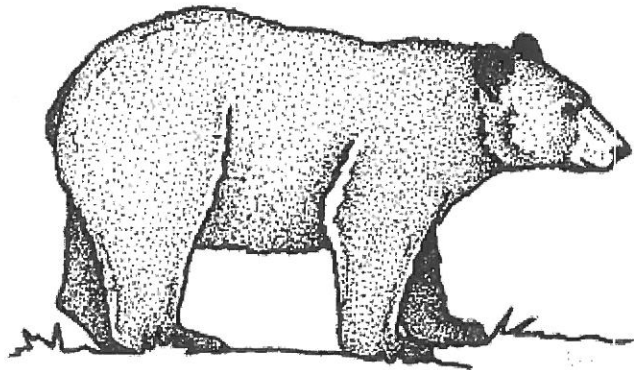


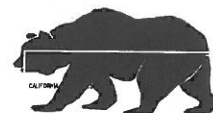
BEAR MANAGEMENT GUIDELINES



REDWOOD NATIONAL AND STATE PARKS

(Original) SEPTEMBER 1985
REVISED 1986, 1991, AND 1997

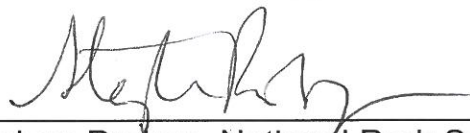
CURRENT VERSION REVISED DECEMBER 2013



BEAR MANAGEMENT GUIDELINES

Redwood National and State Parks
Revised December 2013

Approved:



Stephen Prokop, National Park Superintendent

1-21-14

Date

Approved:



Jeff Bomke, Redwood Coast Sector Manager, CDPR

1-21-14

Date

TABLE OF CONTENTS

I. INTRODUCTION	2
II. MANAGEMENT OBJECTIVES	7
III. RESPONSIBILITIES	7
IV. GENERAL PROCEDURES	11
A. Public Involvement and Education	11
B. Employee Involvement and Education	12
C. Elimination of Human Food Sources	13
D. Enforcement of Regulations	14
E. Management of Bear/Human Interactions	15
F. Management of Problem Bears.....	16
G. Research	21
V. SPECIAL PROVISIONS	21
Literature Cited	23
Appendices.....	26

I. INTRODUCTION

These Bear Management Guidelines have been revised and updated to address current bear management activities in Redwood National and State Parks (RNSP or "parks"). Since the revision in 1997, the parks have made great strides with the bear management program, mainly through "bear-proofing" all of RNSP. Incidents related to bear habituation to human food sources and the problems associated with habituation have decreased substantially over the years. However, bear management involves ongoing management activities in order to maintain a healthy bear population and reduce negative bear/human interactions. While both visitors and parks staff share the responsibility for preventing black bear problems, parks staff have the primary responsibility to inform and educate park visitors about bear management. A major emphasis of the bear management program is to reduce the number and severity of negative bear/human interactions within the parks and adjacent areas and protect black bear populations. Bear management is mostly "people management" through continually educating the public about the importance of proper food storage, and by providing direction to employees on appropriate responses when problems arise between bears and humans.

RNSP includes Redwood National Park, Prairie Creek Redwoods State Park, Del Norte Coast Redwoods State Park, and Jedediah Smith Redwoods State Park. The National Park Service (NPS) and California State Parks (CSP) jointly manage RNSP under a General Management Plan/General Plan (USDI and CDPR 1999) and the Cooperative Management Agreement of 2012.

The Cooperative Management Agreement between the NPS and CDPR directs the two agencies to:

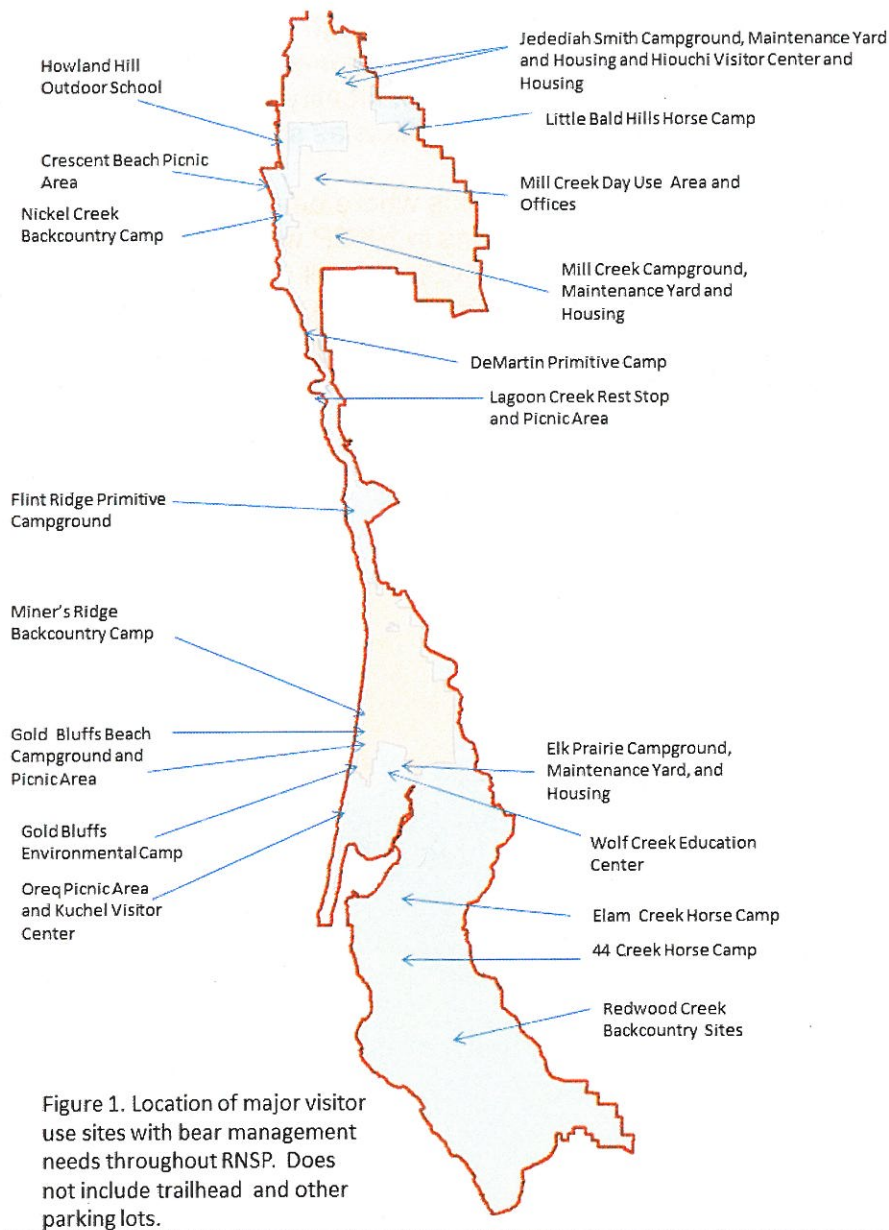
- "... commit their respective resources, staff, equipment, and facilities...for the common protection of all resources contained within RNSP...";
- "To the extent practicable and subject to maintaining agency identity, perform work without regard to agency affiliation....";
- "Develop joint operating procedures and standards to ensure effective and efficient accomplishment of RNSP activities....".

