

SAGUARO NATIONAL PARK

**MOUNTAIN LION AND BLACK BEAR
MANAGEMENT GUIDELINES**



August 2007

**UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE**

**Saguaro Nat'l Park
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IN CASE OF AN INCIDENT INVOLVING A MOUNTAIN LION
OR BLACK BEAR, REFER DIRECTLY TO THE
FIELD GUIDELINES SECTIONS OF THIS DOCUMENT
BEGINNING ON **PAGE 36 (FOR MOUNTAIN LIONS)**
AND **PAGE 46 (FOR BLACK BEARS).**

TABLE OF CONTENTS

LIST OF TABLES	3
INTRODUCTION	4
Purpose and Goals	5
Authorities and Policies	6
History of Large Carnivores in Saguaro National Park	6
Biology of Mountain Lions and Black Bears	8
ADMINISTRATION, PLANNING AND COMPLIANCE	10
Endangered Species Protocols	11
INFORMATION AND EDUCATION	12
Level 1 – Normal Operating Procedures (Prevention)	13
Level 2 – When a Mountain Lion or Black Bear is Reported (Action)	15
FIELD OPERATIONS	16
Level 1 – Normal Operating Procedures (Prevention)	16
Removal of Unnatural Food Sources	16
Level 2 – When a Mountain Lion or Black Bear is Reported (Action)	17
MANAGEMENT AREAS	17
DEFINITIONS	19
MOUNTAIN LION BEHAVIOR AND INTERPRETATION	22
BLACK BEAR BEHAVIOR AND INTERPRETATION	24
DOCUMENTATION, REPORTING AND EVALUATION	26
MANAGEMENT RESPONSE ALTERNATIVES	27
Management Actions Considered but Rejected for SNP	27
Marking Animals for Individual Identification	27
Aversion Training	27
Capture and Relocation of Mountain Lions	27
Management Actions to be Implemented at SNP	28
No Action	28
Warnings and Advisories	28
Monitoring and Observation	28
Area Closures	29
Capture and Relocation of Black Bears	30
Removal	30

TABLE OF CONTENTS (CONTINUED)

SUMMARY OF INDIVIDUAL AND DIVISION RESPONSIBILITIES	32
Superintendent	32
Administration	32
Safety Officer	32
Visitor Protection	32
Resource Management	33
Interpretation	33
Maintenance	34
Fire Management	34
All Supervisors	34
All Employees	35
 FIELD GUIDELINES FOR MOUNTAIN LION RESPONSE ACTIONS	36
 FIELD GUIDELINES FOR BLACK BEAR RESPONSE ACTIONS	46
 LITERATURE CITED	56
 SIGNATURES	57
 ACKNOWLEDGEMENTS	58
 APPENDICES	59
• Mountain Lion Report Form	59
• Black Bear Report Form	63
• Annual Summary Report Template for Mountain Lion or Black Bear Incidents	67
• Arizona Game & Fish Department's Action Plan for Minimizing/ Responding to Lion/Human Interactions	69
• Proper Method of Hanging Food in Bear Country	78
• Warning and Closure Sign Templates	80
• Resources	87

LIST OF TABLES

Table 1. Mountain Lion Behavior and Interpretation	23
Table 2. Black Bear Behavior and Interpretation	25



INTRODUCTION

Saguaro National Park (SNP) comprises 91,000 acres in two districts on either side of the city of Tucson, Arizona. Most of the park is designated Wilderness. The Rincon Mountain District (RMD), on the east side of Tucson, includes much of the Rincon Mountain range and its west and southwest foothills and adjacent lowlands. Vegetation zones include the Arizona Upland division of the Sonoran Desert, semi-desert grassland, pine-oak woodlands, Ponderosa pine, and mixed-conifer forests. The Tucson Mountain District (TMD), to the west of Tucson, includes much of the Tucson Mountains and foothills, and is virtually all Sonoran desertscrub.

The human population of the Tucson area is growing rapidly, with a 20% increase within the City of Tucson from 1990-2000 (U.S. Census Bureau), and an expanding adjacent metropolitan area. Development has pushed to the boundaries of the Park and other protected areas surrounding the Tucson Basin (e.g., Coronado National Forest, Tucson Mountain Park). As a result, wildlife is losing basin and foothill habitats as well as travel corridors to nearby mountain ranges. Visitation to the Park has increased 42% from 1990-2005, and this figure may not reflect a larger increase in local, undocumented use of the Park. The growth of Tucson, along with more hikers in the mountains, increases the potential for public encounters with mountain lions (*Puma concolor*) and black bears (*Ursus americanus*), both in and out of the Park. Seeing one of these animals may be an exciting and memorable event; however, there is also the possibility for negative encounters.

Interactions between park wildlife and people can result in a variety of problems. Most animal problems are created by inappropriate visitor and employee behaviors, poor food and garbage handling practices, or problems with facility design, all of which are preventable (Olympic National Park, 1998). Habituation of bears to people by food rewards is the primary factor associated with bear-human conflicts in national parks (Herrero 1985, Herrero and Fleck 1989). Thus, prevention, versus reaction, is the underlying philosophy of Saguaro National Park in dealing with problem wildlife.

An Inherent Risk

Mountain lions and black bears are part of the native fauna of Saguaro National Park and human-wildlife encounters cannot be considered unexpected. The predatory behavior and learning capacity of these two species, combined with human-use patterns and behavior, create the potential for conflict between animals and humans that require prompt management intervention. An active management program is, therefore, required to ensure conservation of mountain lions and bears and to enhance the safety of Park visitors. However, in addition to Park efforts to prevent animal-human conflicts and effectively deal with problems that arise, visitors and staff must realize and accept that there are inherent risks in backcountry areas; *ultimately, personal safety and welfare is primarily the responsibility of the individual.*

Fortunately, to date there have been no human injuries caused by mountain lions or bears in Saguaro National Park. In the 1990's there were several incidents involving bears obtaining food at campsites; however, no incidents have been reported since the installation of bear-proof food storage lockers in 2001. Mountain lions are rarely observed. The most serious reports have

been of two lions, each of which once followed a human at close range. Nevertheless, it is vital that the Park be prepared if a serious incident occurs in the future.

Guidelines Content

These Guidelines outline a program with three components: planning and compliance, information and education, and field operations; and prescribe protocols for each under “normal” conditions (Level I), and when an incident occurs (Level II). This document also defines terms and conditions; summarizes the roles and responsibilities of each division and individual in the Park; and provides stand alone Field Guidelines for mountain lion and black bear response actions.

Note: It is important to recognize that each lion/bear-human incident may involve unique circumstances, and that flexibility is required in applying these Guidelines.

PURPOSE AND GOALS

This document provides background and establishes guidelines for consistent procedures to minimize mountain lion/bear-human conflict, and for reporting and responding to observations of and incidents involving mountain lions and bears within the boundaries of SNP.

IN THE CASE OF AN INCIDENT, *FIELD GUIDELINES FOR MOUNTAIN LION RESPONSE ACTIONS BEGIN ON PAGE 36; FIELD GUIDELINES FOR BLACK BEAR RESPONSE ACTIONS BEGIN ON PAGE 46.*

The goals of the Park in implementing these guidelines are to:

- ① Provide for human safety by minimizing the potential for conflicts with mountain lions and black bears.
- ② Minimize the effects of human activities on the distribution, abundance, and natural behavior of mountain lion and black bear populations (by minimizing the potential for conflicts with humans).
- ③ Allow visitors, employees, researchers, contractors, and other Park users to observe, understand, and appreciate mountain lions and black bears as a part of an intact ecosystem.
- ④ Achieve these goals with a minimum of intrusive management actions.
- ⑤ Provide a framework for resolving conflicts between mountain lions and black bears, and humans, if and when they occur.

AUTHORITIES AND POLICIES

These guidelines are based on, and consistent with the National Park Service Organic Act (USC 1916), that states Parks will "conserve the scenery and the natural and historic objects and the wildlife 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;" and National Park Service Management Policies (USDI, NPS 2006) which direct managers to preserve park resources and values unimpaired. Furthermore, they specify that the Service "will try to maintain all the components and processes of naturally evolving park ecosystems, including the natural abundance, diversity, and genetic and ecological integrity of the plant and animal species native to those ecosystems... Where the need to reduce animal populations may be due to persistent human/animal conflicts, the Service will determine whether or not it can eliminate or mitigate the conflicts by modifying or curtailing the conflicting visitor use or other human activities. Where visitor use or other human activities cannot be modified or curtailed, the Service may directly reduce the animal population by using several animal population management techniques, either separately or together."

HISTORY OF LARGE CARNIVORES IN SAGUARO NATIONAL PARK

Grizzly Bear

Grizzly bears (*Ursus arctos horribilis*) historically inhabited much of Arizona. The last known grizzly in the Rincon Mountains was killed about 1921 at a spring on Wrong Mountain, which is now in the Park (Ollie Barney, pers. comm., 2005).

Jaguar

The jaguar (*Panthera onca*) is the largest cat in the New World, and historically ranged as far north as the Grand Canyon. At least three jaguars were killed in the Rincon Mountains in the 1900's, the last in 1932. In 1969, Arizona outlawed the killing of jaguars, although resident populations were considered extirpated in the U.S. by the 1960s. Beginning in 1971, several jaguars have been documented in southern Arizona, but not in the Rincon Mountains.

Gray Wolf

A subspecies of the gray wolf, the Mexican gray wolf (*Canis lupus baileyi*) formerly inhabited southeast Arizona. The last wolf known in the Rincons was killed in 1949. In 1998, Mexican gray wolves were reintroduced into eastern Arizona, but have not, and will not be allowed to, disperse into the Rincon Mountains.

Mountain Lion

Mountain lions were not uncommon in the Park before WWII, but had all but disappeared by the 1950s (Sumner 1951, Dodge 1957). With changes in local land use and public attitude toward predators, lion hunting pressure decreased in the following decades and allowed local mountain lion populations to rebound. Although it is difficult to estimate the current size of their population, it is clear from park staff and visitor sightings, the presence of sign on trails, and infrared-triggered photographs that mountain lions are now present throughout the Rincon Mountain District of the Park. In the Tucson Mountain District, the same evidence indicates that mountain lions are also present, although in low numbers. Continued presence of mountain lions

in the Tucson Mountain District may be jeopardized by the urbanization and development that surrounds this district and Pima County's Tucson Mountain Park. More information on recent mountain lion abundance and distribution in the Park can be found in Hackl *et al* 2006.

Black Bear

Sumner (1951) talked to "old-timers" who agreed that about five black bears once lived in the Rincon Mountains, except for the drought years in the late 1940s. Sumner found no evidence of black bears on his survey January-February 1951. Like mountain lions, black bears have increased in abundance in the Rincon Mountains during the past five decades. In the last five years, they have often been photographed by remote wildlife cameras on trails above 6,500' elevation and bear sign is abundant throughout the Park wherever manzanita, oaks, and similar food plants are present. Black bears also eat prickly pear; on occasion, individuals have been photographed in riparian areas below 4,500' elevation. Several times in the past decade black bears have been observed from the Loop Road, and once even from the Visitor Center!

