS policies and regulations regarding bears and bear safety
    c. Basic bear behavior, biology and natural history
    d. Living, traveling, camping and working safely in bear country (remember abort or modify mission, packs on trails etc), including electric fencing if applicable
    e. Bear safe food storage and garbage management
    f. How to handle a bear encounter

g. Reporting a bear incident

Public Education and Bear Safety

The primary management tool for minimizing human impacts to bears is public education. Park bear information and education programs will be subject to the following guidelines:

- A variety of methods and media will be employed to reach diverse audiences with appropriate messages. See summary table below.
- Messages will be based on sound scientific research, and should be vetted through the park resource management staff, regional wildlife biologist, IBBST, and other appropriate subject matter experts. Current messaging is summarized in appendix 5.
- Messages will be internally consistent. Staff training will emphasize the importance of this consistency, and will follow regional recommendations found in the NPS brochure Bear Safety in Alaska's National Parklands, "Living with Bears" (Audubon Society) and similar publications.
- To the greatest degree possible, messages will be consistent with those of external partners and nearby land management agencies such as ADF&G, USFS, Alaska State Parks, and similar organizations. The park will support and participate in interagency working groups to promote this consistency where possible.

Working with the KEFJ Interpretation staff, the BMT will oversee the development of written and verbal information on bear safety to be provided to the public and ensure that message content is consistent on all media (brochures, bulletin boards, web page, etc). Additionally, the bear safety message delivered by KEFJ should be consistent with the NPS Alaska Region and other NPS Alaska units as well as the Chugach National Forest, Kenai National Wildlife Refuge, Alaska Department of Fish and Game, Alaska State Parks, the Kenai Peninsula Borough, the City of Seward, and other private landholders and non-government organizations as appropriate.

Primary themes of the KEFJ bear safety message education program should address following points:

- Brown and black bears are highly valued species in KEFJ for their ecological, cultural, recreational, and economic values.
- KEFJ is committed to maintaining healthy populations of brown and black bears in the park, on the Kenai Peninsula, and in Alaska.
- Bears are likely to be encountered anywhere in KEFJ.
- It is KEFJ management's responsibility to provide sufficient information to ensure that interactions with bears can be safe for both bears and people.
- It is incumbent upon staff and visitors to learn how to safely interact with bears.

KEFJ staff will incorporate aspects of the bear safety message, as appropriate, in presentations or programs for park visitors (both frontcountry and backcountry), school groups, kayak and other backcountry guides, CUA holders, and the Seward community at large. Potential venues and means for promulgating bear safety messages include community forums, CUA holder workshops, backcountry guide workshops, KEFJ website, interpretative staff and staff, Visitor

Center videos, brochures, exhibits and static displays, press releases (by design not default), bear lockers, and the backcountry information station at the KEFJ Inyformation Center.

Bear Education Matrix – Audiences and Media

	Website	Bear Safety in Alaska Parklands Brochure	Bear Safety Video at Info Center	Offsite programs, Fairs, events, (booth / display)	Exhibits at EG Nature Center and Harbor IC	Bulletin Board Materials	Bear Message in all personal services programs	Annual Training by park and regional staff	Community Seminars	CUA mailouts	CUA Annual meetings and / or training sessions	Park or Area Newspaper	Bear Safety info in guidebooks, maps, etc.	IBBST, KPBBMG, etc. meetings, presentations	Press Releases, news media
Frontcountry Visitors	■	■			■	■	■					■	■		■
Backcountry Visitors	■	■	■		■							■	■		■
CUA Holders	■	■								■	■		■		■
Park Staff	■							■							
Local Residents	■		■	■											■
School Groups	■		■				■					■			■
Students / Educators	■											■			■
Backcountry Guides	■	■	■							■	■		■		■
Partners / Other Agency	■							■	■					■	■
Pretrip planning	■	■										■	■		

Food Storage and Waste Management

The KEFJ bear management program places a strong emphasis on preventing the development of "problem" bears. A key component of prevention is an aggressively proactive approach to management of food and waste in both frontcountry and backcountry areas.

Food and waste storage
Visitors and employees must properly store and secure all food and waste at all times. This includes any items that may smell like food, such as soap, sunscreen, chapstick, etc. Regulations concerning food storage contained in the current KEFJ Superintendent's Compendium will be adhered to:

2.10(d) Food storage: designated areas and methods

(1) Definition: A *bear resistant container* (BRC) means an item constructed to prevent access by a bear. BRC's include:
- Items approved by the Department of Interior and Agriculture's Interagency Grizzly Bear Committee (www.igbconline.org) (*Appendix 12)*
- Any additional items listed by the State of Alaska, Department of Fish and Game, Team of Wildlife Conservation with the concurrence of the Superintendent (*Appendix 12*)
- Park provided metal food lockers at some coastal campsites; and
- Items approved by the Superintendent.

(2) Food and beverages, food and beverage containers, garbage and harvested fish must be stored in a bear resistant container (BRC) or secured
- Within a hard-sided building;
- Within lockable and hard sided section of a vehicle, vessel, or aircraft; or
- By suspending at least 10 feet above the ground and 4 feet horizontally from a post, tree trunk, or other object.

(3) At the Exit Glacier Campground all food preparation, cooking and eating shall be done in the campground cooking shelter. No food items shall be taken to, consumed, or stored at the individual campsites.

(4) This regulation does not apply to:
- food that is being transported, consumed or prepared for consumption; and
- clean dishes and cooking equipment free of food odors.

  The intent of these designations is to prevent bears and other wildlife from obtaining and becoming conditioned to human food and garbage, thus protecting wildlife and park visitors alike. We strongly recommend that dishes and cooking equipment be securely stored; but clean and odor free items are not required to be stored in secure containers. Ice chests and coolers, tents, dry bags or stuff sacks (including Ursacks), plastic packing boxes (Totes, Action Packers, etc.) and unmodified kayaks are not generally approved as BRC. BRC's are available for rent from commercial outfitters in Seward.

It is imperative that food be properly stored to prevent bears from becoming food conditioned. Acceptable food and waste storage options are as follows:

1. In park-provided bear-proof food lockers and bear-proof garbage cans.
2. In cabins with the doors and windows secured.
3. Vehicles, preferably in the trunk where it is not visible, with all doors and windows closed.
4. In Bear Resistant Food Containers (BRFC).
5. Hanging properly from park-installed cables.
6. Within a waterproof bag hanging from a line off a boat anchored a sufficient distance off shore that the bag will not be in surf, even if the tide changes. The bag should hang at least 6 feet below the water surface.
7. At the Exit Glacier Campground, in the storage closet provided for that purpose at the campground cooking shelter.

Current locations of park-provided food lockers and cables are located in Appendix 3. A decision tree and procedures for placement of food lockers and cables will be developed and appended to this plan, as well.

Regulations currently allow for storing food by suspending at least 10 feet above the ground and 4 feet horizontally from a post, tree trunk, or other object. However, it is extremely difficult to properly hang food/garbage from trees, especially given the size of trees within Kenai Fjords. Therefore, this method is not recommended. However, guidelines are provided in appendix 3 on the proper way to do so, if no other options are available.

Use of electric fence may be prudent as a supplement to proper food storage, and is required for certain camps within the park. However, electric fence alone is NOT acceptable food/garbage storage. Proper food storage must be used in conjunction with electric fence.

Employee Housing

Residents of all park owned or leased buildings (frontcountry and backcountry) are required to maintain the housing and the surrounding area in an immaculate condition to avoid attracting bears. All food and waste will be secured properly. Equipment used for grilling shall not be left unattended and unsecured at any time. No pets are allowed in government housing at any time. No bird feeders are permitted in the park at any time.

Exit Glacier Administrative Camping Area (Trail Builders Camp)

Residents of the Trail Builders Camp will receive a bear orientation, including how to safely live and work in bear country, by qualified park staff upon arrival. Crews will be provided with bear spray. Their tents will be set up in a tight formation allowing for proper installation of electric fence. All food will be secured in metal Knack and job boxes provided. Dishes will be promptly washed and gray water dumped in the restroom vault; all garbage will be promptly disposed of in a bear-proof can. The electric fence will be disassembled when there are no campers; the posts may remain in place.

Public campground at Exit Glacier
Proper storage of all food and garbage is required in the campground. Campers are required to prepare, cook and eat in the campground cooking shelter. No food items shall be taken to, consumed, or stored at the individual campsites. All food and garbage must be stored appropriately, as described above. No bird feeders are permitted.

Solid Waste Management
All NPS-provided outside garbage and recycling receptacles, including those in the front country, backcountry, at the Facilities Management facility and in Seward, will be of bear proof design. All such garbage receptacles will be emptied at an interval that prevents them from filling to capacity. Garbage in the open bed of NPS pick-up trucks during collection rounds and enroute to the dump will never be left unattended. All NPS staff conducting garbage collection duties will carry bear spray at all times.

Exit Glacier Area Trails
Trail areas will be kept clean of garbage or food items. Attempts should be made to locate owners of unattended gear (i.e. packs, strollers) on the trail system; if the owner cannot be quickly located the gear will be transported to appropriate storage in the Nature Center or a park vehicle. A note may be left at the gear's site to direct the owner.

Harding Icefield
Food and garbage storage requirements do not apply on the Harding Icefield when surrounded by snow or ice for at least 1 mile in all directions; although even here appropriate precautions should be taken.

Cooperative Efforts with Adjacent Landowners

KEFJ will proactively work with adjacent landowners along the Exit Glacier Road and on the park's coast to prevent bear issues from developing and to develop an integrated and appropriate response if issues do develop. The primary adjacent owners are the Chugach National Forest and the Alaska Department of Natural Resources at Exit Glacier and the Port Graham Corporation along the coast. Proactive actions may include: 1) close and early communication regarding bear issues; 2) cooperative garbage pick-up events along Exit Glacier Road; 3) cooperative bear training; 4) coordinated bear management planning.

Signage

Proper use of warning and information signs is critical to effective bear management at Kenai Fjords.

Signs should be designed, manufactured, and installed in accordance with the KEFJ Sign Plan (currently in draft as of January, 2006), the NPS Messaging Project graphics standards, and other relevant planning and management documents.

Signs need to simply and clearly convey appropriate messages. They must attract attention, communicate accurate information, and should avoid undue alarm or hyperbole.

Where signs announce a legal closure or use restriction, the appropriate rule or regulation should be included in the text of the sign, as well as a statement prohibiting the tampering with or removal of the sign itself.

There are four standard signs which should be the only ones used throughout the park. A cache of multiple copies of each type of sign should be kept in the following locations:

- Aialik Bay Field Station
- Exit Glacier Nature Center office
- Info Center Ranger Office

Templates for each are found in Appendix 6. The incident response guidelines found in Section VI dictate posting of these signs:

- Standard sign to announce that you are entering bear country – used when no incidents
- Brown bear observed in area sign
- Repeated incidents (Guideline #4)
- Aggressive or injured bear in area (Guideline #6)
- Closed due to bear activity

During response to an incident, the Incident Commander (Appendix 4) should ensure documentation of placement of signs with appropriate periodic checks and replacements and/or removal as needed. This is very important to ensuring visitor and staff safety and minimizing liability during a serious or prolonged incident.

Electric Fencing

Although electric fencing is NOT a substitute for proper food storage/waste management, it may be used in conjunction with proper food/garbage storage in some situations:

- Park staff, contractors, and cooperators: Electric fencing is required for all soft camps being occupied for > 5 nights in addition to proper food storage outlined above.

- As a response to property damage incidents (see decision trees).

- Visitors wishing to use electric fencing should be informed of its correct use; especially that it is not a substitute for proper food/garbage storage.

The NPS Alaska Regional Office is developing electric fence standards and guidelines for proper setup techniques. When these standards and guidelines become available, they will be appended to this plan. See Appendix 2.

Aversive Conditioning & Hazing

Aversive conditioning (AC) is a directed effort to alter a bear's behavior. It is a special form of learning that involves pairing a negative reinforcement with an action by the bear in order to lead to an avoidance of that action in subsequent events. The bear must be identifiable and every time the bear exhibits the undesired behavior it should be deterred. Although aversive conditioning can be opportunistic, it may involve creating a pseudo event designed to elicit an undesirable action by a bear in order to aversively condition it (e.g., bear management staff posing as campers prepared to deter a bear if it attempts to rummage their tent). Effective aversive conditioning involves presenting the bear with a situational context it is able to differentiate (e.g., texture, color, or site) in the present and future. Effects of aversive conditioning efforts should be monitored long-term.

AC will only be conducted by designated and trained members of the park's bear incident response team, the NPS Regional Wildlife Biologist or other qualified individuals specifically approved by the park Superintendent.

Ideally, AC will be conducted as part of a planned strategy targeting a specific bear or bear(s) after other management techniques have proven ineffective. For this reason, the BMT should be consulted and provide approval before AC is used whenever this is feasible. In exigent circumstances, members of the BRT may apply AC at their discretion, though immediate notification of the BMT should follow as soon as possible.

Hazing is a general term for techniques used to deter bears from continuing behaviors that humans perceive to be negative. The objectives of hazing are to prevent or eliminate dangerous, potentially dangerous, or destructive behaviors by bears towards humans or their property. Hazing techniques include hand-clapping, yelling, banging objects, airhorns, and discharging weapons (e.g., cracker shells, beanbag rounds, and rubber bullets). Examples of situations when hazing bears may be appropriate include bears settling in to feed or sleep near facilities, bear acting aggressively towards humans, and bears frequenting camping areas. Bear Pepper Spray is not intended for use as a hazing tool but rather for personal defense, though its use would certainly have a hazing effect and may be the best available tool in limited situations.

Both hazing and aversive conditioning must be done while a bear is exhibiting a problem behavior. The negative stimuli must be delivered during the problem behavior, not as the bear is leaving the area or engaging in other acceptable behavior. For long term effectiveness, the bear must learn that when it engages in unacceptable behavior, a negative consequence will ensue.

Response will be immediate, organized, and safe. The responding party will put human safety first. This includes the safety of visitors as well as park staff.

Low level hazing methods will be used first (talking, clapping, airhorns), followed by higher level hazing methods (utilizing projectiles such as 'cracker shells', bean bag rounds and rubber bullets). Current approved high level hazing rounds are found in Appendix 8.

The lowest level of hazing necessary to elicit the appropriate response from the bear will be the highest level used. Responders should not immediately engage in high level hazing simply for expediency.

Low level Hazing / AC - Physical Presence and Sound – Black Bears

At its simplest, hazing just means yelling to immediately change a black bear's behavior. A good example is a resident that comes out of the cabin to find a bear on the porch, yells "Hey, Bear!" and the bear leaves. This type of hazing can be done by any employee immediately upon observing the bear doing something inappropriate.

For more involved low level hazing situations, the responding party will report to the area, assess the situation and determine the: severity of problem behavior exhibited by the bear; age class and sex of the bear; identity of the bear; previous hazing conducted on the bear and the bear's subsequent response(s).

After assessing the situation, the responding party will clear the area of visitors and will delineate clear escape routes for the hazed bear and for themselves before proceeding to haze the bear. When two or more responders are present, they must communicate with each other what each will do and how each should respond during / after hazing. An Incident Commander (team leader) should also be determined and understood by all involved.

Low level hazing such as shouting, hand clapping, use of air horns, etc. of **black** bears can be done, when warranted, by any staff that has completed the required KEFJ bear management training. Staff conducting hazing should always carry bear pepper spray with them, particularly if they are engaging a potentially food-conditioned or aggressive bear.

Higher level hazing, which generally involves the use of weapons and non-lethal ammunition, is limited to qualified bear incident response team members.

Because the Exit Glacier area is frequented by many bears and visitors, the park has a tolerance for a certain level of habituation. There are some situations, however, where bears should be low level hazed by residents or staff. These include:

- Bears loitering (as opposed to passing by/through) the campground cook shelter, employee housing area, picnic area, parking lot, Trailbuilders camp and cook tent.
- Any bear in physical contact with a structure or human object (e.g. tools, water bottle, pack, fuel can, etc.) should be hazed.
- Generally, bears within 10 feet of a structure should be hazed, except:
    1) A bear should not be hazed if it leaves the area upon seeing or hearing a person.
    2) Hazing should stop as soon as the bear moves away or stops the inappropriate activity.

Even in developed areas, people should make noise to avoid surprise encounters and carry bear spray.

It is critical to keep areas around housing units clean and free of food, garbage, and bear attractants. Fire grates must be clean and free of food debris. Portable grills should not be left outside when not in use. All garbage must be deposited in bear resistant food containers, and cabins must be kept secure. Because bears will investigate and "play" with objects such as water or fuel containers, packs, etc., nothing should be left unattended outside secured cabins. A secured cabin is one with the doors and first floor windows closed when people are not in the immediate vicinity.

Every time anybody (visitor or staff) hazes a bear, a Bear Human Information Management System (BHIMS) form must be completed. This also applies each time a trail or other area is temporarily closed due to bear activity. This information about closures and encounters is essential if we are to improve our bear management in this area.

Consistent reporting allows us to detect patterns and implement appropriate management actions at the lowest level and the earliest opportunity.

Frequently, staff deals with the same bear in an area near a trail throughout a period of several hours. As long as the encounter involves the same bear in the same general area and the same staff, a single BHIMS form can be used. If any of the above change, additional forms should be used.

Low level Hazing / AC - Physical Presence and Sound – Brown Bears

Management tolerance for brown bears around facilities and people is the same as that for black bears, but given the more aggressive and somewhat less predictable response of brown bears under stress, even low level hazing should be undertaken with utmost consideration to safety of employees, visitors, and bears.

As a standard practice, only employees assigned to the Bear Incident Response Team (BIRT) should haze brown bears. Other employees should take other appropriate actions, such as control of visitors, removal of attractants, etc. when safe to do so.

Potentially food conditioned or aggressive brown bears will only be hazed or engaged with aversive conditioning when there are at least two BIRT members present, with bear pepper spray and a firearm with lethal ammunition *or* when a safe escape (vehicle or building) is immediately available.

High Level Hazing / AC - Use of projectiles and irritant devices

There should be a minimum of 2 members in a responding party for any hazing / aversive conditioning action beyond immediate, simple low-level hazing of a black bear. <u>Two responders are required for high level hazing</u>.

Appendix 8 contains detailed information about approved 12 gauge shotgun ammunition for use in hazing and aversive conditioning incidents. No 12 gauge rounds should be fired at a bear closer than 10 meters (approximately 33 feet). All rounds should be aimed at the rump, rear haunches or, in some cases the shoulder, of the animal if possible. Shots to the head, neck, and ribs should be avoided.

The following summarizes round selection based upon distance to the animal:

- Closer than 10 meters – Do not shoot.
- From 10 meters to 25 meters – Use a bean bag "thumper" with or without paint marker. Consider an Aero-Sock bean bag round if available, especially for longer shots within this range (e.g. 15-25 meters).
- 30 meters – 60 meters: Strike II rubber baton.
- 60- 75 meters – Shellcracker or Birdfrite round fired at a 45 degree angle to detonate above the bear in the air.
- Beyond 75 meters – Approved rounds have little or no effectiveness and should not be used except in unusual circumstances.

A 12 gauge shotgun will be used in all situations which may require high-level hazing. Two party members will carry shotguns during such responses or a 6 mm pistol (loaded with bean bags, birdfrite or other nonlethal rounds) and shotgun. Before entering the high level hazing situation, the two responders must decide between themselves who will be "calling the shots"; usually (but not always) this is the lead member with the nonlethal rounds. The lead member of the party will carry only nonlethal rounds, while the backup-member will carry only lethal rounds. The backup- member will be required to have rifled slugs loaded in the shotgun. The backup–member (lethal) will position themselves to the side and within ten feet of the lead party member (non-lethal). Every effort will be made to inform park visitors of the objectives of the hazing event.

During high level hazing events, additional staff should be contacted immediately and made responsible for organizing personnel for crowd control and interpretation during or after the hazing event. The lead responder to the hazing event will contact dispatch to alert all staff via radio that a high level hazing will take place. Dispatch should also notify the BMT.

An opportunity to haze or AC a bear should not be lost in order that someone available to interprete the situation is present. Responders can interpret as the event unfolds or discuss what happened after the hazing is complete. Debriefing of the hazing event and its consequences will be conducted as soon as possible after the incident at a location determined by the Incident Commander (IC). The BMT must be present and facilitate the debriefing session. All incidents involving the discharge of weapons (shotgun or 6 mm pistol) will be documented on a case incident record 10-343 form. All other incidents will be documented on a BHRF and entered into the BHIMS.

Firearms

Firearms used for defense or hazing will be acquired, issued, and utilized in accordance with Alaska Regional Policy 110-006, Management of Firearms and Ammunition. This policy is attached as Appendix 10.

Shotguns are appropriate firearms for most situations, providing both lethal and non-lethal capabilities along with ease of handling for most personnel. The standard issue shotgun for law enforcement personnel will be a Remington 870 with standard four round or extended tube, capable of firing 2 ¾ or 3 inch rifled slugs. Shotguns should be equipped with a device(s) to carry additional ammunition, preferably a "side saddle" type carrier, though elastic bands over the stock or customized stocks which store extra rounds in special cavities may also be used.

Whenever possible, shotguns will be dedicated to either lethal or non-lethal ammunition. The weapons used for non-lethal rounds such as bean bags, cracker shells, rubber slugs, etc. shall be equipped with orange stocks and fore ends. When these weapons are available in the field, non-lethal rounds should not be loaded in shotguns with black or brown stocks, and conversely, lethal rounds will not be loaded in orange stock weapons.

Where possible, shotguns should be equipped with "tactical" slings, which allow the user to carry the weapon in front across the chest. Firearms qualifications, practice, and training sessions should include demonstrations and safe practice of various carries (e.g. African, American, Tactical, etc.) and target acquisition from each.

Employees must demonstrate proficiency and shoot a qualifying score on the NPS approved wildlife course of fire with the model shotgun they will be issued in the field.

While law enforcement employees will routinely carry handguns in the field and they may be effective defensive weapons in a bear encounter, handguns will not be routinely issued or used solely for wildlife related missions or purposes, other than specialized pistols used for firing non-lethal ammunition (e.g. 6 mm pistol). Where it is required or desirable to equip field personnel with a handgun for wildlife missions, a minimum .45 caliber semi-automatic or .44 magnum revolver is recommended.

When the destruction of a bear is expected, personnel should consider the use of a rifle minimum .030 caliber, or as otherwise mandated by regional policy. This tool allows greater accuracy and safety is increased with longer range. .223 caliber rifles currently assigned to law enforcement personnel have limited value as defensive weapons in responding to wildlife incidents, but for dedicated wildlife missions, a larger caliber rifle (e.g. .308 or .375 H&H) is preferred. A scope and/or bipod for this rifle is desirable for missions requiring potential destruction of an animal at an extended range. Currently the park does not have the appropriate weapon on hand, but one could be borrowed if the BMT determines that destruction of a bear is warranted.

The general public may legally carry firearms, in accordance with state and federal laws, anywhere except within federal buildings in the park. Educational efforts should include

information regarding use of firearms by visitors, including, but not limited to inherent risks, liability, effectiveness, and alternatives.
The Superintendent will generally not permit possession of firearms by researchers or other non-NPS personnel engaged in official business in the park but may review projects on a case by case basis for the use of appropriate safety equipment, including firearms as well as non-lethal deterrents. The Superintendent will generally mandate that all persons involved in official business in the park will carry bear pepper spray.

