



Black Bear Management Guideline



GREAT SMOKY MOUNTAINS NATIONAL PARK

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GREAT SMOKY MOUNTAINS NATIONAL PARK
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I. INTRODUCTION

The park visitor, as a temporary short-term user, shares the same natural wildlife habitat as bears and other wildlife. Visits are generally short-term and temporary, but often result in long-term effects. Bears are permanent residents and strive to survive in a habitat influenced and manipulated by man. The purpose of this plan is to guide the management of visitors, concessioners, employees, visitors and bears in a manner that allows wild bears to live naturally yet still provide for safe visitor use. This is to be accomplished by minimizing the conflicts between park visitors and bears.

II. INFORMATION AND EDUCATION

1. The Division of Interpretation and Visitor Services, in consultation with other divisions, will set annual priorities for the development of informational materials and programs that address bear management. These items will include posters, articles in the park newspaper, bulletin board exhibits, fliers, signs, brochures, slide and video programs and radio messages for the park's Travelers Information Stations. Materials should discuss bear problems, management efforts and results, visitor conduct, camping procedures, proper food storage, litter disposal and the dangers to bears and visitors caused by irresponsible visitor actions and behaviors.
2. The Public Affairs Office, Division of Interpretation and Visitor Services, and the Resource Management office will work with the media to disseminate bear messages to the public. This may include news releases, magazine articles, radio and television interviews and segments on local cable TV channels. Visual, taped or written information will also be provided to the media when possible.
3. Interpretation and Visitor Services will disseminate bear life history and habitat information through appropriate programs such as campfire programs, guided walks, Junior Ranger programs, and visitor center contacts. Appropriate bear information will be provided to visitors at visitor information stations, visitor centers and ranger stations. Bear caution/alert messages will be incorporated into programs when appropriate, and programs may be developed to present timely information about bears, visitor conduct, handling of human food and reporting of incidents.
4. Bear information will be included with replies to inquiries concerning camping and backcountry hiking information.
5. Interpretation and Visitor Services and Ranger Activities Divisions will post information at trailheads as necessary, on bulletin boards in campgrounds and day use areas, and at other suitable locations frequented by the public.
6. The Ranger Activities Division will provide information to backcountry campers. Topics will include bear behavior, backcountry conduct, utilization of foods that reduce odors, food storage/suspension requirements, and food waste disposal while in bear habitat. Posters may

be used at permit stations along with written materials, static displays or video programs.

7. The Ranger Activities Division will provide bear information to campers in park campgrounds from April through October. Rangers and volunteers will make roving contacts to make certain campers are aware of bear hazards and to personally inform campers of food storage requirements. Campers will be asked to report all bear incidents to the nearest ranger station or visitor center.
8. Division Chiefs will ensure that all employees understand their responsibility to effectively answer bear-related visitor questions or to direct them to a source for answers. Each employee should be aware of this bear management guideline and its objectives.
9. Resource Management will present bear information programs during appropriate employee training, providing updates on population surveys and trends, bear incident summaries and current management efforts concerning nuisance bears. Other bear-related training will be provided for park employees when necessary or requested.
10. The Public Affairs Office, Interpretation and Visitor Services, and Resource Management will work with the Tennessee Wildlife Resources Agency, North Carolina Wildlife Resources Commission and neighboring communities to disseminate bear information to residents and visitors regarding food storage and disposal. The Chamber of Commerce newsletter, cable television, magazines, offsite talks and other forms of community outreach will be utilized. A concentrated effort will be made to take bear issues and conservation messages to park neighbors, including the need for reporting illegal hunting activity.
11. Interpretation and Visitor Services Division and the Institute at Tremont will integrate information about bear habitat loss and illegal hunting into educational programs. School programs, lesson plans and teacher workshops/in-service training opportunities will be provided whenever possible.

III. SANITATION AND GARBAGE DISPOSAL

1. No permanent garbage disposal sites will be permitted inside the park.
2. All outdoor garbage cans and dumpsters will be bear-proof. Removable liners will be used in garbage cans and, if feasible, secured in a manner to prevent excess liner material from being exposed after the lid is in place.
3. All non-bear proof garbage containers will be kept indoors.
4. Garbage collection will be scheduled to ensure that containers are not overfilled and left overnight. In developed areas, Maintenance will ensure that all garbage (including aluminum foil) is removed from grills or firepits. If garbage containers become overfilled, Maintenance will

secure all loose material in other bear-proof containers before dark.