Swann (2006) summarizes historic records for grizzly bears, jaguars, gray wolves, mountain lions, and black bears in Saguaro National Park.

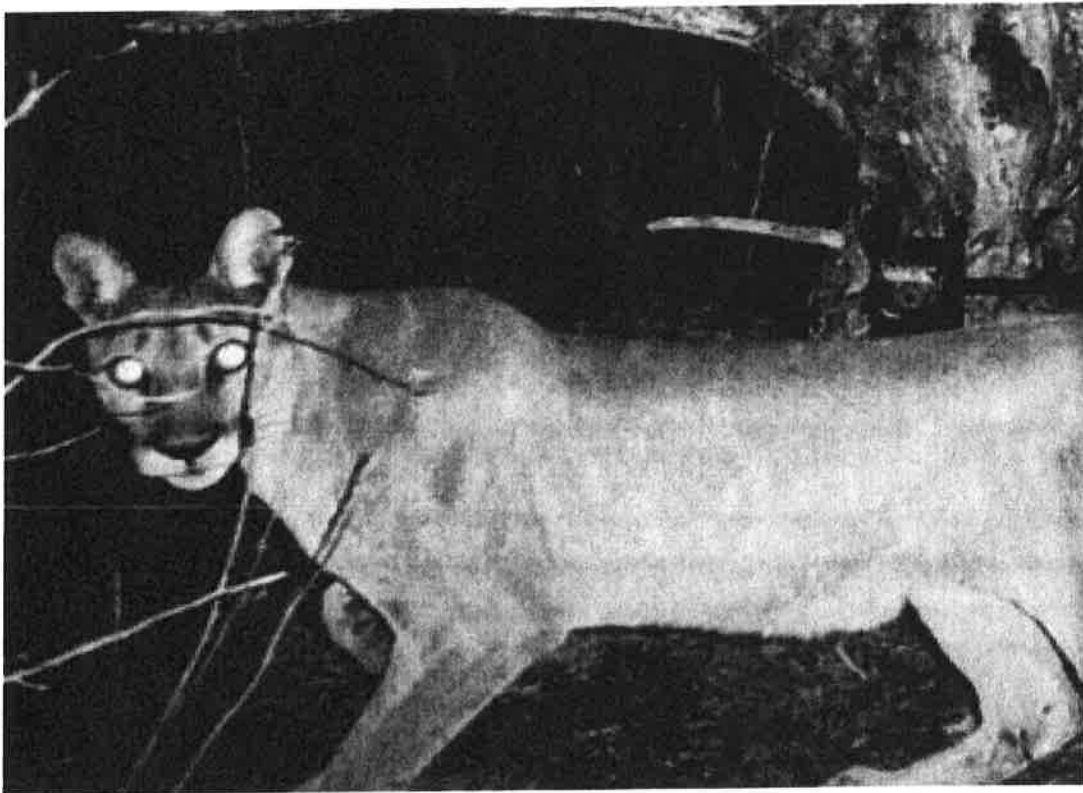


Grizzly bears used to occur in the Rincon Mountains, but were extirpated in Arizona by the early 1900s.

BIOLOGY OF MOUNTAIN LIONS AND BLACK BEARS

Mountain lions

Mountain lions, also called pumas, cougars, or catamounts, are tawny colored with black-tipped ears and a long tail. Adult males weigh up to about 150 lbs. and can reach nine feet long from nose to end of tail. Females are smaller. Mountain lions are predominantly crepuscular or nocturnal. They use roads, trails, and washes to travel and tend to seek cover in or near ravines, cliffs, canyons, caves, or densely vegetated areas. Their diet consists mostly of deer, javelina, rabbits, and rodents. Mountain lions communicate by visual and olfactory signals and are solitary animals except when breeding or when a mother has kittens. The territory size of a male lion is highly variable, dependent on available resources and prey density, and can range from 80 to 250 square miles. A male home range usually encompasses two to three female home ranges. Breeding can occur any time of year, although there is usually a peak during certain months. A litter consists of two to four kittens, which are dependent on their mother for 18-24 months. Kittens have blackish-brown spots and dark rings around tail that fade with age. Mortality of kittens and dispersing young adults is high, but those that survive can live up to 12 years in the wild.



To document park wildlife, biologists use remote camera monitoring systems that allow animals to take their own photographs.

Black Bears

Black bears can be black, brown, blond, or cinnamon in color. Males average 150-300 pounds, females 90-150 pounds. In the Rincon Mountains, bears live above 4,000' elevation in woodland or forested areas. Bears are omnivores, eating a wide range of foods including nuts and berries, roots, cactus fruits, grass, insects, small mammals, and carrion. Bears are solitary except for mothers and cubs, breeding pairs, and congregations at feeding sites. Females are reproductively mature at three to four years of age, males at five. Most Arizona black bears hibernate from November through March. Cubs, usually two, are born in January or February and stay with their mother for at least a year and a half. Black bears are characterized as shy, secretive animals possessing considerable curiosity and displaying high levels of intelligence and exploratory behavior. They are generally active in the early morning and late evening, and may alter their activity pattern to exploit sources of artificial food, becoming nocturnal at campgrounds and dump-sites. Black bears are known to move long distances (100 miles) to exploit isolated pockets of food. The mobility of bears sometimes leads them to appear in uncharacteristic habitats and to return long distances after being moved. They can live 20 years in the wild.



This black bear, photographed by a remote camera in the Rincon Mountains, had been previously tagged and relocated by Arizona Game and Fish Department biologists.

ADMINISTRATION, PLANNING & COMPLIANCE

The objective of this section is to ensure that Saguaro National Park institutionalizes these Guidelines by considering its goals (particularly 1, 2 and 4) in all park management and planning efforts. Specifically, any relevant existing programs or actions proposed in the Park must seek to eliminate unnatural food sources (including high densities of prey items) for mountain lions and bears around humans, and in developed areas; and to eliminate excess cover in developed areas of the Park. Following are specific policies and actions to be implemented.

Implement preventative measures to prevent lions and bears from establishing residency in developed areas and in high-use backcountry sites by reducing potential habitat (i.e., food and cover) for them.

Keep brush removed from around buildings and block crawl spaces.

Supply and maintain bear-proof food containers and garbage storage for park operations and employees, and enforce food and garbage regulations for visitors.

Supply and maintain correct food and garbage storage and enforce food and garbage regulations at Manning Camp (and Madrona when developed in the future).

When the future/developments at Madrona are planned, consider how proposals will affect mountain lion and bear habitat and the potential for creating interactions/conflicts with humans; and develop mitigation strategies.

When planning future trails, buildings, or higher-use areas, avoid riparian areas, perennial water, and other habitat/elements that are important to mountain lions and bears.

Include the following question on PEPC ESF forms: Could the proposed action increase the chance of interaction between mountain lions or bears and humans, or habituation of lions or bears to humans?

Ensure all divisions and individuals are clear about their roles and responsibilities regarding these guidelines, (particularly concerning the storage of food and garbage), and that protocols are included in maintenance standards, backcountry travel and camping regulations, and safety manuals.

Ensure that individuals are clear about their roles and responsibilities regarding these guidelines, and that they are briefed appropriately during their employee orientation, and whenever they travel or camp in the backcountry, or conduct any other relevant activity.

Additional roles and responsibilities of Administrative staff in the park are outlined on pages 25-28, in the *Individual and Division Responsibilities* section.

ENDANGERED SPECIES PROTOCOLS

Although it is unlikely to happen, if a jaguar is observed within SNP boundaries, Park management, the USFWS, and the Arizona Game and Fish Department should be notified immediately. Jaguars are typically more aggressive than mountain lions, and anyone seeing a jaguar should be extremely cautious. However, unless the jaguar acts aggressively against a human, no action should be taken that could be considered harm or harassment. Under the Endangered Species Act, harm, harassment, or take of any animal protected under the act is strictly prohibited.

If employees see (or think they see) a jaguar:

Make a positive identification: note coloration (spots/solid, spots cover entire body/spots only on part of body, spots solid/rosettes), note size (relative to any surrounding landmark, or common animal), note length of tail, and shape of head. Write the description down if possible, or go over these traits multiple times to be sure you will remember later.

Try to obtain evidence of the animal. Take a picture if possible; if not, try to obtain scat, hair, or photograph tracks.

Report the sighting to Resource Management, the Park Superintendent, and AGFD immediately!



This photo from the Arizona Historical Society is of a jaguar that was shot in The Rincon Mountains in 1902 shortly before they were extirpated in the U.S. Recently, however, sightings and photo evidence indicate that occasionally jaguars still range into southern Arizona and New Mexico.

INFORMATION AND EDUCATION

The objective of this section is to ensure that Saguaro National Park institutionalizes these guidelines by considering the goals (particularly 1, 2 and 3) in appropriate Park informational and interpretive programs and other activities. The Park must make every effort to educate and inform Park visitors; employees, researchers and other permittees, fire personnel, contractors, volunteers (hereafter employees); and neighbors about mountain lions and bears in SNP, the causes of human-animal conflicts, how individuals can help prevent problems through their personal actions and compliance with park regulations, and the appropriate response if one has an interaction with a lion or bear (since humans may unintentionally provoke aggressive behavior in these animals).

Mountain Lions

Although attacks on humans by mountain lions are very rare, it is important that adults learn that the majority of mountain lion attacks on humans have been on unsupervised children or a lone adult (Cougar Management Guidelines Working Group 2005). Parents must be educated on how to responsibly and safely take their children into mountain lion habitat. It is also important to stress that most attacks on adults by mountain lions are cases of people moving fast, either jogging or on mountain bikes; therefore, some information and educational efforts should be directed specifically towards joggers and cyclists.

Informed and educated visitors may prevent some encounters with mountain lions from escalating into conflicts at that time or with other humans in the future. People who respond aggressively to the curious or potentially threatening behavior of a lion may “teach” the lion to fear humans. Although there is no documented evidence that aversion training works with mountain lions, it might be successful with a young, curious lion and may be considered an appropriate response for the first time “curious” behavior of an adult. The most effective action in these cases would probably be for the humans who encounter the lion to immediately respond by shouting (not screaming), throwing objects, and waving arms. The Park’s guidelines for mountain lions call for possible removal on the second incidence of “overly-familiar” behavior on the part of the mountain lion, especially if the person reacted aggressively. If people are aware of the guidelines and understand they could affect a lion’s future they may be more likely to take advice to “teach” lions to avoid humans.

Black Bears

Problems with black bears are usually the result of improper food storage and camp cleanliness. Education efforts cannot over-emphasize that “a fed bear is a dead bear.” Campers not following protocols may not experience the consequences of their actions, but future campers in that area may suffer, as a camper recently did in the Santa Rita Mountains. A father and son who were camping followed all correct procedures; however, a bear conditioned to getting human food in that area attacked and injured the son.

Informal hazing by campers may be effective in discouraging a curious or foraging bear from entering camping areas and obtaining food. Campers can make loud noises by yelling, banging pots, or throwing small objects at the bear’s body (the intent is to scare it away, not to injure it). Visitors and other Park users who are aware that their behavioral choices can either promote or

prevent the destruction of a bear are more likely to follow protocols aimed at preventing problems.