The Bear Management Guidelines are to be implemented jointly by staff in RNSP per the Cooperative Management Agreement. These guidelines will be reviewed and revised as necessary as changes occur or new information becomes available.

In many national and state parks with bear populations, extensive availability of human food sources resulted in increased numbers of bears in the parks and a change in bear

behavior and foraging habits (Harms 1980, McCullough 1982, Tate and Pelton 1983, Ayers et al. 1986). The primary focus of bear management in RNSP is managing sources of human food, trash control awareness, identifying problems, and taking corrective actions to solve any bear/human conflicts as soon as possible.

RNSP bear management focuses on locations where bears are most likely to come into contact with human food and trash. Locations in RNSP with the greatest bear management concerns include the Jedediah Smith, Mill Creek, Gold Bluffs Beach, and Elk Prairie campgrounds and associated facilities; backcountry or primitive camps (horse camps, and Nickel Creek, DeMartin, Flint Ridge, Miner's Ridge campgrounds); and Howland Hill and Wolf Creek outdoor schools (Figure 1).



Threats to Black Bears from Humans

The large number of visitors, employees, permittees, and contractors using the parks increases the potential for bears to become familiar with- and lose their fear of- humans, come in contact with human food and trash, and develop new skills that enable them to obtain human food and trash. These resulting behavioral modifications may increase the frequency of bear/human interactions and the risk of human injury and property damage (McCullough 1982, Gilbert 1989), which can ultimately lead to

bears being killed to protect humans.

Bears habituated to humans may also become more vulnerable to mortality from poaching and being struck by vehicles due to a shift in behavior towards spending more time near roads and buildings. Poaching has increased nationwide due to the black market trade in bear parts such as gall bladders, which may sell for thousands of dollars in the Far East (Lee 1996). It is not uncommon for black bear carcasses, often from motor vehicle strikes, to disappear from the roadway before a ranger or biologist arrives on scene. The impacts on bear populations in RNSP from poaching are unknown.

Bears and humans may come within close proximity in developed areas within and adjacent to the parks. In some cases, where bears have become habituated to humans and their food, they cause property damage and concern for human safety. A bear that became a nuisance at a park housing unit, due in part to dog food left on the porch, was killed by rangers in 2008. In 2010, a depredation permit was issued to the owner of a private campground, just outside the park boundary, where a bear was causing problems. However, despite the relatively large numbers of bears in the parks, besides the bear killed in 2008, only four habituated bears have been euthanized in RNSP, all at Prairie Creek Redwoods State Park, two in 1989 and two in 1990.

"Problem" Bears

A bear becomes a "problem" when it interferes with human activity, damages property, or becomes a safety hazard. There is a spectrum of behaviors associated with problem bears that ranges from a bear getting a "food reward" due to available human food or trash, to losing its natural fear of humans which may result in human injury or death. In between are a variety of behaviors requiring bear management that include, but are not limited to, a bear frequenting trails or facilities or destroying property.

Problem bears requiring capture within RNSP will not be relocated within the parks or outside park boundaries. Relocation of problem bears is not currently a viable option because:

- there are no suitable relocation sites in RNSP;
- relocation is currently not sanctioned by the California Department of Fish and Wildlife;
- relocation is often not successful because relocated bears tend to return to the capture site or are killed by a resident bear into whose territory a bear is relocated.

Relocated bears that remain in the release area and survive are the exception rather than the rule (Beeman and Pelton 1976, McArthur, 1981, Rogers 1986, Fies et al. 1987,

T. Hofstra, pers. comm.). Therefore, any bear requiring capture in RNSP will be released at the capture site or euthanized (see Section F).

Black Bear Biology

The black bear is primarily found in forested habitats, and does not use areas very far from forested cover (Jonkel and Cowan 1971, Lindzey and Meslow 1977, Schroeder and Hofstra 1982). Lindzey and Meslow (1977) noted that older forest stands (greater than 40 years after timber harvest), are used less than proportionally available. Young and Beecham (1983) observed that 82% of all radio locations of bears were in forested stands between 25 and 100 years old. Schroeder and Hofstra (1982) found that radio marked bears in a RNSP study used a combination of old growth and harvested stands.

Generally, adult males use home ranges that are 3 to 8 times larger than adult females; females with cubs have the smallest home ranges, followed by females without cubs (Jonkel and Cowan 1971, Lindzey and Meslow 1977). Female black bears generally breed every other year and produce one to four cubs per litter (CDFW 2013). Although female reproductive success has not been quantified for RNSP, other studies have noted reproduction is proportional to the availability of high quality food (Jonkel and Cowan 1971, Lindzey and Meslow 1977, Rogers 1987). Reproductive rates in RNSP are expected to be relatively high, due to the moderate climate and long growing season.