5. At LeConte Lodge, trash and garbage will be packed out by the most practical means available at intervals that will avoid odor, sanitation and storage problems. Garbage will be held indoors in metal containers with plastic liners sealed to reduce odors.
6. Information on proper disposal of garbage will be provided to park residents, live-in permittees, lessees and concession operators.
7. Food storage lockers will be evaluated for their effectiveness in developed areas. If determined effective, lockers will be provided at appropriate areas as funding permits.
8. Food storage lockers will be provided at backcountry campsites when the volume of bear-visitor food incidents suggests that alternative food storage measures need to be implemented.

IV. ENFORCEMENT AND MANAGEMENT CONTROL ACTIONS

1. After information and education programs are in place, protection rangers will cite observed bear-feeding and improper food storage violators as appropriate.
2. Patrols will be conducted by park rangers to ensure that food is properly stored and that campers understand and comply with the regulations. Food and food containers left outside hard-sided vehicles, camper units constructed of solid, non-pliable material, or not properly suspended will be cause for a citation. When closing picnic areas, rangers will ensure that visitors dispose of food remains in bear-proof containers.
3. Garbage disposal regulations will be enforced. Holders of backcountry permits will be expected to carry plastic or similar types of trash bags to aid in compliance with the park's "pack-in/pack-out" rule. The rule will be enforced by backcountry rangers. Campers will be instructed not to bury trash or dispose of it in pit toilets or food storage lockers.
4. Subdistrict Rangers, and other authorized wildlife personnel, after consulting with the Wildlife Biologist, are responsible for carrying out bear management control actions. Each bear incident will be assessed to determine the best course of action to correct the situation. If the Wildlife Biologist, his designee or his supervisor cannot be contacted, the decision to initiate a control action lies with the Subdistrict Ranger.
5. The Assistant Chief Rangers will designate a ranger in Cades Cove, Little River and Oconaluftee subdistricts to handle nuisance bear problems. Designated bear management personnel will be trained in physical and chemical capture of bears, proper handling techniques and accountability of chemicals used in bear management (see Appendix A and B). Resource Management is responsible for training designated personnel.

6. The Subdistrict Rangers will make recommendations for bear control actions in their subdistricts, using on-site knowledge of the bear incident, reports of past history, and the means by which the recommended action will be implemented. Concurrence will be obtained from the Wildlife Biologist prior to management action being taken.
7. Resource Management will provide assistance to subdistricts when designated bear management ranger personnel are unavailable or when assistance is requested.
8. The decision to transfer and relocate a captured bear will be made by the Wildlife Biologist.
9. Resource Management wildlife personnel will independently conduct specific bear management actions after consulting with the Subdistrict Rangers. These actions will include (a) evaluation of new immobilization chemicals; (b) new aversive conditioning techniques for nuisance bears; (c) capturing family groups, injured or diseased bears; and (d) the collection of specific biological data on bears.
10. The decision to euthanize a bear will be made jointly by the Superintendent, the Chief Ranger, Chief of Resource Management and Science and the Wildlife Biologist after a review of the circumstances. Specific bears may be humanely euthanized when there is a direct threat to human safety or when bears have fatal injuries or non-treatable diseases and/or health complications. Bears euthanized due to these special situations will be immediately reported to the Superintendent and concurrently to intervening supervisors.
11. Employees will report all bear incidents, injuries, captures, attempted actions, law enforcement actions and significant bear observations on the park Bear Management Report form which is available from the Chief Ranger or the Wildlife Biologist.
12. The Resource Management office will be responsible for providing bear-related campsite closure and bear warning signs. Subdistrict Rangers will be responsible for sign placement and removal, as appropriate.
13. Roadside "bear jams" will be the joint responsibility of the Ranger and Resource Management and Science Divisions. The minimum action required of all park employees will be to inform the Communications Center of the location of the "bear jam" so that authorized personnel can take appropriate action. The following is the recommended approach for authorized personnel when dealing with a "bear jam":

Personnel should first attempt to separate the visitors from the bear, then, in a professional manner, clear visitors from the immediate area. Generally, loud noises (slapping hands, striking objects together, etc.) will move the bear away far enough to enable personnel time to clear visitors from the area. Such an action is only a very short-term solution and

does relatively little to reverse the beggar bear behavioral trait. However, breaking-up a "bear jam" creates time to develop a longer-term control strategy for the situation. A few common points of information to visitors will relieve some concern that visitors may have regarding these actions. These points should be provided in the explanation:

- Roadside bears are not part of the natural scene.
- Wild bears are afraid of people and will not regularly visit roadside areas during the day.
- Feeding bears human food or allowing them to obtain garbage indirectly kills them.
- Bears conditioned to a human presence, food and garbage (panhandlers) lose their fear of humans, which creates a very dangerous situation for both people and the bears.
- Panhandler bears develop into very visible animals, which makes them very easy targets for poachers. These animals are taken by poachers both alive and dead.
- Panhandler bears are significantly more dangerous than true wild bears.
- Live poached cubs may spend their lives in a cage.
- Visitors have been seriously injured because they have not maintained a safe distance from panhandler bears.
- Panhandler mothers teach their offspring the panhandling habit.
- Everyone has a responsibility to ensure that wild bears remain wild.

14. Bears that appear in developed areas, including roadsides, exhibiting habitual/conditioned tendencies or engaging in destructive or threatening behavior will be either (a) captured and removed; (b) captured, worked up and released onsite; or (c) euthanized. The purpose of the procedure of capture, work-up and release onsite is to evaluate the effectiveness of this approach for its aversive conditioning effect. If effective, this strategy will reduce the need to take other actions that are costly and which produce negative consequences to bears.
15. Bears known to be or appearing to be transient will be permitted to travel through developed areas.
16. Bears observed feeding naturally near roads will not require any action unless the potential exists for visitors to begin feeding the animal. In this situation, either (a) assign personnel to closely monitor the

situation to keep people away from the bear; (b) perform a capture, work-up and release onsite procedure; (c) use an approved aversive stimulus; or (d) sign the area with a temporary bear warning sign.

17. Subdistrict Rangers, in consultation with and assistance from the Wildlife Biologist, are responsible for bear management in backcountry areas. The following guidelines, as a minimum, are to be used when handling aggressive or problem bears in backcountry areas.
 - a. Determine if closure is necessary by documenting recurring incidents. The Bear Management Report form will serve as the method of documentation. A campsite closure or trail closure will be the first course of action in handling backcountry nuisance bear problems.
 - b. A campsite will be closed for a minimum of one week after documentation of recurring incidents. Signs with the closure dates will be posted at the site. Signs stating that the site is closed should also be placed at trailheads and at trail intersections serving the site. Attempts should be made to contact visitors using the site on the day of the closure to route them elsewhere.
 - c. Closed campsites will be evaluated at the end of each week to determine if an extension is needed.
 - d. The Communications Center will be notified immediately of a campsite closure, the date of closure and the proposed re-opening date. They will also be notified of any extensions and the date the site is actually re-opened.
 - e. Campsite closures will be transmitted twice daily on the park radio and the Communications Center will ensure that closures are placed on the written Morning Report.
 - f. If campsite closure fails, consideration of the use of aversive stimuli will be evaluated (see Appendix C), followed by capture and release onsite or transfer for relocation outside the park. The last course of action will be euthanization of the problem bear.
18. When bears are to be relocated outside the park, guidelines will be followed which are contained in Memorandum of Understanding agreements established with Tennessee Wildlife Resources Agency and North Carolina Wildlife Resources Commission.

V. REPORTS AND RECORDS

1. Employees will report the following bear-related information on the Bear Management Report form (see Appendix F):
 - a. Observations (SIGNIFICANT ONLY): Bears that are in developed areas or on roadsides (not transient), injured/sick bears, or ear-tagged bears are significant observations. Bears feeding or traveling naturally are not significant observations.

- b. Management Actions: Include breaking up "bear jams," bear captures, attempted bear captures, campsite closures, posting warning signs or administering an approved negative stimulus. Note: Resource Management personnel will complete a biological data sheet for any bears handled.
 - c. Incidents: Include property damage, personal injury, improper food storage, harassing, hunting/trapping, feeding or other related activities. The amount of property damage must be recorded on each incident. Note: A DI-134 (except for food damage under \$50) must be completed for property damage or personal injury.
 - d. Comments: A Case Incident Record, Form 10-343, will be used for incidents involving major property damage or personal injury (i.e., injuries requiring medical treatment, property damage exceeding \$1,000, etc.).
2. Visitors are instructed to report all incidents to a ranger or visitor center so that a proper record of the incident can be recorded.
 3. The Bear Management Report form does not require a case incident number and should be forwarded to the Wildlife Biologist.
 4. Resource Management will maintain bear-related records and information for reference.