LEVEL 1: NORMAL OPERATING PROCEDURES (PREVENTION)

Front-country Visitors

Provide site bulletins for both mountain lion and black bears (lion bulletin needs to be written, bear bulletin should be reviewed and revised if necessary) at both Visitor Centers.

Provide brochures [recommend “Be Bear Aware” (www.BeBearAware.org); and “Lion Country Tips” (Arizona Game and Fish Department)] for bear and mountain lion information and safety. Recommend these brochures be in sight and available at both Visitor Centers.

Develop a Visitor Center exhibit on the biology and ecology of mountain lions in SNP, causes of conflicts with humans, appropriate human response to interaction, and SNP’s management goals regarding this species. Exhibit can be used on a normal rotating basis, and when there are increased sightings and potential conflicts in or near SNP.

Develop a Visitor Center exhibit on the biology and ecology of black bears in SNP, causes of conflicts with humans, appropriate human response to interaction, and SNP’s management goals. Exhibit can be used on a normal rotating basis, and when there are increased sightings and potential conflicts in or near SNP.

Add a section on mountain lions in the ‘Safety in the Park’ section of the *Saguaro Sentinel*.

Provide NPS Natural History Field Observation Cards to visitors.

Have all permanently installed informational boards throughout the Park (e.g., Visitor Centers, the Bike Ramada at RMD, trailheads, picnic areas) include general safety information on being in mountain lion and bear habitat.

Consider printing all information for visitors in other appropriate languages.

Back-country Visitors

Provide “Be Bear Aware” and “Lion Country Tips” brochures, site bulletins, and “Bears and Wilderness Camping” handout in the backcountry camping packet.

Stress that use of bear boxes is a *requirement* for backcountry users.

Add appropriate lion and bear information to *Saguaro Wilderness Area* booklet.

Revise/update park *Bears and Wilderness Camping* handout.

Update “Planning Your Visit” section of Park website to include a link to the handouts above, and information on hiking and camping in bear country, including the availability of bear-

proof boxes and requirement for their use. (Link: *Be Bear Aware* at <http://www.centerforwildlifeinformation.org/BeBearAware/bebearaware.html>)

Park Employees

Provide annual review/refresher on basic biology and behavior of mountain lions and bear, and appropriate human behavior to prevent conflicts, appropriate response to conflicts, and responsibilities of employees for providing information to visitors and reporting visitor sightings. This could be part of an All Employee Meeting, park-wide safety training, memo, or division meeting.

Add sections on mountain lions and bears to the Workplace Hazards section of the All Employee Handbook, including how to identify animals, usual and unusual behavior, how to respond appropriately in an encounter. Also include the *Saguaro Wilderness Area* booklet and the *Bears and Wilderness Camping* handout.

Revise the Manning Camp Orientation Checklist, and include mountain lion and bear sighting forms and site bulletins.

Add to the Madrona Camping Procedures that campers must follow the guidelines for camping and cooking in bear country.

Provide orientation/information for staff hiking and camping at Manning Camp, Madrona, and back-country spike camps.

Park Standard Operating Procedures, Minimum Requirements Analysis, etc. should contain appropriate sections on mountain lions and bears.

Park Neighbors

Park neighbors can potentially have an enormous effect on the behavior and movements of Park wildlife, including mountain lions, and perhaps even bears. The results of a mail survey of households within one mile of SNP and the Coronado National Forest were that, of 577 respondents: 57% fed birds, 26% fed other animals, 11% fed javelina, 7% fed coyotes, 14% fed squirrels and rabbits, 80% provided water, 56% owned >1 dogs, and 89% observed free-roaming dogs (Harris et al. 1997). Providing information (e.g., park site bulletins, AGFD's "Lion Country Tips" brochure, informative websites, and points of contact) to Park neighbors, and encouraging behaviors that will minimize their risk of negative experiences with wildlife will complement the Park's efforts to prevent and minimize human-mountain lion or bear conflicts.

Provide information to park neighbors through the Park Watch Committee, the Park website, regional newsletters, and letters to neighborhood associations. The park should also work with the Arizona Game and Fish Department (AGFD) to supply neighborhood associations with wildlife information, especially to newcomers.

Let neighbors know that they have the potential to affect park wildlife. Ask that neighbors help preserve Park wildlife while preventing and minimizing problems for themselves.

Include information on the new state regulation for Pima and Maricopa counties that prohibits feeding of wildlife except for birds and squirrels.

Ask that neighbors report sightings or incidents to the Tucson Field Office of AFGD if the neighbor wants an action taken. The Park (Resource Management) would also like to be notified. If the neighbor contacts the Park first, Park personnel should advise the person to contact AGFD. If a management action seems necessary or prudent, in addition to telling the neighbor to contact AGFD directly, the Park should also contact AGFD.

LEVEL 2 – WHEN A MOUNTAIN LION OR A BEAR IS REPORTED (ACTION)

All Visitors

Depending on the circumstances, install warning signs and/or issue news releases.

Provide verbal and/or written information on the situation at Visitor Center desks and the Park entrance kiosk. Provide "Lion Country Tips" brochure.

Post information bulletins (including the date, location, instructions on reporting sightings, appropriate response, etc.) at Visitor Centers, and hand out to visitors.

Tell visitors of the potential for encounters with mountain lions or bears, preventative measures, specific things to do or not if encountered, etc. during interpretive programs and guided walks.

Employees

Inform all employees (verbally or via email) of mountain lion or bear sightings near developed areas, and keep them apprised of incidents/status as needed.

Keep backcountry users informed of backcountry sightings or encounters with mountain lions or bear.

FIELD OPERATIONS

The objective of this section is to ensure that Saguaro National Park institutionalizes these Guidelines by considering the goals, particularly 1, 2 and 4, in all park operations.

LEVEL 1 – NORMAL OPERATING PROCEDURES (PREVENTION)

Removal of Unnatural Food Sources

The following preventative measures will minimize the possibility of a mountain lion or bear getting habituated to humans, conditioned to food provided by humans, or for negative interactions between these species and humans.

- Publicize and enforce regulations (36 CFR 2.2) on feeding wildlife in the park (i.e., the feeding, touching, teasing, frightening or intentional disturbing of wildlife, nesting, breeding or other activities).
- Increase awareness in Park visitors of regulations prohibiting the feeding of wildlife by posting information at picnic areas, trailheads, VCs; and explaining that feeding javelina, or leaving food around in picnic areas can result in undesirable encounters with predators.
- Publicize and enforce the regulation that picnic areas are to be litter free.
- Publicize and enforce “Pack in, pack out” regulations for backcountry users (36 CFR 2.14).
- Publicize and enforce proper garbage disposal and food storage in campgrounds (36 CFR 2.10).
- Provide information to all backcountry visitors on the proper methods for food preparation, storage, clean-up, and camping.
- Provide all employees conducting field work in the RMD backcountry or camping at Manning Camp, Madrona, or spike camps with “Saguaro Wilderness Area” and “Bears and Wilderness Camping” handouts.
- Include in research permits that researchers who are camping must use bear-resistant canisters and/or hang their food using the approved method.
- Procure, install, and maintain bear-proof food storage containers and garbage cans at Madrona, and consider a bear-resistant building for storing gear.
- Provide bear-resistant food storage containers for employees who need to (spike) camp in undesignated camping areas.
- Ensure that fire, trail, and other crews have and use bear-resistant canisters when working and camping in the backcountry.

- Ensure that anyone caching food in the backcountry uses bear-resistant containers.
- Inspect bear boxes at RMD campgrounds at least once a year, keep them in good working order, and replace as needed.
- Ensure all garbage containers at the Park are wildlife-resistant or enclosed in a wildlife-proof area.
- Ensure there are sufficient wildlife-resistant garbage cans at picnic areas, and that they are emptied regularly, maintained in good working order, and replaced when necessary.
- Ensure that food (pellets) for stock is packed and stored in bear-resistant containers, and that food is not left in their buckets after feeding.
- Ensure that equestrians pack in and pack out pellets for their stock, that they store the food in bear boxes, and that they do not leave pellets or other feed out after their animals eat.
- Add the information in the bullet above to all equestrian permits.

LEVEL 2 – WHEN A MOUNTAIN LION OR A BEAR IS REPORTED (ACTION)

In circumstances where lions or bears present a threat to visitors despite preventative measures, management response should start with the least manipulative method relative to the situation. Individual lion or bear behavior, location, and the behavior of the human(s) involved will be used as the basis for management decisions. Other factors to be considered when determining an appropriate management action are the number of encounters at a particular location; the timeliness of reports in relation to ability to determine if a lion/bear was really involved, and if a threat is still perceived to exist. Lion or bear behavior during conflicts with humans will be classified as either defensive or aggressive. Management responses to incidents resulting from an animal's defensive behavior generally will be directed toward the control of human activities. However, the response to incidents resulting from an animal's unprovoked aggressive behavior will be to remove the animal.

In order to make these assessments the location, number of incidents, and behavior of animals and humans must be considered. To assist in making these assessments classifications of management areas, definitions and interpretations of animal behavior, and appropriate management responses follow. Documentation and reporting formats are also explained. Note that all personnel involved in mountain lion or black bear management operations, should have, at a minimum, a basic briefing in mountain lion or bear management procedures and appropriate safety measures. This includes photographers, pilots, or others not directly involved in actually handling the animal. Documentation of management actions can be valuable training and education tools, but their value must be weighed against safety and control concerns.

MANAGEMENT AREAS

For purposes of responding to sightings, encounters, and incidents, the Park will be divided into two management areas.

Developed Areas include facilities (offices, residences, out-buildings), roads, parking areas and pullouts, picnic areas, trailheads, paved trails, heavily-used unpaved trails, campgrounds, and a zone (what is within sight) around those areas. In some developed areas, lion or bear presence may be actively discouraged. Here, reports of mountain lion or bear activity will be investigated immediately.

Undeveloped Areas include all other areas in the Park. In undeveloped areas, human-lion/bear conflicts will be resolved in favor of the animal, except if it shows unprovoked aggressive behavior. Reports of encounters in undeveloped areas will be investigated within 48 hours if investigation is warranted.



Superintendent Horace Albright manages black bear cubs at Yellowstone National Park.

DEFINITIONS

To communicate effectively about mountain lion and bear behavior related to interpreting their meaning and management response/actions, it is important to have standard language and meanings. The following are common definitions for relevant terms.