The coastal redwood forest ecosystem provides excellent black bear habitat because of the temperate climate and highly productive natural food sources (Kelleyhouse 1980). Black bears in coastal redwood forests and adjacent habitats such as prairies and oak woodlands feed on natural foods primarily in relation to their seasonal abundance. Before widespread logging altered RNSP streams, bears undoubtedly relied heavily on salmon and steelhead from fall through winter, arriving at prime spawning areas to intercept the migrating fish in the shallows, and then feeding on the carcasses after spawning was completed.

Food is most likely to be a limiting resource for bears in late winter in RNSP (Schroeder and Hofstra 1982). In the early spring, when bears emerge from their dens, emergent vegetation such as grasses, forbs, and wetland plants are used (CDFG 1990). Bears also feed on the inner bark layer, or cambium, of redwood and Douglas-fir trees (Schroeder and Hofstra 1982, Morris et al. 1994), sometimes killing the tree as the bear girdles it to obtain this food source high in natural sugars. Occasionally bears will take advantage of animal carcasses, such as winter-killed elk and deer, and elk calves or fawns succumbing to inclement weather or poor nutrition (C. Jonkel pers. comm.). As summer begins, bears use high-quality protein sources available to them such as colonial insects. Bears will tear apart rotting logs to forage on ant and termite colonies, and will raid the nests of ground-nesting wasps. In summer, bears feed heavily on berries as they ripen; they take advantage of high quality foods that can be ingested in great quantities, to build up fat reserves for the winter hibernation period. As berries

disappear, the mast crop of acorns from white and black oaks and tanoak become an important late season food source before denning. These food sources may vary greatly from year to year, affecting a bear's intake of calories. In low food abundance years bears may wander widely in search of food.

Bears will seek out human-generated food sources at any time of year, although this seems to occur with greater frequency when natural foods are in shorter supply. Young bears tend to be most susceptible to human food habituation during their first year or two after they have left the care of their mother.

II. MANAGEMENT OBJECTIVES

The objectives of bear management in Redwood National and State Parks include:

- maintaining the natural integrity, distribution, abundance, and behavior of the endemic black bear population;
- managing visitor use, facilities, and developments to minimize bear-human conflicts and avoid dangerous bear incidents;
- providing opportunities for visitors to understand and appreciate the black bear in its natural habitat.

To achieve these management objectives, a program of seven key elements designed to prevent bear/human conflicts will be implemented. The program consists of:

- A. Public Involvement and Education
- B. Employee Involvement and Education
- C. Elimination of Human Food Sources
- D. Enforcement of Regulations Regarding Feeding Wild Animals and Proper Food Storage
- E. Management of Bear/Human Interactions
- F. Management of Problem Bears
- G. Research

These guidelines will be reviewed and revised as necessary as changes occur or new information becomes available.

III. RESPONSIBILITIES

General Organization of Bear Management Duties

An effective bear management program can be accomplished by informing employees,

park visitors, permittees, contractors, and adjacent landowners of appropriate food and garbage storage practices, and reacting immediately to any sign of a bear becoming habituated to human-related food items. **All** employees must assume some responsibility for the bear management program to be successful. It is imperative that the appropriate staff are notified regarding management issues. All references to responsibilities and actions that follow in this document should include the appropriate NPS or CSP contact based on land ownership (see Appendix 1 for a list of contacts).

Superintendents

The NPS and CSP superintendents have ultimate authority over area or facility closures unless there is an imminent threat to public safety. Superintendents give final approval for lethal removal of a problem bear unless there is an imminent threat to public safety. Superintendents will:

- approve Bear Management Guidelines;
- ensure that Bear Management Guidelines are incorporated into park operations where necessary and appropriate for the preservation of a healthy bear population and the safety of employees and visitors;
- give final approval for area closures (except in emergency situations);
- give final approval for RNSP staff to destroy a bear (except in emergency situations) that has become a significant threat to the safety of visitors and/or employees.

Resources Management Chief/Supervisor and Chief Rangers

The Resource Management and Visitor Services and Resource Protection divisions are responsible for:

- recommending area closures to the superintendent(s), except in an emergency situation where a protection ranger has the authority to close an area;
- recommending lethal removal of a problem bear to the superintendent(s), except in an emergency situation where a protection ranger has the authority to kill a bear;
- helping resolve bear/human incidents as quickly as possible with the least consequences to a bear while protecting human safety.

NPS Division Chiefs and CSP Resource Specialists

A. Public Involvement and Education	Interpretation (INTERP) Resources Management (RM) Visitor Services and Resource Protection (VSRP)
B. Employee Involvement and Education.....	INTERP RM Maintenance (MAINT) VSRP Administration (ADMIN)
C. Removal of Human Food Sources	MAINT VSRP RM INTERP
D. Enforcement of Regulations	VSRP INTERP
E. Management and Control of Bear/Human Interactions	VSRP RM INTERP
F. Capture/Handling of Problem Bears	VSRP RM
G. Research	RM Scientists from other agencies/Universities
H. Reporting Bear Observations and Bear/Human Interactions.....	All Employees

- resolve conflicts between or among individual work units regarding implementation of the Bear Management Guidelines;
- appoint members of the Bear Panel.

Bear Panel

A Bear Action Panel composed of state and federal employees will meet at least annually to review guidelines developed for bear management in RNSP and coordinate bear management actions relating to food storage, trash management, and signing needs. If problems arise, such as a bear incident or misinterpretation of the guidelines, the panel will consult with the BMET. The following positions will be included on the panel:

- NPS Fish and Wildlife Branch Chief
- CSP Environmental Scientist (Sector)
- NPS Wildlife Biologist
- CSP Senior Environmental Scientist
- NPS Park Practitioner
- NPS Supervisory Law Enforcement Ranger
- CSP Supervisory Law Enforcement Ranger
- NPS Interpreter
- NPS Safety Officer
- NPS Buildings and Utilities Representative
- Administration Division Representative

The Bear Panel will:

- resolve operational problems with food storage and trash/recycling equipment;
- identify funding priorities for trash/recycling bins, food storage devices, and sign materials;
- ensure educational media including signage, RNSP website information, and campfire program information are appropriate and available to employees, visitors, permittees, and contractors;
- review bear incidents and discuss what worked or didn't work to resolve the problem.

