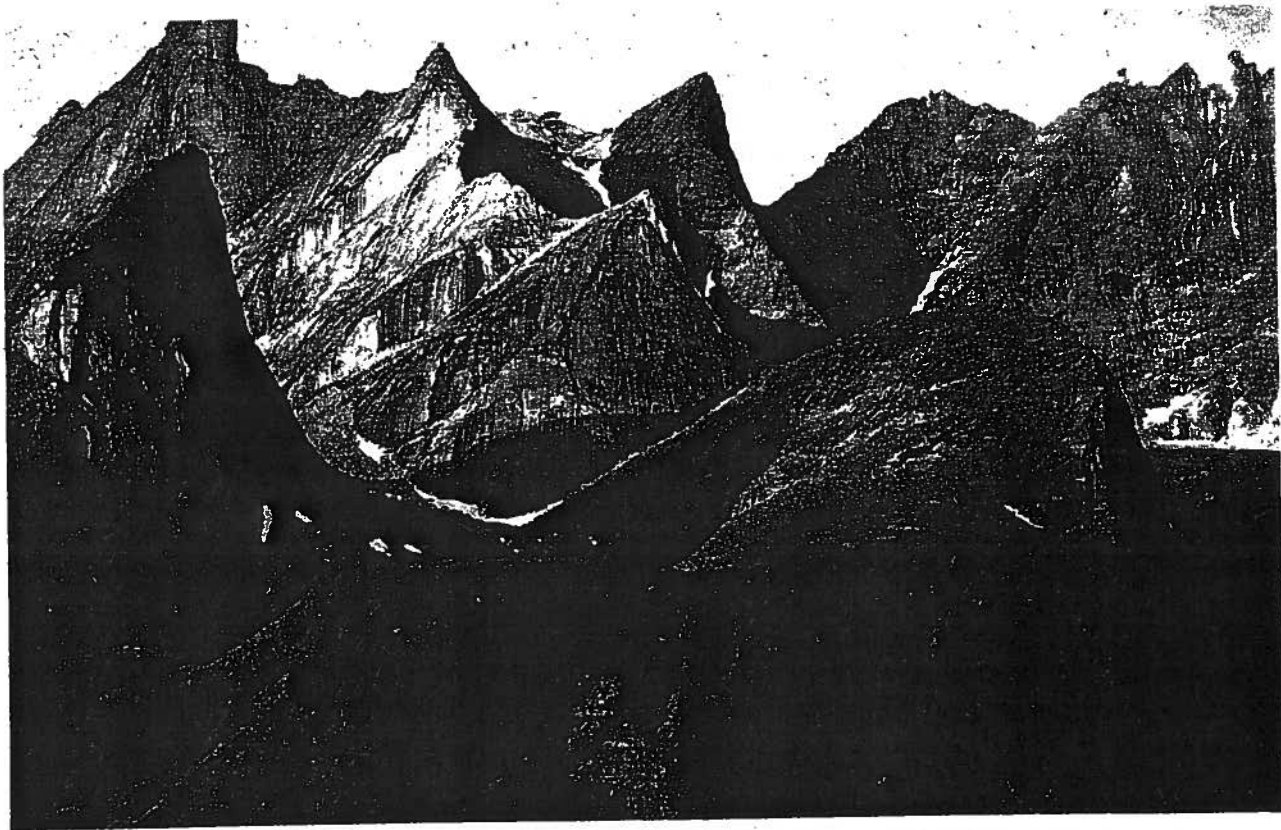


GATES OF THE ARCTIC NATIONAL PARK & PRESERVE

1996 BEAR INCIDENT REVIEW AND POLICY EVALUATION



Review Panel Members:

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Introduction

On November 18 and 19, 1996, a panel of individuals experienced with bear biology and management was assembled to review bear incidents that occurred in the Gates of the Arctic National Park & Preserve (GAAR) during 1996, and to evaluate current bear management policies and practices. The panel was comprised of John Hechtel, Alaska Department of Fish & Game (ADF&G); Ken Stahlnecker, Denali National Park & Preserve; Kevin Fox, Denali National Park & Preserve (Chief of Operations, Yukon-Charley Rivers Preserve as of 1 January, 1997) and Brad Cella, Alaska System Support Office. Panel members were provided with copies of case incident reports, the bear management plan, and other pertinent information relating to the three bear incidents occurring in fall 1996. On November 18, panel members and park staff assembled at the Bureau of Land Management, Alaska Fire Service on Fort Wainwright and reviewed/discussed park three bear incidents - one involving a human fatality. The panel spent the morning of November 19 developing draft recommendations for current field and policy procedures related to bear safety in the park and preserve.