Bear Pepper Spray

Capsaicin and related capsaicinoids (CRCs) are the active ingredient in red pepper spray. Oleoresin capsicum (OC) is the oily mixture produced when the naturally occurring burning chemicals (capsaicin) in hot red peppers are extracted. Sprays that contain OC induce a burning sensation of the skin and a burning, tearing, and swelling of the eyes and involuntary eye closure. If OC is inhaled, the respiratory tract becomes inflamed resulting in swelling of the mucous membranes lining the breathing passage and temporarily restricting breathing to short, shallow breaths and coughing or gagging. Sprays containing CRCs are useful bear deterrents in a variety of field situations; however, variable responses by bears occur. Bear pepper sprays are regulated under Federal Insecticide Fungicide Rodenticide Act (FIFRA). Only products that are registered with the Environmental Protection Agency (EPA) as pepper spray for use on bears are considered appropriate for use in KEFJ. Appropriate bear pepper sprays are listed at the EPA website: http://www.epa.gov/region8/toxics/pests/beardeter.html

Bear pepper spray should be used as a deterrent only in an aggressive or attacking confrontation with a bear. Bear pepper spray is only effective when used as an airborne deterrent sprayed as a cloud at an aggressive animal. It should not be applied to people, tents, packs, other equipment or surrounding area as a repellent.

Carrying bear pepper spray is not a substitute for following proper bear avoidance safety techniques. No deterrent is 100% effective, but compared to all others, including firearms, bear spray has demonstrated the most success in fending off threatening and attacking bears and preventing injury to the person and animal involved. In Alaska, bear spray was highly effective in dealing with all 3 species of bears; 98% of persons carrying pepper spray were uninjured after a close encounter with bears (Smith et al. 2008). The proper use of bear spray will reduce the number of bears killed in self-defense and reduce human injuries caused by bears.

Designated staff (see Section V – Staff Training) working in the field during the time bears have emerged from their dens (generally April through October) are required to carry pepper spray. Any employee or staff designated to carry bear spray will receive a total of 4-6 hours of training annually, including the 2 hour basic bear training and an additional 2-4 hours of hands-on training with bear spray.

The RM Team will have responsibility for maintaining current bear spray and issuing it to personnel in the other teams. Spray manufactured in 2005 or later will be used for no more than 4 years after manufacture. The purchase year and expiration year will be noted on the bottom of

each can in indelible ink. Only full canisters will be carried in the field. Pepper spray canisters will be replaced as soon as possible after any discharge.

Extra cans of bear spray will be maintained on the Serac and at the Exit Glacier Nature Center for employees to use, if they have forgotten their issued canister.

Any intentional or accidental discharge of bear spray by employees or visitors within the park will be reported to VRP and RM teams immediately.

Carrying of bear pepper spray (BPS) will be encouraged at KEFJ for all visitors to backcountry. It is recommended that backcountry guides carry at least one can of bear pepper spray per person and are trained in proper use. Park staff, especially those on the Interpretation team, should complete bear pepper spray training in part to enhance their ability to teach visitors about the use of this tool.

It is generally required that outside researchers carry pepper spray in the field, and are trained in its proper use.

Bear Pepper Spray shall be handled with due care and safety. Storage and transportation will meet DOT, EPA, DOI, NPS, and PARK regulations and transport requirements if applicable.

It is recommended, but not required, that persons who carry Pepper Spray be first aid and CPR certified.

See Appendix 1 for more information regarding bear spray and its use.

Temporary Closure

A temporary closure is a complete or partial closure of a defined area for the purpose of protecting the public while appropriate management action is taken on a bear incident. Temporary closures may include either: (1) complete closure of an area to all entry except administrative (posting signs, enforcement, aversive conditioning operations, etc.); (2) entry only for passage through an area, but no camping or eating permitted within the closed area; or (3) closed only to camping. Temporary closures may include either front country or backcountry locations. Areas considered for closure or partial closure may include: picnic areas, turnouts, campgrounds, trails, trail segments, and backcountry areas. Closures will be as limited as is reasonable in duration and geographic scope to protect the resource and provide for public safety.

There are several typical situations where a temporary closure may be used at KEFJ. When a bear is feeding on a carcass in a busy public area, such as Exit Glacier, a closure may be put into effect for a few days to allow the bear(s) to finish feeding undisturbed. When a bear has become too accustomed to backcountry campers and has caused repeated damage to property or obtained human food, an area may be temporarily closed. In this case, other management action such as aversive conditioning will likely be implemented during the closure.

Any closure of any part of the park must be enacted in accordance with applicable regulations, found generally in Title 36 CFR § 1.5, §13.50 and Title 43 CFR § 36.11 (h). Under these regulations, an emergency closure may last up to 30 days. A temporary closure may be in effect up to 12 months.

Generally, only the Superintendent or a member of the Bear Management or Bear Incident Response Teams will initiate a closure. At a minimum, any employee implementing an Emergency Closure must immediately notify the Superintendent and BMT by radio or telephone and post signs at reasonable locations around the closed area or at key access points.

If the Superintendent is not available, notice must be given to one of the following, in order:

- Acting Superintendent
- Member of the BMT
- Any other team leader
- Permanent staff member of the RM or VRP team
- Supervisor of any team

This person will in turn ensure that appropriate notification is provided to the Superintendent, news media, other agencies, and the general public, generally through the park's Public Information Officer (PIO).

Specific guidance regarding closures is contained in the section of this plan containing guidelines for bear incident response. Standard Operating Procedures for closures at Exit Glacier are contained in the Park Emergency Operations Plan. Approved signs for implementing a closure are located in Appendix 6.

Live Capture and Release

With this technique, a bear participating in problem behavior is captured using a trap, is chemically immobilized and immediately released at the same or a nearby location. This will not be routinely used at Kenai Fjords as an aversive conditioning treatment, but may be used for that purpose in some instances. Only personnel with appropriate training and certification will conduct live capture operations. The Superintendent, Chief of VRP and Chief of RM are the only park staff with authority to approve live capture as provided for in this plan.

It is more likely that capture and release will be used as part of an approved research project, including perhaps research into effectiveness and impacts of other aversive conditioning treatments.

Generally, whenever a bear is live-captured at KEFJ, the bear will be marked for future identification before release. Hair will be collected for genetic sampling.

Translocation

Translocation is the capture of an animal and moving it to another, more distant location or outside the park. This is rarely effective, presents hazards to the animal and personnel involved,

and is not appropriate in most instances. There are animal welfare, biological, ethical and liability considerations, as well. This technique will not be used at KEFJ, except under very rare and unusual circumstances specifically approved by the Superintendent. When exigent circumstances demand immediate removal of an animal in the absence of the Superintendent, his approval may be given by either the Acting Superintendent or the Bear Management Team.

Removal/Destruction

The Superintendent, Chief of VRP and Chief of RM are the only park staff with authority to approve destruction of an individual bear as provided for in this plan. In emergency situations where there is an immediate threat to human safety, park personnel may take lethal action without prior approval. In non-emergency situations where animal destruction is proposed, prior approval is required.

Only the following techniques are authorized for destruction of bears by NPS staff in KEFJ:

- Shooting with appropriate firearms by trained and authorized personnel.
- Chemical euthanasia by qualified and designated personnel.
- Chemical immobilization by qualified and designated personnel followed by shooting.

The method used will be that which is most humane and efficient while protecting the safety of employees and the public.

VI. INCIDENT RESPONSE

The Incident Command System (ICS) will be used to manage wildlife incidents in the park. See appendix 4 for more information regarding ICS.

Guidelines for Bear Incident Response

The following tables are designed to provide a basic framework for response to common bear / human interaction scenarios in the park. THESE GUIDELINES ARE NOT INTENDED TO BE ALL INCLUSIVE, NOR ARE THEY DESIGNED TO BE RIGIDLY APPLIED IN ALL SITUATIONS.

		Guideline #1: **Bear Sighting - No Human Interaction**					
Action	Species	Exit Glacier Developed Area	Exit Glacier Non-Developed Areas	Coastal Campsite	Public Use Cabins	Coastal Field Stations	Other Non-Developed Areas
Notify	Black	1. Contact park staff working in the area if deemed necessary					
	Brown	1. EG staff 2. Proximate Visitors 3. Bear Management Team 4. Update park bear webpage		1. Appropriate Rangers (Coastal or EG) 2. Bear Management Team 3. KEFJ staff/cooperators working in area 4. Visitors in area 5. Update park bear webpage			
Response	Black	None required		None required			
	Brown	1. EG staff will attempt to actively monitor bear's location if possible 2. Contact proximate visitors and inform of brown bear in the area 3. Periodically update EG staff via radio 4. Post “brown bear observed in area” sign at Nature Center and on bulletin boards in the campground and EG developed area.		None required			
Hazing	Black or Brown	None					
Patrol	Black	Normal					
	Brown	Consider increased patrols (none for Other Non-Developed Areas zone)					
Reporting	Black	None					
	Brown	Wildlife Observation Form. CIR if significant monitoring or increased patrols are initiated.					

<table>
<tr><th></th><th></th><th colspan="7">Guideline #2:
Bear near areas of human use – Bear remains in area with humans present</th></tr>
<tr><th>Action</th><th>Species</th><th>Exit Glacier Developed Area</th><th>Exit Glacier Non-Developed Areas</th><th>Coastal Campsite</th><th>Public Use Cabins</th><th>Coastal Field Stations</th><th>Other Non-Developed Areas</th></tr>
<tr><td rowspan="2">Notify</td><td>Black</td><td>1. EG staff
2. Proximate Visitors</td><td>none required</td><td colspan="4" rowspan="2">1. Appropriate Rangers (Coastal or EG)
2. KEFJ staff/cooperators working in area
3. Bear Management Team
4. Visitor notification using appropriate messages as defined in communications section of IBMP:
Visitors in area
Kayak Guide Call List
Water Taxi Call List
5. Update park bear webpage</td></tr>
<tr><td>Brown</td><td>1. EG staff
2. Bear Management Team
3. Proximate Visitors
4. Update park bear webpage</td><td>1. EG staff
2. BMT
3. Proximate Visitors
4. Update park bear webpage</td></tr>
<tr><td rowspan="2">Response</td><td>Black</td><td>1. Attempt to actively monitor bear's location, assess habituation, photo for ID
2. Contact proximate visitors
3. Periodically update EG staff via radio.
4. Consider temporary trail/facility closure
5. Use “closed due to bear activity” sign, if appropriate</td><td>none required</td><td colspan="4">None required
Consider aborting administrative mission to leave bear alone.</td></tr>
<tr><td>Brown</td><td colspan="2">1. Attempt to actively monitor bear's location, assess habituation, photo for ID
2. Contact proximate visitors
3. Periodically update EG staff via radio
4. Consider temporary trail/facility closure
5. Use “brown bear observed in area” sign at Nature Center and for closure area.</td><td colspan="4">None Required
Consider aborting administrative mission to leave bear alone.</td></tr>
<tr><td rowspan="2">Hazing</td><td>Black</td><td colspan="7">In General None – Consider low level hazing (shouting, hand clapping) for bears loitering at campground cook shelter, employee housing, picnic area, parking lot, and group camping cook tent. Only haze bears from trails that cause an unacceptable impact to safety and operations.</td></tr>
<tr><td>Brown</td><td colspan="7">In General None – Consider low level hazing (shouting, hand clapping) for bears loitering at campground cook shelter, employee housing, picnic area, parking lot, and group camping cook tent. Hazing should only occur with lethal backup available.</td></tr>
<tr><td>Patrol</td><td>Black or Brown</td><td colspan="7">Consider Increased Patrols</td></tr>
<tr><td>Reporting</td><td>Black or Brown</td><td colspan="7">Wildlife Observation Form. CIR if active monitoring, increased patrols or closure are initiated.</td></tr>
</table>

<table>
<tr><th></th><th></th><th colspan="6">Guideline #3:
Bear Damages Property or Obtains Human Foods - Isolated Incident - Bear Flees or Bear Not Seen</th></tr>
<tr><th>Action</th><th>Species</th><th>Exit Glacier Developed Area</th><th>Exit Glacier Non-Developed Areas</th><th>Coastal Campsite</th><th>Public Use Cabins</th><th>Other Non-Developed Areas</th><th>Coastal Field Stations</th></tr>
<tr><td>Notify</td><td>Black or Brown</td><td>1. Bear Incident Responder
2. LE Ranger on Duty
3. EG staff
4. Employees living in EG housing
5. Bear Management Team
6. Update park bear webpage</td><td>1. Bear Incident Responder
2. LE Ranger on Duty
3. EG Staff
4. Bear Management Team
5. Update park bear webpage</td><td colspan="4">1. Appropriate Rangers (Coastal or EG)
2. Bear Management Team
3. Other park staff working in area
4. Visitors in area
5. Visitor notification using appropriate messages as defined in communications section of IBMP:
Visitors in area
Kayak Guide Call List
Water Taxi Call List
5. Update park bear webpage</td></tr>
<tr><td>Response</td><td>Black or Brown</td><td>1. Consider Electric Fencing or Other Deterrent
2. BMT will advise on follow-up
3. Obtain hair samples, visitor photos, etc. if possible</td><td colspan="5">1. Bear Management Team will advise on follow-up actions
2. Obtain hair samples, visitor photos, etc. if possible</td><td>1. Consider Electric Fencing or Other Deterrent
2. BMT will advise on follow up.
3. Obtain hair samples, visitor photos, etc. if possible</td></tr>
<tr><td rowspan="2">Hazing</td><td>Black</td><td colspan="7">N/A</td></tr>
<tr><td>Brown</td><td colspan="7">N/A</td></tr>
<tr><td>Ranger Patrol</td><td>Black or Brown</td><td colspan="7">Increased (except perhaps in Other Non-Developed Areas zone)</td></tr>
<tr><td>Reporting</td><td>Black or Brown</td><td colspan="2">Bear Incident Form and CIR: Documented by Bear Incident Responder</td><td colspan="5">Bear Incident Form and CIR: Documented by Bear Incident Responder</td></tr>
</table>

		Guideline #3A: **Bear Damages Property or Obtains Human Foods - Isolated Incident - Bear Still at Scene**					
Action	Species	Exit Glacier Developed Area	Exit Glacier Non-Developed Areas	Coastal Campsite	Public Use Cabins	Other Non-Developed Areas	Coastal Field Stations
Notify	Black or Brown	1. Bear Incident Responder 2. LE Ranger on Duty 3. EG staff 4. Employees living in EG housing 5. Bear Management Team 6. Update park bear webpage	1. Bear Incident Responder 2. LE Ranger on Duty 3. EG Staff 4. Bear Management Team 5. Update park bear webpage	1. Appropriate Rangers (Coastal or EG) 2. Bear Management Team 3. Other park staff working in area 4. Visitors in area 5. Visitor notification using appropriate messages as defined in communications section of IBMP: Visitors in area Kayak Guide Call List Water Taxi Call List 6. Update park bear webpage			
Response	Black	• Manage scene for safety of all visitors and staff – ensure escape route for bear before hazing • **Rapidly and assertively haze black bear** from property or food using most appropriate means. • Consider recruiting bystanders to help with crowd control, making noise, etc. if safe to do so. • Remove attractants from area when safe to do so and after appropriate documentation (e.g. photos) is complete. Don't unreasonably delay removal of attractants for sake of photos or other documentation.					
	Brown	• Manage scene for safety of all visitors and staff – ensure escape route for bear before hazing • **Haze brown bear only in rare cases** where adequate distance between responders and bear can be assured and where non-responders are completely removed from area. • Remove attractants from area when safe to do so and after appropriate documentation (e.g. photos) is complete. Don't unreasonably delay removal of attractants for sake of photos or other documentation.					
Hazing	Black	See above – Any trained staff quickly and assertively haze bear while engaged in unacceptable behavior					
	Brown	BIRT Only: Haze from distance only, with extreme regard for safety of all involved.					
Ranger Patrol	Black or Brown	• Increased (except perhaps in Other Non-Developed Areas zone) • Consider area closure and increased patrols, signage, and educational efforts					
Reporting	Black or Brown	Bear Incident Form and CIR: Documented by Bear Incident Responder		Bear Incident Form and CIR: Documented by Bear Incident Responder			

<table>
<tr><th></th><th></th><th colspan="6">Guideline #4:
Bear Damages Property or Obtains Human Food - Repeated Incidents (2 or more incidents in a discrete area within 30 days) - Bear Flees or Bear Not Seen</th></tr>
<tr><th>Action</th><th>Species</th><th>Exit Glacier Developed Area</th><th>Exit Glacier Non-Developed Areas</th><th>Coastal Campsite</th><th>Public Use Cabins</th><th>Coastal Field Stations</th><th>Other Non-Developed Areas</th></tr>
<tr><td>Notify</td><td>Black or Brown</td><td colspan="2">1. Bear Incident Responder
2. LE Ranger on Duty
3. EG Staff
4. Visitors in Area
5. Bear Management Team
6. Update park bear webpage</td><td colspan="4">1. Appropriate Rangers (coastal or EG)
2. Other park staff in area
3. Bear Management Team
4. Visitor notification using appropriate messages as defined in communications section of IBMP:
Visitors in area
Kayak Guide Call List
Water Taxi Call List
5. Update park bear webpage</td></tr>
<tr><td>Response</td><td>Black or Brown</td><td>1. Caution signs posted
2. EG Staff warns visitors of situation
3. BMT will advise on follow-up
4. Obtain hair samples, visitor photos, etc. if possible</td><td>1. Caution signs posted
2. EG Staff warns visitors of situation
3. Consider Area Closure
4. BMT will advise on follow-up
5. Obtain hair samples, visitor photos, etc. if possible</td><td colspan="4">1. Caution signs posted, if applicable
2. Coastal Rangers and VC staff warn visitors of situation in area
3. Consider area closure
4. Bear Management Team will advise on follow-up actions,
5. Obtain hair samples, visitor photos, etc. if possible</td></tr>
<tr><td rowspan="2">Hazing</td><td>Black</td><td colspan="6">BMT will develop Aversive Conditioning Plan which may include paint ball marking and other intermediate / high level tools</td></tr>
<tr><td>Brown</td><td colspan="6">BMT will develop Aversive Conditioning Plan which may include paint ball marking and other intermediate / high level tools</td></tr>
<tr><td>Ranger Patrol</td><td>Black or Brown</td><td colspan="6">Increased</td></tr>
<tr><td>Reporting</td><td>Black or Brown</td><td colspan="2">Bear Incident Form and CIR: Documented by Bear Incident Responder</td><td colspan="4">Bear Incident Form and CIR: Documented by Bear Incident Responder</td></tr>
</table>

<table>
<tr><th></th><th></th><th colspan="7">Guideline #5:
Persistent Bear - Bear damages property, obtains human food (repeated incidents – 2 or more in a discreet area within 30 days) or does not respond appropriately to hazing in repeated incidents - Bear does not flee</th></tr>
<tr><th>Action</th><th>Species</th><th>Exit Glacier Developed Area</th><th>Exit Glacier Non-Developed Areas</th><th>Coastal Campsite</th><th>Public Use Cabins</th><th>Coastal Field Stations</th><th>Other Non-Developed Areas</th></tr>
<tr><td>Notify</td><td>Black or Brown</td><td colspan="2">1. Bear Incident Responder
2. LE Ranger on Duty
3. EG Staff
4. Visitors in Area
5. Bear Management Team
6. Update park bear webpage</td><td colspan="4">1. Appropriate Rangers (coastal or EG)
2. Other park staff in area
3. Bear Management Team
4. Visitor notification using appropriate messages as defined in communications section of IBMP:
Visitors in area
Kayak Guide Call List
Water Taxi Call List
5. Update park bear webpage</td></tr>
<tr><td>Response</td><td>Black or Brown</td><td colspan="2">1. Caution signs posted *
2. EG Staff warns visitors of situation
3. BMT will advise on follow-up
4. Obtain hair samples, visitor photos, etc. if possible
5. Consider area closure*</td><td colspan="4">1. Caution signs posted *
2. Coastal Rangers and VC staff warn visitors of situation in area
3. Consider area closure*
4. Bear Management Team will advise on follow-up actions,
5. Obtain hair samples, visitor photos, etc. if possible

* Caution Sign is the minimum level of posting, but Do Not Enter should be used instead as required.</td></tr>
<tr><td rowspan="2">Hazing</td><td>Black</td><td colspan="7">BMT will develop Aversive Conditioning Plan which may include paint ball marking and other intermediate / high level tools</td></tr>
<tr><td>Brown</td><td colspan="7">BMT will develop Aversive Conditioning Plan which may include paint ball marking and other intermediate / high level tools</td></tr>
<tr><td>Ranger Patrol</td><td>Black or Brown</td><td colspan="7">Increased</td></tr>
<tr><td>Reporting</td><td>Black or Brown</td><td colspan="2">Bear Incident Form and CIR: Documented by Bear Incident Responder</td><td colspan="5">Bear Incident Form and CIR: Documented by Bear Incident Responder</td></tr>
</table>

		Guideline #6: Aggressive or Injured Bear					
Action	Species	Exit Glacier Developed Area	Exit Glacier Non-Developed Areas	Coastal Campsite	Public Use Cabins	Coastal Field Stations	Other Non-Developed Areas
Notify	Black or Brown	1. Bear Incident Responder 2. LE Ranger on Duty 3. EG Staff 4. Visitors in Area 5. Bear Management Team 6. Update park bear webpage		1. Appropriate Rangers (coastal or EG) 2. Other park staff in area 3. Bear Management Team 4. Visitor notification using appropriate messages as defined in communications section of IBMP: Visitors in area Kayak Guide Call List Water Taxi Call List 5. Update park bear webpage			
Response	Black or Brown	1. Initiate ICS 2. Consider evacuation of proximate visitors 3. Consider an area closure 4. EG Staff warns visitors of situation 5. Bear Management Team will advise on follow-up actions		1. Initiate ICS 2. Consider evacuation of proximate visitors 3. Consider an area closure 4. Coastal Rangers and IC staff warn visitors of situation 5. Bear Management Team will advise on follow-up actions			
Hazing	Black or Brown	Lethal backup required - Cracker rounds, Rubber Bullets, and Lethal Force if deemed Necessary					
Ranger Patrol	Black or Brown	Increased					
Reporting	Black or Brown	Bear Incident Form and CIR: Documented by Bear Incident Responder		Bear Incident Form and CIR: Documented by Bear Incident Responder			

		Guideline #7: Bear on a Carcass					
Action	Species	Exit Glacier Developed Area	Exit Glacier Non-Developed Areas	Coastal Campsite	Public Use Cabins	Coastal Field Stations	Other Non-Developed Areas
Notify	Black or Brown	1. Bear Incident Responder 2. LE Ranger on Duty 3. EG Staff 4. Visitors in Area 5. Bear Management Team 6. Update park bear webpage		1. Coastal Rangers 2. Other park staff in area 3. Bear Management Team 4. Consider visitor notification using appropriate messages as defined in communications section of IBMP: Visitors in area Kayak Guide Call List Water Taxi Call List 5. Update park bear webpage			
Response	Black or Brown	1. Initiate ICS 2. Consider evacuation of proximate visitors 3. Consider an area closure and post signs 4. EG Staff warns visitors of situation 5. Bear Management Team will advise on follow-up actions		1. Consider evacuation of proximate visitors 2. Consider an area closure and post appropriate signs 3. Coastal Rangers and IC staff warn visitors of situation 4. Bear Management Team will advise on follow-up actions			
Hazing	Black or Brown	Generally not appropriate.					
Ranger Patrol	Black or Brown	Increased					
Reporting	Black or Brown	Bear Incident Form and CIR: Documented by Bear Incident Responder		Bear Incident Form and CIR: Documented by Bear Incident Responder			