Aggressive behavior	includes stalking, advances, charges and attacks that are unprovoked and non-defensive. Also, bluff charges or threatening postures and vocalizations in response to human attempts to scare an animal off.
Attack	direct, intentional physical contact with a human.
Charge	involves running or loping to within 10 meters of a human. Charges by bears are direct and purposeful; they often incorporate aggressive signals including huffing, chomping, short hops, and/or bouncing. Charges may be bluff.
Closed area	a trail, campground, developed area and/or adjacent land that has been determined to be hazardous to human use due to mountain lion or bear activity and that has been closed to public use by the Superintendent pursuant to 36 CFR 1.5 (a)(1).
Conditioned	a learned association by an animal. In this context, usually that humans, structures, developments, or other human articles are possible sources of food.
Curious behavior	approach toward humans in an attempt to identify a scent or an object. Generally, bears leave the area once they have come close enough to catch a human scent or sound. Some bears will remain in the area, but appear to ignore people and return to other activities. Mountain lions also display "curious behavior."
Defensive behavior	displayed by a mountain lion or bear to protect itself, its young, or a natural food source, when surprised or in response to harassment. In lions, it may include hissing, snarling, vocalization, ears back and down, approach, or charge. A bear suddenly confronted by a human may try to escape but if an escape route is unavailable, it may charge. These charges do not typically result in physical contact; however, severe injuries are possible if the person tries to run. Female bears are particularly protective of their young and are more likely to view a person as a threat and charge when suddenly encountered at close range.

DEFINITIONS, Continued

Developed area	a management area that includes buildings, roads, parking areas, pullouts, picnic areas, trailheads, campsites, paved trails, heavily-used unpaved trails, and a zone (the area within sight of the feature) surrounding these areas.
Dominance behavior	bears display this behavior as they establish dominance hierarchies between themselves. When people, intentionally or unintentionally, approach a bear, it may provoke a similar response. In this case the bear responds to human presence with aggressive posturing or a bluff charge. The aggressive response of bears on kills is also a manifestation of dominance behavior.
Employee(s)	Park employees and other Park sponsored workers, such as volunteers, contractors, fire personnel, researchers, and certain permittees.
Encounter	a meeting between a human and a mountain lion or bear that occurs without incident.
Frequenting	an animal is considered to be frequenting an area when there are repeated observations or confirmed reports of sign or activity at short intervals in the same general area.
Habituated	the capacity of animals to become accustomed in varying degrees to aspects of their environment. Where areas of human use overlap the animal's habitat, encountering humans may become routine. In order to use that habitat, the animal tolerates the presence of people.
Management action	any action taken by management in response to mountain lion or bear activity that directly affects the animal and/or humans including, but not limited to, area posting, area closure, relocation, or removal of the animal.
Near-attack	an encounter in which a mountain lion or bear has intentionally approached a human at close range and that requires the human to take some evasive action to avoid contact; the animal may be displaying aggressive or defensive behavior.

DEFINITIONS, Continued

Overly-familiar	condition in which a mountain lion or bear repeatedly and purposefully approaches humans in a non-defensive situation and/or does not demonstrate flight response to human approach.
Posted area	an area posted at all reasonable entry points with a sign to warn the public that a mountain lion or bear has been frequenting the area.
Predatory behavior	a mountain lion or bear stalks a human as prey.
Provoked behavior	the response of a bear or mountain lion to harassment by humans, such as approaches by humans to within 50 meters, continued approaches, or following the animal.
Relocation	a management action in which an animal is taken from one area and transported to another location.
Removal	a management action in which a mountain lion or bear is deliberately killed.
Sighting	a visual observation of a mountain lion or bear or a report of tracks or other sign.
Undeveloped area	management areas that are not considered developed areas.

MOUNTAIN LION BEHAVIOR AND INTERPRETATION

Mountain lions are individuals; their behavior is not predictable and a single characteristic or behavior should not be interpreted in isolation. Table 1, however, should be helpful in identifying and interpreting many behaviors.

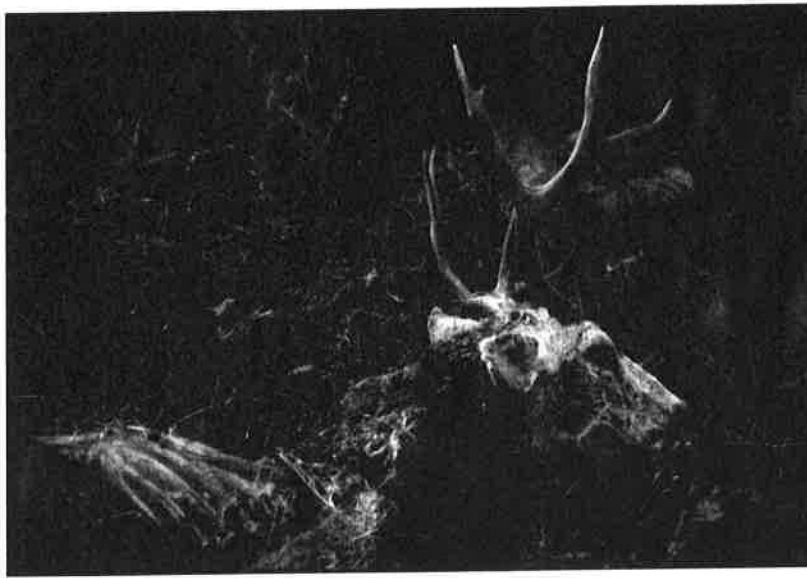
Note: Lions are more likely to see humans as prey if the humans are “positioned” like prey-lying down, smaller than the lion, below the lion or bent over, or crouching so that the lion feels larger and the person looks more four-legged. A lion may also attack non-prey if the lion sees it as a threat to food or young.



A direct stare, hissing, snarling, and flattened ears indicate defensive behavior in a mountain lion. An attack could be imminent.

TABLE 1. MOUNTAIN LION BEHAVIOR AND INTERPRETATION

Observation	Interpretation	Human Risk	Appropriate Human Response
Tracks, scat, scrape	Presence	Minimal	Document location and type of sign
Kill site, lion eating	Lion will defend kill	Variable depending on distance	Leave area while keeping an eye on lion
Opportunistically viewed at distance	Secretive	Minimal	Keep children in sight
Flight or hiding	Avoidance	Minimal	Do not move in direction of lion
<100 yds, various positions and movements, attention directed away from people	Indifference, or actively avoiding inducing aggression	Slight, with appropriate human response	Avoid rapid movements and running, avoid loud, excitable talk, stay in groups, keep children with adults. Observe lion closely. Do not approach. Move slowly out of area.
<50 yds, various positions, ears may be changing positions, attention on people; following behavior.	Curiosity	Slight for adults, given proper response; serious for unaccompanied children.	DO NOT TURN YOUR BACK ON THE LION OR RUN! This is the time to teach lion humans are not prey. Watch the lion at all times!!! If lion sits, looks away, or grooms itself, it is not a predatory situation. Move away slowly. Otherwise, raise hands and other objects, (e.g., jacket) above head to present an image of size and strength. Hold small children, keep older children behind adults. Make menacing sounds (bark, yell), but do not scream or use a high voice. Smile (show your teeth). Throw things if lion is close enough to hit. If possible, move slowly to place large objects (e.g., trees, boulders) between yourself and the lion, but do not lose sight of the animal. Move slowly out of area, watching the lion.
< 50 yards, hiding, following, intense staring at humans.	Assessing success of attack.	Substantial	All the actions discussed already. Prepare to defend yourself.
Hissing, snarling, vocalizations	Defensive behavior, attack may be imminent	Moderate depending on distance	Same as above, back slowly away.
Intense staring and hiding, coupled with crouching and/or creeping towards humans.	Moving into attack position	Serious if within 200 yds.	Take all actions previously discussed. Act aggressively.
Crouching, intense staring at humans, tail twitching; ears erect; body low to the ground, head may be up.	Pre-attack, awaiting opportunity.	High	Do everything already discussed and use whatever Weapons you have. Pepper spray may be effective if lion is close enough. If you have rocks or other items that can be thrown, do so. If you have lethal weapons, use them.
Ears turned so the "fur" side is forward; body and head low to ground, tail twitching, rear legs may be "pumping" or "treading" gently up and down.	Attack is Imminent. Lion is ready to leap	Extreme	Prepare to defend yourself in close combat. FIGHT BACK. Attack may occur within seconds. You must act aggressively toward the lion. If the distance is too great to use a stick, run rapidly toward the lion until you can put the stick in its face and eyes. If you lack a stick, run towards the lion with arms high, making loud noises. Stop before you are within striking distance of its paws. Rapid movements toward the lion, especially from above it, may still deter an attack. Avoid positions below the lion. DO NOT turn your back on it or run!!



This mule deer buck was killed in the Rincon Mountains by a mountain lion. Evisceration, and brush covering the carcass are characteristics of lion kills.

BLACK BEAR BEHAVIOR AND INTERPRETATION

Like mountain lions, bears are individuals. Specific behaviors should be interpreted with caution and humans should not be lulled into complacency by thinking bear behavior is predictable. Nevertheless, the guidelines in Table 2 should be helpful.

Note: Unlike grizzly bears, black bears are likely to be deterred from an attack by its victim fighting back. Never run from, and always fight back an attacking black bear.



A black bear cub is rarely far from its mother. Female bears are very protective of their young; thus, both should always be given a wide berth, and considered potentially dangerous.

TABLE 2. BLACK BEAR BEHAVIOR AND INTERPRETATION

Observation	Interpretation	Human Risk	Appropriate Response
Tracks, scat	Presence	Minimal	Document location and type of sign
Bear eating carrion	Bear may defend kill	Variable depending on distance	Leave area
Opportunistically viewed at distance		Minimal	Detour as far away as possible while monitoring bear's behavior. If bear is close to trail and you cannot bypass it or return the way you came, wait for bear to leave trail area
Sudden encounter at close range		Variable	Do NOT run , shout, or make sudden movements, DO avoid eye contact, talk quietly and calmly to the bear, back away slowly
Standing up, looking around, sniffing air	Bear is trying to see, hear, and smell better	Minimal, if not at close distance	Talk loudly and firmly in low-pitched voice while backing away. Avoid eye contact, but monitor bear. Do not act afraid.
Cubs up a tree, mother standing guard at bottom of tree	Startled, protecting cubs	High	Leave area quickly
Approaching people, vehicle, inhabited or uninhabited developments containing food	Curiosity, response to aroma, foraging	Variable	Make noise, allow bear to see you
Approaches you at close range		Variable	Face head on (not at an angle), avoid eye contact, make noise, look as large as possible (hands above head, wave jacket), keep an object (tree, rock) between bear and you
Clacking teeth. Turning sideways, woofing, huffing, panting, growling, staring directly at you, lay ears back, slapping feet on the ground	Startled or defensive behavior	Moderate to high	Group together, slowly back away
Charge		High to Extreme	Stand still. Charging bears often veer away or stop abruptly at the last second (bluff charge). Discharge bear pepper spray if bear charges within 20-30 feet
Lowers head almost to the ground, front-quarters crouch	Attack imminent	Extreme	Do NOT run. Fight back, hit nose, eyes. Do NOT play dead.
Attack	Intends to kill	Extreme	Fight back, hit nose, eyes. Do NOT play dead.