NPS Fish and Wildlife Branch

The Fish and Wildlife Branch is responsible for ensuring that the Bear Management Guidelines are implemented. The NPS Wildlife Biologist will be responsible for

maintaining and revising the Bear Management Guidelines and facilitating coordination among divisions and CSP resources staff.

IV. GENERAL PROCEDURES

A. Public Involvement and Education

The objective of this program element is to educate park visitors that they are in "Bear Country". This information will focus on bear/human relationships in RNSP, the causes of bear/human conflicts, and how visitors can help alleviate problems through their actions and compliance with park regulations. The ultimate goal is a well-informed park visitor.

1. A "Bear Country" brochure explaining bear behavior, bear problems and their causes, what visitors can do to alleviate problems, park regulations regarding food storage, and bear management objectives will be available at all facilities. The brochure will be available for visitors at all contact stations including the entrance stations of the State Park campgrounds. Verbal information and a brochure about camping in bear country will be provided to all visitors entering State Park campgrounds and acquiring backcountry camping permits, with acknowledgment of receipt by the registering campers. Backcountry users will be encouraged to use bear-proof food containers. Bear safety information will be included in Visitor Guides and Participant Guides at outdoor schools.
2. Signs will be posted at the entrances to visitor use areas including campground entrances and trailhead kiosks that remind visitors that they are entering areas inhabited by bears and other large mammals. Information signing will have consistent messages throughout RNSP. Some locations may have additional site-specific information, e.g., Wolf Creek Education Center and Howland Hill Outdoor School. Different types of bear management signs will be posted, depending on circumstances. These may include (1) picnic table notices informing visitors to keep a clean camp/picnic area; (2) stickers for food storage lockers at horse camps and backcountry camps informing visitors to store food, utensils, horse feed, etc. in lockers and pack trash out; (3) a trailhead bulletin board with general information on being safe in bear country; (4) campground entrance signs notifying campers they are entering bear country; (5) signs developed on an as-needed basis to address immediate bear issues in specific locations.
3. Comprehensive articles, as well as brief notices about bears, will be included in Visitor Guides.
4. Interpretive activities will include information about bears. Programs at campgrounds or other locations where visitors are likely to encounter bears, or programs about the ecology of the parks should include information about black bears.

Warm-up activities at programs should include bear safety information as part of the mandatory safety message.

5. Handouts, posters, videos, and presentations regarding bears will be developed that specifically apply to RNSP.

6. Black bear information will periodically be posted in RNSP News, and on the RNSP website and other social media (Facebook, YouTube) accessed by the public interested in coming to RNSP. Annual bear management reports and other sources of information will be available on InsideREDW.

7. All Special Use, Commercial Use, and Research Permits will include information on proper food handling and storage when conducting permitted activities within the parks.

B. Employee Involvement and Education

The objective of this program element is to educate park staff, contractors, and seasonal workers about working in "Bear Country". This information will focus on bear/human relationships in RNSP, the causes of bear/human conflicts, and how staff and others can help alleviate problems through their personal actions and compliance with park regulations. The ultimate goal is to ensure that staff and others working in the parks are well-informed.

1. The NPS and CSP personnel offices will include information, provided by the Fish and Wildlife Branch, on living and working in bear country as part of the information package given to new permanent and seasonal employees. Work youth crews, CCC crews, and correctional inmate crews will receive bear information as part of an orientation program.

2. All contracting officer representatives will orient contractors to bear management actions needed to avoid bear/human conflicts. Provisions on compliance with, and penalties for violation of, park bear regulations will be included in all applicable contracts.

3. Law Enforcement Officers (LEOs) will be responsible for assessing bear-related property damage or personal injury losses/liabilities, and will process contact information and/or tort claims pertaining to the same, as appropriate.

4. Resources staff will present bear awareness training at seasonal orientation. Crew leaders (trail crews, CCC, etc.) should be aware of food storage and garbage handling procedures, and should routinely inspect their operations to ensure clean surroundings.

5. Any employee who witnesses a violation by visitors, contractors or others in the parks will advise violators of the RNSP bear regulations or report it to their supervisor. When necessary, an employee will contact a LEO promptly so that he or she can

follow-up to ensure compliance. If a dead bear is found, employees will notify appropriate VSRP and RM staff as soon as possible, so that an attempt to determine the cause of death can be made, and the carcass may be disposed of appropriately, if necessary.

C. Elimination of Human Food Sources

The objective of this program element is the total elimination of human food sources available to black bears. A combination of wildlife-proof food and garbage storage containers, routine inspection, and replacement to ensure proper functioning of equipment, and an adequate garbage pick-up schedule will accomplish this.

1. Maintenance Standards

- (a) All campgrounds, picnic areas, parking lots, and other areas where visitors concentrate will be maintained litter-free.
- (b) All new developments will include designs to reduce bear/human conflicts and provisions for bear-proof equipment.
- (c) Damaged or inoperative bear-proof bins will be promptly repaired or replaced.
- (d) All "backcountry" employee, contractor, or work crew camps will have bear-proof food storage and garbage containers, or food items will be locked out of sight in a vehicle incapable of being opened by bears. The employees, contractors, and work crews will be responsible for using the containers properly and removing garbage on a regular basis.

2. Participants at outdoor schools and education centers will be advised:

- (a) not to leave food or garbage unattended (i.e., bags of garbage left out next to garbage cans, on the porch of a building, or in the back of an open pickup truck);
- (b) not to leave small amounts of food and garbage ("crumbs") and toiletries outdoors or in cabins;
- (c) to keep kitchen and lodge doors latched while away from the campus;
- (d) to ensure dumpsters are secured with the latch and remain latched at all times except for when trash is being deposited.