		Guideline #8: **Bear Incident Causing Human Injury**					
Action	Species	Exit Glacier Developed Area	Exit Glacier Non-Developed Areas	Coastal Campsite	Public Use Cabins	Coastal Field Stations	Other Non-Developed Areas
Notify	Black or Brown	1. Bear Incident Responder 2. LE Ranger on Duty 3. EG Staff 4. Bear Management Team 5. IC or BMT will notify Alaska State Troopers, Alaska Department of Fish and Game, US Forest Service 6. Update park bear webpage		1. Appropriate Rangers (coastal or EG) 2. Other park staff in area 3. Bear Management Team 4. Visitor notification using appropriate messages as defined in communications section of IBMP: Visitors in area Kayak Guide Call List Water Taxi Call List Update park bear webpage 5. IC or BMT will notify Alaska State Troopers, Alaska Department of Fish and Game, 6. Superintendent, PIO, Regional Director via AKRO PIO			
Response	Black or Brown	1. Initiate ICS; refer to Bear/Human Attack Protocols in Appendix 7. 2. Evacuate proximate visitors 3. Implement area closure to protect scene and public safety 4. Monitor the bear until it departs the scene. 5. EG Staff warns visitors of situation 6. Bear Management Team will advise on follow-up actions		1. Initiate ICS; refer to Bear/Human Attack Protocols in Appendix 7. 2. Consider evacuation of proximate visitors 3. Consider an area closure to protect scene and public safety 4. Coastal Rangers and IC staff warn visitors of situation 5. Bear Management Team will advise on follow-up actions			
Hazing	Black or Brown	Hazing generally not appropriate, but lethal means may be necessary if the bear represents an imminent threat to humans. Priority is area closure with immediate evacuation and care of injured party.					
Ranger Patrol	Black or Brown	Increased					
Reporting	Black or Brown	Bear Incident Form and CIR: Documented by Bear Incident Responder		Bear Incident Form and CIR: Documented by Bear Incident Responder			

		Guideline # 9: **Bear Incident Involving Human Fatality**					
Action	Species	Exit Glacier Developed Area	Exit Glacier Non-Developed Areas	Coastal Campsite	Public Use Cabins	Coastal Field Stations	Other Non-Developed Areas
Notify	Black or Brown	1. Bear incident responder 2. LE Ranger on duty 3. EG staff 4. Bear Management Team 5. IC or BMT will notify Alaska State Troopers, Alaska Department of Fish and Game, US Forest Service 6. Update park bear webpage		1. Appropriate Rangers (coastal or EG) 2. Bear Management Team 3. IC or BMT will notify Alaska State Troopers, Alaska Department of Fish and Game 4. Superintendent, PIO, Regional Director via AKRO PIO 5. Public notification will be conducted by and / or coordinated with AKRO PIO. Update park bear webpage			
Response	Black or Brown	1. Initiate ICS; refer to Bear/Human Attack Protocols in Appendix 7. 2. Secure Area and Treat as a Crime Scene 3. Evacuate Area 4. Immediate Area Closure 5. Bear Management Team will advise on follow-up actions		1. Initiate ICS; refer to Bear/Human Attack Protocols in Appendix 7. 2. Secure Area and Treat as a Crime Scene 3. Evacuate Area 4. Immediate Area Closure 5. Bear Management Team will advise on follow-up actions			
Hazing	Black or Brown	Hazing generally not appropriate, but lethal means may be necessary if the bear represents an imminent threat to humans. Priority is area closure with immediate evacuation					
Ranger Patrol	Black or Brown	Increased					
Reporting	Black or Brown	Bear Incident Form and CIR: Documented by Bear Incident Responder.		Bear Incident Form and CIR: Documented by Bear Incident Responder.			

		Guideline #10: Dead Bear					
Action	Species	Exit Glacier Developed Area	Exit Glacier Non-Developed Areas	Coastal Campsite	Public Use Cabins	Coastal Field Stations	Other Non-Developed Areas
Notify	Black or Brown	1. Bear incident responder 2. LE Ranger on Duty 3. Bear Management Team 4. Update park bear webpage, if appropriate		1. Appropriate Rangers (coastal or EG) 2. Bear Management Team 3. Update park bear webpage, if appropriate			
Response	Black or Brown	1. Secure Area and Treat as a Crime Scene 2. Follow dead bear necropsy protocols		1. Secure Area and Treat as a Crime Scene 2. Follow dead bear necropsy protocols			
Hazing	Black or Brown	Not Applicable					
Ranger Patrol	Black or Brown	Consider Increased Patrols if poaching is suspected.					
Reporting	Black or Brown	Bear Incident Form and CIR: Documented by Bear Incident Responder		Bear Incident Form and CIR: Documented by Bear Incident Responder			

VII. DOCUMENTATION AND REPORTING

The NPS-AKRO's Bear-Human Information Management System (BHIMS) has been developed to standardize the collection of bear data across national parklands in the Alaska Region. The BHIMS facilitates data entry, storage, and analysis. The system has the capacity to store bear-human conflict, bear observation, bear harvest, and bear natural history records. Scanned images of original bear management report forms (BMRFs), narratives, reports, and/or photos can be linked to each incident. BHIMS facilitates data input, retrieval, and printing of Case Incident Records (form 10-343), eliminating duplicate and hand-writing of forms if the user chooses. Another benefit of BHIMS is a dynamic link to ArcView which displays maps of incidents based on user-selected criteria. A link tool can be used to query incidents in Access or ArcView and then display the corresponding data in the other application. Altogether, this system represents a powerful resource management tool that allows easy data entry and analysis, and enables informed bear management efforts in Alaska's National Parklands.

Brown Bear Sightings should be reported using either BHIMS or the parks wildlife observation protocols/form.

BHIMS will be used for all bear reports within KEFJ. This includes:

- brown bear sightings
- bear aggressive behavior in which a bear stalks, charges or engages in threat displays (blowing, chomping, paw swatting or lip smacking)
- discharge of bear spray or weapon
- bear following or stalking people
- bear obtaining human food or damaging property
- temporary area closures due to bear activity
- any hazing or aversive conditioning
- any time a bear is shot
- dead bears

Every time anybody (visitor or staff) hazes a bear, a Bear-Human Encounter Report Form (aka BHIMS form) must be completed (Appendix 12). This also applies each time a trail or other area is temporarily closed due to bear activity. This information about closures and encounters is essential if we are to improve our bear management in this area.

Consistent reporting allows us to detect patterns and implement appropriate management actions at the lowest level and the earliest opportunity.

Frequently, staff deals with the same bear in an area near a trail throughout a period of several hours. As long as the encounter involves the same bear in the same general area and the same staff, a single BHIMS form can be used. If any of the above change, additional forms should be used.

Case Incident Reports will also be completed (using BHIMS or the CIR system) on any of the following incidents: human injury, property damage, bear spray use, discharge of any weapon, any legal violations, hazing, or bears obtaining food.

Pertinent data will be entered into BHIMS by designated Law Enforcement personnel for all human-bear interaction requiring a Case Incident Record (10-343) or by designated Resource Management personnel for all others.

The AKRO is developing a user's manual for BHIMS, including specifying minimum data that must be entered into the system.

VIII. ADAPTIVE MANAGEMENT

The BMP will evolve in accordance with continued monitoring and evaluation of policies and programs. The Bear Management Team will evaluate the BMP annually and document successes or inadequacies of the plan. An annual review of the program will include input from other members of the Park staff and bear biologists from other agencies. Reviews will evaluate written and verbal information provided to the public, current data gathering systems, and use of management actions. In addition, these reviews will evaluate the Park and surrounding area's garbage and food storage and enforcement procedures. They will also consider staff and budgetary necessities for the implementation of the BMP. Any relevant research findings will be evaluated for incorporation into policy and programs. Efforts will be made to develop, review, and incorporate new or more effective management actions/tools in responding to bear/human incidents into the bear management program. The Bear Management Team will provide annual summaries or progress reports associated with this review.

IX. LITERATURE CITED

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X. GLOSSARY

Aggressive Behavior: Behavior in which a bear stalks, charges or engages in threat displays (blowing, chomping, paw swatting or lip smacking)

Aversive Conditioning: Aversive conditioning is a directed effort to alter a bear's behavior. It is a special form of learning that involves pairing a negative reinforcer with an action by the bear in order to lead to an avoidance of that action in subsequent events. The bear must be identifiable and every time the bear exhibits the undesired behavior it should be deterred. Although aversive conditioning can be opportunistic, it may involve creating a pseudo event designed to elicit an undesirable action by a bear in order to aversively condition it (e.g., bear management staff posing as campers prepared to deter a bear if it attempts to rummage their tent). Effective aversive conditioning involves presenting the bear with a situational context it is able to differentiate (e.g., texture, color, or site) in the present and future. Effects of aversive conditioning efforts should be monitored long-term.

Bear attack: Intentional contact by a bear resulting in human injury; a subset of Bear Incident.

Bear incident: An interaction between a bear(s) and a person(s) in which a bear acts aggressively, obtains human food or damages property or were judged to be negatively affected by human activities. Bear incidents are a subset of bear–human interactions and have outcomes ranging from benign to injury.

Bear Resistant Food Container (BRFC) or Bear Resistant Container (BRC): a storage container constructed to prevent access by a bear. Acceptable BRCs for use in KEFJ include:

- Items approved by the Department of Interior and Agriculture's Interagency Grizzly Bear Committee
- Any additional items listed by the State of Alaska, Department of Fish and Game, Team of Wildlife Conservation with the concurrence of the Superintendent;
- Park provided metal food lockers at some coastal campsites; and
- Items approved by the Superintendent.

Bear Sighting: When a person sees a bear, but the bear is apparently unaware of the person.

Bear-Human Encounter: synonymous with bear-human interaction (see below). These encounters may be defensive when bears are defending food or female bears are defending their offspring. Defensive encounters usually occur suddenly and at close distances. If the bear is aware of you and either looking or not looking at you (or moving steadily along a route), this is considered non-defensive bear behavior.

Bear–Human Interaction: Occurs when a person(s) and bear(s) are mutually aware of one another. Bears may react with seeming indifference, by leaving the area, or approaching the person, or otherwise. An encounter is synonymous with an interaction.

Food-conditioned bear: A bear that has obtained human food on at least one occasion and, as a result, is conditioned to seek such food again.

Habituation: Habituation is a waning of response to a repeated, neutral stimulus. Habituation differs from "conditioning" where a bear's behavior is rewarded with a positive stimulus (i.e., food-conditioning) and "aversion" where a negative consequence is associated with a stimulus (i.e., aversion-conditioning). Habituation response follows a continuum and is not an either/or situation. Habituation may be context specific: a bear habituated to a stimulus may display an attraction or avoidance response to the same stimulus at a different location. Habituation can also be unstable, so that if a stimulus is withheld, habituation wanes over time and the response recovers. If a bear were "habituated" to human food it would mean that the bear ignores it. Research indicates that "habituated" bears are involved in a disproportionate number of negative bear/human interactions due to their increased exposure to attraction stimuli (i.e., anthropogenic food) found in human environments. However, if efforts in KEFJ are successful in discouraging food-conditioning of bears, habituation should not result in excessive risk to humans. In fact, what is more likely is just the opposite─habituation will reduce the risk associated with close encounters, which are common at sites like Exit Glacier, because habituated bears are more tolerant of humans in close proximity.

Hazing: Hazing is a general term for techniques used to deter bears from continuing behaviors that humans perceive to be negative. The objectives of hazing are to prevent or eliminate dangerous, potentially dangerous, or destructive behaviors by bears towards humans or their property. Hazing techniques include hand-clapping, yelling, banging objects, airhorns, and discharging weapons (e.g., cracker shells, beanbag rounds, and rubber bullets). Examples of situations when hazing bears may be appropriate include bears settling in to feed or sleep near facilities, bear acting aggressively towards humans, and bears frequenting camping areas.

Overt Reaction Distance: the distance at which a bear overtly reacts to another bear or a person (Herrero et al. 2005). A bear may react internally before reacting in a manner people can observe. ORD replaces terms such as individual distance or personal space.

XI. Acronyms Used in this Document

AC: Aversive Conditioning
ADF&G: Alaska Department of Fish and Game
ARO: Alaska Regional Office
AST: Alaska State Troopers
BHIMS: Bear-Human Information Management System
BHRF: Bear-Human Reporting Form
BIRT: Bear Incident Response Team
BMT: Bear Management Team
BPS: Bear Pepper Spray
BRC: Bear Resistant Container
BRFC: Bear Resistant Food Container
CFR: Code of Federal Regulations
CIR: Case Incident Record
CUA: Commercial Use Authorization
EG: Exit Glacier
EPA: Environmental Protection Agency
FIFRA: Federal Insecticide, Fungicide and Rodenticide Act
IBBST: Interagency Brown Bear Study Team
IBMP: Interim Bear Management Plan
IBP: Incidental Business Permit
ICS: Incident Command System
IVS: Interpretation and Visitor Services
KBBPMG: Kenai Brown Bear Policy and Management Group
KEFJ: Kenai Fjords National Park
NPS: National Park Service
ORD: Overt Reaction Distance
RM: Resource Management
UAF: University of Alaska at Fairbanks
USGS-BRD: US Geological Survey Biological Resources Discipline (USGS-BRD)

XII Appendices.

1. Pepper Spray Standards and Use Instructions
2. Electric Fencing Standards and Use Instructions
3. Map of food locker locations
4. Incident Command System
5. Guidelines for Public Education
6. Signs
7. Bear / Human Attack Protocols
8. Approved Hazing/ AC rounds
9. Exit Glacier Evacuation Plan (Trail Closure Procedure)
10. Non-Law Enforcement Firearms Policy
11. BRFCs approved by the Department of Interior and Agriculture's Interagency Grizzly Bear Committee and the State of Alaska, Department of Fish and Game
12. Bear Human Interaction Form

Appendix 1): Pepper Spray Standards and Use Instructions

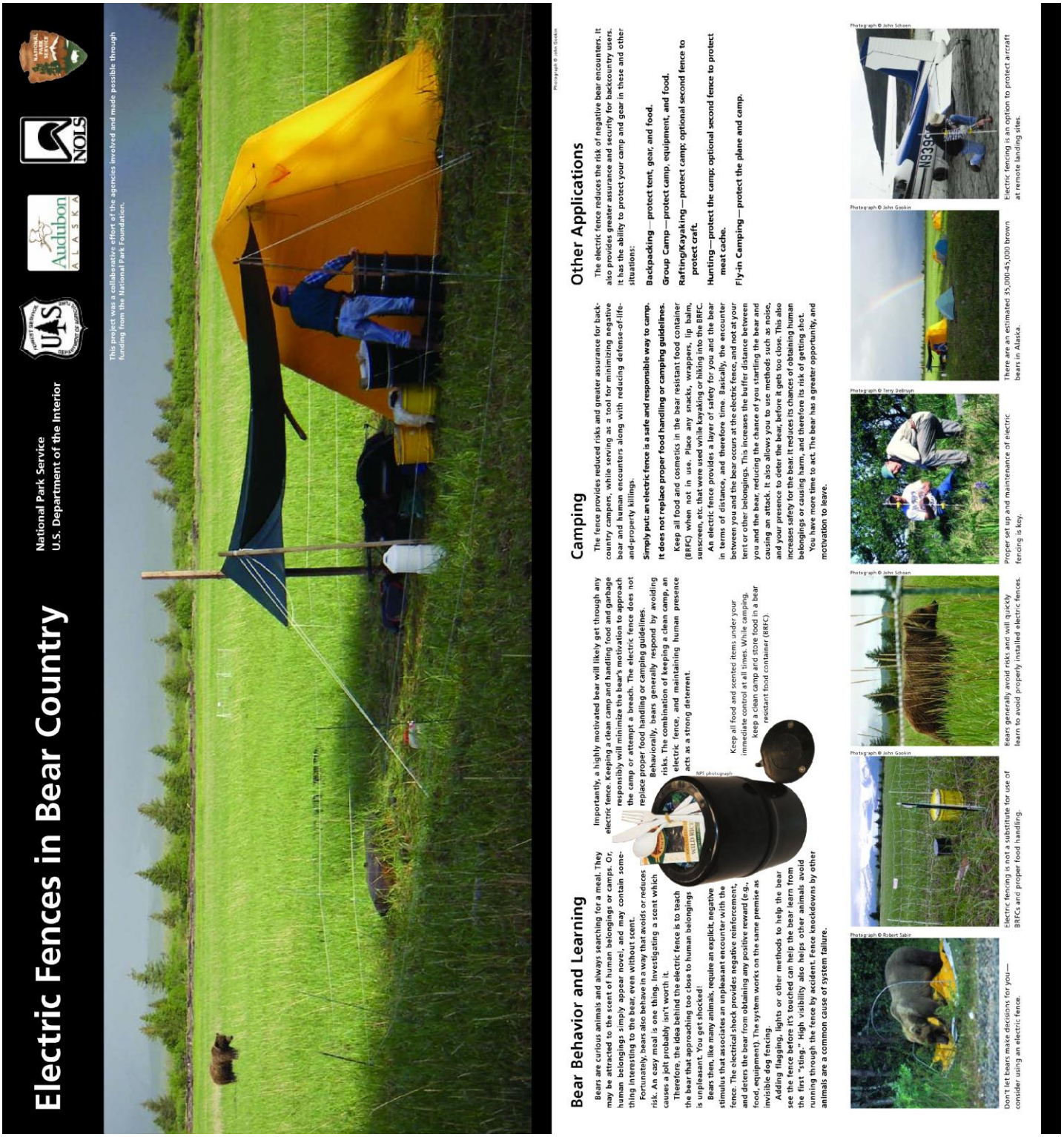
When to use bear pepper spray--bear pepper spray is a deterrent not a repellent:
Bear pepper spray (BPS) should be used as a deterrent only in an aggressive or attacking confrontation with a bear. Bear pepper spray is only effective when used as an airborne deterrent sprayed as a cloud at an aggressive animal. It should not be applied to people, tents, packs, other equipment or surrounding area as a repellent.

Spray should be carried in a quick, accessible fashion such as in a hip or chest holster. In tents, bear pepper spray should be kept readily available next to a flashlight. You should also keep a can available in the cooking area. Be sure to check the expiration date on your can of bear spray—most BPS is viable for a period of three years from manufacture.

To use BPS remove the safety clip. Aim slightly down and towards the approaching bear. If necessary, adjust for cross wind. Spray the bear in the face when it is within the stated range of your BPS. Spray again if the bear continues to approach. Once the bear has retreated or is busy cleaning itself, leave the area as quickly as possible (don't run) or go to an immediate area of safety, such as a car or building. Do not chase or pursue the bear.

Caution: Carrying bear pepper spray is not a substitute for following proper bear avoidance safety techniques. Do not allow yourself to feel emboldened when carrying bear pepper spray and enter into a situation which you would not otherwise. No deterrent is 100% effective, but compared to all others, including firearms, bear spray has demonstrated the most success in fending off threatening and attacking bears and preventing injury to the person and animal involved. The proper use of bear spray will reduce the number of bears killed in self-defense and reduce human injuries caused by bears.

Appendix 2): Electric Fencing Standards and Use Instructions



Electric Fences in Bear Country

National Park Service
U.S. Department of the Interior

This project was a collaborative effort of the agencies involved and made possible through funding from the National Park Foundation.

Photograph © John Gookin

Bear Behavior and Learning

Bears are curious animals and always searching for a meal. They may be attracted to the scent of human belongings or camps. Or, human belongings simply appear novel, and may contain something interesting to the bear, even without scent.

Fortunately, bears also behave in a way that avoids or reduces risk. An easy meal is one thing. Investigating a scent which causes a jolt probably isn't worth it.

Therefore, the idea behind the electric fence is to teach the bear that approaching too close to human belongings is unpleasant. You get shocked!

Bears then, like many animals, require an explicit, negative stimulus that associates an unpleasant encounter with the fence. The electrical shock provides negative reinforcement, and deters the bear from obtaining any positive reward (e.g., food, equipment). The system works on the same premise as invisible dog fencing.

Adding flagging, lights or other methods to help the bear see the fence before it's touched can help the bear learn from the first "sting." High visibility also helps other animals avoid running through the fence by accident. Fence knockdowns by other animals are a common cause of system failure.

Importantly, a highly motivated bear will likely get through any electric fence. Keeping a clean camp and handling food and garbage responsibly will minimize the bear's motivation to approach the camp or attempt a breach. The electric fence does not replace proper food handling or camping guidelines.

Behaviorally, bears generally respond by avoiding risks. The combination of keeping a clean camp, an electric fence, and maintaining human presence acts as a strong deterrent.

NPS photograph

Keep all food and scented items under your immediate control at all times. While camping, keep a clean camp and store food in a bear resistant food container (BRFC).

Camping

The fence provides reduced risks and greater assurance for backcountry campers, while serving as a tool for minimizing negative bear and human encounters along with reducing defense-of-life-and-property killings.

Simply put: an electric fence is a safe and responsible way to camp. It does not replace proper food handling or camping guidelines.

Keep all food and cosmetics in the bear resistant food container (BRFC) when not in use. Place any snacks, wrappers, lip balm, sunscreen, etc. that were used while kayaking or hiking into the BRFC.

An electric fence provides a layer of safety for you and the bear in terms of distance, and therefore time. Basically, the encounter between you and the bear occurs at the electric fence, and not at your tent or other belongings. This increases the buffer distance between you and the bear, reducing the chance of you startling the bear and causing an attack. It also allows you to use methods such as noise, and your presence to deter the bear, before it gets too close. This also increases safety for the bear. It reduces its chances of obtaining human belongings or causing harm, and therefore its risk of getting shot.

You have more time to act. The bear has a greater opportunity, and motivation to leave.

Other Applications

The electric fence reduces the risk of negative bear encounters. It also provides greater assurance and security for backcountry users. It has the ability to protect your camp and gear in these and other situations:

Backpacking—protect tent, gear, and food.

Group Camp—protect camp, equipment, and food.

Rafting/Kayaking—protect camp; optional second fence to protect craft.

Hunting—protect the camp; optional second fence to protect meat cache.

Fly-in Camping—protect the plane and camp.

Photograph © Robert Sabir

Don't let bears make decisions for you—consider using an electric fence.

Photograph © John Gookin

Electric fencing is not a substitute for use of BRFCs and proper food handling.

Photograph © John Schoen

Bears generally avoid risks and will quickly learn to avoid properly installed electric fences.

Photograph © Terry DeBruyn

Proper set up and maintenance of electric fencing is key.

Photograph © John Gookin

There are an estimated 35,000-45,000 brown bears in Alaska.

Photograph © John Schoen

Electric fencing is an option to protect aircraft at remote landing sites.

Appendix 2 (cont'd):

Setting up an Electric Fence

National Park Service
U.S. Department of the Interior

How Electric Fences Work

Polywire tied in a clove hitch tends to hold up well in bad weather, and is easily adjustable.

Photographs © John Schoen

A bear fence unit provides a very brief, intense jolt of electricity that will reach through paws and fur to sting the bear enough to provide a very unpleasant experience. Setting up the unit the right way assures you that the unit will do its job.