VI. PROGRAM EVALUATION

1. Division Chiefs will coordinate the involvement of their divisions in the park's bear management program.
2. Onsite and administrative reviews of the involvement of each division will be made by the Wildlife Biologist. He will make recommendations through the Chief of Resource Management and Science, who has overall authority over the program.
3. Representatives from all five park divisions will meet annually to review the effectiveness of the bear management program and establish annual priorities for management and education. The Wildlife Biologist will be responsible for reporting the outcome of this meeting through the Chief Ranger and Chief of Resource Management and Science to the Superintendent.

VII. RESEARCH AND MONITORING

1. Research relating to bears will be conducted as funding is available. Research opportunities for cooperators will be encouraged with financial, logistical and data support provided by the park whenever possible. Future research should be directed toward the following:
 - a. Population dynamics

- b. Disposition of relocated nuisance bears
 - c. Aversive conditioning techniques
 - d. Impacts of adjacent land use practices on bear population dynamics
 - e. Sub-adult dispersal
 - f. Front- and backcountry food storage
 - g. Habitat suitability utilizing the Geographical Information System (GIS)
 - h. Protocols for rehabilitation of orphaned cubs
2. The Resource Management and Science Division will conduct an annual bait-station population index in July to determine relative density, distribution, and activities of black bears in the park. A hard mast survey will be conducted in August to determine food availability for bears in the fall. Both projects are part of an ongoing cooperative effort to monitor relative population trends in the black bear population in the southern Appalachian region and are also part of the park's long-term monitoring program.

APPENDIX A

Trapping

Trapping may be conducted using culvert traps or Aldrich snares.

1. The culvert trap is a non-selective capture method and caution should be taken to ensure that only the target animal is captured.
 - a. Traps will be placed in isolated locations that are the least observable by the public. The public will be warned to keep away from the traps by signs that read:
"DANGER--BEAR TRAP--KEEP AWAY--NATIONAL PARK SERVICE."
 - b. For visitor safety, culvert traps should only be set during nighttime periods unless personnel can directly monitor a trap on a continuous basis.
 - c. Traps will be checked at daylight. If an animal is captured, the Wildlife Biologist or other designated personnel will be immediately contacted. Trapped animals shall be moved to shaded and secure locations to await transport or processing.
 - d. Family group captures with culvert traps will be conducted by Resource Management or jointly with the Ranger Division. Culvert traps with cub doors will be utilized if available. If unavailable, an additional live capture trap (i.e., hog trap, Tomahawk mammal trap, etc.) will be used adjacent to the culvert trap. Separation of a mother from her cubs is a dangerous situation; therefore, extreme care must be taken for safety of personnel.
 - e. If cubs cannot be successfully captured with a trap, then nets, catch poles, or sedation (last resort) will be used. Safety netting is required for cubs in trees.
 - f. Clean and flush out traps with water after use.
2. Aldrich snares may be used in approved research projects or infrequently by management for capture of free-ranging bears.
 - a. Sets are to be made only by authorized personnel.
 - b. No sets will be made on or within sight of maintained trails or unmaintained manways.
 - c. Sets must be made to ensure cable encirclement well above the paw or foot.
 - d. Sets are to be monitored daily and no more than 24 hours should lapse between inspections.

- e. Captured bears are to be immobilized and immediately removed from the snare to prevent injury to the animal and reduce hazards to human safety.
- f. Aldrich snares may be used in research projects approved by the Superintendent when:
 - (1) a definite need for research is established;
 - (2) A proper "set" is demonstrated to ensure ensnarement at the wrist;
 - (3) the snare will be monitored as described in section 2.d.
- g. Aldrich snares will be used by management only when other trapping and immobilization efforts are inappropriate or fail to capture a free-ranging bear.