The draft recommendations were organized by Brad Cella and distributed to all panel members for revisions and additions. The final recommendations were submitted to Dave Mills, Superintendent of YUGA on January 24, 1997.

Summary of Incidents Leading to the Review

During the fall of 1996, a number of serious human/bear encounters occurred in GAAR. Two incidents resulted in bear deaths and a third in a human death from a bear mauling.

The first incident occurred on 16 August 1996, when a black bear was shot and killed in a camp that had been established on the Kobuk River as a base of operations for conducting sheefish research. The camp was set up the previous day on a site that had been used on many occasions for private and agency purposes. Early in the morning of 16 August, the bear got into food that had been stored in a screen tent. When the bear returned in the afternoon of the 16th, and could not be chased away, the bear was killed.

The second incident involved a park visitor fatality on 23 August 1996. Robert Bell and a companion were returning from a day hike to their camp along the Upper Noatak River when they apparently surprised a sow grizzly and her cub. The sow charged and mauled Bell, resulting in his death.

The final incident occurred on 26 August 1996, when a grizzly bear was shot and killed in the vicinity of Chandler Lake near a camp that had been established by park volunteers while they carried out a variety of subsistence-related tasks. The bear approached the camp on the afternoon of the 26th and was scared off by a warning shot fired by the volunteers. The bear returned a short time later and was shot as it approached to within 35 feet in spite of additional warning shots.

Review Purpose and Procedures

The management staff at GAAR decided to conduct a review of these incidents and their circumstances. The goal of this review was to assess the effectiveness of current bear management procedures and policies at GAAR and to determine if changes should be made to current field operational procedures or the park bear management plan to maximize visitor and staff safety while in the backcountry.

To achieve this goal, the following objectives were defined:

- Review and discuss all information pertaining to the bear mauling fatality and the two defense of life and property (DLP) bear incidents occurring in 1996;
- Evaluate current park management policies and procedures relating to bear safety; and
- Incorporate and implement recommended changes in the park bear management plan and backcountry operation procedures.

The bear incident review panel was assembled as part of this review process.

Panel Findings and Recommendations

The panel reviewed the circumstances surrounding the three incidents as well as the actions/choices of the individuals involved. Although no single factor or action appeared to cause any of the problems, the review of the incidents and GAAR operational procedures and policies led the panel to formulate a number of recommendations to assist with reducing future human/bear incidents and improving safety practices of NPS employees and park visitors. The recommendations are organized into five primary categories: (1) Planning, (2) Training/Education, (3) Operations, (4) Food Storage and Garbage Disposal, and (5) Incident Response.

Planning

Good information exists in the GAAR Bear Management Plan but an update is required. Examples of some topics to review are:

- The aversive conditioning section is outdated due to reference to specific devices.
- Identify training/orientation requirements and add section on DLP requirements.
- Reevaluate closure section, particularly section on length of closure concerning an injured bear. Closing an area for the remainder of season because of an injured bear may be excessive; suggest changing wording to "attempt to locate bear to determine if the bear is a threat or needs to be destroyed".

Closer adherence to Bear Management Plan is needed.

Increase use and emphasis of Bear Management Plan in staff training and operations.

Training/Education

Many bear problems tend to occur because of a poor understanding of bear behavior, bear biology and appropriate human behavior in bear habitat. The need for improved understanding applies to NPS personnel, park visitors, and local residents.

Employee Training

Require bear safety training for all NPS personnel and individuals working on NPS projects. All panel members have significant experience presenting bear safety information and all agree that a thorough bear safety course requires a full day. This is particularly true for the annual temporary employee orientation/training session. It is recognized that instances arise when it is not possible to present a complete bear safety course. When it is not possible to present complete bear safety training, the panel members recommend that a minimum of two hours be devoted to: (1) how to prevent bear/human conflicts, (2) how to respond in the case of bear/human interactions, and (3) how to inform the public of proper practices which help to minimize these conflicts. Individuals in positions which

may be called upon to respond to problem bears will be provided additional training in reporting procedures for bear/human interactions, bear behavior, and aversive conditioning techniques. Appropriate firearms qualification is required for anyone who is assigned or may use a weapon.

If researchers or Volunteers in the Park (VIPs) cannot attend seasonal training, at a minimum, they should receive the previously mentioned minimum two hour session on bear safety before they are sent into the field. Explore using written test, such as one developed at Yukon-Charley Rivers National Preserve, to insure an acceptable level of understanding.