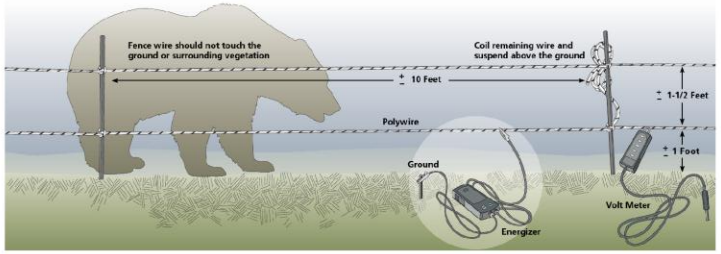
Achieving a good ground with the electrical fence is important. This provides a return circuit for the electrical pulse to shock a bear. A poor grounding system is the most common error in electric fence installation and causes low voltages that are inadequate to deter bears.

The time it takes to set up a fence varies with perimeter size and location. With experience, a typical fence can easily be assembled in less than 30 minutes.

Electric fences are small and light. When packed, they fit into a small stuff sack. One with 14 poles spaced 10 feet apart weighs approximately 6 lbs.

Generally, the fence works in all weather conditions when bears are active. At a minimum, tents should be pitched 10 feet inside the wire, to prevent a bear reaching in. A greater distance provides for increased reaction time and space when responding to a bear at the fence.

A suitable bear fence can be purchased or assembled for under $200.



Setting Up the Fence

Setting up an electric fence requires these components:

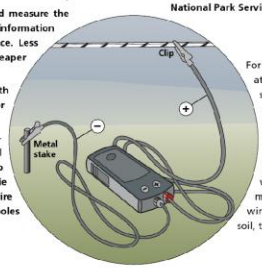
- Energizer
- Grounding rod and connectors
- Fence poles
- Fencing—polywire (polyethylene line with strands of stainless metal wire interwoven) which resembles string more than conventional wire)
- Volt Meter—to test if the wire is carrying current and measure the current strength. A digital voltmeter gives you precise information about how well you have installed your electric fence. Less expensive testers with a few neon bulbs are a cheaper alternative that may be acceptable.
- Alarm—low voltage alarm. An additional tool worth considering is an alarm indicating an animal contact or voltage drain from plants on the wire.

Distance from ground level to bottom wire is approximately one foot; ensure that the wire is clear of all vegetation and at a height which precludes a bear cub from ducking under it. Do not use trees or shrubs to tie off wires because the unit will not work. The second wire should be +/-1.5 feet above the bottom line. Space fence poles depending on topography to maintain a taut line.

Most electric fences do not have a gate, one simply steps over the wires. Gates are an option, but create opportunity for failure because they are often improperly installed or left open interrupting the circuit.

When choosing your tent site avoid areas frequented by bears, (e.g., river corridors and trails).

Equipment Availability: Additional information is available on the National Park Service website: www.nps.gov/akso



For an energizer to work, two wires are attached to the unit, usually by small screws. In most cases, they have clips at the other end. One wire, marked (-) for negative, must be clipped to a metal stake which is driven into the soil. Avoid rocky dry soils. Also, for the fence to work well, the other wire, usually marked (+) for positive, must be firmly clipped to the fence wire. Don't let the fence wire touch the soil, trees, brush, weeds, etc.

Frequently Asked Questions

Q: How portable are electric fences?
A: Typical electric fences for backcountry camping are quite portable. They weigh only a few (6-7) pounds, and are capable of being packed in a mattress stuff sack.

Q: How reliable are electric fences?
A: A critical component for electric fences to work is obtaining a good ground. Also, if your energizer will get rough handling in a backpack you should consider gluing all components to the circuit board to reduce damage from vibration (some models with this feature are available for purchase).

Q: What are common errors?
A: Poor grounding, leaving the fence turned off, leaving a gate open, energizer broken from rough handling.

Q: How do I get a good ground?
A: Obtaining a good ground depends on several things: soil particle size and moisture content (generally, the finer and wetter the soil the better the ground); having a grounding rod of sufficient length; and keeping vegetation from touching the wires. The best way to check if your setup is grounded effectively is to check it with a voltage meter.

Q: Is the fence safe for people and animals?
A: Yes, but still keep toddlers and people with pacemakers away from any electric fence.

Q: Will the fence repel a bear?
A: Electric fences used in the backcountry are employed as deterrents not repellents. Typical curious bears are easily deterred by electric fences. Bears being chased by other bears or bears that have received significant food rewards may get through fences.

Q: Does the fence replace appropriate handling of food?
A: No. In some cases, careless food handling may attract bears and provide sufficient motivation to overcome the deterrence effect of an electric fence. Remember: Keep all food and cosmetics in a Bear Resistant Food Container (BRFC) when not in use. Place any snacks, wrappers, lip balm, sunscreen, etc. into the BRFC before entering your tent or leaving camp unattended. Keep all food and scented items under your immediate control at all times.

Q: Can I leave the fence unattended? If so, for how long?
A: An electric fence around an unattended camp will generally deter most bears for short durations of several hours as long as the energizer has power and food and garbage is properly handled. Your gear is at no greater risk when left unattended inside an electric fence than without it. Solar augmented energizers afford greater run time than do equivalent battery operated units, but are more suitable for stationary camps where they will remain in the sun all day long.

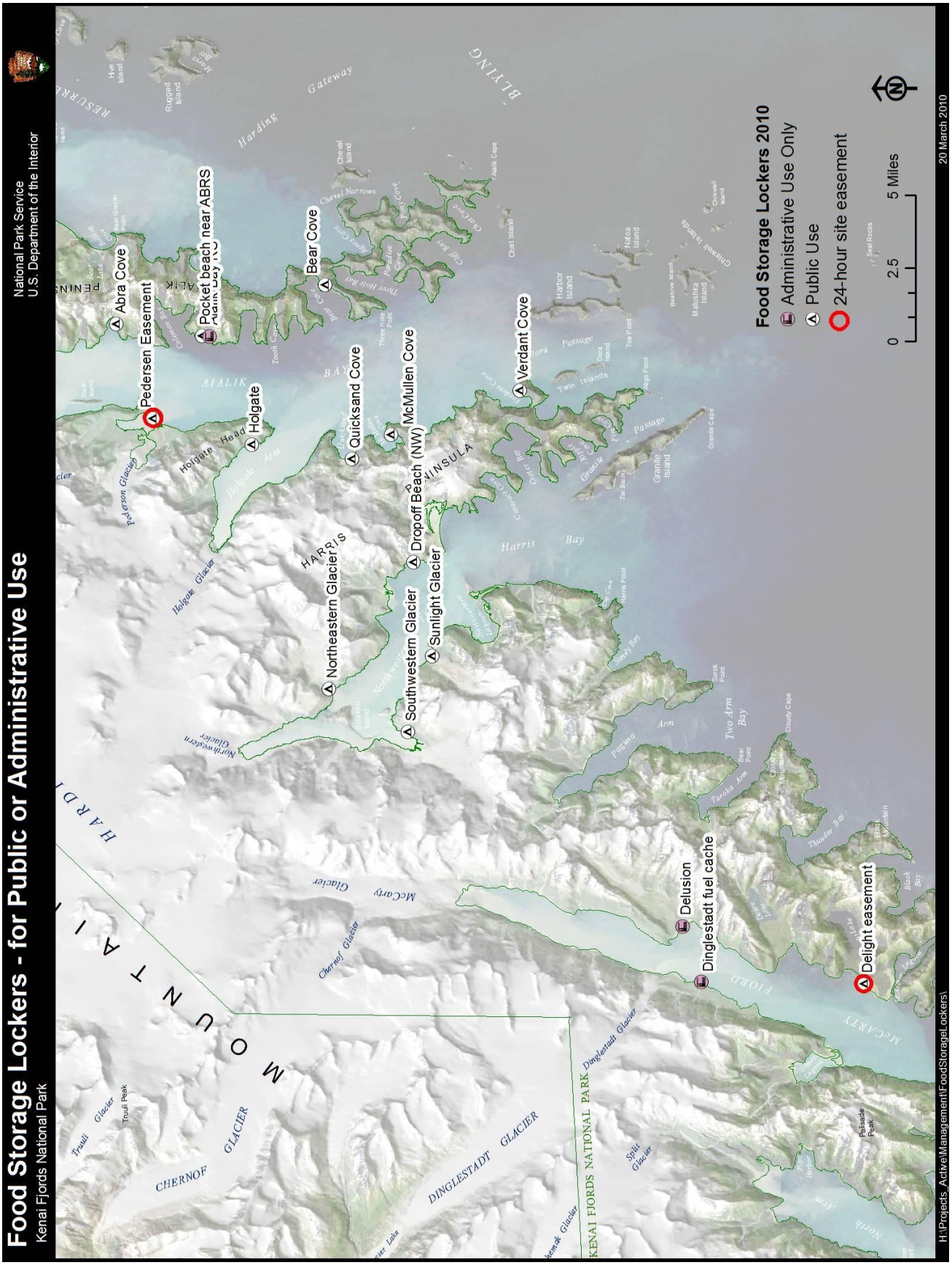
Q: What do I do when a bear is at the fence?
A: Contact with an active fence should be sufficient to deter a bear away from your camp. Do not allow bears to remain in proximity to the fence or mess with it. Establish a minimum distance at which you will haze bears from the fence using aversive techniques such as yelling and clapping. Have other forms of bear protection at hand, including bear spray.

Q: How and where do I get more information?
A: Here are some links that provide additional information on electric fencing for camping:

http://www.nols.edu/resources/research/movies/bearfence_xl.shtml
http://www.wildlife.alaska.gov/index.cfm?adfg=bears.efences

Photograph © John Schoen

Appendix 3): Map of food locker locations (Current as of 3/30/2013)



Appendix 4): Incident Command System

Every incident, big or small, should be managed under the Incident Command System (ICS). This includes bear incidents, whether it involves a single ranger keeping a group of people away from a bear on the trail or a complex, long term incident such as an area closure, aversive conditioning activity, trapping or removal of an animal. Regardless of the size or type of incident, there are common tasks and responsibilities. ICS helps us organize ourselves and our work in a logical manner.

The organization of the Incident Command System is built around five major management activities. These are the foundation upon which the ICS organization develops. They apply whether you are handling a routine emergency, organizing for a major event, or managing a major response to a disaster. These are:

COMMAND
Sets objectives and priorities and has overall responsibility at the incident or event. The first employee on scene assumes Incident Command until relieved by a more senior employee. S/he also fills all roles until additional personnel arrive to assist. Typically, the senior protection ranger or resource manager on scene will ultimately assume Incident Command. Even if more than one agency is involved, there is only <u>one</u> incident commander (IC).

OPERATIONS ("Ops")
Conducts tactical operations to carry out the plan. This may be rangers staffing trail closures, providing security, hazing the bear, setting a trap, etc. On most small incidents, the IC will usually assume the role of Ops Chief; otherwise a senior member of the IVS or RM teams should fill this role.

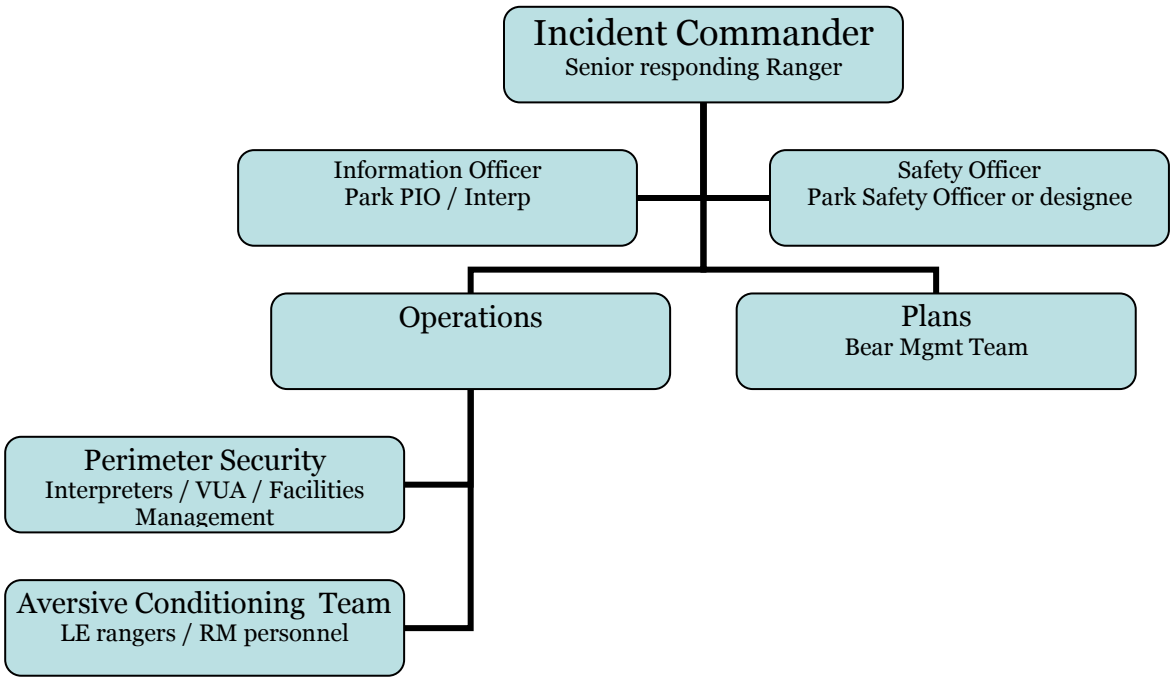
PLANNING ("Plans")
Develops the action plan to accomplish the objectives, collects and evaluates information, maintains resource status. For small incidents, the incident commander will usually fill this role. For larger, multi-day events, the Bear Management Team will be the plans unit.

LOGISTICS
Provides support, resources, and services needed to support others on the incident. Typically this will involve radio dispatch, shuttling of people, food, radio batteries, and other supplies, buying lunches or dinners, etc.

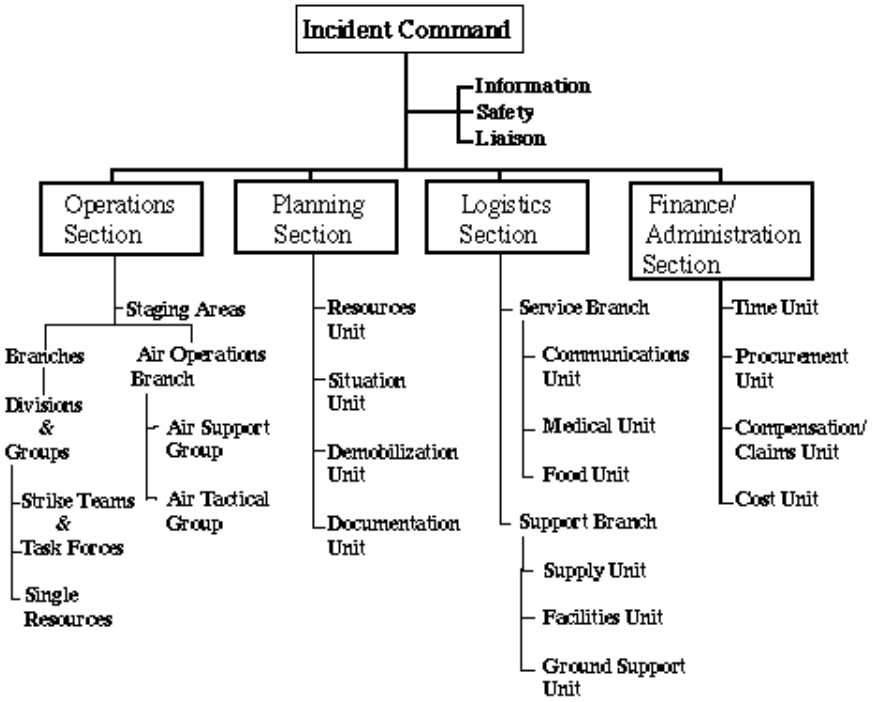
FINANCE/ADMINISTRATION
Monitors costs, provides accounting, time recording, etc. Typically, our incidents are small enough that the Incident Commander tracks and accounts for most costs, while payroll is handled through normal channels.

Typically, the Command and Operations activities will be the needed on all wildlife incidents, while the Planning and Logistics will be needed only in rare cases of prolonged area closures, injuries or fatalities, or similar situations. In all but the most unusual incidents, the Finance function will be handled through normal park administrative activities. The Information and Safety staff functions should also be identified and filled for most, if not all, wildlife related incidents.

Example KEFJ ICS organization for wildlife incident (bear):



Incident Command System Major Activities



Appendix 5): Guidelines for Public Education

I. Prevention

Stay Alert
Stay constantly alert in bear country. Use your ears, eyes, and even your nose to detect the presence of a bear. The sooner you are aware of the bear, the more time you and the bear will have to react appropriately. Neither you nor the bear want to be surprised by the other. Avoid areas with restricted visibility.

Be Visible, Make noise
A surprise encounter with a bear is dangerous and can be terrifying. However, you can reduce the potential for such encounters. Avoid surprises by traveling in open areas with good visibility. Make noise as you walk, particularly in thick brush, or when rounding a blind corner– talk, clap, and sing. Be extra alert in windy conditions or near noisy streams or beaches that may mask your sounds. When possible, travel with the wind at your back. Bear experts generally advise not to rely on bear bells (Smith, Amstrup and Herrero 2005 and Debruyn, pers com). Although bear bells may warn bears of your approach in some situations, the bells are not very loud, especially in areas with wind or running water and they don't necessarily sound human. Some anecdotal evidence suggests that bears may ignore bells or may actually approach with curiosity when they hear bells.

Stay in a Group - Safety in Numbers
The larger your group is, the less risk of a bear attacking. Stay together as a group, particularly if visibility is poor.
Identify and avoid areas with heavy bear use
It is important to be "bear aware" when camping and hiking in KEFJ and to avoid bear foraging areas (e.g., sedge meadows and berry patches) and other high-use areas. As the number of visitors to KEFJ increases so does the number of human/bear encounters. The vast majority of these encounters do not result in human injury or fatality. You can help prevent injury to yourself, to others, and to the bear by taking a few basic precautions.

Here are some signs to be on the lookout for:

- Bear scat or tracks that seem very recent or abundant.
- Trails are formed because of consistent use. Bears will often follow the path of least resistance for example, lakeshores and ridgelines.
- A tree or log that has bear hair or claw marks may indicate that it is a repeatedly used bear rub-tree.
- Large dug up areas could be forage sites, day beds, or belly holes.
- Avoid salmon streams! Bears like fish. And a noisy stream may lessen your ability to hear a bear or for a bear to hear you.

Avoid Bears
Never approach a bear, even from your boat or kayak. Approaching bears is dangerous and can cause undue stress and disturbance to the bear increasing the risk of attack.

II. Guidelines for specific activities

Photography and Bear viewing
Do not pursue or harass bears for the sake of a close encounter or photograph, either on land or from your watercraft. While many bears seem to be tolerant of human presence at distances farther than 100 yards, each animal and situation is different. Pay attention to the bear's behavior and respect its right to feed and travel undisturbed. Use telephoto lenses and binoculars. Move out of the area or quietly observe the bear at a safe distance without approaching or otherwise disturbing it. Disturbance is evident whenever a bear changes its behavior because of you. If it stops eating and looks up, sniffs the air with ears erect, trying to locate you, you are too close! Bears only have 6-8 months to acquire the calories and fat reserves needed for the entire year. Give them space!

Camping
Select a campsite with the least amount of bear sign and away from seasonal bear foraging areas. Allow bears to pass by your camp undisturbed. If you have made sure that the bear is aware of your presence so it is not surprised and have kept all your gear under your direct control, allow the bear to pass by unhindered. Narrow beaches with steep cliffs or extremely dense brush do not allow a bear to pass safely. Remember that at high tide a bear will not have as much room to pass between your camp and the high water line. Ask yourself: Can a bear walk by and pass my campsite and cooking area unhindered? When choosing your tent site avoid areas frequented by bears, camping in travel corridors (e.g., river corridors and trails), and do not camp in the intertidal zone. Always make noise when exiting your tent.

Cooking and Storing Food

- Keep all food and cosmetics in an approved BRFC when not in use. Place any snacks, wrappers, lip balm, sunscreen, etc. that were used while kayaking or hiking into a BRFC before entering your tent. It is not a good idea to store food, even when in a BRFC, in kayaks overnight. At night, store your BRFC and clean cooking gear off of main animal trails, (above high tide line) and at least 100 yards from your tent and hidden in thick brush or behind rocks.
- Prepare and consume food at least 100 yards from your tent site and food storage area. Try to select cooking areas where you can see a comfortable distance to minimize the risk of a surprise encounter with a bear passing through the area.
- If camping in a coastal area, prepare and eat all food in the intertidal zone, that area between the seaweed debris line and the waterline. Cook and eat as close to the water as possible so cooking smells and any food particles will then be washed away by the next tide.
- Be prepared to quickly stow all food back into the BRFC if a bear should suddenly approach. Keep your gear together—minimize the amount of space that you occupy. Always ask yourself, "Is there room for a bear to get around us?" Or "Can I quickly get all this gear under my control?"

- Minimize the risk of having your gear destroyed. Do not leave gear unattended. This includes tents, clothes, pads, water bottles, etc. Consider using a portable electric fence to discourage bears from investigating your camp.
- Keep gear together and under your immediate control. In coastal areas minimize the amount of space you take up on a beach. Again, ask: "Is there room for a bear to get around our camp?" A Tip: set up tents after making dinner and take them down before breakfast in order to keep all gear with or very near you in the intertidal when cooking or packing up kayaks.
- Elevate your reaction if a bear elevates its inquisitiveness. If a bear approaches make noise, wave your arms, etc. Stand your ground! Never surrender your gear to a bear!
- Keep all food and scented items under your immediate control at all times. While camping, keep a clean camp and store food appropriately.

Waste Disposal
Use provided bear-resistant garbage bins for disposal of all waste in the KEFJ frontcountry. In backcountry, all food waste products (e.g., scraps, wrappers) should be stored in bear proof containers and should be packed out. Feminine hygiene products should be treated as food waste in the backcountry. (Solid human body waste will either be removed as trash or deposited in cat-holes dug at least 100 feet from any surface freshwater source, shoreline, campsite or trail. Catholes must be at least 6 inches deep. If frozen or snow covered ground precludes use of catholes, waste should be removed as trash. Toilet paper will be burned or removed as trash.

III. Handling a Bear Encounter - What Should You Do?

There are essentially 2 types of bear encounters: defensive and non-defensive. Because KEFJ has 2 species of bears and they are behaviorally different in these situations, there are 4 types of encounters possible. There are differences in how to respond in each type of encounter. Visitors and staff need to recognize these differences and understand how to respond to each.

First assess the situation. Does the bear see you? If the bear does not see you, simply move away from the bear and the encounter is over.

Non-defensive Bear Encounters
If the bear is aware of you and either looking or not looking at you (or moving steadily along a route), this is considered non-defensive bear behavior.

If you are hiking or kayaking and you encounter a non-defensive bear–change your course to avoid the bear. Increase your distance from the bear and stay alert to the bear's whereabouts.

If you are camping, cooking, or eating and you encounter a non-defensive bear:
- Keep all of your gear under your direct control.
- Make sure the bear is aware of your presence. Talk calmly to the bear and stand your ground!
- If you are in a group, stay together without blocking the bear's route. If the bear is not focused on you allow the bear to pass peacefully.