3. Food Storage Regulations

Numerous state and federal regulations will be strictly enforced to ensure the protection of the public and the parks' wildlife populations.

CFR=Code of Federal Regulations; CCR=California Code of Regulations.

- (a) 36 CFR, Section 2.2(a)(2), prohibits the feeding of wildlife.
- (b) 36 CFR, Section 2.10(d), concerns proper storage of food.
- (c) Title XIV, sec. 251.3 CCR, prohibits the feeding of big game mammals, including bears.
- (d) Title XIV, sec. 4305 (b), CCR, prohibits feeding of wildlife where posted.
- (e) Title XIV, sec. 4323 (b), CCR, requires that food and garbage must be stored in areas not accessible to bears, such as food storage lockers, "a vehicle incapable of being opened by wild animals", and bear-proof trash containers, or suspended appropriately.

4. Use of Special Devices

- (a) Food storage devices, e.g., "bear boxes" and bear-proof trash containers, will be provided at designated sites for storage of food and garbage. They will be installed and maintained by the Maintenance Division.
- (b) Bear-proof canisters for back-packing and camping on the Redwood Creek gravel bars will be available for loan at Kuchel Visitor Center.
- (c) Information on the "counter-balance" method of hanging food in a tree (suspended at least 10 feet above the ground and 4 feet out from a tree trunk) will be provided to back-country users in written and verbal form.

D. Enforcement of Regulations

The objective of this program element is to ensure visitor cooperation in eliminating and preventing bear/human conflicts through enforcement of park regulations relating to bears, as well as ensure adequate protection of the parks' black bear population. In addition to the state and federal regulations pertaining to food storage, 36 CFR 2.2(a)(1) prohibits the "taking" of wildlife, and wildlife parts from dead animals.

LEOs will patrol developed areas including campgrounds as well as backcountry areas to ensure compliance with resource protection regulations including food storage regulations. Law enforcement actions taken in any particular situation will depend upon the level of enforcement required for the given situation. Currently, maximum penalties are \$100 for feeding wildlife and \$125 for improper food storage or improper refuse disposal. This schedule of fines is subject to increase periodically as determined by the Northern California U.S. District Court or County District Attorney. Illegal taking of

wildlife may result in subjects being arrested, and requires a mandatory appearance in federal or county court depending on the nature of the violation.

E. Management of Bear/Human Interactions

The objective of this program element is to apply corrective action to prevent bear/human interactions from escalating into more serious problems.

1. Notification of Potential Problems Associated with Bear/Human Interactions

RNSP employees will promptly notify RM staff, and the NPS park practitioner by phone or radio of any situation perceived to have the potential for a bear/human conflict. Law Enforcement Officers also should be contacted so they are alerted to a situation that may escalate. Such situations include but are not limited to the following:

- (a) a bear frequenting a campground, picnic area, park housing unit, outdoor school or other facility, trailhead or trail;
- (b) a bear that appears unusually tame or approaches a human rather than running away.
- (c) a bear attempting to get into a garbage can, food storage locker, vehicle, etc.;
- (d) a bear that acts aggressively towards humans;
- (e) a bear that has damaged property while seeking out human food;
- (f) a bear that has been observed receiving a food reward due to improperly stored food or garbage.

If a LEO is not able to be contacted employees should contact **CDPR's Northern Communications Center (NORCOM)** by radio or at **916-358-0333**. NORCOM will be responsible for contacting a ranger on duty. NORCOM will also be provided with the home and mobile phone numbers of Fish and Wildlife personnel.

Fish and Wildlife staff will investigate the situation along with a LEO and recommend corrective action which could include contact with the offending human(s) relative to food storage and trash disposal, posting caution or warning signs for visitors, or recommending an area closure to the Superintendent or Manager. The corrective action will be carried out as soon as possible, as time is critical when a potentially dangerous situation could develop.

Wildlife staff will have the primary responsibility for producing the appropriate signage and deciding where signs should be posted.

2. Response to Incidents

Any RNSP employee receiving information of, or witnessing, a bear/human interaction involving a visitor(s) shall immediately notify a LEO by radio or phone. After notifying a LEO, the employee receiving the information will remain with the visitor until the responding ranger arrives. The responding LEO will obtain information from the reporting party needed to assess the situation: including name, address, phone number(s), exact location of the bear incident, and details about the bear's physical appearance. All situations determined to have risks involving human or bear safety and requiring corrective actions, will be coordinated with Fish and Wildlife staff.

3. Closures

If a bear has caused extensive property damage or exhibits aggressive behavior, the affected area will be closed. The area will remain closed until the threat to public safety has been removed. The Superintendent(s) or Manager has the ultimate authority to designate closure areas. However, NPS or CSP LEOs have the authority to close an area if they determine there is an immediate risk to public safety.

Fish and Wildlife staff may recommend closing an area to their supervisor who in turn may recommend closure to the Superintendent(s) or Manager. Fish and Wildlife staff will recommend the reopening of an area when the threat is determined to no longer exist.

F. Management of Problem Bears

The objective of this program element is to prevent additional property loss and/or personal injury by problem bears. Bear management actions include developing a dossier on each problem bear, aversive conditioning, and the control of dangerous or destructive bears. The least invasive management actions will always be considered first, prior to more invasive actions such as trapping and/or euthanasia.

1. Developing a Dossier

Any RNSP employee, contractor, work crew member, or volunteer witnessing, or learning of, a bear incident will document the incident immediately after notifying a LEO and RM staff. Date, time, location, names and addresses of all involved, description of the bear and details of the incident should be recorded. Fish and Wildlife staff will begin a dossier with the information and attempt to identify the offending bear. The dossier provides a "history" of incidents for individual bear(s) that will be used to determine the most appropriate action if the bear incidents escalate. In consultation with the California Department of Fish and Wildlife, RM and VSRP staff will discuss appropriate actions to take after a confirmed incident resulting in a threat to public safety. If human negligence was not involved, property damage will be a factor when considering actions to take to control the offending bear.