APPENDIX B

Immobilization and Use of Chemicals

1. The use of immobilization chemicals and chemical delivery equipment will be restricted to those employees designated as having responsibility for bear management. The designated employees must have completed specialized training as required by NPS-77 and must be certified by the Wildlife Biologist to conduct such activities. Personnel designated for bear management in subdistricts will maintain a strict inventory of chemicals utilized. The following information will be recorded for each immobilizing agent:
 - date and amount of chemical received from Resource Management
 - date, amount, purpose and person administering the chemical
2. Only one chemical combination will be utilized. The combination includes the following: Xylazine Hydrochloride (Rompun or Gemini), Ketamine Hydrochloride (Ketaset or Vetalar), and Carbocaine. The Ketamine and Xylazine are concentrated at a 2:1 ratio.
3. Intramuscular injection will be administered by CO₂ (rifle or pistol), Pseudart (rifle), or the powder charge capture rifle. Jab sticks and blow guns may be used on trapped bears or partially immobilized bears.
4. Ideally, a person darting an animal should be positioned perpendicular to the bear's rear quarter to ensure an intramuscular injection.
5. Following injection, the bear will be constantly monitored for temperature and respiration. An eye lubricant and eye covering will be immediately administered to immobilized animals. Monitoring will continue until the animal recovers from immobilization.
6. The persons authorized to perform captures are responsible for the welfare and ethical treatment of the bears they capture. They will monitor all activities to ensure the safety of the visitor, themselves and the animal.
7. All darts will be recovered from the capture site.
8. The drug Yohimbine will be utilized by Resource Management personnel for reversal of Xylazine Hydrochloride.
9. All uncontrolled chemicals will be stored in a locked container. All Drug Enforcement Administration (DEA) controlled chemicals will be stored under two locks and will be stored in a Class V safe.

APPENDIX C

Relocation and Removal

Bears appearing in developed areas, including roadsides, exhibiting habitual/conditioned tendencies or engaging in destructive or threatening behavior will be: (1) captured and relocated; (2) captured, worked up and released onsite; (3) administered aversive stimuli; or (4) euthanized.

1. Capture with relocation to an approved relocation site. Basic criteria for determination of relocation sites include:

- a. Adult and male sub-adult bears should be relocated at least 40 miles from the capture site.
- b. Female sub-adult bears will be evaluated on a case-by-case basis. Factors to consider are general behavior, degree of habituation to humans, and availability of acceptable relocation sites.
- c. Yearling bears should be relocated at least 20 air miles from the capture site.

NOTE: Utilizing the above criteria results in many animals being relocated outside the park. Any relocation on state managed lands will be conducted only with state approval. If relocated onto state managed lands, every effort will be made to relocate animals to state managed black bear sanctuaries. The Wildlife Biologist will determine the relocation site in coordination with the recipient state.

2. Capture, work-up and release on site. This management action will be followed when bears are primarily active only at night in an effort to evaluate the effectiveness of this aversive stimulus.
3. Rubber bullets. This aversive stimulus will be used on both night active and day active bears. The commercially manufactured bear deterrent cartridge (rubber bullet) will be utilized by authorized personnel only.
4. Other aversive stimuli. Other new techniques will be evaluated as they are developed.
5. Removal by euthanasia. Euthanasia can be performed by lethal injection or shooting. Lethal injection will be the method used except in instances requiring immediate action. The decision to euthanize a bear will be made jointly by the Superintendent, the Chief Ranger, the Chief of Resource Management and Science and the Wildlife Biologist, except when immediate action is needed for humane reasons involving significant non-recoverable trauma or involving a direct threat to human safety. Bears otherwise considered for euthanasia are those that:
 - a. have inflicted personal injuries;

- b. have been refused by the state for relocation;
- c. have exhibited extremely aggressive behavior; or
- d. exhibit injury, trauma or disease symptoms.

APPENDIX D

Rehabilitation of Injured, Sick or Orphaned Bears

Rehabilitation of injured, sick or orphaned bears will be conducted only by Resource Management wildlife personnel unless others are specifically authorized. Rehabilitation of any bear is contingent upon the provision of an environment during rehabilitation that minimizes or excludes human contact. If such an environment does not exist, rehabilitation should not be conducted and animals should be euthanized. Human contact during rehabilitation causes bears to lose their fear of humans, a natural instinct critical for survival in the wild. The Wildlife Biologist, in consultation with the park's consulting veterinarian, will make the determination if injured or sick bears are treatable. The disposition of orphaned cubs will be determined on a case-by-case basis. Factors to consider are age and condition of the cub, the time of year, and the availability of an adoptive mother or rehabilitation facilities.

APPENDIX E

Disposal of Wildlife

All wildlife within the park boundary is considered federal property and, as such, bears or any body parts thereof shall not be used for personal benefit.

Animals within the park must be disposed of in an approved manner:

1. Animals should be disposed of by Resource Management personnel. Unneeded carcasses will be buried at the carcass dump or quartered and buried in remote areas.
2. All skulls will be cleaned, cataloged and maintained for interpretative or research purposes.
3. Bear carcasses and/or parts may be assigned on loan to museums, universities or other educational institutions.