- If the bear approaches and is focused on you, stand together and elevate your defensive actions by shouting, yelling and waving your arms. Do not retreat from the bear. You can also use noisemakers like air horns or bang pots and pans.
- If the bear departs the encounter ends.
- If the bear continues to approach, stand your ground and remain assertive. If a bear charges you stand your ground and remain assertive. Make yourself look big. Most non-defensive charges do not end in contact.
- Now is the time to use bear pepper spray if you have it!
- If the bear makes contact fight back vigorously! This is likely a predatory attack. Kick, punch, or hit the bear's face, eyes and nose.

Defensive Bear Encounters

Defensive behaviors arise when bears are defending food or female bears are defending their offspring. Defensive encounters usually occur suddenly and at close distances.

- Defensive behavior may include snorting, huffing, jaw popping, and charging.
- If you note any of these behaviors STOP AND STAND YOUR GROUND. Your safety lies in calming the bear.
- Talk calmly to the bear; move slowly away diagonally if the bear is stationary. Continue to monitor the bear as you move from the area.
- If the bear renews its advance stop and stand your ground again. Talk calmly to the bear.
- If the bear charges remain non-threatening and stand your ground. Most charges do not end in contact.
- Now is the time to use bear pepper spray if you have it!

What if the bear makes contact during a defensive encounter?

- If it is a brown bear, play dead: Lie face down with your hands clasped behind your neck and legs spread apart so the bear can't turn you over. Do not move until the bear leaves the area.
- If the attack is prolonged and the brown bear begins to feed on you, fight back vigorously! The encounter has now likely changed from a defensive one to a predatory one.
- If it is a black bear: DO NOT PLAY DEAD. FIGHT BACK VIGOROUSLY!
- NEVER PLAY DEAD WITH A BLACK BEAR! Most black bear attacks are predatory.
- FIGHT ANY BEAR THAT ATTEMPTS TO ENTER YOUR TENT

IV. Interpretive Messaging during Bear Incident Response

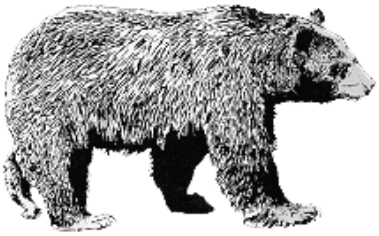
- Refer all questions about possible criminal violations and human or bear injuries or fatalities to the senior law enforcement officer on scene or to the Superintendent or park Public Information Officer.
- Closures of areas or facilities serve to protect the bear(s) and their activities as much or more than they do to prevent human injury.
- Capitalize on the attention of the incident to create interpretive opportunities about bears and their relationships within the ecosystem.
- Refer all media questions to the designated Public Information Officer or Incident Commander.

Appendix 6): Signs

Kenai Fjords

National Park Service
U. S. Department of the Interior

This is Bear Country



Bears are frequently seen in this area and may be active at any time of year. Be alert.

Protect yourself and bears by storing your food and garbage properly, maintaining safe viewing distances, and avoiding surprise encounters.

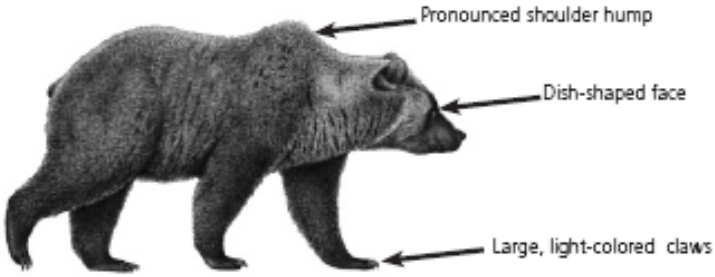
See park rangers or bulletin boards to learn more about bears and bear country safety. Report all bear incidents to a park employee as soon as possible.

This is the baseline sign recommended for posting in all applicable areas of the park when bears are active. It should be copied on GREEN paper.

Kenai Fjords

National Park Service
U. S. Department of the Interior

NOTICE



Brown bear currently active in this area.

Report all sightings of brown bears to park staff as soon as possible. Brown bears ("grizzlies") are less common to this area than black bears and their reactions to humans are harder to predict. Avoid surprise encounters by hiking in groups and making noise as you travel.

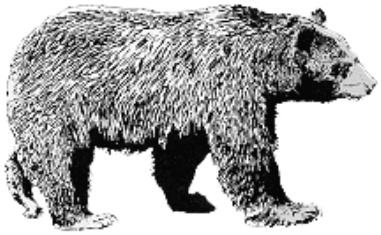
See park employees and bulletin boards for additional information.

This sign should be posted when notable brown bear activity is evident, especially in areas such as Exit Glacier, where high visitation increases probability of human – bear encounters. It should be copied on BRIGHT YELLOW paper.

Kenai Fjords

National Park Service
U. S. Department of the Interior

DO NOT ENTER



This area temporarily closed due to bear activity.

Contact park staff or the Headquarters office at (907) 422-0500 for additional information.

Violation of this closure or tampering with this notice may result in fines up to $5000 and/or up to 6 months in jail.

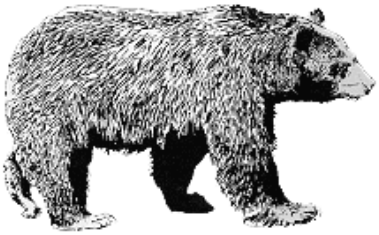
Authority: Title 36 Code of Federal Regulations, § 1.5 (a)(1), 13.30(a),

Copy on RED paper.

Kenai Fjords

National Park Service
U. S. Department of the Interior

CAUTION



There have been multiple recent incidents in this area involving bears damaging property or obtaining human food or garbage.

Use extreme vigilance in storing food and garbage properly, do not leave property unattended, and be prepared to defend your property from bears.

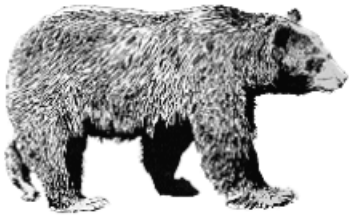
Report any bear sighting to park staff as soon as possible.

Copy on ORANGE paper.

Kenai Fjords

National Park Service
U. S. Department of the Interior

CAUTION



There has been an aggressive or injured bear reported in the area.

Protect yourself by maintaining safe viewing distances and avoiding surprise encounters.

See park rangers or bulletin boards to learn more about bears and bear country safety.

Report any bear sightings to park staff as soon as possible.

Copy on ORANGE paper

Appendix 7: Bear / Human Attack Protocols

NPS Alaska Region
Bear/Human Attack Protocols Checklist

Purpose: This protocol serves as a guideline for Alaska park areas to use as a guideline when initially managing a serious bear or other wildlife-related incident involving death or injury to humans. It is understood that each incident will require specific actions that may differ according to location, time of year, and a variety of other circumstances. Variations to this protocol may be necessary to address these differences.

1) Establish need for Protocol:
   - Protocol to be used for the following wildlife-related incidents:
     1. Fatality
     2. Major Injury
     3. Minor injury

2) Protocol optional for the following wildlife-related incidents:
   - Charge not ending in physical contact
   - Animal displaying aggressive and/or threatening behavior
   - Serious property damage
   - Wildlife fatality caused by human

3) Stabilize and secure the scene to prevent public access/preserve evidence
   - Establish Incident Command System
   - Ensure safety of all responders
   - Briefing, weapons, backup, training, accountability
   - Establish safety/investigation scene boundary
   - Define area by geography and time-avoid letting the area grow larger
   - Notify additional divisions/agencies
     1. Protection Rangers
     2. Resources Management/Bear Management
     3. Superintendent
     4. Regional Office (Reg. Chief Ranger, Public Information Officer)
     5. Alaska State Troopers
     6. Alaska Department of Fish and Game
     7. Alaska Office of the State Medical Examiner
   - Trail and road closures
   - Aircraft landing restrictions
   - Vessel access restrictions

4) Ensure safe evacuation of Victims and public from the area
   - Check camping permit databases
   - Check Air Taxi manifests
   - Aviation sweep

- Boat patrols
- Evacuate visitors and non-essential staff from area, debrief
- Ensure no other unauthorized persons enter the area (signs, media, barriers)

5) Investigation
- Utilize NPS Alaska Region Bear/Human Attack Report *(attached)*
- Consider possibility of other incidents
- Evidence collection
- Interviews
- Photos
- Video
- GPS
- Sketch layout

6) Disposition of Animal
- Description of animal
- Location
- Consult park Bear Management Plan and Regional Wildlife Biologist
- Destruction - Avoid shooting offending animal in head or abdomen to preserve samples for lab analysis.
- Transport
- Evidentiary considerations

NPS ALASKA REGION BEAR/HUMAN ATTACK REPORT

FORM 1
ATTACK SUMMARY

(completed by On-Site Incident Commander)

1. Case Incident Record #: _____
2. Regional Bear-Human Information Management Reporting System ID #: _____
3. Incident Command (PERSON IN CHARGE): _____
   Phone: _____ Park:_____
   _____
4. Assisting Ranger:_____
   Phone: _____Park:_____
   _____
5. Assisting Resource personnel: _____
   Phone: _____Park:_____
   _____
6. Media contact person: _____ Phone: _____
7. Park contact person: _____
   Phone: _____ Division: _____
   Address:_____
8. Other agency contacts:
   Name: _____ Agency/Title: _____
   Address: _____ Phone: _____
   Name: _____ Agency/Title: _____
   Address: _____ Phone: _____
9. Location of attack (detailed description):_____
   _____
   GPS coordinate; datum:
   _____
10. Attack date:_____ Attack time: (24 hr):_____
11. Person reporting attack: _____ Phone number: _____
    Date reported: _____ Time: _____ How reported? _____
    _____
12. Field investigation date(s):_____ Times:_____ to _____
    _____ Times:_____ to _____
13. Species: Grizzly bear Black bear Polar bear Unknown Other: _____
14. Management action: No action Relocated Destroyed Date: _____
    Other: _____Provide details:

NPS ALASKA REGION BEAR/HUMAN ATTACK REPORT

FORM 1
ATTACK SUMMARY

(completed by On-Site Incident Commander)

15. Attack summary: **(BE OBJECTIVE; INCLUDE DATES AND PERTINENT HISTORY)**

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

16. DEBRIEFING:
The incident command, resource biologist, rangers, other staff, and the regional public affairs co-coordinator met on:

Date: _____ Place: _____

Attendees:

Title: _____ Name:
Title: _____ Name:
Title: _____ Name:
Title: _____ Name:
Title: _____ Name:
Title: _____ Name:
Title: _____ Name:
Title: _____ Name:
Title: _____ Name:
Title: _____ Name:

NPS ALASKA REGION BEAR/HUMAN ATTACK REPORT

Summary:

NPS ALASKA REGION BEAR/HUMAN ATTACK REPORT

FORM 2
SITE INSPECTION FORM

(completed by On-Site Incident Commander)

Incident Command: _____
Phone: _____ Park: _____
Address: _____

TREAT AREA LIKE A CRIME SCENE. AFTER ENSURING THE SAFETY OF VICTIM AND RESPONDERS, THE FOLLOWING SEQUENTIAL STEPS MUST BE TAKEN:

1. Secure attack site with investigation scene tape (use caution normally exercised at crime scene).
2. Ensure that only authorized personnel are present.
3. Describe tracks present:
   (a) bear: _____ length (mm): _____ width (mm): _____
   bear: _____ length (mm): _____ width (mm): _____
   bear: _____ length (mm): _____ width (mm): _____
   (b) human: _____ length (mm): _____ width (mm): _____
   human: _____ length (mm): _____ width (mm): _____
   human: _____ length (mm): _____ width (mm): _____
   Use the track diagram on the next page to indicate measurements of tracks found at the attack site. Identify the species and portion of track that was measured (e.g., pad only, pad and toe, pad and toe and claws).
4. Describe presence and location of animal hair/tissue/blood/feces: _____
5. Collect and label animal hair/tissue/blood/feces, in designated container according to protocols.

Label ID #	Tissue Type	Location	**Label ID #**	Tissue Type	Location

6. Describe and list attack victim's equipment, clothing, etc.: _____
_____
7. Describe and attach analogue photographs of attack scene (duplicate or archive digitals):
   - no. of photographs: _____
   - scene location: _____
   - animal tracks: _____
   - human tracks: _____
   - articles (tent, BRFC, etc.): _____
   - tissue/blood/feces: _____
   - debris: _____
   - food sources (natural and human): _____
   - summary: _____

8. Draw sketch of attack scene and tracks (attached page).

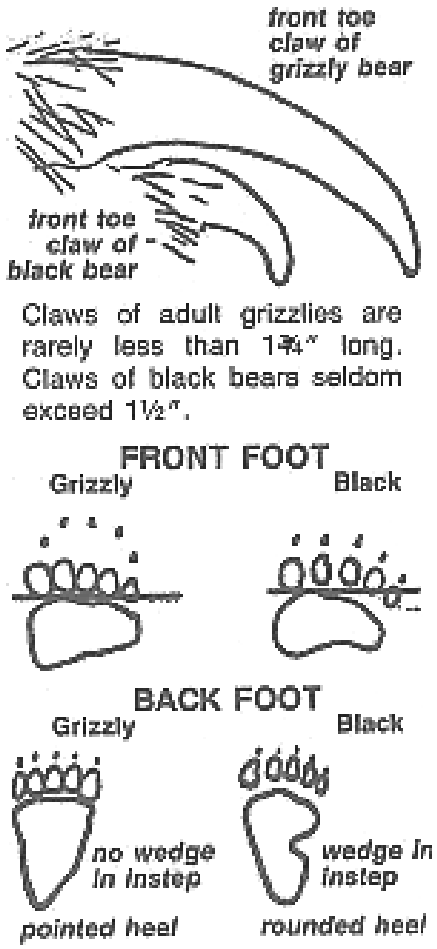
NPS ALASKA REGION BEAR/HUMAN ATTACK REPORT

FORM 2
SITE INSPECTION FORM

(completed by On-Site Incident Commander)

Black Bear Tracks – The prints of the black bear are distinguished by toes that are splayed in a more rounded arc. Draw a line, or use a straight edge, across the bottom of all the toes. If the upper half or more of the little toe line up below the line it's likely a black bear. If the toes line up above the straight line, then it's likely a brown bear (see diagram below).
Grizzly Bear Tracks - The prints of the grizzly bear are distinguished by an oval pad with closely spaced toes in a relatively straight toe arc. Claw marks over twice as long as the toe pads are usually evident. In general, but not always, grizzly bear tracks are larger than black bear.

Indicate on the diagram the exact measurement of track found at the site by showing which portion of the track was measured (i.e., pad only, pad and toe, pad and toe and claws).



FORM 2
SITE INSPECTION FORM

(completed by On-Site Incident Commander)

Sketch of Attack Scene

Include path of animal(s), location/movement of people, key features, north arrow, and distances. Also note vegetation type and locations of bear sign (beds, trails, digs, mark trees, etc) and food sources (natural and human).

NPS ALASKA REGION BEAR/HUMAN ATTACK REPORT

FORM 3
VICTIM EVIDENCE

(completed by On-Site Incident Commander)

Incident Command: _____
Phone: _____ Park: _____
Address: _____

1. No. of humans involved: _____ No. of humans injured: _____
   No. of humans killed: _____

2. (a) Victim's name: _____
   Address: _____
   Phone: _____Age: _____
   (b) Victim's name: _____
   Address: _____
   Phone: _____Age: _____
   (c) Victim's name: _____
   Address: _____
   Phone: _____Age: _____

3. (a) Witness' name: _____
   Address: _____
   Phone: _____Age: _____
   (b) Witness' name: _____
   Address: _____
   Phone: _____Age: _____
   (c) Witness' name: _____
   Address: _____
   Phone: _____Age: _____

4. Summarize victim 2(a)'s activity before the attack (attach statement): _____
   Summarize victim 2(b)'s activity before the attack (attach statement): _____
   Summarize victim 2(c)'s activity before the attack (attach statement): _____

NPS ALASKA REGION BEAR/HUMAN ATTACK REPORT

FORM 3
VICTIM EVIDENCE

(completed by On-Site Incident Commander)

5. Summarize victim 2(a)'s account of attack (attach statement): _____
   Summarize victim 2(b)'s account of attack (attach statement): _____
   Summarize victim 2(c)'s account of attack (attach statement): _____
6. Summarize witness 3(a)'s account of attack (attach statement): _____
   Summarize witness 3(b)'s account of attack (attach statement): _____
   Summarize witness 3(c)'s account of attack (attach statement): _____
7. Collect the following injury information from the attending physician(s):
   Injuries indicative of claw? Yes _____ No _____ Teeth?: Yes _____ No _____
   Wound measurement and locations - victim (a): _____
   Wound measurement and locations - victim (b): _____
   Wound measurement and locations - victim (c): _____
   Number of wound pictures attached - victim (a): _____
   Number of wound pictures attached - victim (b): _____
   Number of wound pictures attached - victim (c): _____
   Physician's name(s): _____
   Address(es): _____
   Phone number(s): _____
   Collect and preserve victim tissue sample. Label Identification Nos.: _____
   Collect samples from under victim's fingernails. Label Identification Nos.: _____
   Collect saliva sample from victim's bite marks. Label Identification Nos.: _____

8. Comments: _____

NPS ALASKA REGION BEAR/HUMAN ATTACK REPORT

FORM 3
VICTIM EVIDENCE

(completed by On-Site Incident Commander)

9. Name of lab analyzing tissue, fingernail, saliva, etc. samples: _____
   Samples/Purpose of analysis: _____
   Lab analyst's name: _____
   Address: _____
   Phone: _____

   Samples/Purpose of analysis: _____
   Lab analyst's name: _____
   Address: _____
   Phone: _____

   Samples/Purpose of analysis: _____
   Lab analyst's name: _____
   Address: _____
   Phone: _____

10. (a) Next of kin of Victim 2 (a): _____
   Address: _____
   Phone: _____Relationship: _____
   Date and time contacted:_____Contacted by:_____
   (b) Next of kin of Victim 2 (b): _____
   Address: _____
   Phone: _____Relationship: _____
   Date and time contacted:_____Contacted by:_____
   (c) Next of kin of Victim 2 (c): _____
   Address: _____
   Phone: _____Relationship: _____
   Date and time contacted:_____Contacted by:_____

11. When possible, attach a copy of any additional/further report (such as CIR, Coroner's report) or treatment information/documentation (such as the report of the attending physician or emergency medical treatment). Identify the attached documentation here:
   _____
   _____
   _____
   _____
   _____
   _____
   _____

ALASKA REGION BEAR/HUMAN ATTACK REPORT

FORM 4
ANIMAL EVIDENCE

(completed by On-Site Incident Commander)

If it is determined that the bear should be destroyed, avoid shooting animal in head or abdomen to preserve samples for lab analysis. To preserve evidence, immediately place plastic bags on head and paws, before moving animal from kill site.

Incident Command: _____
Phone: _____ District: _____ Region: _____
Address: _____

1. Bear/animal species:_____ Sex:_____ Offspring present?_____
   If offspring, describe:
_____
   Estimated age of offending animal: _____ How determined?
_____
   Physical description of animal:
_____

2. Animal behavior before, during, and after attack:_____
_____

3. Was animal behavior consistent with:
   - predatory attack: Yes_____ No_____
   - defensive reaction: Yes_____ No_____
   - non-defensive reaction: Yes_____ No_____
   Describe why you believe this:_____
_____
_____

4. Did offending animal have complaint history? Yes_____ No_____
   Bear Management Report System ID / CIR / BMRF reference #:_____ Comments:
   _____
   _____

5. Describe other animals directly involved:_____
_____

6. Animal photo numbers:
Live animal:
_____
Body: _____

Head: _____
Paws: _____
Teeth: _____

ALASKA REGION BEAR/HUMAN ATTACK REPORT

FORM 4
ANIMAL EVIDENCE

(completed by On-Site Incident Commander)

7. Was offending animal destroyed? Yes _____No _____If yes, date and time_____

Location of dead animal:_____
_____

GPS coordinate; datum:
_____

8. Animal description (metric measurements):
   Body length (cm) from tip of nose to base of tail: _____ Chest girth (cm):_____
   Weight (kg):_____
   Any tags, tattoos, special marking, etc? _____

9. Teeth (refer to attached diagram) - **cover head with plastic bag**
   - Ensure lab collects material attached to teeth.
   - Ensure lab collects victim's DNA sample from gum line, along teeth.
   - Upper inter canine distance: tip-to-tip _____mm. ; maximum _____mm
   - Lower inter canine distance: tip-to-tip _____mm. ; maximum _____mm
   - Upper inter-3rd incisor distance: tip-to-tip _____mm. ; maximum _____mm
   - Lower inter-3rd incisor distance: tip-to-tip _____mm. ; maximum _____mm
   - Teeth condition: sharp:_____worn:_____broken:_____missing:_____

10. Paws - **cover paws with plastic bags**
   - Collect material attached to paws. Identification tag no.:_____
   - Claw condition: sharp:_____worn:_____broken:_____missing:_____

11. Paw description - **cover paws with plastic bags**
   - left front paw, width measurement: _____mm
   - right front paw, width measurement: _____mm
   - left back paw, width measurement: _____mm
   - right back paw, width measurement: _____mm
   - describe abnormalities: _____

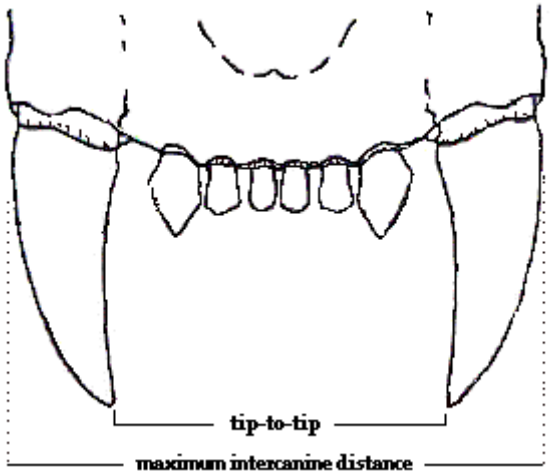
12. Hair samples. Identification tag no.: _____

13 Carcass. **Place plastic bags over head and paws and place carcass in plastic bag at kill site and in storage.**

FORM 4
ANIMAL EVIDENCE

(completed by On-Site Incident Commander)

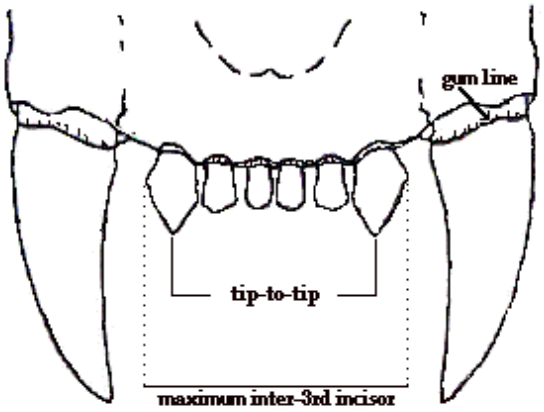
There are two measurements involved with the intercanine distance. This includes the tip-to-tip distance (distance from the tip of the upper right canine to the tip of the upper left canine). The second measurement is the maximum distance (measured from the point of greatest convexity on the lateral or outward surface of the right upper canine to the corresponding point on the outward surface of the upper left canine). The same measurements are made for the lower canine teeth.



Note: In the case of worn canines, measure from the center of the tip.