Personal injury and property damage will be photo-documented. LEOs will investigate incidents involving property damage and/or personal injury using a Case Incident Report in IMARS or Public Safety Report (Form DPR-385). Copies of these reports will be forwarded to the appropriate RM staff within 24 hours.

2. Aversive Conditioning

The goal of aversive conditioning (also known as “hazing”) is to reinforce a bear's natural fear of humans and, by association, human possessions. Aversive conditioning ranges from shouting and waving arms or using loud noise (e.g., an air horn) to the use of a pain-inflicting or noxious agent. Generally, actions will be initiated with the simplest and least manipulative method (noise) first. Aversive conditioning will only be conducted by LEOs or Fish and Wildlife staff. Other employees may assist with hazing under the direction of a LEO or biologist.

a. General Procedures to be followed during any aversive conditioning:

- (i) A biologist, the park practitioner, or LEO will assess the situation and determine if any action is warranted, considering the possibility that the situation will resolve on its own given time and monitoring. A plan of action must be agreed upon by those involved before acting and possibly provoking the situation.
- (ii) The bear should always be given an escape route. Spectators should be removed from the area before initiating any action. Unauthorized staff or visitors should not be involved. Other employees may assist in hazing only if requested to do so by a LEO, biologist, or park practitioner.
- (iii) Those involved with hazing will record information about the animal's behavior, its actions and reactions, and identifying features.
- (iv) Employees involved should explain the reasons for their actions to any bystanders. Visitors should be encouraged to use loud noises to discourage bears from entering their campsites by yelling, banging pots and pans, etc.

b. Specific Aversive Conditioning Techniques (excluding capture)

- (i) Making loud noises such as horn blasts, clapping hands, yelling, or using whistles are all acceptable techniques that may be used initially by any person if they can be conducted without endangering themselves or others.
- (ii) Techniques that may inflict physical pain on the animal will only be implemented by trained park employees, i.e., LEOs and/or a biologist or park practitioner (see below).

(iii) LEOs or trained wildlife staff may use more intensive conditioning agents if determined to be necessary. These agents may include rock-throwing, paintball guns (to mark and “hurt” the bear), rubber bullets, bean bags, and pepper spray. Only LEOs and non-commissioned, firearms-qualified, employees may use agents requiring a firearm (paintballs, bean bags, rubber bullets). **No other park staff may use any of these agents, including pepper spray, to assist with hazing a bear even if the agent is personal property** (See Appendix 2 for a list of those authorized to use hazing agents).

WHO MAY USE AVERSIVE CONDITIONING:	TECHNIQUES:				
	loud noise	wave arms/ yell	throw rocks	pepper spray	paintballs/ rubber bullets/ bean bags
Park visitors	X	X			
Park employees	X	X			
Trained park employees	X	X	X	X	X

c. Bear Capture

Bears captured as part of aversive conditioning will be sedated, ear-tagged, lip-tattooed, have a tooth extracted, and be released on site. Captured bears will not be re-located to a distant site. Therefore, it is imperative that any capture devices are set in a secure location, away from visitors and park facilities. There must be ample area for a bear awakening from a drug to safely wander about while it regains its faculties.

- (i) Only bears that cause property damage, persist in an area and exhibit unusual tameness, repeatedly beg for handouts, frequently enter occupied campsites, or aggressively and forcibly take or search for food will be targeted for capture, tagging, release, and monitoring.
- (ii) All employees that are assigned duties involving use of firearms will maintain a certification as identified in NPS 44, Chapter 3, Section 9 (Management of Firearms and Ammunition). One member of the NPS Fish and Wildlife Branch will be designated by the superintendent to be the park practitioner and maintain the appropriate permits with the Drug Enforcement Administration. The park practitioner will be responsible for maintaining the inventory of immobilization chemicals and authorizing employees to administer appropriate drugs in wildlife capture operations, using direction located in DO #77.4 “Use of Pharmaceuticals for Wildlife”.

- (iii) The culvert trap will be the primary capture device used. Traps will be checked at least twice a day, in early morning and evening. Bait will consist of cat or dog food, or other bait that does not resemble human food or trash.

Foot snares and free-range darting may be used in developed or high visitor use areas only if culvert traps are not an option.

- (iv) Signs clearly warning people to stay away must be posted around the perimeter of a set trap, in the 8 cardinal/ordinal directions and at a distance of at least 100 ft from the trap. Flagging should also be placed as a barrier around the perimeter. Campgrounds, portions of campgrounds, or other public areas may be temporarily closed.
- (v) Procurement, storage, and use of bear immobilizing drugs will be in accordance with federal and/or state regulations and park policy. Immobilizing drugs will be administered via syringe and jab stick, or dart pistol, or equivalent equipment. Immediately following drug injection, the bear will be continuously monitored for respiratory complications, convulsions, excessive body temperature, dehydration, and damage to eyes. A colored, numbered tag with the date will be placed in one ear for future identification. The animal will remain under observation at the release site until it is up and moves off on its own power.

d. Monitoring

The purpose of monitoring is to verify that the tagged, or otherwise marked, bear was the individual involved in the incident and to identify the bear should bear/human interactions continue.

Monitoring marked animals will follow the reporting requirements described in the section on developing a dossier (F.1). All recorded observations of marked bears will be forwarded to RM staff or a LEO as soon as possible and no later than 24 hours after the observation. If a LEO is the sole recipient of a report he/she will forward the report to Fish and Wildlife staff for inclusion in the dossier.

Wildlife observation report forms (Appendix 3) will be made available at visitor information centers and trailheads to ensure visitors are able to report bear observations. RM staff, with the assistance of INTERP, is responsible for card availability and collection. All incidents that occur in a state parks will be recorded on the Wildlife-Human Interaction Form (DPR 385A).

3. Decision Criteria for Euthanizing Problem Bears

Only bears having a documented history of offenses indicating a high probability of inflicting human injury or causing extensive property damage will be recommended for euthanasia. The decision to destroy a bear will be based on the accumulated

information in the dossier. The recommendation to destroy a bear will be made by the NPS or CDPR Chief Ranger, and the appropriate RM Manager. A biologist or warden from the California Department of Fish and Wildlife will be notified.