Emphasize Bear Safety in seasonal training.

NPS staff should be held at a higher level of bear knowledge and responsibility than the general public.

NPS personnel should demonstrate the highest level of bear safety and set examples of how to appropriately behave in bear country.

Checklist Development

Provide **checklist** of bear safety requirements for staff, researchers and VIPs. Develop checklist from vast materials available in scientific and general literature and the following comments.

- Proper food and garbage storage/disposal - available devices. (See Food Storage and Garbage Disposal Section)
- Campsite selection criteria including:
 - Avoid wildlife trails and travel corridors
 - Consider camp layout
 - Good visibility
 - Scout area for garbage, bear bait station, bear sign
 - Identify alternative campsites
- Locations or time of year when bears may be concentrated
- Basic Bear Biology
- Basic Bear Behavior (tools for interpretation of bear behavior rather than considering all behaviors as death threats)
- Bear/human behavior in camps (i.e. bear is approaching human) and encounters where human is approaching the bear. Emphasize the differences between the situation where a human is moving and encounters a bear (you are moving toward the bear) versus the situation where the bear has come to the human (entered your camp either through curiosity or in an attempt to get food)
- An individual can take many actions to prevent or minimize the chance of bear encounter (i.e., route selection, camp location, tent placement).
- An individual needs to take action before the situation becomes critical.
- Use of non-lethal deterrents
- Transportation requirements/safety with use of "Bear Spray"
- Appropriate weapon for personal defense is a 12 gauge shotgun with slugs.
- If aversive conditioning is deemed acceptable by Park management, a list of acceptable devices and munitions should be developed, and persons responsible for aversive conditioning should be trained in the use of this equipment.
- Warn against false-sense of security due to presence of non-lethal deterrents and defensive weapons.
- Defense of Life and Property responsibilities - contact requirements

Use of Scenarios

During training identify potential scenarios for bear encounter (i.e., Around camp, breaking brush, hiking in open country, bear mauling, bear torn up camp). Work through several or all scenarios.

Have participants determine what actions they would take and review with group.

Example Scenario: Bear approaches camp – Possible interpretations, (1) bear is curious, (2) accidental encounter, or (3) food habituated (is not coming to eat humans). Preferred NPS employee response: (1) At first sighting yell at bear, (2) if bear continues to approach camp elevate human aggressive behavior (air horn, cracker shells) – Bear moves away from camp, does not return. Do not abandon camp. Not only for your protection (maintaining possession of equipment and food) but to prevent habituation and training of bear.

Emphasize the importance of: (1) anticipating problems, (2) taking preventative measures in bear country (i.e., I decide to break through the brush. What actions can I take to prevent or minimize chance for bear encounter? Increase effort to make noise, have non-lethal or lethal devices readily available (not in your pack or gun case)), and (3) mentally rehearsing scenarios.

Firearms Training

Clarify who is required to carry a weapon. One concern raised is that an individual who is qualified to carry a weapon may personally choose not to carry the weapon, however, in the role of a NPS ranger it is their responsibility to provide assistance if visitor safety is threatened and the NPS employee could mitigate or eliminate the threat.

Clarify defensive weapons requirements for researchers and VIPs. Should GAAR provide weapons for all VIPs?

Realistic gun training - 35 rounds through a shotgun does not sufficiently train an inexperienced individual or make a person comfortable using a weapon. Points to consider:

- Additional firearms training or opportunity to practice for individuals who may have qualified but are still uncomfortable or not confident with using a shotgun.
- Bear targets should be used for firearms training associated with bear training.
- Explore using a moving target (Towed target? Target on pulley system to simulate movement towards or parallel to shooter).

Ammunition

Insure that only slugs are issued for field use. Slugs are the only approved lethal load (not buckshot). Cracker shells or other non-lethal loads should be investigated for use at camps by qualified individuals.

General Comments Important to Bear Safety Training Discussions

Warning shots, particularly in the air, do not necessarily represent a threat to a bear. The warning shot may not be associated by the bear with the message that you mean business. If a bear continues to move toward you after a warning shot, this in itself does not indicate a predatory behavior.

There is a common misconception that any time a bear is shot, it will automatically charge.

Common misconception: Bear bells will prevent an encounter. Many factors reduce their effectiveness (e.g., muffled sound produced by bells touching soft clothing items and sound of bells drowned out surrounding noise - walking along a flowing creek).

On average, bears see about as well as humans, however their sense of smell is much better than their eyesight. Bear eye-sight is as variable between bears as it is among people. The aging process also affects bear eye-sight.