INTER-3RD INCISOR DISTANCE MEASUREMENT:

Two measurements are made for the inter-incisor distance: tip-to-tip distance (measured from the tip of the upper right 3rd incisor to the tip of the upper left 3rd incisor) and the maximum inter-incisor distance (measured from the lateral or most outward edge of the upper right 3rd incisor to the lateral edge of the upper left 3rd incisor). The same measurements are made for the lower 3rd incisors.



NPS ALASKA REGION BEAR/HUMAN ATTACK REPORT

FORM 5A

TRANSPORT - ANIMAL NECROPSY

(Form 5A is to be completed by Incident Command and is attached to a blank Form 5B. Forms 5A and 5B accompany the animal/body parts to the lab.)

NOTE: DIFFERENT LABS MAY BE USED FOR DIFFERENT ANALYSES. CONTACT NPS ALASKA REGIONAL WILDLIFE BIOLOGIST FOR LIST OF CURRENT LABS TO BE USED.

Incident Command: _____
Phone: _____ Park: _____
Address: _____

Alaska Police contact name: _____
Phone: _____ Address: _____
Unit: _____

TRANSPORT ANIMAL WITH THE HEAD, PAWS, AND BODY IN PLASTIC BAGS.
Species:_____
Date of capture:_____
Physical condition:_____
Wounds:_____
Injuries:_____

List samples and identification label numbers of body parts sent to lab:

Description	ID Label No.
1.	
2.	
3.	
4.	
5.	
6.	

Analysis instruction to lab as to parts and specimens to preserve and analysis to be conducted (e.g., identify stomach contents, collect tissue samples from teeth and claws). NOTE: ADDITIONAL TESTS MAY BE REQUIRED BY OTHER LABS._____
_____

FORM 5B
LABORATORY REPORT
ANIMAL NECROPSY

(Form 5A is to be completed by Incident Command and is attached to a blank Form 5B. Forms 5A and 5B accompany the animal/body parts to the lab.)

Laboratory name:_____

Address:_____

Phone number:_____

Date animal received:_____

Reference number:_____

Necropsy date:_____

EXTERNAL EXAM
Physical condition:_____
_____
Wounds:_____
_____

Plastic bags covering feet? Yes _____ No_____
Plastic bags covering head? Yes _____ No_____
Plastic bags covering carcass? Yes _____ No_____
Collected material attached? Yes _____ No_____

Claw condition: sharp:_____worn:_____broken:_____missing:_____
Collected material attached? Yes _____ No_____

Hair:
Collected material attached? Yes _____ No_____

Carcass weight (kg):_____ Sex:_____
Nose to base of tail length (cm):_____
Photograph (on reverse side, note file # and date): Yes _____ No _____

FORM 5B
LABORATORY REPORT
ANIMAL NECROPSY

(Form 5A is to be completed by Incident Command and is attached to a blank Form 5B. Forms 5A and 5B accompany the animal/body parts to the lab.)

INTERNAL EXAM
Date:_____
Brain submitted for rabies analysis? Yes ____ No _____ Expected results date_____

Circle "N" for normal or "A" for abnormal, then explain in "Findings".

Skin	N	A
Musculoskeletal system, skeletal muscles, bones	N	A
Oral cavity	N	A
Respiratory system - air passages, lungs	N	A
Circulatory system - heart, major vessels	N	A
Digestive tract - esophagus, stomach, intestines	N	A
Liver	N	A
Urogenital system - kidneys, bladder, gonads	N	A
Spleen	N	A
Lymph nodes	N	A
Adrenal gland and other glands	N	A
Nervous system	N	A
Other	N	A

Visible abnormalities:_____
_____
_____
_____
_____

If female, was she lactating? Yes _____ No_____
Pregnant? Yes_____ No_____
Additional Analysis:_____
_____
_____
_____

Collect saliva or other tissue for DNA analysis? Yes_____ No_____
Tissue collected:_____
_____
_____

FORM 5B
LABORATORY REPORT
ANIMAL NECROPSY

(Form 5A is to be completed by Incident Command and is attached to a blank Form 5B. Forms 5A and 5B accompany the animal/body parts to the lab.)

Collect animal hair for DNA analysis? Yes ____No ____Results (attach additional reports):

_____
_____
_____
_____
_____
_____

Findings:_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Necropsy summary:_____
_____
_____
_____
_____
_____
_____
_____

Veterinary Pathologist:
Name:_____
Signature:_____
Witness(es):_____ Date:_____

FORM 5B
LABORATORY REPORT
ANIMAL NECROPSY

(Additional Notes)

Appendix 8): Approved Hazing / Aversive Conditioning rounds

In 2006, in collaboration with regional firearms instructors and wildlife biologists, the park standardized its approved non-lethal 12 gauge shotgun ammunition to the following:

Vendor:

Margo Supplies Ltd.
P.O. Box 5400
High River, Alberta, Canada T1V 1M5
Tel: (403) 652-1932
Toll Free: 1-888-652-1199
Fax: (403) 652-3511
info@margosupplies.com

Office Hours: Monday to Friday - 8:00am to 4:30pm (Mountain Time)

Short to Medium Range Aversive Conditioning (10-25 meters):

6612 – 12 Ga. Bean Bag Thumper OR
6613 – 12 Ga. Bean Bag Thumper with Paint Marker
6614 – 12 Ga. Aero-Sock

These rounds are identical in size and weight and can be used interchangeably depending on the situation. The Aero-Sock, a slightly more expensive option, attaches a cloth tail to the bean bag sack and provides slightly better accuracy at longer distances (e.g.; closer to 25 meter / 75 foot maximum range). The standard Bean Bag does not have this tail and is a less expensive option for shorter shots. The paint marker simply adds a color marking dye to the bean bag, which can be used as desired.

Manufacturer's Instructions:

1. The 12 gauge Bean Bag Shot is designed to be non-penetrating and is intended to distribute its impact force over a wide surface area. Upon impact, the bag collapses and conforms to the target, distributing its energy over the area of the bag.
2. *** Warning: - It is dangerous to place 12 gauge shells in a larger gauge gun. (These shells must not be used in guns with chambers shorter than 2 3/4 inches.)**
3. *** Danger: - Do not shoot at people. May be lethal or cause serious injuries.**

4. **THIS AMMUNITION WILL NOT CYCLE SEMI-AUTOMATIC SHOTGUNS. A SHOTGUN FRONT BEAD THAT PROTRUDES INTO THE BORE MAY CUT THE BAG. REMOVE THE BURR WITH A HONE STONE. FOR USE IN CYLINDER, IMPROVED CYLINDER OR RIFLED BARRELS ONLY. DO NOT USE IN FULL OR MODIFIED CHOKE SHOTGUNS AS REDUCED VELOCITIES OR A BORE OBSTRUCTION MAY OCCUR.**

5. Specifications:
   Projectile: 5 cm square fabric bag, filled with lead shot. Mass: 40 grams.
   Average muzzle velocity: 300 FPS
   Accuracy at 15 m with a cylinder smooth bore: 15 cm.
   Operational range: 10 - 25 m (may be used at longer distance with reduced effect and accuracy).

6. Most jurisdictions define hunting to include shoot at, harass or worry, chase, pursue, follow after or on the trail of, search for, flush, stalk or lie in wait for, capture or willfully injure or kill or attempt to do so or assist another person to hunt in these manners. Therefore, it is recommended that before using bean bag as a wildlife deterrent on big game, user must notify their local wildlife enforcement officer or agency.

The Bean Bag is intended to be a non-lethal bear or ungulate deterrent, delivering an unpleasant experience without hide penetration or injury.

- Only shoot at large muscle areas such as rump or shoulders.
- Do not shoot at vulnerable areas such as head, rib cage or stomach.
- Do not attempt to deter a bear with this bean bag shot without adequate armed back- up, that is, personnel with loaded shot gun or high powered rifle.
- Do not shoot at animals closer than 10 meters to prevent the chance of injuring or killing the animal.
- Do not shoot people with this bean bag shot.

Medium Range (NO LESS THAN 30 Meters)

6610 – 12 Ga. Strike II Rubber Slug

Manufacturer's Instructions:

1. The design of this 12 gauge Rubber Slug requires low muzzle velocity; as a result, the over-powder wad may stick in the barrel of the gun. Check barrel of the gun after each shot to assure that there is no blockage.
   Low gas pressure requires manual operation of auto loading shotguns.

2. **Warning: -It is dangerous to place 12 gauge shells in a larger gauge gun.**
   ***These shells must not be used in guns with chambers shorter than 2 3/4 inches**.

3. **Danger: -Do not shoot at people. May be lethal or cause serious injuries.**

4. Use only in guns for smokeless powder. Do not use in guns with Twist or Damascus barrels.

5. **USE ONLY A CLEAN SHOTGUN WITH OPEN CHOKE. (NO CHOKE) i.e., SLUG BARREL**

6. Specifications:
   Projectile: 73 grain, soft rubber baton
   Velocity @ muzzle: 738 FPS Energy @ muzzle: 89 ft lbs.
   Velocity @ 10 meters: 590 FPS Energy @ 10 meters: 57 ft lbs.

7. Most jurisdictions define hunting to include shoot at, harass or worry, chase, pursue, follow after or on the trail of, search for, flush, stalk or lie in wait for, capture or willfully injure or kill or attempt to do so or assist another person to hunt in these manners. Therefore, it is recommended that before using STRIKE TWO SLUGS as a wildlife deterrent on big game, user must notify their local wildlife enforcement officer or agency.

The STRIKE TWO Rubber Slug is intended to be a non-lethal bear or ungulate deterrent, delivering an unpleasant experience without hide penetration or injury.

- Only shoot at large muscle areas such as rump or shoulders.
- Do not shoot at vulnerable areas such as head, rib cage or stomach.
- Do not attempt to deter a bear with this rubber slug without adequate armed back up, that is, personnel with loaded shot gun or high powered rifle.
- Do not shoot at animals closer than 30 meters to prevent the chance of injuring or killing the animal.
- Do not shoot people with this rubber slug.

All other non-lethal ammunition for wildlife management should be collected and disposed of as soon as possible after discovery

Long Range Aversive Conditioning (60 – 75 m / 200 feet)

6600 – Shellcrackers OR
6601 – Birdfrite scare cartridges

Either of these rounds can be used as an AC tool. Both are designed to explode in the air above the animal approximately 200 feet from the muzzle of the shotgun. The Birdfrite cartridges deliver both visible flash and loud bang, while the Shellcrackers provide only a loud noise, and cost about half as much per round as the Birdfrite rounds.

1. The design of the shellcracker requires low muzzle velocity, as a result, the over-powder wad may stick in the barrel of the gun. Check barrel of the gun after each shellcracker is fired to assure no blockage.

2. Ear and eye protective devices should be worn while using the shellcracker

3. The shellcracker can cause fire if used improperly. Check for flammable material downrange before firing.

4. Warning: it is dangerous to place 12-guage shells in a larger gauge gun. Caution: these shells must not be used in guns with chambers shorter than 2 3/4 inches.

5. For best results the shellcrackers should be used within one year from the date on this box.

6. For the best operating results use a clean gun and one without a full choke.

7. The shellcracker is designed for bird and animal scaring and any other use is strictly prohibited by law. Never fire shellcracker at any human being.

8. Caution: in addition to item #3. We would recommend that the gun barrel be at a 45 degree angle or greater while firing the shellcracker.

9. Remember that these are longer range rounds. Do not shoot them beyond the bear, which could drive the bear back to your position.

Appendix 9): Exit Glacier Evacuation Plan (Trail Closure Procedures)

Exit Glacier Evacuation Plan

Evacuation of Exit Glacier may be required for various reasons, including wildfire, flood, earthquake, or hazardous materials incident. The incident may not occur at the glacier itself, but along the access road or in adjacent areas where emergency management requires limited access or removal of downwind personnel.

Generally, the order to close and /or evacuate an area will come from the Superintendent or their designee, but may also come from an Alaska State Trooper, Fire Chief, or similar official.

Establish who is in charge. Generally the incident commander for an evacuation will be the on-duty protection ranger, but may also be one of several supervisory personnel on staff.

The incident commander is responsible for the safety of all personnel and visitors, and should immediately act to establish control and communications will all employees in the area, then lay out a plan and assignments.

- The command post / staging area will be the Nature Center and plaza area outside of it. All personnel not otherwise assigned should gather there until assigned or released.
- All personnel should, to the greatest extent possible, have a recognizable uniform item and a park radio for communication with other employees.
- If possible, the incident commander should not assume the role of a trail sweeper or block. S/he must remain aware of the overall situation, including communications with headquarters and other emergency personnel and accountability of other employees.
- The Incident Commander should be the last employee to leave the evacuation zone, ensuring that all other personnel are safely out and accounted for.

Assignment 1 – Traffic Control

- Prevent further entries. Station employee at campground entrance or Resurrection River bridge to stop traffic and turn visitors around. This position should have a radio, uniform, and some type of cones, barricades, or tape if possible.

Assignment 2 – Sweep Employee Housing Area

- Evacuate employee housing area by physically checking each cabin and the employee camping area (trail crew camp). LE rangers should enter cabins and ensure that residents are not sleeping. All residents / employees found in this area should be assigned to assist with further evacuation.

Assignment 3 – Campground Sweep

- Assign one employee to notify all campers of the evacuation. Leave notes on the tents of those campers who are not present, in case they return to camp after the sweep. If resources are limited, assign one employee with a vehicle to Assignment 3, then assignment 1.

Assignment 4 – Harding Icefield Trail Block or Sweep

- Assign one employee to the Harding Icefield Trail. Based on the nature of the emergency, it may be necessary to block the trail and not allow hikers down, or to sweep the entire trail and ensure that all hikers are out of the area.
- Block the trailhead of the Harding Icefield Trail with tape, barricade, or other device to prevent hikers starting up the trail.
- If it is necessary to evacuate the entire trail, consider a helicopter insertion of one or more personnel along the trail. These employees can then block and sweep down the trail until clear. Presently, several commercial helicopters are based at the Seward Airport in summer months and have a flight time of less than 10 minutes to the top of the Icefield trail.
- If a simple trail block is used, that person must be equipped with adequate food, water, clothing, and shelter to remain in place for an extended period. Plans will then need to be developed to evacuate or shelter remaining day hikers along the trail.

Assignment 5 – Main Trail Block

- Assign a trail block at the junction of the main trail and the Nature Trail near the parking lot. This person does not allow anyone up either trail.

Assignment 6 – Nature Trail Sweeper

- Assign a sweeper to rapidly hike the nature trail to its junction with the Outwash Plain. Everyone on this trail should be pushed to the main trail, then sent down to the parking lot via the Main Trail.
- The sweeper becomes a trail block until relieved. S/he prevents access to the Nature Trail, and also contacts people on the Outwash Plain where possible.

Assignment 7 – Main Trail Sweeper

- Assign a second sweeper to go up the main trail, contacting hikers and sending them back down the trail to the parking lot. This sweeper should hold at the junction of the nature trail and Outwash Plain and meet the first sweeper (Assignment 6).
- Hike around the overlook loop and out onto the outwash plain, contacting and pushing all visitors ahead of them and towards the parking lot. A portable bullhorn should be utilized to contact visitors at a distance when possible.

Assignment 8 – Buildings

- Remaining personnel should check all restrooms, picnic shelters, vehicles, and other areas.

Assignment 9 – Perimeter Security / Access Control

- Based on the nature of the emergency, measures should be taken to protect government and personnel property left behind.
- Depending on the nature of the emergency, gates should be left unlocked to allow fire trucks, heavy equipment, EMS personnel, etc. easy access. In this case, gates should be staffed with Law Enforcement personnel to prevent unauthorized access.
- The Superintendent or their designee should declare an Emergency Closure of the affected area, following the procedures in 36 CFR §1.5 and §1.7.
- Personnel should regroup at the Maintenance area – or other site designated by the IC – and debriefs before being released.

Appendix 10): Non-Law Enforcement Firearms Policy

Note: Per Scott Taylor in 2009, for shotgun qualifications use the outer (larger) target area on the bear silhouette.

NATIONAL PARK SERVICE
ALASKA REGION
POLICY

REGIONAL POLICY NUMBER 110-006
EFFECTIVE DATE: June 1, 2001
EXPIRATION DATE: June 1, 2004
EXTENDED UNTIL DOI POLICY IS UPDATED

SUBJECT: MANAGEMENT OF FIREARMS AND AMMUNITION

POINT OF CONTACT: ASSOCIATE REGIONAL DIRECTOR, PARK OPERATIONS AND EDUCATION

AUTHORITY: Personal Property Management DO-44, Law Enforcement DO-9, DM 446, 36 CFR 2.4 and Special Directive 94-5

REFERENCE: http://165.83.48.21

DELEGATION:
Regional Director –
Serves as the Property Administrator and has overall responsibility to implement the Firearms and Ammunition Policy.

Associate Regional Director –
Serves as the point of contact and carries out duties in DO-44.

Team Manager, Contracting and Property Management, AKSO –
Serves as the Regional Property Management Officer and carries out duties in DO-44. Designates a Regional Firearms Receiving Officer.

Park Superintendents –

Are delegated to serve as Accountable Officers for their parks and will delegate the following responsibilities to their staff:

1. Firearms Custodial Officer (Required to be full performance law enforcement officer)
2. Firearms Receiving Officer
3. Property Management Officer

Full Performance Law Enforcement Officer –
Serves as the Firearms Custodial Officer and carries out the duties in DO-44, DO-9 and DM-446. The Firearms Custodial Officer is responsible for requirements in the above guidelines, including the following:

1. Maintains accurate records of firearms and ammunition.
2. Conducts annual inventories per DO-44 and semi-annual inventories per DO-9.
3. Ensures firearms and ammunition are safeguarded.
4. Maintains training records of all employees.

Curator –
Serves as the Museum Firearms Property Liaison Officer.

Supervisors –
Responsible for assuring employees follow all guidelines and policies, receive training and proper equipment and submit proper documentation for training and firearm use authorization.

Employees –
Responsible for following all guidelines and policies, routine maintenance, safety and security of firearms, reporting any discharge of firearms (other than training) and following all applicable laws, include state regulations.

BACKGROUND:
This policy is the result of the need to provide guidance for the management of firearms and ammunition, particularly for non-law enforcement use. As most procedural matters for law enforcement are contained in DO-9 and DM 446, this policy mainly addresses the use of firearms and ammunition for non-law enforcement personnel. This is a firearms and ammunition policy and may supplement park specific wildlife management procedures. The NPS promotes field techniques that help eliminate the need to use non-law enforcement firearms and wildlife management/safety training programs, as needed.

PURPOSE:
This policy, incorporating DO-44, RM-9 and other pertinent guidelines, will establish procedures for the management of firearms and ammunition.

POLICY:

The Alaska Region shall provide training, firearms and ammunition resources sufficient to carry out the National Park Service's mission in a safe manner for employees. Training, firearms and ammunition will be managed per all NPS and DOI regulations and guidelines.

Non-law enforcement employees shall not take direct action in a law enforcement situation; may carry weapons only with the approval of their superintendent; and must notify and have concurrent approval of the respective park superintendent when they will be in a park with firearms. The use of non-law enforcement firearms may be further restricted by the park superintendent.

This policy supersedes the Alaska Regional Office Policy 90-6, issued on October 1, 1991.

1. **Procedures**

   Superintendents may authorize non-law enforcement personnel to carry firearms when functions or circumstances related to their official duties necessitate such permission. Use of non-law enforcement firearms by NPS personnel, while on official business, will be limited to those individuals who have been authorized and have successfully completed a firearms training course. Authorizations will be in writing and the training documented.

   The Superintendent may permit cooperators, contractors and employees of other agencies to carry firearms and may require that they meet the same standard as NPS employees. The Superintendent may waive NPS requirements if the non-NPS personnel provide written documentation of their agency training and authorization to carry firearms. The Superintendent may chose to withhold authorization to carry firearms in an official capacity while in the park.

   A. Expiration of Firearms Authorization. The authorization to carry a non-law enforcement firearm shall expire:
      1. At the end of the calendar year or the completion of the project, whichever is shorter; or
      2. If there is a change in duty station, status, or transfer; or
      3. Upon failure to demonstrate shooting proficiency as required; or
      4. If rescinded for any other reason.

   B. Shooting Proficiency of Seasonal or Part Time Non-Law Enforcement Employees, or Full Time Employees That Have Occasional Need to Carry Non-Law Enforcement Firearms. Required to demonstrate proficiency once each field season prior to being issued a firearm.

C. Shooting Proficiency of Full Time Non-Law Enforcement Employees. Required to demonstrate proficiency twice a year, with each session no less than 3 months apart if the weapon is needed year round; or once a year, just prior to the field season for a 6 month or less season.

2. **Equipment, Non-Law Enforcement.** The NPS will only issue 12-guage shotguns and solid slug ammunition for animal protection. The preferred weapon is a Remington Model 870, 3 inch chamber. Employees wishing to use a 44 magnum or rifle and/or personal weapons, must receive the permission of the Superintendent. Although technically not a firearm, the NPS may issue non-lethal spray, commonly referred to as "bear spray," in the large container size.

3. **Firearms Certification for Non-Law Enforcement Personnel.** Only those non-law enforcement persons who are competent and qualified with firearms, and who have completed a firearms training program, may be authorized to use or carry firearms. The training program must consist of at least 4 hours of classroom time culminating in a prescribed shooting course. The firearms instructor will be a certified instructor per DO-9, or if not available, meet state firearm instructor standards.

   Re-certification: For those individuals who have completed a basic course, the firearms instructor may elect to provide a refresher course, which will cover the same topics but may be shorter in length.

   A. Contents of Classroom Component of Firearms Training Course.

      1. Basic firearms safety review.
      2. Legal aspects of firearm use, including state laws.
      3. Policy review, including accountability and security.
      4. Non-lethal spray (optional – if presented should include use, handling & storage and transportation).
      5. Animal behavior (optional).

   B. Shooting Proficiency Component – Non-NPS-9 Course. This portion of the Firearms Training Course will take place on a firing range under an authorized firearms instructor. The target will be an animal silhouette at a distance of 15 yards. Proficiency will require that 70 per cent of the shots be on target and that all sequences of shot will be fired within the allowable time of 25 seconds. Each sequence will be shot twice. Proficiency will also require the shooter to demonstrate proper safe handling of the firearms.

1. Shotguns: two sequences of fire consisting of magazine capacity for the shotgun, plus one (i.e., Remington 870, 4 rounds in magazine, plus 1).
    a. The shooter will start with a full magazine and empty chamber. The weapon will have the action closed and the safety on.
    b. On the command to fire, the shooter will be required to fire the rounds in the magazine, then reload and fire one additional round, within 25 seconds. Upon completion, the shooter will open the action and ensure the safety is on. Repeat.

2. Rifles: two sequences of fire consisting of magazine capacity for the rifle, plus one.
    a. The shooter will start with a full magazine and the action closed on an empty chamber, safety on.
    b. On the command to fire, the shooter will fire the rounds in the magazine, then reload and fire one additional round, within 25 seconds. Upon completion, the shooter will open the action and ensure the safety is on. Repeat.

3. Handguns: two sequences of fire consisting of magazine/cylinder capacity for the handgun.
    a. The shooter will start with a fully loaded handgun.
    b. On the command to fire, the shooter will fire the rounds in the cylinder/magazine within 25 seconds. Upon completion, the shooter will open the cylinder/slide and ensure the handgun is unloaded. Repeat.

C. Shooting Proficiency Component – Alternative Courses. As an alternative, the firearms instructor may use the DO-9 qualification standards, other DOI agency approved standards, or develop an individual park course based on local conditions. The development of an individual park course requires the approval of the park superintendent.