DOCUMENTATION, REPORT AND EVALUATION FORMATS

<u>TYPE OF FORM/REPORT</u>	<u>Who Uses it/Where Does It Go?</u>
NPS Natural History Field Observation Card	Forwarded immediately to duty ranger and Wildlife Biologist.
Mountain Lion Report Form	Usually filled out by the duty ranger or RM staff member during initial interview. Filed at RM, copy included in Case Incident Reports.
Bear Report Form	Usually filled out by the Manning Camp Ranger, Duty Ranger, or RM staff member during initial interview. Filed at RM, copy included in Case Incident Reports.
Mountain Lion and Black Bear Databases	Constructed for lion/bear reports and linked to GIS and the existing Wildlife Observation database, created and maintained by RM/GIS Specialist.
Case Incident Report	Filled out by VP for every mountain lion/bear situation in which a lion or bear stalks or follows humans; encounters humans <50 ft; is observed multiple times; is reluctant to leave an area where people congregate; shows signs of disease, injury, or malnutrition; damages personal property, or attacks a human.
After Action Review	Every mountain lion/bear injury, handling, or mortality.
Annual Summary Report	Report summarizing observations and incidents each year by RM. Annual review of plan by RM, VP, Interpretation and anyone else involved during the year.



MANAGEMENT RESPONSE ALTERNATIVES

Note: It is essential that these guidelines be implemented in an adaptive management context. The outcome from a management action should be used to formulate the next step. Results should be continuously evaluated, both in the short term and in the long term.

Management Actions Considered but Rejected for Saguaro National Park

Marking Animals for Individual Identification

Some parks, especially those with large bear populations, attempt to mark problem animals in order to identify individuals. This can be a big asset in managing such species. Marks can be temporary (e.g., paintballs) or permanent (e.g., ear tags). Since there are relatively few bears (or lions) within the Park, and there is no infrastructure (equipment or trained personnel) to mark animals, the Park will not attempt marking as a management technique at this time. It will be assumed that if a bear causes a problem in a certain location, a bear present in that area within a short time period is the problem-causing bear.

Aversion Training

Aversion training is the use of non-lethal tactics that are intended to scare a bear or mountain lion out of an area and enforce or restore its natural fear of humans, and for bears, to make them distrustful of human foods. Objectives for such a program must be clearly determined and the techniques applied consistently to be effective. Aversion training must be conducted several times, often over several days, by qualified personnel since there is the potential to injure or kill a bear if it is hit with cracker rounds, plastic slugs, bean bags, or rubber bullets. In addition, the attractant (whatever caused the lion/bear to come into the area) must be removed if it is known.

Aversion training has been most effective on newly habituated bears that are not highly conditioned to obtaining human foods, but its effectiveness varies between individual bears and circumstances. There is no documented evidence that aversion training works with mountain lions. Formal aversion training has been considered at Saguaro, but will not be implemented as a management alternative for mountain lions or bears at this time since the Park does not have personnel qualified to conduct aversion training, nor the resources to bring in outside experts.

Capture and Relocation of Mountain Lions

Compared to large and remote parks, Saguaro's relatively small size and proximity to a large urban area restricts its options for dealing with conflicts between humans and a mountain lion. The Park is too small for in-park relocations of problem animals because of their large home-range size, and the present mountain lion population in Arizona (and the Park) seems to be thriving. Capture of any animal involves risk of injury or death, and the relocated animal often dies or is killed attempting to return to its home, or finding and establishing a new territory. For these reasons, and because the Park would have to rely on the expertise of Arizona Game and Fish Department or other agency staff to conduct the capture and relocation of an animal, the Park has decided to adopt AGFD policy regarding mountain lions (see Appendix D). Their *Action Plan for Minimizing and Responding to Lion/Human Interaction* states, "It is the policy of the Game and Fish Department to direct all problem lion management efforts at the individual lion deemed to be dangerous or a potential threat to human safety, or to the lion responsible for

depredation. Mountain lions will be destroyed if they attack a human or when they are judged to be a substantial threat to public safety. Consideration was given to trapping and relocating problem lions; however, due to their large home ranges, the fact that all suitable habitat is probably occupied; and intraspecific defense of occupied habitat, this option will not be used."

Management Actions to be Implemented at Saguaro National Park (from Least to Most Aggressive)

No action

For sightings, or encounters where the animal displayed natural behavior and fear of humans, there may be no need for an active management response. The information will be documented on a wildlife observation form, or lion/bear report form if warranted, and sent to RM for review and entry into the database.

For mountain lions, it is useful to attempt to verify if the animal observed was really a lion, as 80% of "lion" sightings by the public are not lions (Beier 1996). When a Park neighbor reports a mountain lion or bear to the Park, the Park contact should inform a Wildlife Biologist or Chief of RM and the duty ranger contact, and advise the neighbor to contact AGFD directly if the neighbor wants an action taken. The Park (RM or VP) should also contact AGFD for situations that may be a public safety issue. Remember that AGFD wildlife managers are also interested in lion sightings within the Park.

Warnings and Advisories

Signs should be constructed beforehand and ready to use when needed. Warning signs (i.e., *Warning: Mountain lions have been encountered at close range in this area; Warning: Bears have been encountered at close range in this area*) will be posted as needed. Warning signs will be removed if there is no evidence of lion or bear activity for two or more consecutive days of patrols.

Monitoring and Observation

The most appropriate response in many incidents is to simply monitor the situation. An incident may not be cause for concern if there is no on-going risk to human safety, no significant property damage, or the incident is unlikely to be repeated. For example, mountain lions or bears that do not display aggressive behavior toward humans and are sighted or encountered in developed areas may be monitored and observed. There is no evidence that habituated lions are more likely to attack humans as long as the lion has retained its natural foraging behavior and is comfortable, but not overly-familiar with humans (Cougar Management Guidelines Working Group 2005). Lions exhibiting habituated behavior should be monitored. Animals that are encountered by humans anywhere in the Park that do not display aggressive behavior toward humans may also be monitored. Dominance or curious behavior exhibited by bears is considered acceptable in isolated encounters as long as it does not involve a regular pattern of subsequent approaches.

All sightings, encounters, and incidents will be recorded on the Mountain Lion or Bear Report Form. In addition, VP will complete a case incident form when necessary (see section on Documentation). Monitoring and recording data on these animals will allow the Park to choose

the most appropriate response if further action is necessary. Warning signs may be posted during the observation period.

Area Closures

Area closure signs should be ready beforehand. Closures will be approved by the Park superintendent after consultation with VP and RM. When areas are closed, the Chief Ranger may send a news release to local media. Closures prevent public interference during investigations and management actions, as well as sensitive periods for the animals (e.g., allowing time for a kill to be eaten, or kittens/cubs weaned or moved by the adult). Closures can be used as an alternative to removal when other management actions fail (e.g., education, enforcement). The closed area should be patrolled by people who know how to evaluate risk of certain lion/bear behaviors, and can look for signs of defensive rather than predatory behavior (e.g., kill, kittens, cubs). Those on patrol should have appropriate defensive weapons. During patrols, rangers should check to ensure that closure signs are still in place and not removed by animals or tourists.

Criteria for Area Closures

- After mother and young are sighted in a developed area.
- While a kill is being consumed or is being moved by Park staff.
- After aggressive encounters with an elevated risk of reoccurrence, or any conditions that cause the Superintendent to believe an area has become hazardous to human use.
- During an injury/fatality investigation.

Criteria for Opening Closed Areas

- If there is no evidence of the animal after at least two consecutive patrols after patrolling every day, or a minimum of twice in a 5-day period, in heavy-use areas; or after patrolling every other day, or a minimum of twice in a 10-day period, in light-use areas.
- Dependent on the circumstances that caused closure and effectiveness of management actions.
- May replace closure signs with warning signs depending on circumstances.

Locations of Signs

- VCs, indicating the location of the closed area.
- Trails leading into closed areas.
- Camping and picnic areas within the closed area.
- Entrance kiosk, indicating the location of the closed area.

Capture and Relocation of Black Bears

Compared to large and remote parks, SNP's relatively small size and proximity to a large urban area restricts its options for dealing with conflicts between humans and black bears. The Park is too small for in-park relocations of problem animals because of their large home-range size and their territoriality. Potential out-of-park locations in Arizona are scarce for bears; in fact, some of the bears in SNP have been individuals that have wandered some distance into the Park after being relocated by AGFD!

Bears sometimes descend to low elevations to forage on prickly pear fruit, or in search of water and food during dry years, or to disperse to other mountain ranges. AGFD officials either capture and relocate these bears when they come into areas inhabited by humans, or destroy them, depending on the bears' behavior. For example, in September, 2006, a bear and her two cubs were captured near Tucson International Airport and relocated in the Santa Rita Mountains. The bears had no history of aggressive behavior, and displayed none when confronted by humans. In contrast, AGFD officers killed a bear near Sierra Vista because it showed no fear of humans, had been causing problems for a month, and was breaking into a cabin. Similarly, depending on circumstances and the bear's behavior, SNP will consider capture and relocation as an option for bears observed near developed areas at low elevations in the Park (e.g., visitor centers, picnic areas). The cooperation and expertise of AGFD will be necessary to implement capture and relocation. If relocation is feasible, bears captured in the Park will be released at a location selected by AGFD, but not within the Park.

Removal

The decision to remove (destroy) a mountain lion or bear will be made by the Superintendent after consultation with the Chief of RM, Wildlife Biologist, Chief Ranger, and experts from outside agencies, except in emergencies where human safety is at stake, or the animal has sustained a seemingly fatal injury. The Park will coordinate with AGFD and U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) Wildlife Services to assist, if necessary, with the removal of an animal. Every attempt will be made to try to confirm the identity of the target animal before destruction, and to provide evidence that the correct individual was removed (e.g., the carcass may be submitted to the Veterinary Diagnostics Laboratory at the University of Arizona for a necropsy, or dealt with/disposed of in another appropriate manner approved by AGFD).

If the bear or mountain lion to be removed has young, the Park will consult with AGFD or APHIS as to the appropriate action to take with the young, depending on the circumstances and the age and behavior of the young.

Criteria for Mountain Lion Removal

- Lion kills a person.
- Injures a person while demonstrating aggressive behavior that is not defensive or provoked
- Has sustained a seemingly fatal injury

Lion Will be Considered for Removal

- When two to three cases of aggressive behavior occur in a “small” area over a “short” time.
- When two incidents of overly-familiar behavior occur by the same lion, especially if humans responded aggressively the first time.
- When there are multiple observations of a “curious” lion in a highly-developed area.
- One to two incidents of a lion assessing the success of an attack in a remote area may be tolerated, but two to three incidents will result in removal, especially if humans reacted aggressively.
- If a near-attack has followed multiple observations of “curious” behavior or multiple approaches, the possibilities of a kill or kittens has been eliminated, and the area is near a developed area.
- If it injures a person and this incident is the first documented for this lion, or is the result of defensive or provoked behavior.

Criteria for Black Bear Removal

- Bear seriously injures or kills a person in an unprovoked, non-defensive encounter.
- Bear persistently damages property where food has been properly stored
- Bear bluff-charges or chases people more than once.
- Bear has sustained a seemingly fatal injury.

Bear Will Be Considered for Removal

- When known bear has been relocated (has ear tag or other capture mark) and exhibits aggressive behavior that is unprovoked and not defensive.
- When a relocated bear exhibits behavior indicating it is habituated to humans, conditioned, or repeatedly frequents camp sites and approaches people.