In emergency situations involving a critical and immediate threat to human safety, or when human death or serious bodily injury has occurred, the decision to destroy a bear may be made by the responding LEO. If time allows, the decision to destroy a bear will be made by a Supervisory North or South District Ranger or CDPR Supervisory Ranger. Otherwise, the decision to destroy a bear must be approved by a Superintendent or Manager, and will be guided by information in the dossier. Bears that are a threat to human safety or property will be identified through accumulated evidence of property damage, and/or multiple instances of aggressive behavior, including:

- (a) chasing or stalking humans, in the absence of provocation by a human;
- (b) advancing while snarling, huffing, laying ears back, or baring teeth. The bear cannot be chased off by shouting, throwing objects, etc. Any movement toward a human is unprovoked;
- (c) mauling tents or other camping equipment in the absence of available food;
- (d) making physical contact with humans that is intentional and unprovoked, e.g., the bear was not forced to protect itself or its young, and despite having avenues of escape;
- (e) entering, or attempting to enter, cars, motorhomes, trailers, tents, and dwellings occupied by humans;
- (f) any other behavior that results in a serious threat to human safety; bears that exhibit injury, trauma, or disease may also be candidates for removal.

4. Destruction of a Bear

Once the NPS Superintendent or CSP Superintendent or Manager has approved the destruction of a bear, the bear designated for removal will be trapped, immobilized (tranquilized), and then euthanized with approved drugs, following the Bear Drug Protocol. In some cases the Superintendent's decision for removal may state that the destruction of the animal is best accomplished with a firearm. Only park staff authorized to use firearms will be responsible for shooting bears (see Appendix 2 for a list of authorized staff). If a firearm is used by a LEO, every attempt should be made to swap duty ammunition for non-lead ("green") ammunition when killing a bear. The type of ammunition used will be documented and may factor in to how and/or where the bear is disposed of.

Bears that have been destroyed will be disposed of in accordance with applicable agreements, laws, and regulations. No parts may be removed from a dead bear unless a formal written request has previously been approved by the Superintendent or Manager.

Park staff will dispose of dead bears in remote locations within the parks away from public access and where they are unlikely to be encountered by visitors. Bear parts contaminated with lead ammunition or euthanizing drugs will be buried, in an approved location, to ensure that the contaminated parts will not be scavenged, as these contaminants could prove hazardous to animals feeding on the carcass.

G. Research

These research objectives were established to increase knowledge of bear distribution, population dynamics, behavior, ecology of bear/human interrelationships, and to evaluate management programs affecting black bears in RNSP. All research will follow Institutional Animal Care and Use Committee (IACUC) Guidelines.

The following research objectives will be pursued if outside funding sources become available:

- (a) Determination of seasonal and annual distribution patterns and movements.
- (b) Determination of habitat requirements including natural food preferences and ratings of importance of habitat types by forage quality and quantity.
- (c) Determination of population dynamics including productivity, survival, and mortality rates.
- (d) Application of a sampling technique that will provide a realistic population estimate or density estimates of bears in a given area.
- (e) Evaluation of relationship to humans including the effects of humans upon bear numbers, distribution, movements, and food habits.

V. SPECIAL PROVISIONS

The following items are listed to underscore specific sections of the plan.

A. The seasonal Visitor Guide must contain bear management information. Fish and Wildlife staff will coordinate production of this information with Interpretation staff when the visitor guide is updated.

B. The management guidelines call for review and revision as necessary. The BMET

shall provide its review comments and recommendations to the Superintendent(s) by December 1 of each year, if bear incidents or other circumstances warrant.

C. The importance of public information and education should be emphasized. Interpretive programs, displays and information brochures shall be assessed annually by the Interpretation staff with assistance from the wildlife staff and modified accordingly. New programs and brochures will be developed as needed.

D. Reluctance or procrastination in completing observation/incident reports by employees should not be tolerated by their supervisors. Under no circumstances should an employee fail to comply with incident reporting requirements.

E. Backcountry permits should be updated with additional bear management information specific to backcountry camping/food storage.

Literature Cited

- Ayers, L. E., L. S. Chow, and D. M. Graber. 1986. Black bear activity patterns and human induced modifications in Sequoia National Park. *Int. Conf. Bear Res. and Manage.* 6:151-154.
- Beeman, L. E. and M. R. Pelton. 1976. Homing of black bears in the Great Smoky Mountains National Park. Pages 87-95 in M. R. Pelton, J. W. Lentfer, and G. E. Folk, eds. *Bears-their biology and management*. Int. Union Conserv. Nat. Publ. New Ser. 40.
- California Department of Fish and Game. 1990. Black bear. *In: California's Wildlife: Mammals*. 3:294-295.
- California Department of Fish and Wildlife. 2013. Black Bear Biology. <http://www.dfg.ca.gov/wildlife/hunting/bear/biology.html>. Accessed September 13, 2013.
- Fies, M. L., D. D. Martin, and G. T. Blank, Jr. 1987. Movement and rates of return of translocated black bears in Virginia. *Int. Conf. Bear Res. and Manage.* 7:369-372.
- Gilbert, B. K. 1989. Behavioural plasticity and bear-human conflicts. Pages 1-8 in M. Bromley, ed. *Bear-People Conflicts-proceedings of a Symposium on Management Strategies*. Northwest Terr. Dept. of Renew. Res.
- Harms, D. R. 1980. Black bear management in Yosemite National Park. *Int. Conf. Bear Res. and Manage.* 4:205-212.
- Jonkel, C.J. and I. McT. Cowan, 1971. The black bear in the spruce-fir forest. *Wildl. Monogr.* 27. 57pp.
- Kelleyhouse, D. G. 1980. Habitat utilization by black bears in northern California. *Int. Conf. Bear Res. and Manage.* 4:221-227.
- Lee, J. 1996. Poachers, tigers, and bears...oh my!- Asia's illegal wildlife trade. *16 NW J. Int'l L. and Bus.* 16:497-515.
- Lindzey, F.G. and E.C. Meslow. 1977. Home range and habitat use by black bears in southwestern Washington. *J. Wildl. Manage.* 41:408-412.
- McArthur, K. L. 1981. Factors contributing to effectiveness of black bear transplants. *J. Wildl. Manage.* 45(1):102-110.
- McCullough, D. R. 1982. Behavior, bears, and humans. *Wildl. Soc. Bull.* 10(1):27-33.
- Morris, K.V., C.C. Murphy, B.A. Bestudik, and E.G. Wozadlo. 1994. Factors influencing black bear foraging on conifers in redwood forests. Senior project report submitted to Redwood National Park, Orick, CA. 8pp.