D. Prerogative of Firearms Instructors. Firearms instructors may refuse to pass an individual if in their judgment, the student fails to demonstrate an adequate knowledge and handling skills of the firearm, which would potentially make the issuance of a firearm more dangerous than its absence.

E. Record Keeping. Training will be scored Pass/Fail. Each Superintendent will maintain a record containing training and authorization of personnel to carry firearms and will forward a copy to the Regional Law Enforcement Specialist.

4. **Use of Firearms.** NPS employees must observe Federal, State and local laws in regard to the licensing, use, transportation, etc. of firearms and ammunition.

A. General. The use of firearms by non-law enforcement personnel is prohibited except when required for safety of personnel or if in the best interest of the NPS. Shotguns and rifles will generally not be carried with a round in the chamber.
B. Taking Game in Defense of Life or Property. The use of firearms is permitted for the protection from dangerous animals. The necessity of taking game animals must not be brought about by harassment or provocation of the animal or the unreasonable invasion of the animal's habitat. All reasonable means should be employed to prevent undesirable animal/people encounters. State law requires certain parts of the carcass to be salvaged and turned in, as well as certain reporting requirement met.
C. Weapon Discharge. The discharge of a weapon other than for approved practice, requires a verbal report to the Park Superintendent within 24 hours, a written report and if the situation dictates, a Technical Board of Investigation per DO-50. Use of a firearm for hazing will be in accordance with the park's Wildlife and/or Bear Management Plan.

5. **Firearms and Ammunition Storage.** All firearms, when not in active use, shall be stored in a secure place, out of sight, under lock and key. Firearms will be unloaded prior to storage. Firearms and ammunition will be stored separately. All firearms will be issued some type of locking device.

6. **Background Investigations.** Non-law enforcement personnel must sign an application stating that they are not convicted felons and must submit a Domestic Violence form. Felons or convicted domestic violence persons can not be issued firearms.

7. **Wildlife Immobilization Firearms.** Weapons used for wildlife immobilization will be used according to the Aerial Capture, Eradication, and Tagging of Animals (ACETA) policy (Special Directive 94-5). Where silent, this policy will be used.

APPROVED:

Regional Director
Alaska Region

United States Department of the Interior
National Park Service - Alaska Region

REQUEST TO USE AND CARRY NON-LAW ENFORCEMENT FIREARMS IN ALASKA

Full Name: _____Job Title: _____

Park: _____ Area/District: _____

Account Number: _____

Employee will use firearm for _____ wildlife protection or _____ Other (please explain)
_____

Recommended: _____
Supervisor Date

Recommended: _____
Superintendent Date

Firearms Training and Annual Qualification

Dates Attended Initial Firearms Training Class: _____

Instructors Name & Agency (print): _____

Qualified with Firearm _____ by_____
(70% or greater) Date Approved Instructor

_____ by_____
Date Approved Instructor

Authorization dates: From _____ To _____

List parks for this request: _____

Information if personal weapon to be used

Firearm(s) to be used: Caliber: _____ Make: _____ Model: _____

Serial Number: _____ Registered Owner: _____

Employee Criminal History Certification

I certify that I am not a convicted felon and/or have not been convicted of a domestic violence charge and/or I am not wanted by any law enforcement agency.

_____ _____

Printed full name: Last, First and Middle Date

_____

Employee Signature

For Park Use

I certify the above individual has met all of the requirements of the regional Management of Firearms and Ammunition policy, 110-006.

I certify the individual has submitted an NACI, as required by the NPS, and the background has been successfully adjudicated.

The individual has/has not completed an optional criminal history check. If completed, the individual has satisfactory passed the check.

Comments: _____

_____

Park Senior Law Enforcement Officer

Privacy Act Statement

Section 552(k)(5) of Title 5 of the U.S. Code, authorizes collection of this information. The primary use of this records is to identify employees having security clearance and their degree of security clearance. Disclosures outside the Department of the Interior may be made, (1) to the U. S. Department of Justice related to litigation or anticipation litigation, (2) of information indicating a violation or potential violation of a statue, regulation, rule, order or license, to appropriate Federal, State, local, or foreign agencies responsible for investigating or prosecuting the violation or for enforcing or implementing the statue, rule, regulation, order, or license, (3) from the record of an individual in response to an inquiry from a Congressional offices made at the request of that individual, (4) to a Federal agency which has requested information relevant or necessary to its hiring or retention of an employee, or issuance of a security clearance, license, contract, grant, or other benefit, (5) to Federal, State, or local agencies where necessary to obtain information relevant to the hiring or retention of an employee, or the issuance of a security clearance, contract, license, grant, or other benefit.

Where the employee identification number is your Social Security Number, collection of this information is authorized by Executive Order 9397. Furnishing the information on this form, including your Social Security Number, is voluntary, but failure to do so may result in disapproval of this request.

If your agency uses this information furnished on this form for purposes other than those indicted above, it may provide you with an additional statement reflecting those purposes.

Appendix 11): BHIMS Form

Bear Human Information Management System (BHIMS) FORM

Use this BHIMS form to document bear-human interactions that involve:

1) **Unusual bear behaviour:** *following, approaching, stalking, charges, contact,* and threat displays, which include: *blowing, chomping, paw swatting, or lip smacking*
2) **Extreme evasive action** in response to a bear (such as *bear pepper spray* or *firearm use*)
3) **Garbage or food**
4) **Damage or loss of property**

Use a Natural History Field Observation Form (aka Wildlife Observation Card) for:

1) Brown bear sighting
2) Female black bear with cubs of the year

NPS EMPLOYEE AND LOCATION TAKING REPORT:_____

Name:_____ Sex: M or F

Phone number/ address/email (Please supply at least one):_____

_____

Were there any **injuries (to humans or bears)** or **property damage**? Describe**:** _____

When did the interaction occur? **Date**: _____**Time**:_____ **Duration** (minutes):_____

Where did the interaction occur?: _____

_____

Did the bear ever **charge**? Y or N If yes, from what **distance**? _____ And **how many times**?_____

Did the bear obtain **food**? Please explain**:** _____

_____

Was there **food nearby**? Describe: _____

Did you use any deterrants? Circle: voice, clapping, bear pepper spray, firearms, air horn, other:_____

Describe use/ effectiveness:_____

. _____

Number of Bears Involved: _____

Species: ☐ grizzly or brown bear ☐ black bear ☐ bear, species uncertain

Cohort: ☐ adult male bear ☐ adult female bear ☐ adult bear (sex unk) ☐ female with cubs of the year ☐ female with dependent young (older) ☐ subadult bear

Please describe any **identifying features** for the bear(s) involved (color, size, scars, other markings) : _____

Why were you in the area? _____

How many people were in the group when you encountered the bear? _____ How many were involved? _____

Names of other people involved: _____

What were you doing when you first noticed the bear(s)? _____

What was the bear doing when you first noticed it? _____

How far away was the bear when you saw it? (specify units) _____ What was the **closest** the bear came? _____

Were you **making noise** before you saw the bear? Describe: _____

What do you think was the probable **cause** of the incident? _____

SITE CHARACTERISTICS

What **habitat** were you in (circle all that apply): Forest Brush Willow/alder Alpine Meadow Glacier Glacial Outwash Road

High Low Dense Open

Describe the **visibility** at the incident location: _____

Was a **structure involved** in this incident (e.g., cabin, tent, vehicle, boat/kayak)? If yes, please specify: _____

DETAILED ENCOUNTER NARRATIVE: Please provide as detailed a narrative as you can of the encounter.

Reporting:

Park Staff: Once completed, place BHIMS forms in folder at Nature Center or route to Resource Management (RM). Report incident to Bear Team Members.

Bear Team Members:

1) **Collect** completed BHIMS form from Nature Center.
2) **Scan** completed forms and place in P:\Resource_Managment\Bear Management\BHIMS
3) **Send an email** to "KEFJ Bear Response Team" with a link to the scanned document. If there are known incidents and we are still waiting on a BHIMS, summarize the details

and the follow-up actions that have been taken.

Appendix 12). BRFCs approved by the Department of Interior and Agriculture's Interagency Grizzly Bear Committee and the State of Alaska, Department of Fish and Game

INTERAGENCY GRIZZLY BEAR COMITTEE CERTIFIED BEAR-RESISTANT PRODUCTS LIST

**The IGBC bear-resistant products testing and certification program is undergoing a number of revisions. As a result, the format of this list of IGBC-approved bear-resistant products has been changed to make it easier to maintain and keep current. However, the products listed below (pages 4-11) continue to be those that have passed the IGBC testing protocols and that have been approved by the IGBC as bear-resistant. This means these products meet IGBC bear-resistant design and structural standards, but it is not a guarantee that a grizzly bear cannot gain entry into these products. As this testing program continues to evolve, future revisions may be necessary. This official list of approved products will be updated as needed.*

IGBC-certified containers are one of the methods available to meet food storage regulations on National Forests in grizzly bear habitat. When you are in National Parks, check their regulations for food storage requirements and methods. Electric fences are authorized in some ecosystems and under certain conditions. Contact your local Forest or Park office for more details on the use of electric fences.

Maintenance of Containers

It is very important to check your containers to make certain that latches continue to close tightly and are not broken or malfunctioning. Field use of containers can cause stresses and impacts that can damage latches, hinges, seams, etc.

Containers that are certified "bear resistant" need to have all the latches (padlocks, bolts, catches, fasteners, etc.) operating properly to remain bear resistant. If a latch becomes loose or broken, contact the manufacturer for replacement parts or advice on repairing the damage. It is also important to keep the containers clean and as free from odors as possible, and to use the containers as intended by the manufacturer.

Approved Containers

Numerous manufacturers market products claiming to be bear-resistant or bear-proof. Their website may even say they have been tested by the U.S. Forest Service or the IGBC. However, they may not have passed the test or become IGBC certified. Make sure the product you are purchasing for use on public lands in grizzly bear country where food storage is required is on the following list. These are the only commercially available products approved for this use in the lower 48 states. Similarly, the only products that have officially passed the IGBC test for use on private lands are listed on the Living with Wildlife Foundation website www.lwwf.org.

Electric Fencing

There are two different fence systems that have been tested by Missoula Technical Development Center for use in keeping food and other attractants unavailable to bears. Those fence systems are listed in this document

NCDE 7-Strand Electric Fence

The 7-strand electric fence (MTDC Publication #9923-2321) has been used in the Northern Continental Divide Ecosystem (NCDE) since 1999 and is listed as an acceptable food storage method in the food storage order for the NCDE. **This fence is not listed as an approved food storage device in the Greater Yellowstone Ecosystem (GYE). However, it can be used under special approval by the Forest Supervisor in most forests in the GYE.** This fence has applicability in situations such as base outfitter camps with a permitted location on the National Forest or beehives on private land where the fence is typically in place for several days or weeks.

Portable Electric Fence

IGBC has now endorsed the portable electric fence standards as described in the MTDC Technical Note #0723-2305-MTDC entitled, "Specifications for portable electric fence systems as a potential alternative for food storage" as an effective method of "bear resistant storage" in grizzly bear ecosystems. The IGBC believes this is an adequate and appropriate, temporary food storage. The IGBC recommends going forth with the portable electric fence (as described in the Technical note) for storing food on USFS lands in the NCDE and GYE with food storage orders. IGBC encourages line officers to utilize this new method, as they deem appropriate and **to utilize it under written authorization of line officers to ensure proper use.**

This IGBC approval of portable electric fence as specified, does not alter or replace the 7-strand electric fence (MTDC Publication #9923-2321) that has been used in the Northern Continental Divide Ecosystem (NCDE) since 1999.

This commercial product list and list of suppliers is for information only and does not imply any endorsement of one product or source over another. Products are generally arranged in the order in which they were tested and approved.

Contacts

For additional information or testing of products contact the following:

To Arrange for Product Testing:

Randy Gravatt
Grizzly & Wolf Discovery Center
(406) 646-7003
800-257-2570
randyg@grizzlydiscoveryctr.com

Approval and Status of IGBC Approved Products:

Scott Jackson
U.S. Forest Service
(406) 329-3664
Sjackson03@fs.fed.us

General Information about Bear-Resistant Products:

Patti Sowka
(406) 544-5307
psowka@blackfoot.net

IGBC-Approved Bear-Resistant Products

*This commercial product list and list of suppliers is for information only and does not imply any endorsement of one product or source over another. Products are generally arranged in alphabetical order.

BACK PACKING & SMALL STORAGE CONTAINERS

The Bare Boxer
Contender Model 101
Champ Model 202
Golf City Products
http://www.bareboxer.com/

BearVault
BV250 Solo
BV300
BV350 Solo
BV400
BV450 Solo
BV500
866-301-3442
http://www.bearvault.com

Craftsman Tech Composites
Wise Backpack (~3600 in^3 capacity) **- IGBC Certification No. 3349**
626-448-4045

Counter Assault
The Bear Keg
Phone: 406-257-4740 or 800-695-3394
http://www.counterassault.com

Garcia Machine ***Backpackers' Cache***
Model 812
559-732-3785
http://www.backpackerscache.com

Lighter1 Bear Bins – ***Backpacker Cache***
Big Daddy Model (2.29 lbs) **- IGBC Certification No. 3350**
Lil' Sami Model (1.34 lbs) **- IGBC Certification No. 3351**
http://www.Lighter1.com

Missoula Technical Development Center - ***Modifications to 50 Caliber Ammo Box***
Modifications to Military Medical Box, See Publ. # 9623-2325 MTDC.
406-329-3900
http://www.fs.fed.us/t-d/
username: t-d: password: t-d

Riley Stove Company
Grain Storage Container
Food Storage Container
Insulated Cooler
406-266-5525

UDAP Industries Inc.
"*No Fed Bear" Canister*
866 BEAR 911
pepperpower@udap.co
www.pepperpower.com

Vernon Matthews - ***Greif Bros Steel Drums Part #s:***
OH10-1R
OH8-1R 10 and 8 gal Drums
909-880-2146

Wes Mauz
Aluminum Canister
303-908-7383

Wind River Products
Backpack Container
Small Pannier
307-455-2464
307-267-3879

World Safety Products - ***Models 1690, 1661 and 1600 with modified metal reinforced lid.***
95, 65 and 30 gallon, Overpack Plastic Drums
888-847-7190
http://www.worldsafetyproducts.com

PANNIERS and BOXES

Buckstitch Canvas Saddle and Tack
Aluminum Kitchen Pannier
Aluminum Storage Pannier
307-587-4426
800-268-4426
http://www.buckstitchcanvas.com

Columbia Construction, Inc. - ***Aluminum Panniers***
406-892-3856

Decarteret Pack Equipment - ***Aluminum Panniers***
559-592-2878

Evans Feed and Livestock Supply - ***Plastic Pannier/Bear Box***
559-665-7891

Greenlee - Mobile Storage Chest
Model 2448
http://www.mygreenlee.com

Howling Wind Welding - ***Aluminum Storage Pannier***
Steve Kirko
307-856-3143

Kanz Outdoors LLC
Field Pantry P120
818-894-6589
http://wwwkanzoutdoors.com
hkantz@kanzoutdoors.com

Jerry Kawasaki - ***Aluminum panniers***
Model SFO
Model HFO
Model HTL
406-763-4432
http://www.bearcountrycontainers.com

Koffler Boats, Inc. - ***3 models of bear resistant boxes/panniers***
541-688-6093
http://www.kofflerboats.com

L**MI Welding, Inc -** ***Various aluminum panniers***
406-337-3021
800-345-5623
http://www.lmiwelding.com

Mad Cow Metal Works – ***Aluminum horse pannier, Large aluminum dry bear box***
Large aluminum dry bear box 36x16x16 inches, weighing 37lbs – **IGBC Certification No. 3353**
406-581-9115
http://madcowmetalworks.com

Metalworks of Montana - ***Aluminum Panniers***
406-728- 5070

Ben Notti/Marshall Ridenour - ***Aluminum Panniers***
1029 Terrace View Drive
Alberton, MT 59820
(No telephone or website information available)

Outfitters Pack Station - ***Plastic Pannier***
800-657-2644
http://www.outfitterspackstation.com

Outfitters Supply, Inc. - ***Trail Max Pack Panniers Item# WPA500***
406-892-4234
http://www.outfitterssupply.com

Robertson Enterprises - ***Mountaineer Grain Pannier, Mountaineer Mule Pannier, Mountaineer Camp Kitchen, Mountaineer Storage /Cooler Pannier, Collapsible Aluminum Bear Box***
307-587-2925
RE@tritel.net

Salem Tent and Awning - ***Model HBR***
503-363-4788
800-892-8659
http://www.salemtent.com

Bob Skorz - ***Plastic Kitchen Pannier***
307-382-8475

Teton Welding - ***Aluminum Panniers***
406-466-2124

Ron Terrill - ***Aluminum Kitchen Pannier***
13605 Sapphire Drive
Lolo, MT 59857
(No telephone or website information available**)**

Wind River Products - ***Plastic Storage Pannier, Plastic Kitchen Pannier***
307-455-2464
307-267-3879

Wyoming Outdoor Industries, Inc. - ***Aluminum Storage Pannier Regular and SlimLine Aluminum Kitchen Pannier***
307-527-6449
800-725-6853

Wyoming Outdoor Industries products can also be purchased at: **Sonoma Mountain Pack Station**
801-794-2082
http://www.wyomingoutdoor.com

Ziegel Engineering - ***Ziegel Aluminum Boxes WD5 and WD6***
562-596-9481

COOLERS and DRY BOXES

Bear Aware/Tee-N-Jay Mfg. - ***Model #281816DRY – 28" Large Dry Box***
818-504-3515

Colorado River and Trails Expeditions Inc. - ***Rafting Dry Box***
801-261-1789
800-253-7328
http://www.crateinc.com

Engel USA - ***Engel Cooler model # ENG65, 65 Quart Plastic Cooler***
561-743-7419
888-272-9838
http://www.i-m-d.com/engel/Plastic%20Coolers%20-%20Main.htm

Igloo Products Corp. – ***Yukon 50-quart Cold Locker Plastic Cooler***
Yukon 50: **IGBC Certification No. 3301**
713-584-6800
800-364-5566
http://www.yukoncoldlockers.com
http://www.igloo-store.com

Iowa Rotocast Plastics, Inc. – ***Grizzly 150 Model and Grizzly 400 Model Plastic Coolers***
Grizzly 150: **IGBC Certification No. 3401**
Grizzly 400: **IGBC Certification No. 3402**
563-382-9636
800-553-0050
http://www.irpinc.com

Recretec Manufacturing, Inc. - ***Aluminum Dry Box***
541-757-7567
http://www.recretec.com/RecreTec/index.php

Yeti Cooler - ***Tundra series 45, 65, 85, 120, 155 and 250-quart coolers***
512-394-9384
http://www.yeticoolers.com

GARBAGE CONTAINERS, FOOD STORAGE LOCKERS & RECYCLING UNITS

Alarik Industries LLC
***Bear Tote model 001, 96-gallon plastic residential garbage container, measuring 43"high, 43"long, 28" wide, 33"deep, requiring 2 padlocks* - IGBC Certification No. 3357**
P.O. Box 9145
Aspen, CO 81612
970-930-5975
alarikindustries@gmail.com

Back Alley Metals – ***33-gallon Metal Recycle Box, Back Alley Bear Can***
33-gallon Metal Recycle Box – **IGBC Certification No. 3354**
406-425-0244
406-425-1533
www.backalleymetals.com

BearGuard Co. Ltd. – ***Bear Guard enclosure low profile, reversible single door***
530-581-2211
408-323-9006
sales@BearGuardInfo.com

BearSaver - ***Food Storage Lockers: FS15, FS16, FS20. FS24 and FS30.***
Trash and Recycling container Series: HB-1 Mini, HB-2 Mini, HA, CE.
Trash and Recycling container Series: HB1, HB2, BE, BE2, RCE Residential.
Mini-Depot Triple Recycling Container
Commercial Dumpsters: 2, 3 and 4-yd^3 dumpsters.
800-851-3887
http://www.bearsaver.com/

BurrTec Waste Industries, Inc
***95 gallon polycart with reinforced front and sides near the lid* - IGBC Certification No. 3352**
(909) 429-4200
www.burrtec.com

Capital Industries – ***2-yd^3 Rear-Load Container***
206-762-8585
http://capitalind.com/containers/
sales@capitalind.com

Enterprise Sales, Inc. - ***2.0-yd^3 and 3.5-yd^3 Rear-Load Dumpsters***
800-929-6843

Haul-All Equipment Systems, ltd.
Dual Compartment Hid-A-Bag
Haul-All Hid-A-Way 6-yd^3 dumpster
Haul-All Freedom 32 - **IGBC Certification No. 3332**
Haul-All Discovery - **IGBC Certification No. 3333**
888-428-5255
http://www.haulall.com/bear.htm

Jamestown Advanced Products Corp
24-ft^3 Food Storage Locker
2-yd^3 Front-Load Dumpster
2855 Girts Road
Jamestown, NY 14701
(No telephone or website information available)

Northland Products, Inc.
Fully-automated plastic 96-gallon Kodiak residential garbage container Model # KP-96 -
IGBC Certification No. 3356
2608 Spitfire Lane
Prescott, AZ 86301
928-636-9298
www.kodiak-products.com

RJ Thomas Co., Inc.
Pilot Rock Model BPR1-36 Metal 1-Module Trash Receptacle
Pilot Rock Model BPR2-72 Metal 2-Module Trash Receptacle
800-762-5002
http://www.pilotrock.com

Robertson Enterprises – ***Food storage locker, bear resistant dumpster cover***
307-587-2925
RE@tritel.net

San Dimas Technology and Development Center - ***2-yd^3 Bear-Resistant Dumpster***
909-599-1267
http://www.fs.fed.us/t-d/
username: t-d: password: t-d
See Recreation Management Tech Tip # 0323 1302 SDTDC.

Shoshone National Forest - ***Steel Bear Box, welded or bolted with or without stand.***
307-527-6241
Drawings available upon request

Ultratec Equipment Sales – ***4-yd^3 refuse container, 2 compartment 32 gal refuse cabinet***
701-483-4800
877-805-1330
ultratec@ndsupernet.com

ELECTRIC FENCES

Counter Assault – ***Pentagon Portable Mesh Electric Fence built according to specifications in Pub# 0723-2305 MTDC***
406-257-4740
800-695-3394
http://www.counterassault.com

Missoula Technical Development Center - ***Northern Continental Divide Electric Fence System Pub# 9923-2321 MTDC***
406-329-3900
http://www.fs.fed.us/t-d/
username: t-d: password: t-d

Missoula Technical Development Center - ***Portable Mesh Electric Fence System Pub# 0723-2305 MTDC***
406-329-3900
http://www.fs.fed.us/t-d/
username: t-d: password: t-d

UDAP Industries, Inc. - ***Bear Shock Fence (Portable Bear Net Electric Fence built according to specifications in Pub# 0723-2305 MTDC)***
406-494-9292
866 BEAR 911
PepperPower@UDAP.com
http://www.PepperPower.com

SPECIALIZED PRODUCTS FOR HANGING FOOD

NATPRO, Inc. - ***Game Hoist with Adjustable Gambrel***
307-332-3068

REI- ***Bear Bag***
http://www.rei.com
click on Camp/Hike
under Health and Safety
click on bear protection

Williams Products, Inc. - *Hi Stor*
406-652-8930
800-522-8930

IGBC CERTIFICATION NUMBERS

As part of the process of revising the Interagency Grizzly Bear Committee's (IGBC) bear-resistant products testing and certification program, the IGBC is now issuing certification numbers to products that successfully pass the testing protocol. The list below cross references the certification numbers with the specific products listed above. We currently have a backlog of products that have been approved but have yet to receive a certification number. We are continuing to work through this process so that each product listed above will have an assigned number unique to that product.