Post encounter review your actions and scenario – what could you have done differently to prevent encounter.

Visitor Information and Education

Provide bear/visitor information (pamphlets/videos) to Commercial Use License (CUL) holders for distribution. Encourage CULs to send information to clients when reservations are made.

Explore options for displays to distribute pamphlets or show videos at local airports or airtaxi operator facilities.

Develop a specific information sheet for GAAR (possibly different information for floaters versus upland hikers) as a supplemental to Interagency bear/visitor pamphlet.

NPS should communicate directly with CULs, if there are indications of increased bear activity at a particular location. Use warnings, bulletins, and/or advisories to alert people of bear conditions.

Consider increasing river patrol and visitor contacts if increased bear activity or concentrations occur along frequently used rivers.

Develop threshold indicators (such as bear activity, human-bear interactions, fish concentrations, etc.) that would dictate an increased effort to notify visitors/public of potential threat to human safety.

Operations

Mission Timing

Evaluate appropriateness or necessity of NPS activities versus risk of bear encounter and safety of NPS personnel. Is it necessary to conduct project or activity in an area with increased bear activity, or at a time of year when bear encounters/incidents are more likely? What mitigation actions could be taken to reduce potential for adverse human/bear encounters?

Camp Establishment

Avoid camping on access or wildlife trails, if possible.

Sites with good visibility are preferable and provide an opportunity to see bears approaching and reduce probability of surprise encounters between campers and bears.

Clean area or select alternative campsite if garbage is in or near site upon arrival - don't let tradition dictate the continued use of a potentially dangerous site.

Select alternative campsite if carcass or significant sign of bear activity is in or near site upon arrival; an experienced person (with authority) needs to be onsite when camp is set up to make decision on camp placement, or movement if circumstances (significant bear sign, dead carcasses nearby, etc.) dictate. Alternative sites should be predetermined, when possible, to facilitate the relocation of camps when circumstances dictate.

Communications

The panel identified the practice of sending personnel into the park with no means of communications as a concern for employee and visitor safety. While it is recognized that communications are difficult to maintain in many remote portions of the park, it is recommended that ground-to-air communications capabilities should be provided to all park personnel in the field. When camps are established for extended periods, investigate the use of remote repeaters or satellite communications to provide emergency communications capabilities at a minimum.

Bear Activities

Explore methods to determine if areas exist where bears concentrate at specific time periods or high bear density occurs. Possible alternatives are aerial reconnaissance (in conjunction with other flight activities), analysis of hunter harvest records, interviews with local users and air taxi operators, etc..

Evaluate frequently used areas for bear sign and potential of bear encounters - and communicate this information to NPS staff, CULs and the general public.

Determine distribution/abundance of salmon in rivers/streams that receive significant visitor use.

Work more closely with ADF&G personnel to anticipate magnitude of salmon runs and potential for increased bear activity along river corridors.

Collect anecdotal information from staff and traditional users/locals on bear food source, bear abundance and distribution/concentrations.

Visitor Use Status

Determine where/how visitors are accessing the park to improve efficiency of information dissemination.

Improve assessment of visitor numbers and distribution to: (1) assess potential impacts, (2) assess if use and bear incidents are truly increasing, and (3) for use in general natural resource management considerations.

Food Storage and Garbage Disposal

Food storage and garbage regulations must be communicated and enforced, especially for NPS staff.

Food Storage

The panel identified improper food storage as a significant factor in at least one of the bear incidents that was reviewed. Food must be stored so it is not available to bears. Food storage devices are recommended for use on all park operations requiring short or long term camps. The objective of food storage devices is to minimize attraction and availability of food to bears. It is much more difficult to chase a bear from a location, once food has been acquired.

Food storage options range from the individual backpacker model to larger barrel or box types. Possible food storage alternatives are:

- Individual food storage containers
- Large metal barrel containers
- "Yosemite" food storage boxes
- Permanent structures (i.e., caches)
- Electrical fences

Suggested Practices

Develop guidelines or checklists for transportation of food and equipment. Situations occur when those responsible for setting up the camp are different individuals than those loading the equipment and food. Due to the changing nature of park staff and the multi-park and multi-agency coordination that occasionally occurs, a checklist at a minimum may prevent the situation that occurred last

summer where a large quantity of food arrived on site and the food storage devices did not. This resulted in property damage, food loss, food conditioning of a bear, placement of park employees and volunteers in a hazardous situation, and ultimately destruction of a bear.

When possible food should be transported in the field in food storage containers. If an entire camp is being moved or large quantities of food are being stored, food storage devices should be sent to the location prior to arrival of the food or at a minimum be on the first load that is transporting food.