SUMMARY OF INDIVIDUAL AND DIVISION RESPONSIBILITIES

Superintendent

- Approves/disapproves the management guidelines and revisions.
- Approves/disapproves the destruction of problem animals, except in emergencies (when immediate action by field personnel is critical for life safety), and fatally injured animals.
- Approves/disapproves recommendations for posting warnings and emergency closures, except in emergencies (if injury or fatality, District or Chief ranger decides) after consultation with Chief RM, Chief Ranger, Wildlife Biologist, and Safety Officer.

Administration

- Provides safety literature to all new employees and potential visitors who contact the Park.

Safety Officer

- Provides annual review of safety information concerning mountain lions and bears to all employees.
- Reminds and encourages supervisors to review safety information with all field personnel.

Visitor Protection (VP)

- Enforces food storage, garbage disposal, pet, wildlife feeding regulations.
- Ensures signs for posted and closed areas are installed, replaced and removed as necessary.
- Patrols closed areas.
- Reports, monitors, documents (uses Case Incident Reports when warranted), and investigates lion/bear incidents with Resource Management (RM). Copies of Case Incident Reports, After Action Reviews, and any other relevant information will be provided to RM.
- Evaluates observations and incidents, and decides on appropriate management response and ensures its implementation, in cooperation and consultation with RM and outside agencies when necessary.
- Provides park personnel with information as needed on specific lion/bear activity occurring in the Park in coordination and cooperation with RM.
- In cooperation with RM and Maintenance, removes carcasses and cleans site if a kill is discovered near a developed area.
- In coordination with AGFD and RM, plans and conducts practical training sessions for implementing Field Guidelines for Response Actions at least once every three years.

Resource Management (RM)

- Works with VP to evaluate observations and incidents, coordinates with outside agencies when necessary.
- Ensures all Park staff receive training on mountain lion/bear conflict prevention, appropriate response to encounters, and taking basic information from visitors.
- Creates and maintains database for mountain lions and bears.
- Works with Interpretation to develop accurate and current information, including action items in the Information and Education program element.
- Ensures that all written material is accurate and promotes the goals of these Guidelines.
- Ensures that all necessary agreements have been completed with other state and federal agencies to facilitate implementation of management actions.
- Maintains communication with cooperating outside agencies.
- Maintains files on mountain lion and bear sightings and incidents, including copies of Case Incident Reports and After Action Reviews.
- Provides annual summary of lion/bear activity (template provided in Appendices).
- Provides Park personnel with information as needed on specific lion/bear activity occurring in the Park, in coordination and cooperation with VP.
- Ensures annual review, and revision if necessary, of Guidelines by RM, VP, and others.
- In cooperation with VP and Maintenance, removes carcasses and cleans site if a kill is discovered near a developed area.
- In coordination with AGFD and VP, plans and conducts practical training sessions for implementing Field Guidelines for Response Actions at least once every three years.

Interpretation

- Develops and implements public information and education displays, literature, etc., including action items in the Information and Education program element section, in cooperation with, and reviewed by RM.
- Maintains a sufficient supply of written materials on mountain lions and bears.
- Ensures backcountry visitors receive all necessary information concerning mountain lions and black bears.

- Takes reports from visitors on appropriate forms, and ensures reports are passed on to VP and RM as appropriate.

Maintenance

- Ensures proper and timely collection and disposal of trash.
- Procures and maintains wildlife-resistant garbage containers at picnic areas and other developed sites.
- Maintains enough garbage containers for times of high visitor use, or increases the frequency of collection during high-use times.
- Reports observations of increased numbers of mammals frequenting high-use areas to RM.
- Procures, and ensures adequate supply of signs for posting and closing areas due to bears or lions.
- Procures, installs, and maintains bear-proof refuse and food storage lockers in the backcountry.
- Inspects all bear-proof containers at least once a year, with VP, includes report and recommendations in RM's annual summary report.
- Assesses and manages "cover" (i.e., where predators might lurk) in developed areas.

Fire Management

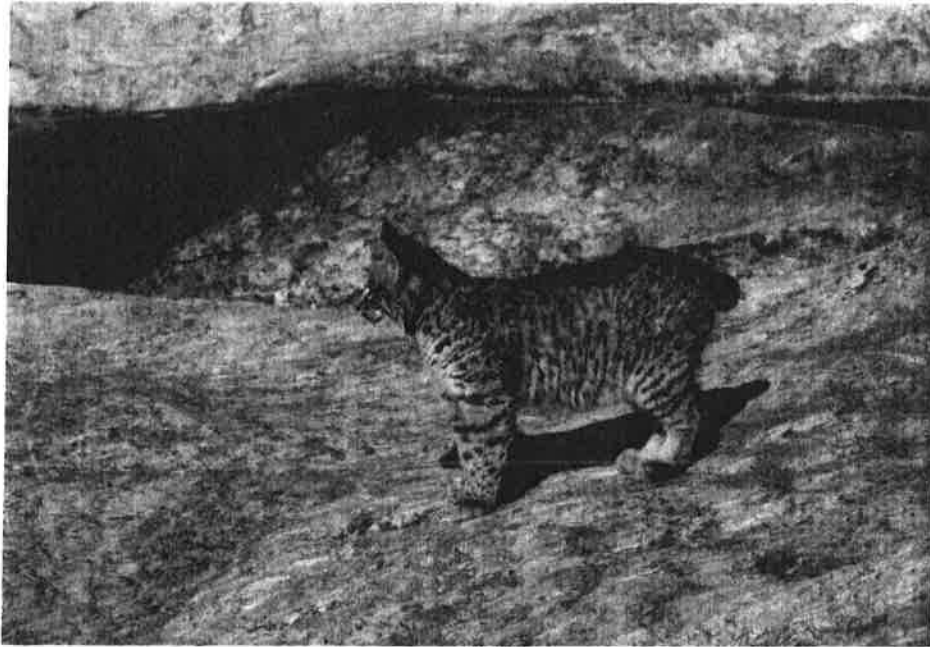
- Provides information about mountain lions and bears to all fire management personnel, including employees and crews originating outside the Park. On project fires, the FMO will coordinate dissemination of information and oversee compliance in collaboration with the Wildlife Biologist/Fire Ecologist.
- Ensures there are sufficient bear-resistant canisters for fire crews, and that crews store food and dispose of trash properly.

All Supervisors

- Know the responsibilities for their positions and their employees' positions for implementing the SNP Mountain Lion and Black Bear Management Guidelines.
- Ensure that new employees and volunteers receive and know mountain lion and bear information relevant for their positions.
- Provide employees who work in the backcountry with bear pepper spray if they choose to carry it in the field. Ensure that employees who carry the spray know how and in what situations to use it.

All Employees

- Know the basics of mountain lion identification and behavior, and the appropriate human response during an encounter.
- Know and practice preventative measures for reducing bear-human conflicts when hiking and camping in bear country.
- Employees with visitor contact have a responsibility to inform and educate visitors about mountain lions and bears.
- Be familiar with the long reporting forms, so that you know what is important to note if a mountain lion or bear is sighted.
- Be able to take information about a lion/bear sighting from a visitor, fill out observation card, and report it immediately to RM and VP. It is *essential to get good contact information* including cell phone and permanent phone numbers, and if the visitor is from out of town, where they are staying and for how long.



Bobcats are frequently mistaken for mountain lions. Although they are Both impressive feline predators, the bobcat can be identified by its smaller size, black patterning, and much shorter tail.

SAGUARO NATIONAL PARK
FIELD GUIDELINES FOR MOUNTAIN LIONS

The following are guidelines only.
Appropriate action must be decided on a case-by-case basis.

LION SIGHTING OR ENCOUNTER

(Lion does not exhibit aggressive behavior)

DEVELOPED AREAS	UNDEVELOPED AREAS, CAMPGROUNDS
1. PROCESS lion sighting report. 2. INVESTIGATE for carrion and kittens 3. NOTIFY PEOPLE IN AREA: CLOSE SUPERVISION OF CHILDREN/PETS 4. POST & PATROL if warranted 5. If lion is NOT OBSERVED: PATROL & MONITOR 6. If lion is OBSERVED: ASSESS BEHAVIOR If lion is HABITUATED AND OVERLY-FAMILIAR: ATTEMPT REMOVAL	1. PROCESS lion sighting report. 2. MONITOR for additional reports. 3. Lion REMAINS IN AREA and displays neutral behavior: a. POST lion frequenting signs at both ends of appropriate trail section or campground. b. INVESTIGATE thoroughly for carrion and kittens. c. After two clear patrols, DEPOST & DOCUMENT

LION FEEDING ON CARRION

DEVELOPED AREAS	UNDEVELOPED AREAS
1. PROCESS lion sighting report. 2. INVESTIGATE 3. NOTIFY PEOPLE IN AREA, CLOSE AREA 4. REMOVE carrion and CLEAN SITE 5. MONITOR AREA CLOSELY 6. REOPEN after 2 clear patrols & DOCUMENT	1. PROCESS lion sighting report. 2. INVESTIGATE 3. CLOSE appropriate trail section or campground or POST 4. PATROL until carrion is consumed. 5. REOPEN AREA AND DOCUMENT

LION DISPLAYS AGGRESSIVE BEHAVIOR

(Examples may include stalking behavior, crouching with ears flattened, or predatory actions).

NOTE: Exceptions may be allowed for natural defensive actions, provoked behavior, or unique cases.
(APHIS can assist with lion removal)

DEVELOPED AREAS	UNDEVELOPED AREAS
1. INVESTIGATE 2. POST OR TEMPORARILY CLOSE AREA AS NECESSARY 3. INVESTIGATE & DOCUMENT Thoroughly search area for carrion and kittens 4. Attempt to REMOVE LION if warranted (coordinate with APHIS) a. Lion REMOVED: 1. OPEN AREA 2. DOCUMENT b. Lion NOT REMOVED: 1. Maintain posting or use restrictions. 2. CLOSELY PATROL & MONITOR 3. CONTINUE TO INFORM VISITORS of lion presence. 4. REMOVE POSTING/RESTRICTIONS after patrols and monitoring indicate that lion is no longer in area. 5. DOCUMENT	1. CLOSE AREA 2. INVESTIGATE & DOCUMENT Thoroughly search area for carrion and kittens 3. Attempt to REMOVE LION if warranted (coordinate with APHIS) If successful OPEN AREA, AND DOCUMENT 4. Lion NOT OBSERVED: a. PREPARE FOR REMOVAL ACTION b. PATROL & CLOSELY MONITOR for additional reports. c. MAINTAIN CLOSURE until information indicates that lion is not in area. d. OPEN AREA, AND DOCUMENT e. MONITOR for lion return.

HUMAN INJURY OR FATALITY* SUPPLEMENTAL DETAILS FOLLOW ON NEXT PAGE

DEVELOPED AND UNDEVELOPED AREAS
1. CONTACT APPROPRIATE AGENCIES/PERSONNEL 2. IMPLEMENT INCIDENT COMMAND SYSTEM 3. CLOSE AREA 4. INVESTIGATE 5. LION OBSERVED AT SCENE: a. Attempt REMOVAL if attack was unprovoked or predation involved. b. Open area only with concurrence of Superintendent 6. LION NOT OBSERVED: a. CLOSELY PATROL & MONITOR FOR ADDITIONAL REPORTS b. Maintain closure until lion is removed, or patrols and monitoring indicate that lion is no longer in area. 7. DOCUMENT including Case Incident Report. 8. Conduct AFTER ACTION REVIEW

* Consideration should be given to lions displaying natural, defensive action, even in the event of an attack. However, any predation attempts on humans should be considered grounds for lion removal.