CERTIFICATION NUMBER	MANUFACTURER	PRODUCT DESCRIPTION
3301	Igloo Products Inc.	Yukon 50-quart cold locker plastic cooler
3332	Haul-All Equipment Ltd	Metal bolt down trash can with Trex decking and foot pedal
3333	Haul-All Equipment Ltd.	70-gallon metal bolt down trash can with Trex decking sides
3349	Craftsman Tech Composites	Rigid plastic backpack ~3600 in^3 capacity
3350	Lighter1	Backpacker cache "Big Daddy" 2.29 lb unit
3351	Lighter1	Backpacker cache "Lil'Sami" 1.34 lb unit
3352	BurrTec Waste Industries, Inc	95-gallon polycart w/reinforced front & sides near the lid
3353	Mad Cow Metal Works	Large aluminum dry bear box 36x16x16 inches, weighing 37lbs
3354	Back Alley Metals	33-gallon metal recycle box height 49 inches, length 121 inches and width/depth 25 inches)
3356	Northland Products, Inc.	96-gallon residential garbage container Kodiak Model # KP-96
3357	Alarik Industries LLC	96-gallon plastic residential garbage container, Bear Tote Model 001, measuring 43"high, 43"long, 28" wide, 33"deep and requiring 2 padlocks
3401	Iowa Rotocast Plastics, Inc	Grizzly model 150 plastic cooler
3402	Iowa Rotocast Plastics, Inc	Grizzly model 400 plastic cooler

INTERAGENCY GRIZZLY BEAR COMITTEE CERTIFIED BEAR-RESISTANT PRODUCTS LIST

**The IGBC bear-resistant products testing and certification program is undergoing a number of revisions. As a result, the format of this list of IGBC-approved bear-resistant products has been changed to make it easier to maintain and keep current. However, the products listed below (pages 4-11) continue to be those that have passed the IGBC testing protocols and that have been approved by the IGBC as bear-resistant. This means these products meet IGBC bear-resistant design and structural standards, but it is not a guarantee that a grizzly bear cannot gain entry into these products. As this testing program continues to evolve, future revisions may be necessary. This official list of approved products will be updated as needed.*

IGBC-certified containers are one of the methods available to meet food storage regulations on National Forests in grizzly bear habitat. When you are in National Parks, check their regulations for food storage requirements and methods. Electric fences are authorized in some ecosystems and under certain conditions. Contact your local Forest or Park office for more details on the use of electric fences.

Maintenance of Containers

It is very important to check your containers to make certain that latches continue to close tightly and are not broken or malfunctioning. Field use of containers can cause stresses and impacts that can damage latches, hinges, seams, etc.

Containers that are certified "bear resistant" need to have all the latches (padlocks, bolts, catches, fasteners, etc.) operating properly to remain bear resistant. If a latch becomes loose or broken, contact the manufacturer for replacement parts or advice on repairing the damage. It is also important to keep the containers clean and as free from odors as possible, and to use the containers as intended by the manufacturer.

Approved Containers

Numerous manufacturers market products claiming to be bear-resistant or bear-proof. Their website may even say they have been tested by the U.S. Forest Service or the IGBC. However, they may not have passed the test or become IGBC certified. Make sure the product you are purchasing for use on public lands in grizzly bear country where food storage is required is on the following list. These are the only commercially available products approved for this use in the lower 48 states. Similarly, the only products that have officially passed the IGBC test for use on private lands are listed on the Living with Wildlife Foundation website www.lwwf.org.

Electric Fencing

There are two different fence systems that have been tested by Missoula Technical Development Center for use in keeping food and other attractants unavailable to bears. Those fence systems are listed in this document

NCDE 7-Strand Electric Fence

The 7-strand electric fence (MTDC Publication #9923-2321) has been used in the Northern Continental Divide Ecosystem (NCDE) since 1999 and is listed as an acceptable food storage method in the food storage order for the NCDE. **This fence is not listed as an approved food storage device in the Greater Yellowstone Ecosystem (GYE). However, it can be used under special approval by the Forest Supervisor in most forests in the GYE.** This fence has applicability in situations such as base outfitter camps with a permitted location on the National Forest or beehives on private land where the fence is typically in place for several days or weeks.

Portable Electric Fence

IGBC has now endorsed the portable electric fence standards as described in the MTDC Technical Note #0723-2305-MTDC entitled, "Specifications for portable electric fence systems as a potential alternative for food storage" as an effective method of "bear resistant storage" in grizzly bear ecosystems. The IGBC believes this is an adequate and appropriate, temporary food storage. The IGBC recommends going forth with the portable electric fence (as described in the Technical note) for storing food on USFS lands in the NCDE and GYE with food storage orders. IGBC encourages line officers to utilize this new method, as they deem appropriate and **to utilize it under written authorization of line officers to ensure proper use.**

This IGBC approval of portable electric fence as specified, does not alter or replace the 7-strand electric fence (MTDC Publication #9923-2321) that has been used in the Northern Continental Divide Ecosystem (NCDE) since 1999.

This commercial product list and list of suppliers is for information only and does not imply any endorsement of one product or source over another. Products are generally arranged in the order in which they were tested and approved.

Contacts

For additional information or testing of products contact the following:

To Arrange for Product Testing:

Randy Gravatt
Grizzly & Wolf Discovery Center
(406) 646-7003
800-257-2570
randyg@grizzlydiscoveryctr.com

Approval and Status of IGBC Approved Products:

Scott Jackson
U.S. Forest Service
(406) 329-3664
Sjackson03@fs.fed.us

General Information about Bear-Resistant Products:

Patti Sowka
(406) 544-5307
psowka@blackfoot.net

IGBC-Approved Bear-Resistant Products

*This commercial product list and list of suppliers is for information only and does not imply any endorsement of one product or source over another. Products are generally arranged in alphabetical order.

BACK PACKING & SMALL STORAGE CONTAINERS

The Bare Boxer
Contender Model 101
Champ Model 202
Golf City Products
http://www.bareboxer.com/

BearVault
BV250 Solo
BV300
BV350 Solo
BV400
BV450 Solo
BV500
866-301-3442
http://www.bearvault.com

Craftsman Tech Composites
Wise Backpack (~3600 in^3 capacity) **- IGBC Certification No. 3349**
626-448-4045

Counter Assault
The Bear Keg
Phone: 406-257-4740 or 800-695-3394
http://www.counterassault.com

Garcia Machine ***Backpackers' Cache***
Model 812
559-732-3785
http://www.backpackerscache.com

Lighter1 Bear Bins – ***Backpacker Cache***
Big Daddy Model (2.29 lbs) **- IGBC Certification No. 3350**
Lil' Sami Model (1.34 lbs) **- IGBC Certification No. 3351**
http://www.Lighter1.com

Missoula Technical Development Center - ***Modifications to 50 Caliber Ammo Box***
Modifications to Military Medical Box, See Publ. # 9623-2325 MTDC.
406-329-3900
http://www.fs.fed.us/t-d/
username: t-d: password: t-d

Riley Stove Company
Grain Storage Container
Food Storage Container
Insulated Cooler
406-266-5525

UDAP Industries Inc.
"*No Fed Bear" Canister*
866 BEAR 911
pepperpower@udap.co
www.pepperpower.com

Vernon Matthews - ***Greif Bros Steel Drums Part #s:***
OH10-1R
OH8-1R 10 and 8 gal Drums
909-880-2146

Wes Mauz
Aluminum Canister
303-908-7383

Wind River Products
Backpack Container
Small Pannier
307-455-2464
307-267-3879

World Safety Products - ***Models 1690, 1661 and 1600 with modified metal reinforced lid.***
95, 65 and 30 gallon, Overpack Plastic Drums
888-847-7190
http://www.worldsafetyproducts.com

PANNIERS and BOXES

Buckstitch Canvas Saddle and Tack
Aluminum Kitchen Pannier
Aluminum Storage Pannier
307-587-4426
800-268-4426
http://www.buckstitchcanvas.com

Columbia Construction, Inc. - ***Aluminum Panniers***
406-892-3856

Decarteret Pack Equipment - ***Aluminum Panniers***
559-592-2878

Evans Feed and Livestock Supply - ***Plastic Pannier/Bear Box***
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Greenlee - Mobile Storage Chest
Model 2448
http://www.mygreenlee.com

Howling Wind Welding - ***Aluminum Storage Pannier***
Steve Kirko
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Kanz Outdoors LLC
Field Pantry P120
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http://wwwkanzoutdoors.com
hkantz@kanzoutdoors.com

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http://www.kofflerboats.com

L**MI Welding, Inc -** ***Various aluminum panniers***
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800-345-5623
http://www.lmiwelding.com

Mad Cow Metal Works – ***Aluminum horse pannier, Large aluminum dry bear box***
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http://madcowmetalworks.com

Metalworks of Montana - ***Aluminum Panniers***
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Ben Notti/Marshall Ridenour - ***Aluminum Panniers***
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Salem Tent and Awning - ***Model HBR***
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http://www.crateinc.com

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http://www.i-m-d.com/engel/Plastic%20Coolers%20-%20Main.htm

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http://www.yukoncoldlockers.com
http://www.igloo-store.com

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http://www.irpinc.com

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541-757-7567
http://www.recretec.com/RecreTec/index.php

Yeti Cooler - ***Tundra series 45, 65, 85, 120, 155 and 250-quart coolers***
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http://www.yeticoolers.com

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P.O. Box 9145
Aspen, CO 81612
970-930-5975
alarikindustries@gmail.com

Back Alley Metals – ***33-gallon Metal Recycle Box, Back Alley Bear Can***
33-gallon Metal Recycle Box – **IGBC Certification No. 3354**
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406-425-1533
www.backalleymetals.com

BearGuard Co. Ltd. – ***Bear Guard enclosure low profile, reversible single door***
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408-323-9006
sales@BearGuardInfo.com

BearSaver - ***Food Storage Lockers: FS15, FS16, FS20. FS24 and FS30.***
Trash and Recycling container Series: HB-1 Mini, HB-2 Mini, HA, CE.
Trash and Recycling container Series: HB1, HB2, BE, BE2, RCE Residential.
Mini-Depot Triple Recycling Container
Commercial Dumpsters: 2, 3 and 4-yd^3 dumpsters.
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Haul-All Equipment Systems, ltd.
Dual Compartment Hid-A-Bag
Haul-All Hid-A-Way 6-yd^3 dumpster
Haul-All Freedom 32 - **IGBC Certification No. 3332**
Haul-All Discovery - **IGBC Certification No. 3333**
888-428-5255
http://www.haulall.com/bear.htm

Jamestown Advanced Products Corp
24-ft^3 Food Storage Locker
2-yd^3 Front-Load Dumpster
2855 Girts Road
Jamestown, NY 14701
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2608 Spitfire Lane
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www.kodiak-products.com

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Pilot Rock Model BPR1-36 Metal 1-Module Trash Receptacle
Pilot Rock Model BPR2-72 Metal 2-Module Trash Receptacle
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RE@tritel.net

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username: t-d: password: t-d
See Recreation Management Tech Tip # 0323 1302 SDTDC.

Shoshone National Forest - ***Steel Bear Box, welded or bolted with or without stand.***
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Ultratec Equipment Sales – ***4-yd^3 refuse container, 2 compartment 32 gal refuse cabinet***
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877-805-1330
ultratec@ndsupernet.com

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http://www.fs.fed.us/t-d/
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username: t-d: password: t-d

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406-494-9292
866 BEAR 911
PepperPower@UDAP.com
http://www.PepperPower.com

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307-332-3068

REI- ***Bear Bag***
http://www.rei.com
click on Camp/Hike
under Health and Safety
click on bear protection

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406-652-8930
800-522-8930

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3349	Craftsman Tech Composites	Rigid plastic backpack ~3600 in^3 capacity
3350	Lighter1	Backpacker cache "Big Daddy" 2.29 lb unit
3351	Lighter1	Backpacker cache "Lil'Sami" 1.34 lb unit
3352	BurrTec Waste Industries, Inc	95-gallon polycart w/reinforced front & sides near the lid
3353	Mad Cow Metal Works	Large aluminum dry bear box 36x16x16 inches, weighing 37lbs
3354	Back Alley Metals	33-gallon metal recycle box height 49 inches, length 121 inches and width/depth 25 inches)
3356	Northland Products, Inc.	96-gallon residential garbage container Kodiak Model # KP-96
3357	Alarik Industries LLC	96-gallon plastic residential garbage container, Bear Tote Model 001, measuring 43"high, 43"long, 28" wide, 33"deep and requiring 2 padlocks
3401	Iowa Rotocast Plastics, Inc	Grizzly model 150 plastic cooler
3402	Iowa Rotocast Plastics, Inc	Grizzly model 400 plastic cooler

Bear-Resistant Containers

Mention in this document of commercial goods or services does not constitute an endorsement by the Alaska Department of Fish & Game.

Bear-resistant containers come in all sizes and shapes, from ultra light backpacker food containers weighing a few ounces, to dumpsters able to hold 20 tons. Although some of these products have been tested by trial and error through direct experience with bears, some meet criteria for "bear-resistant" that can be found at websites of the Interagency Grizzly Bear Committee (http://www.igbconline.org/) for grizzly bears. See also Living with Predators Resources Guides for additional information on black bear and grizzlies. Select from the following list to read more about containers suitable for a particular use:

Camping with backpacks, lightweight boats, or bicycles

Extra Lightweight Food Storage Containers

Camping with boats, airplanes, horses or all-terrain vehicles

Extra Lightweight Food Storage Containers
Aluminum Boxes and Panniers

Backcountry cabins, lodges or residences

Steel Barrels with Locking Lids
Large Portable Containers
Walk-in Storage Containers

Campgrounds or neighborhoods

Large Portable Containers
Permanently Mounted Food and Trash Containers

Field camps or small industry

Permanently Mounted Food and Trash Containers
Containers For Community Solid Waste Systems
Walk-in Storage Containers

Extra Lightweight Food Storage Containers

BearVault Model BV450 Solo Bear Resistant Food Canister
5663 Balboa Ave #354
San Diego, CA 92111
www.bearvault.com
Weighs 2 lbs 1 oz with a 440 cubic inch/4 day capacity. Offers full access, rain-proof opening and retention guides for strapping the canister to the outside of a backpack. (Note: This product may not satisfy Alaska National Park Service standards. Check the BearVault website for more information.)

BearVault Model BV500 Bear Resistant Food Canister
5663 Balboa Ave #354
San Diego, CA 92111
www.bearvault.com
Weighs 2 lbs 9 oz with 700 cubic inch/7 day capacity. Offers full access, rain-proof opening and retention guides for strapping the canister to the outside of a backpack. (Note: This product may not satisfy Alaska National Park Service standards. Check the BearVault website for more information.)

Backpacker's Cache Model 812
Garcia Industries
14097 Avenue 272
Visalia, CA 93292
559-732-3785
www.backpackerscache.com
Manufactures a 615 cubic inch (internal volume) bear-resistant backpacking food container. Approved for use in the U.S. National Park System in Alaska.

Counter Assault Bear Keg Model BK-914
120 Industrial Court
Kalispell, Montana 59901
(800) 695-3394

www.counterassault.com
Weighs 3.1 lbs with 716 cubic inch/6-8 day capacity. Height: 14 inches, Diameter: 9 inches.

Aluminum Boxes and Panniers

Heavy gauge aluminum is an excellent material for bear-resistant boxes and panniers. Boxes should meet USFS criteria for bear-proof containers, which include: "(a) resist a direct force of 200-pounds; and (b) contain no cracks, external hinges, gaps, etc. by which a bear can force the container open using claws or teeth."

Manufacturer:
Bear-Aware
9145 Glenoaks Blvd.
Sun Valley, CA 91352
800-568-8990
jmberns@bear-aware.com

Vendor for this Product

Bear Country Camping
P.O. Box 38
Gallatin Gateway, MT 59730
406-763-4364 (phone/fax)
info@bearcountrycamping.com
Manufacturer and retailer of certified bear-resistant aluminum panniers.

Teton Welding and Manufacturering
P.O. Box 976
66 Airport Road
Choteau, MT 59422
406-466-2124
tetonwelding@montana.com
Manufactures bear-resistant aluminum panniers that can be used for storage. Certified bear-resistant by U.S. Forest Service. Teton Welding makes a "kitchen" pannier that could work on raft or plane trips.

Fritz Creek Welding
40095 Martin Drive

Homer, Alaska 99603
907-235-7008
Manufactures custom aluminum bear-resistant boxes for camp, boat or airplane. Seamless construction with a bear proof lid design.

Steel Barrels with Locking Lids

Steel barrels (or "drums") can be used with appropriately fastened lids for food and garbage storage. Because bears have been known to crush lighter gauge drums, it is suggested only heavier gauge drums be used.

Manufacturer:
Grizzly Can
ShowerTek, Inc.
2557 Napa Valley Corporation Dr. Ste. #F
Napa, CA 94558
www.grizzlycan.com
800-776-6364
Manufactures 55-gallon drum with hinged locking lid with "bear-proof" locking mechanism.

Arctic Fire and Safety
702 30th Ave.
Fairbanks, AK 99701
800-260-3473
arcfire@mosquitonet.com
Sells 15 to 55-gallon drums with locking lids.

Unitech of Alaska
7600 King Street
Anchorage, AK 99518
800-649-5859
Phone: 907-349-5142
Fax: 907-349-2733
unitech@alaska.net
Sells 55-gallon drums with locking lids.

New Pig Corporation
One Pork Avenue

Tipton, PA 16684-0304
800-hot-hogs
www.newpig.com
Manufactures 5 to 110-gallon steel drums with locking bolt rings and available phenolic/epoxy linings.

Permanently Mounted Food and Trash Containers

Permanently mounted containers for campgrounds, businesses and homes are among the most effective devices for keeping bears from human food sources.

Manufacturers:
Haul-All Equipment Systems
4115-18th Ave. North
Lethbridge, Alberta, T1H 5G1
Canada
1 (888) 428-5255
www.haulall.com
This company manufactures "Hid-A-Bag" bear-resistant containers from 32 gallons to 6 cubic yards. These permanently mounted containers are in use in over 250 national, state, and provincial parks across Canada and the United States including Talkeetna, Alaska. Haul-All also manufactures a complete bear-resistant refuse collection system, which consists of specially built trucks and containers.

Vendor for this product
Whitehorse Motors 4178 4th Avenue
Whitehorse, Yukon, Y1A 1J6
Canada
867-667-7866
www.whitehorsemotors.com

Bear Necessities Waste and Food Storage, Inc.
210 Lady MacDonald Dr.
Canmore, Alberta, Canada T1W! H3
403-678-6304
www.bearbins.com
Manufactures bear-resistant containers for campgrounds and permanent installation. Sized from 60 to 200 gallon. Self-closing top doors, emergency release chain on rear door allows for the event a child may crawl in and become trapped. Company also makes "hydraulically activated waste containers for community collection stations.

Bearproofinc
P.O. Box 6412
Battlement Mesa, CO 81636
866-284-9784
www.bearproofinc.com
Manufactures permanently mounted trash and food lockers with "bear-resistant lids to keep you compliant with local ordinances." Manufactures a full complement of 2 to 8 yard dumpsters, both front and rear loading, and a 95 gallon rollaway "tipper cart." And wall mounted food lockers for cabins and unique applications. Containers are used by state agencies in Colorado and Montana, U.S. Forest Service, U.S. Army and Air Force.

Portable Wheeled Containers For Neighborhoods

Solid Waste Systems Equipment
7855 Lark Drive
Parker, CO 80134
800-944-7973
www.solidwastesystemeqpt.com
Manufactures 64 and 95 gallon "modified, bear-resistant, roll-out carts" available for purchase.

Cascade Industries
4950 Thirty-Seventh Street SE
Grand Rapids MI 49512
800-968-2278
www.cascadecart.com
Manufactures Bear -resistant commercial garbage "tipper" carts. Used in Kenai, Juneau, and Anchorage.

Vendors for this product:
Anchorage Refuse
A Waste Management Company
6301 Rosewood Street
Anchorage, Alaska 99518
907-563-3717
www.anchoragerefuse.com
Rents Cascade tipper carts to garbage pick-up subscribers in the Anchorage area.

Peninsula Sanitation
A Waste Management Company
43335 Kalifornsky Beach Rd. Suite #7
Soldotna, Alaska 99669
907-262-1847
800-478-3867
Rents Cascade tipper carts to garbage pick-up subscribers on the Kenai Peninsula.

The Bear Guard Company
P.O. Box 89
Tahoe City, CA 96145
530-581-2211

LeeVan@msn.com
Manufactures steel containers for residential use. Used widely in the Lake Tahoe area.

BearSaver
1390 S. Milliken Ave.
Ontario, CA 91761
909-605-1697
www.bearsaver.com
Manufactures campground food storage, public use trash enclosures with chutes and low cost residential trash can enclosures. Trailhead boxes and custom aluminum fabrication are also available. Enclosures are ADA accessible and have been tested on brown bears.

Containers For Community Solid Waste Systems

Solid Waste Systems Equipment
7855 Lark Drive
Parker, CO 80134
800-944-7973
Manufactures 2 to 8 yard front-loading dumpsters.

Mackey Lake Welding
41737 Dolly Varden Way
Soldotna, Alaska
907-262-7456
mackeylk@alaska.net
Steel fabricators of bear-resistant dumpsters and dumpster lids. 6 and 8-yard dumpsters with child friendly roller tops are in use at Kenai Peninsula schools. Also manufacture custom sized bear-resistant aluminum boxes and containers. Old time Alaskans who know what a bear can and cannot get into!

Capital Industries
5801 3rd Avenue South
Seattle, WA 98108
www.capitalind.com
Manufactures bear-resistant dumpsters from 2 to 40 yards. 2 and 4-yard bear-resistant models are in use on the Kenai. This company has supplied dumpsters for use in National Forests and the grizzly recovery area in Montana.

Bearproofing-R-Us
Mountain National Park
Gatlinburg, TN
865-430-8902

www.bearproofingrus.hostead.com
Manufactures 2,3.4-yard dumpsters. Approved for use in Great Smokey Mountain National Park.

Haul-All Hyd-A-Way
Haul-All Equipment
4155-18 Ave North
Lethbridge, AB T1H 5G1
Canada
888-428-5255
htpp://www.haulall.com Manufactures a very widely used bear-resistant system-requires conversion to entire system-bins plus specialized trucks. Approved for use in U.S. National Parks. System is used in Prudhoe Bay oilfield where both grizzly and polar bears present.

Walk-in Storage Containers

Large steel shipping containers are almost certainly bear-proof and can be used for permanent and semi permanent storage.

Summit Logistics
3453 Truck Street
Fairbanks, AK 99701
907-456-3733
www.summitlogisticalaska.com
Sells and leases 20-40 foot walk-in style steel shipping containers-generically called "conex"-that meet international shipping standards. Conexes have been used at oil exploration and production sites in both grizzly and polar bear habitat.

NOTE: In northern Canada outfitters and remote camp owners store equipment in the off season in small-corrugated steel grain silos fitted with a bear proof lock on the man-door. No vendor is known for Alaska.