An emergency food supply in bear proof containers should be maintained at a location away from where the large camp food supply is stored.

Depending upon level of concern, persistence of human/bear problems and management philosophy, consider temporary or permanent placement of food storage barrels or boxes at frequently used campsites where bear encounters are expected.

Garbage Disposal

Proper garbage disposal is a must and is well addressed in the GAAR Bear Management Plan. Park staff should investigate new technologies (portable incinerators - Canadian technologies) for long-term camps or camps where simple disposal methods are not adequate.

Incident Response

Non-lethal Alternatives

Non-lethal alternatives should be readily available for individuals to use in case of a bear encounter. This is particularly important for individuals who are not comfortable or confident with lethal options or for circumstances where weapons are not appropriate, yet the need to respond exists. Non-lethal alternatives may not only prevent further escalation of the encounter, they may also serve as negative reinforcement and a learning experience for the bear.

Some non-lethal alternatives to be considered:

	Appropriate Application	
	Camp	Person
• Pepper spray	XXXX	XXXX
• Air Horns	XXXX	XXXX
• Motion Detector in conjunction with obnoxious noise maker (Technologies currently available in home and personal defense market which may be readily adaptable for use in protecting food, camps and individuals.	XXXX	XXXX*
• Bean bag type munitions for shot guns	XXXX	
• Cracker shell munitions for shot guns	XXXX	
• Improved electric fencing (Canadian technology)	XXXX	

- * Different non-lethal alternatives may be appropriate depending upon circumstance camp versus travel.

Closures

If a closure is instituted strongly emphasize the "limited area" and temporary nature of the closure in written materials and communications. Explore using closure authority to mitigate initial problem/threat (i.e., cleanup and removal incident) and follow up with issuing a warning or advisory. This situation was described in the 1989 bear management plan.

Closure information not only needs to be communicated on radio but written materials should be

immediately faxed to local villages, CULs, and post office to reduce confusion of local and general publics concerning the closure. Anticipate peoples concerns and fear of closures.

If a closure is initiated, insure that wording clearly articulates closure duration, and extent of area. Closure wording for the fatality was ambiguous – listed as closure yet wording indicated avoidance of the area was recommended.

Be very careful in wording of closure.

Fatality - Procedures

Develop and distribute Standard Operating Procedures (SOP) for bear maulings/fatalities - emergency response, handling of victim(s), notifications and NPS personnel responsibilities: who does what, when (and who are the backups).

Important that the SOP identifies the need for individual(s) with wildlife biology expertise to examine the incident area and assist with biological component of investigation. Pre-identify individuals in park, NPS, ADF&G, or other agencies, who can assist in case of mauling or fatality. Pre-identify veterinarian(s) who could perform a necropsy.

Insure that the SOP is available at operational centers.

Suggest that an autopsy be requested if a bear mauling fatality occurs.

Statements released following a fatality are critical. Panel members expressed concern that the quote to one of the newspapers indicated that the victims had not done anything wrong. Unfortunately this sends the wrong message. The incident was a chance encounter, and once the incident started it is possible that no action could have prevented the outcome, however, the involved individuals made a series of choices that contributed to the encounter.

Conclusion

Injuries and fatalities from human/bear encounters are extremely rare but consequences can be devastating to those involved with the incident. It is imperative that NPS personnel are properly trained and knowledgeable concerning bear safety. No matter what other activities are ongoing, people affiliated with the NPS should not be sent into the field until they have received bear safety training. NPS employees should be able to communicate accurate bear safety information to local residences and the general public.

The GAAR Bear Management Plan is a good document that needs updating. It needs to be incorporated into annual seasonal orientation and orientation for Volunteers-in-the-Park, researchers and park cooperators. Increased emphasis should be placed on complying with the content of the plan during routine park operations and field activity planning process.

As in the case of incidents no one factor caused the incidents, no single action or program element will prevent human/bear conflicts. A successful program will incorporate a number of the identified tools and actions to improve employee and visitor safety while increasing understanding of bear behavior and biology.

Superintendent Dave Mills and GAAR staff should be recognized for taking proactive measures to insure that park operations and procedures appropriately consider bear safety. Panel members would like to thank, Superintendent Mills for the opportunity to participate in the GAAR Bear Incident and Policy Review. We would especially like to thank Shelli Swanson for assistance and logistical support and staff members who provided comments to the review panel.

Although this review specifically focused on GAAR operations and policy, many of the findings and recommendations are applicable to Alaska NPS units where bears are a component of the ecosystem.