DETAILED RESPONSE GUIDELINES FOR HUMAN INJURY/FATALITY DUE TO MOUNTAIN LION

CONTACT INFORMATION FOR ARIZONA GAME AND FISH DEPT. AND APHIS

AGFD Tucson Field Office: 628-5376 Mon.-Fri. 8:00-4:30; or radio dispatch 602-789-3201 after hours

APHIS-Wildlife Services to track and kill the animal, Dave Bergman: 602-870-2081, cell phone 602-758-7803

FIRST RESPONDER

In the event of an attack, the responding employee may take any action necessary that is within the scope of the employee's authority to protect public safety.

Person receiving report of attack should obtain: Name, phone number, location, location of incident, time of incident, number of people involved, number of people injured, extent of injuries and property damage, are all people accounted for, number of lions involved, last known location of lions, distinguishing characteristics of lion(s).

If first responder is not VP, contact VP, who contacts medical assistance, AGFD Tucson Field Office or AGFD radio room, APHIS, RM, Superintendent.

Protect and secure site as crime scene.

Prevent destruction of evidence during first-aid treatment as much as possible- tracks, etc.

Retain all witnesses on site until questioned/interviewed.

Begin documentation.

INCIDENT COMMANDER Chief Ranger

Call for medical assistance if necessary.

Appoint **Initial Response Team** and **Field Leader**- appoint people for site security, medical treatment of victim, information coordination/dissemination, scene investigation and collection of evidence, lion management –pursuit, dispatch of animal if warranted.

Initiate closure procedures.

Ensure that each team member maintains a written record of his/her activities.

Activate **Public Information Officer**.

Keep Superintendent apprised of the status of the incident and response

SITE SECURITY

No public entry within 100 yds radius to preserve evidence- tracks, drag marks, clothing.

Treat site as crime scene.

Erection of flagging/crime tape (100 yds radius around attack site).

Single entrance/exit gate.

Only essential authorized personnel permitted inside excluded area.

Exclude and evacuate all non-essential personnel from the area to ensure safety.

Restrict airspace so tracking efforts are not disrupted.

MEDICAL RESPONSE TEAM

Treatment of injured person, including collection of evidence

Victim's safety is top priority.

Ensure proper medical aid for victim.

Determine responsible agency.

Evidence collection procedures & equipment.

Treatment of deceased person, including collection of evidence

Determine responsible agency/personnel.

Evidence collection procedures & equipment- at scene, at autopsy – appropriate representative present.

Appropriate treatment of corpse: undisturbed, covered?

COMMAND CENTER SET-UP

Outside of exclusion area.

Information officer stationed at command center- IO should have cell phone and batteries, charger, notebook, camera, laptop with printer, paper, camera, video camera, tape recorder, radio, maps, markers, pens, phone roster, flashlight, media sign-in sheets, etc.

SCENE INVESTIGATION

Ensure victim is interviewed:

Take measurements, photographs, and sketches of wounds.

Collect physical evidence of attack

Examine victim's clothing for hairs, punctures, and tears.

Collect samples of blood, hair, saliva, and tissue from lion for future DNA analysis.

Remain in contact with medical personnel attending to the victim and obtain details.

If not practical to get physical evidence of wildlife attack from victim before treatment of injuries, give directions over phone for ER to obtain samples.

Determine the level of lion safety information received by the victim before the incident occurred.

Collection of non-physical evidence of attack

Determine responsible agency/personnel.

Retain all witnesses on site until questioned/interviewed.

Witness interviews

Detailed narrative describing encounter.

Lion behavioral responses.

Actions of people involved.

Incident site investigation.

If approaching scene by helicopter, avoid landing at incident site, which could disturb evidence.

Ensure tracks and other sign are not disturbed by people walking around at the scene.

Take measurements and photographs of animal tracks at the scene. Note unusual marks and make a plaster cast of prints.

Take measurements and photographs of injuries, especially with visible bite and claw marks. Note the location of the injuries on the victim's body.

Photograph, measure, and record all data.

Note surrounding vegetation and growth stage.

Identify likely directions of the animal's approach and departure.

Identify landmarks for location from air search.

Investigate and note all natural and human food sources.

Map trails, paths, scrapes, and footprints.

Collect scats for DNA analysis.

If the suspect carcass is available, secure a cloth bag over the head and each foot of the lion. Use paper if cloth is not available. Avoid plastic.

Deposit the carcass to an available cooler as soon as possible.

Bag any material from scene for examining for tooth and claw marks and recovery of lion fur and possible lion blood. VERY IMPORTANT – transport carcass and evidence from victims in separate vehicles. NOTE – Bloody material should be air-dried at room temperature. If it cannot be air-dried then it should be kept frozen.

Collect the victim's clothing in a bag for identification of blood and animal fur. A cloth bag is preferred, but plastic is acceptable if clothing is dry. If the clothing is wet, air dry at room temperature.

Interview the general public who use the area or have recently been in the area and may have observed lion activity.

Monitor and record radio communications between Incident Command and the Initial Response Team.

LION MANAGEMENT TEAM

Immediate field response to destroy offending animal if necessary

Preserve all tracks- begin pursuit w/dogs within 6 hrs if possible.

Capture/tranquilize suspect lion first to confirm it is the correct lion if possible- match tracks, evidence on lion's body.

Avoid shooting in head to preserve evidence- wrap head and paws in paper and plastic and tape to hold, protect carcass from loss of bloodstains or other physical evidence originating from the victim, plug wounds with gauze, put whole body in body bag, carry (don't drag) carcass, take to lab for necropsy, send for rabies testing.

Avoid contamination of carcass by field response personnel, wear gloves and mask.

Disposition of carcass – treat as evidence; submit to UA Veterinary Diagnostics Lab for necropsy.

Avoid loss of physical evidence of victim on animal.

Replace victim with another attractant if lion cannot be located, remove unnatural material like flagging, enlist sharpshooter, or set snares.

If injury occurred as a result of defensive or provoked behavior:

If lion remains in the immediate area of the incident, and **identification is positive:**

Continue to observe animal and close areas that it enters to prevent further contact with people.

Conduct patrols to verify if the lion is threat to people or if incident was unique.

PUBLIC INFORMATION OFFICER

Responds to requests for information from the news media, responsible for chain of command for information dissemination to on-site media inquiries.

Prepares written news releases.

Employees other than IO-no speculation, opinion, judgments, hearsay to the media or general public.

DOCUMENTATION

Case Incident Report that includes, as needed: Mountain Lion Report Form, site inspection, victim evidence, coroner report, animal necropsy report, lab report, and other reports if necessary.

AFTER ACTION REVIEW

A panel will be convened, consisting of the Superintendent, Chief Ranger, Wildlife biologist, AGFD personnel including a mountain lion expert, and any other appropriate agency personnel. The review will assist the Park in evaluating the handling of the incident and current management procedures, and suggesting improvements for prevention of similar incidents and managing future incidents should they occur.

SAGUARO NATIONAL PARK
FIELD GUIDELINES FOR BLACK BEARS

The following are guidelines only.
Appropriate action must be decided on a case-by-case basis

BEAR SIGHTING OR ENCOUNTER

(Bear does not exhibit aggressive behavior)

DEVELOPED AREAS	CAMPGROUNDS	UNDEVELOPED AREAS
1. PROCESS bear sighting report. 2. INVESTIGATE for carrion and cubs 3. NOTIFY PEOPLE IN AREA TO CLOSELY SUPERVISE CHILDREN/PETS. 4. POST & PATROL, CONTROL VISITORS if bear is observed 5. Bear OBSERVED: a. Bear is HABITUATED AND OVERLY FAMILIAR OR CONDITIONED: CLOSE AREA, ATTEMPT REMOVAL. b. Bear displays natural fear of humans: CLOSE AREA, ATTEMPT RELOCATION. 6. Bear NOT OBSERVED: PATROL & MONITOR 7. DOCUMENT	1. PROCESS bear sighting report. 2. MONITOR for additional reports. 3. Bear REMAINS IN AREA and/or displays neutral behavior: a. POST bear frequenting signs. b. INVESTIGATE thoroughly for carrion and cubs. c. CLOSE if necessary. d. ASSIST campers into another camp. e. POST & PATROL f. After two clear patrols, DEPOST/OPEN AREA & DOCUMENT 4. Bear NOT OBSERVED: After two clear patrols, DEPOST/OPEN AREA & DOCUMENT	1. PROCESS bear sighting report. 2. MONITOR for additional reports. 3. Bear REMAINS IN AREA and/or displays neutral behavior: a. POST bear frequenting signs at both ends of appropriate trail section. b. INVESTIGATE thoroughly for carrion and cubs. c. After two clear patrols, DEPOST & DOCUMENT

BEAR FEEDING ON CARRION

DEVELOPED AREAS	CAMPGROUND	UNDEVELOPED AREAS
1. PROCESS bear sighting report. 2. INVESTIGATE 3. NOTIFY PEOPLE IN AREA, CLOSE AREA 4. CONSULT with AGFD 5. REMOVE carrion and CLEAN SITE 6. MONITOR AREA CLOSELY 7. RELOCATE bear if bear remains in area. CONSIDER REMOVAL if bear is habituated, overly-familiar, or conditioned. 8. OPEN AREA AND DOCUMENT	1. PROCESS bear sighting report. 2. INVESTIGATE 3. CLOSE appropriate campground. ASSIST campers into another camp 4. PATROL until carrion is consumed. 5. OPEN AREA, DEPOST, & DOCUMENT	1. PROCESS bear sighting report. 2. INVESTIGATE 3. CLOSE appropriate trail section. 4. PATROL until carrion is consumed. 5. OPEN AREA, DEPOST, & DOCUMENT

BEAR SEEKS OR OBTAINS HUMAN FOOD

(AGFD or APHIS can assist with bear relocation or removal.)

DEVELOPED AREAS	UNDEVELOPED AREAS, CAMPGROUNDS
1. INVESTIGATE & DOCUMENT 2. POST OR TEMPORARILY CLOSE AREA AS NECESSARY. 3. APPLY APPROPRIATE DETERRENCE MEASURES, MONITOR BEAR AND HUMAN ACTIVITY. 4. RELOCATE BEAR (if feasible) if bear remains in area and shows no aggressive behavior. REMOVE BEAR if bear remains in area and shows aggressive behavior. CONSIDER REMOVAL if bear is habituated, overly-familiar, or conditioned. 5. OPEN/DEPOST AREA after bear is relocated or removed. 6. DOCUMENT.	1. INVESTIGATE & DOCUMENT 2. POST OR TEMPORARILY CLOSE AREA AS NECESSARY. 3. APPLY APPROPRIATE DETERRENCE MEASURES. 4. a. INCREASE BEAR COUNTRY STORAGE PRECAUTIONS. b. ENSURE AREA USERS ARE AWARE & KNOW APPROPRIATE DETERRENT TECHNIQUES. 5. ENFORCE APPROPRIATE REGULATIONS if food was improperly stored. 6. MONITOR BEAR AND HUMAN ACTIVITY. 7. CONSIDER REMOVAL if bear has been previously relocated and is habituated, conditioned or repeatedly frequents camp sites and approaches people. REMOVE bear if it persistently damages property where food has been properly stored. 8. Bear NOT OBSERVED: PATROL & CLOSELY MONITOR for additional reports. 9. OPEN/DEPOST AREA after bear is relocated or removed, or after 2 clear patrols. 10. DOCUMENT.