Rogers, L.L. 1987. Effects of food supply and kinship on social behavior, movements, and population growth of black bears in northeastern Minnesota. Wildl. Monogr. 97. 72 pp.

---. 1986. Effects of translocation distance on frequency of return by adult black bears. Wildl. Soc. Bull. 14(1):76-80.

Schroeder, M.T. and T.D. Hofstra. 1982. Black bear research, Redwood National park. Annual report filed at Redwood national Park, Orick, CA. 8pp.

Tate, J. and M. R. Pelton. 1983. Human-bear interactions in Great Smoky Mountains National Park. Int. Conf. Bear Res. and Manage. 5:312-321.

[USDI] U.S. Department of the Interior and [CDPR] California Department of Parks and Recreation. 1999. Redwood National and State Parks, Humboldt and Del Norte Counties; final general management plan/ general plan; environmental impact statement/ environmental impact report. Vol. 1. Crescent City, CA: USDI National Park Service and California Department of Parks and Recreation.

Young, D.D. and J. Beecham. 1983. Black bear habitat use at Priest Lake, ID. Sixth International Conference on Bear research and Management. 6:73-80.

Personal Communication:

Terence Hofstra, former RMS Division Chief, RNSP.

Charles Jonkel, Co-founder and Scientific Advisor, Great Bear Foundation

PREPARED BY:

Preparers- 1997 Revision

Bill Falvey, NPS Wildlife Biologist

Rick Wallen, NPS Fish and Wildlife Biologist

Preparer- 2013 Revision

Kristin Schmidt, NPS Wildlife Biologist

2013 REVISION REVIEWED BY:

Jeff Bomke, Redwood Coast Sector Manager, CDPR

John Christopher, NPS Acting Administration Division Chief

Terry Hines, NPS Supervisory Biological Technician

Dave Keltner, NPS North District Supervisory Ranger

Aida Parkinson, NPS Environmental Specialist/Fish and Wildlife Branch Chief
Stephen Prokop, NPS Superintendent
David Roemer, NPS Resources Management and Science Division Chief
Amber Transou, CSP Senior Environmental Scientist

APPENDIX 1. Redwood National and State Parks and California State Parks North Coast Redwoods District Contacts.

Visitor Services and Resource Protection

NPS Chief Ranger, 707-465-7302
NPS North District Supervisory Ranger, 707-465-7312
NPS South District Supervisory Ranger, 707-465-7750
CSP Ranger Superintendent II, 707-465-7789
CSP Supervising Ranger, 707-465-7331
NORCOM (Emergency Dispatch) 916-358-0333

California Dept of Fish and Wildlife 707-445-6493 (Front Office)

Resources Management

NPS Wildlife Biologist, 707-465-7741 (cell 707-496-5601)
NPS Resources Management and Sciences Division Chief, 707-465-7700 (cell 707-951-7818)
NPS Fish and Wildlife Branch Chief, 707-465-7703
NPS Park Practitioner 707-465-7777 (cell 707-496-8952)
CSP Senior Environmental Scientist, 707-445-6547 ext. 14
CSP Environmental Scientist at South Operations Center, 707-465-7772

Administration

NPS Superintendent, 707-465-7301
CSP Superintendent, 707-465-7332
North Coast Redwoods District Superintendent, 707-465-6547 ext 11

APPENDIX 2. Persons Authorized to Use Aversive Conditioning or Firearms for Bear Management.

Aversive Conditioning

A. Pepper spray.

Fish and Wildlife (F&WL) staff or VSRP staff trained in the use of pepper spray. (No other staff may use pepper spray even if the agent is personal property.)

B. Paintballs, rubber bullets, bean bags.

F&WL staff or VSRP staff trained in the use of firearms. F&WL staff includes:

- Park Practitioner (Hines)
- Biological Technician (Max)

C. Trapping.

Wildlife biologists, park Practitioner, biological technicians. Other park staff may assist with trap set-up, checking, and processing a trapped bear when under the supervision of a wildlife biologist, park practitioner, or biological technician.

The park practitioner and biological technician trained and certified to administer immobilizing drugs.

Euthanasia

Protection rangers, park practitioner, and biological technician only. Must be currently certified in firearms and/or drug use.

APPENDIX 3. Wildlife Observation Report Forms.

WILDLIFE OBSERVATION REPORT

Species

Observer

Date _____ Time

Observation Type: Sight _____ Track

Other

Age of Sign

Number & Description

Identification

Activity

Location & Terrain

Vegetation

Weather Conditions

Remarks

(remarks may be continued on back)

APPENDIX 3.- Continued

RNSP_ WILDLIFE OBSERVATION CARD

KEEP PARK ANIMALS WILD-DO NOT FEED THEM!

Observation of (check box):

- ☐ bear
- ☐ elk (# with antlers__)
- ☐ mountain lion
- ☐ otter
- ☐ coyote
- ☐ bobcat
- ☐ osprey
- ☐ eagle
- ☐ black-shouldered kite
- ☐ spotted owl
- ☐ peregrine falcon
- ☐ marbled murrelet
- ☐ salmon (species__)
- ☐ other: specify__

Date_____ Time

Location

Number adults

Number juveniles

Condition: healthy

sick/injured

dead

Distinguishing colors/marks

Observed behavior

Remarks

Observer name/address

Phone or e-mail