BEAR DISPLAYS AGGRESSIVE BEHAVIOR

NOTE: Exceptions may be allowed for natural defensive actions or unique cases.
(AGFD or APHIS can assist with bear relocation or removal)

DEVELOPED AREAS	UNDEVELOPED AREAS, CAMPGROUNDS
1. INVESTIGATE, POST, OR TEMPORARILY CLOSE AREA AS NECESSARY Thoroughly search area for carrion or cubs. 2. Attempt to REMOVE BEAR A. Bear REMOVED: 1. OPEN AREA 2. DOCUMENT B. Bear NOT REMOVED: 1. Maintain posting or use restrictions. 2. CLOSELY PATROL & MONITOR 3. CONTINUE TO INFORM VISITORS/RESIDENTS of bear presence. 4. REMOVE POSTING/RESTRICTIONS after patrols and monitoring indicate that bear is no longer in area. 3. DOCUMENT	1. INVESTIGATE, POST, OR TEMPORARILY CLOSE AREA AS NECESSARY Thoroughly search area for carrion or cubs. A. IF BEHAVIOR WAS NON-DEFENSIVE AND UNPROVOKED: 1) Attempt to REMOVE BEAR 2) If successful OPEN AREA, AND DOCUMENT B. IF BEHAVIOR WAS DEFENSIVE OR PROVOKED: 1) PATROL & CLOSELY MONITOR for additional reports. 2) MAINTAIN CLOSURE until information indicates that bear is not in area. 3) OPEN AREA, DOCUMENT 4) MONITOR for bear return. 2. Bear NOT OBSERVED: A. PREPARE FOR REMOVAL ACTION B. PATROL & CLOSELY MONITOR for additional reports. C. MAINTAIN CLOSURE until information indicates that bear is not in area. D. OPEN AREA, DOCUMENT E. MONITOR for bear return.

HUMAN INJURY AND/OR FATALITY*

(Supplemental Details Follow on Next Page)

DEVELOPED AND UNDEVELOPED AREAS	
1. CONTACT APPROPRIATE PERSONNEL	
2. IMPLEMENT INCIDENT COMMAND SYSTEM	
3. CLOSE AREA	
4. INVESTIGATE	
5. BEAR OBSERVED AT SCENE:	
a. Attempt REMOVAL if attack was unprovoked or predation was involved.	
b. OPEN AREA AND DOCUMENT	
6. BEAR NOT OBSERVED:	
a. CLOSELY PATROL & MONITOR FOR ADDITIONAL REPORTS	
b. Maintain closure until bear is removed, or patrols and monitoring indicate that bear is no longer in area.	
7. DOCUMENT including Case Incident Report	
8. Conduct AFTER ACTION REVIEW	

* Consideration must be given to bears displaying natural, defensive action, even in the event of an attack. However, any predation towards humans should be considered grounds for bear removal.

DETAILED RESPONSE GUIDELINES FOR HUMAN INJURY/FATALITY DUE TO BLACK BEARS

CONTACT INFORMATION FOR ARIZONA GAME AND FISH DEPT AND APHIS

AGFD Tucson Field Office: 628-5376 Mon.-Fri. 8:00-4:30, or radio dispatch 602-789-3201 after hours.

APHIS-Wildlife Services to track and kill the animal, Dave Bergman: 602-870-2081, cell phone 602-758-7803.

FIRST RESPONDER

In the event of an attack, the responding employee may take any action necessary that is within the scope of the employee's authority to protect public safety.

Person receiving report of attack should obtain the name, phone number, location, location of incident, time of incident, number of people involved, number of people injured, extent of injuries and property damage, are all people accounted for, number of bears involved, last known location of bears, distinguishing characteristics of bear(s).

If first responder is not VP, contact VP, who contacts medical assistance, AGFD Tucson Field Office or AGFD radio room, APHIS, RM, Superintendent.

Protect and secure site as crime scene.

Prevent destruction of evidence during first-aid treatment as much as possible- tracks, etc.

Retain all witnesses on site until questioned/interviewed.

Begin documentation.

INCIDENT COMMANDER Chief Ranger

Call for medical assistance if necessary

Appoint **Initial Response Team** and **Field Leader**- appoint people for site security, medical treatment of victim, information coordination/dissemination, scene investigation and collection of evidence, bear management -pursuit, dispatch of animal if warranted

Initiate closure procedures

Ensure that each team member maintains a written record of his/her activities

Activate **Public Information Officer**

Keep Superintendent apprised of the status of the incident and response

SITE SECURITY

- No public entry within 100 yds radius to preserve evidence- tracks, drag marks, clothing
- Treat site as crime scene
- Erection of flagging/crime tape (100 yds radius around attack site)
- Single entrance/exit gate
- Only essential authorized personnel permitted inside excluded area
- Exclude and evacuate all non-essential personnel from the area to ensure safety
- Restrict airspace so tracking efforts are not disrupted.

MEDICAL RESPONSE TEAM

Treatment of injured person, including collection of evidence

- Victim's safety- top priority
- Ensure proper medical aid for victim
- Determine responsible agency
- Evidence collection procedures & equipment

Treatment of deceased person, including collection of evidence

- Determine responsible agency/personnel
- Evidence collection procedures & equipment- at scene, at autopsy – appropriate representative present
- Treatment of corpse: undisturbed, covered?

COMMAND CENTER SET-UP

- Outside of exclusion area.

Information officer stationed at command center- IO should have cell phone and batteries, charger, notebook, camera, laptop with printer, paper, camera, video camera, tape recorder, radio, maps, markers, pens, phone roster, flashlight, media sign-in sheets, etc.

SCENE INVESTIGATION

Ensure victim is interviewed:

- Take measurements, photographs, and sketches of wounds.

Collect physical evidence of attack

- Examine victim's clothing for hairs, punctures, and tears.
- Collect samples of blood, hair, saliva, and tissue from bear for future DNA analysis.
- Remain in contact with medical personnel attending to the victim and obtain details.
- If not practical to get physical evidence of wildlife attack from victim before treatment of injuries, give directions over phone for ER to obtain samples
- Determine the level of bear safety information received by the victim before the incident occurred.

Collection of non-physical evidence of attack

- Determine responsible agency/personnel
- Retain all witnesses on site until questioned/interviewed
- Witness interviews
- Detailed narrative describing encounter
- Bear behavioral responses

Actions of people involved

Incident site investigation.

- If approaching scene by helicopter, avoid landing at incident site, which could disturb evidence.
- Ensure tracks and other sign are not disturbed by people walking around at the scene.
- Take measurements and photographs of animal tracks at the scene. Note unusual marks and make a plaster cast of prints.
- Take measurements and photographs of injuries, especially with visible bite and claw marks. Note the location of the injuries on the victim's body.
- Photograph, measure, and record all data.
- Note surrounding vegetation and growth stage.
- Identify likely directions of the animal's approach and departure.
- Identify landmarks for location from air search.
- Investigate and note all natural and human food sources.
- Map trails, paths, scrapes, and footprints.
- Collect scats for DNA analysis.
- If the suspect carcass is available, secure a cloth bag over the head and each foot of the bear. Use paper if cloth is not available. Avoid plastic.
- Deposit the carcass to an available cooler as soon as possible.
- Bag any material from scene for examining for tooth and claw marks and recovery of bear fur and possible bear blood. VERY IMPORTANT – transport carcass and evidence from victims in separate vehicles. NOTE – Bloody material should be air-dried at room temperature. If it cannot be air-dried then it should be kept frozen.
- Collect the victim's clothing in a bag for identification of blood and animal fur. A cloth bag is preferred, but plastic is acceptable if clothing is dry. If the clothing is wet, air dry at room temperature.

Interview the general public who use the area or have recently been in the area and may have observed bear activity.

Monitor and record radio communications between Incident Command and the Initial Response Team.

BEAR MANAGEMENT TEAM

I. Injury is result of non-defensive, unprovoked attack aimed at securing anthropogenic food, or habituated/conditioned behavior is positively present:

A. Bear still in immediate area of incident, behavior and identification positive: Destroy

Immediate field response to destroy offending animal

Preserve all tracks- begin pursuit w/dogs within 6 hrs if possible

Capture/tranquilize suspect bear first to confirm it is the correct bear if possible- match tracks, evidence on bear's body

Avoid shooting in head to preserve evidence- wrap head and paws in paper and plastic and tape to hold, protect carcass from loss of bloodstains or other physical evidence originating from the victim, plug wounds with gauze, put whole body in body bag, carry (don't drag) carcass, take to lab for necropsy, send for rabies testing

Avoid contamination of carcass by field response personnel, wear gloves and mask
Disposition of carcass – treat as evidence, submit bear to Veterinary Diagnostics Lab at UA for necropsy

Avoid loss of physical evidence of victim on animal

Replace victim with another attractant (deer carcass) if bear cannot be located, remove unnatural material like flagging, have sharpshooter or set snares

B. Bear not in area:

Initiate patrol procedures.

Open area when situation is resolved or when five days of patrols have been conducted without contacting a bear with unacceptable behavior.

II. Injury/fatality occurred as a result of curious, surprise, defensive, or provoked behavior:

A. Bear remaining in the immediate area of the incident, identification positive:

Continue to observe animal and close areas that it enters to prevent further contact with people.

Conduct patrols to verify if the bear is a threat to people or if incident was unique.

If test patrol determines the bear's behavior is **Conditioned**, **Rewarded**, or a **Threat**, destroy the bear.

B. Bear not in area

Initiate closures in areas where it is suspected the bear may have moved to.

Conduct patrols to identify the bear involved in the incident.

If test patrol determines the bear's behavior is **Conditioned**, or a **Threat**, destroy the bear

PUBLIC INFORMATION OFFICER

Responds to requests for information from the news media, responsible for chain of command for information dissemination to on-site media inquiries

Prepares written news releases.

If a bear is relocated, NPS PIO and AGFD PIO should discuss what information will be disseminated

Employees other than IO-no speculation, opinion, judgments, hearsay to the media or general public

DOCUMENTATION

Case Incident Report that includes as needed: Black Bear Report Form, site inspection, victim evidence, coroner report, animal necropsy report, lab report, and other reports if necessary.

AFTER ACTION REVIEW

A panel will be convened, consisting of the Superintendent, Chief Ranger, Wildlife biologist, AGFD personnel including a bear expert, and APHIS personnel. The review will assist the Park in evaluating the handling of the incident and current management procedures, and suggesting improvements for prevention of similar incidents and managing future incidents should they occur.

