

YELLOWSTONE NATIONAL PARK

BEAR MANAGEMENT PLAN



**National Park Service
Yellowstone National Park**

*Written By:
Kerry A. Gunther
Bear Management Office
May 1994*

Plan Approval

Prepared/Submitted By: Kerry A. Gunther Date 5 / 11 / 94
Kerry A. Gunther
Bear Management Specialist

Reviewed By: Dan Sholly Date 5 / 12 / 94
Dan Sholly
Chief Ranger

Reviewed By: John Varley Date 5 / 12 / 94
John Varley
Director, Yellowstone Center for Resources

Reviewed By: T. A. Hudson Date 12 / 14 / 1994
Tim Hudson
Chief of Maintenance

Reviewed By: Ron Thoman Date 5 / 11 / 94
Ron Thoman
Chief of Interpretation

Reviewed By: Stu Coleman Date 5 / 11 / 94
Stu Coleman
Chief, Branch of Natural Resource Management

Approved By: Bob Barbee Date 5 / 16 / 94
Bob Barbee
Superintendent

INTRODUCTION	10
OBJECTIVES	11
ORGANIZATION	12
Bear Management Committee	12
Field Activities	12
Bear Activity Monitoring/Reporting System	13
BEAR SAFETY WARNINGS AND EDUCATIONAL INFORMATION	15
Before Visitors Arrive In The Park	15
Entrance Stations	15
Developed Area Campgrounds	16
Backcountry Permit Issuing Stations	19
Trailhead Information Boards	22
Interpretive Programs	22
Employee Residential Areas	23
Educational Bear Information	23
AREA MANAGEMENT	25
Management Situation Designations	25
Management Situation I	25
Area Designations	25
Population and Habitat Conditions	25
Management Direction - In Management	
Situation I grizzly bear habitat,	
habitat maintenance and grizzly-human	
conflict minimization will receive the	
highest management priority. Management	
decisions will favor the needs of the	
grizzly bear when grizzly bear habitat	
and other land use values compete. Land	
uses which can affect grizzlies and/or	
their habitat will be made compatible	
with grizzly bear needs or such uses	
will be disallowed or eliminated.	
Grizzly bear-human conflicts will be	
resolved in favor of grizzly bears	
unless the bear involved is determined	
to be a nuisance. Nuisance bears may be	
controlled through either relocation or	
removal but only if such control would	
result in a more natural free-ranging	
grizzly bear population and all	

reasonable measures have been taken to protect the bear and/or its habitat (including area closures and/or activity curtailments).....25

Management Situation II.....26

Area Designations - The following developed areas within YNP have been designated as Management Situation II grizzly bear habitat (approximately 2,619 acres):.....26

Population and Habitat Conditions - Current information indicates that the area lacks distinct population centers; highly suitable habitat does not generally occur, although some grizzly habitat components exist and grizzlies may be present occasionally. Habitat resources in Management Situation II either are unnecessary for survival and recovery of the species, or the need has not yet been determined but habitat resources may be necessary. Certain management actions are necessary. The status of such areas is subject to review and change according to demonstrated grizzly population and habitat needs. Major Federal activities may affect the conservation of the grizzly bear primarily in that they may contribute toward (a) human-caused bear mortalities or (b) long-term displacement where the zone of influence could affect habitat use in Management Situation I habitat.....26

Management Direction - In Management Situation II grizzly bear habitat, the grizzly bear is an important, but not the primary use of the area. In some cases, habitat maintenance may be an important management consideration. Minimization of grizzly-human conflict potential that could lead to human-caused mortalities is a high management priority. In this management situation, managers would accommodate demonstrated grizzly populations and/or habitat use in other land use activities if feasible, but not to the extent of exclusion of other uses. A feasible accommodation is one which is compatible with (does not make unobtainable) the

major goals and/or objectives of other uses. Management will at least maintain those habitat conditions which resulted in the area being stratified Management Situation II. When grizzly population and/or grizzly habitat use and other land use needs are mutually exclusive, the other land use needs may prevail in management consideration. In cases where the need of habitat resources for recovery has not yet been determined, other land uses may prevail to the extent that they do not result in irretrievable/irreversible resource commitments which would preclude the possibility of eventual restratification to Management Situation I. If grizzly population and/or habitat use represents demonstrated needs that are so great (necessary to the normal needs or survival of the species or a segment of its population) that they should prevail in management considerations, then the area should be reclassified under Management Situation I. Managers would control nuisance grizzlies.....26

Management Situation III.....27

Area Designations - The following developed areas within YNP have been designated as Management Situation III grizzly bear habitat (approximately 495 acres):.....27

Population and Habitat Conditions - In Management Situation III habitat, grizzly bear presence is possible but infrequent. Developments, such as campgrounds, resorts or other high human use associated facilities, and human presence result in conditions which make grizzly bear presence untenable for humans.....27

Management Direction - Grizzly habitat maintenance and improvement are not management considerations. Grizzly-human conflict minimization is a high priority management consideration. Grizzly bear presence and factors.....27

BEAR MANAGEMENT AREAS.....28

A. Firehole: Area (includes Firehole Freight Road and

- Firehole Lake Road) is closed March 10 through the Friday of Memorial Day weekend. The Mary Mountain Trail from the Nez Perce trailhead to Mary Lake is closed March 10 through June 15. Through travel from the Canyon trailhead is not allowed, however, travel is allowed from the Canyon trailhead to Mary Lake and back. Streamside use is allowed from the point where Nez Perce Creek crosses the main road to a point one mile upstream along Nez Perce Creek.....28
- B. Richard's Pond:** Area is closed March 10 through the Friday of Memorial Day weekend. From the Saturday of Memorial Day weekend through September 30, Duck Creek, from the park boundary upstream to the Campanula Creek/Richards Creek fork, is open to streamside travel. The area upstream from Campanula Creek/Richard's Creek fork is closed from March 10 through September 30.....28
- C. Gneiss Creek:** Area is closed March 10 through June 30. From July 1 through November 10, travel is allowed only on designated trails (off-trail travel is prohibited).....29
- D. Gallatin:** From May 1 through November 10, travel is allowed only on designated trails (off-trail travel is prohibited). A minimum group size of four or more is recommended for hiking and camping.....29
- E. Blacktail:** Area is closed March 10 through June 30.....29
- F. Washburn:** Area is closed August 1 through November 10. From March 10 through July 31, the area is open by special permit only. Contact the Tower Ranger Station or Bear Management Office for permit information.....29
- G. Antelope:** Area is closed March 10 through November 10. The Dunraven Road and related turnouts are open. From May 25 through November 10, foot travel is allowed on the old Road Trail from Tower Falls Campground to the Buffalo Picnic Area.....29
- H. Mirror Plateau:** From May 15 through November 10, the area is open to day use only with the exception that from July 1 through August 14 overnight camping is permitted for a combined total of 14 nights per summer at the 301 and 5P7 campsites.....29
- I. Pelican Valley:** Area is closed April 1 through July 3. From July 4 through November 10, the area is open to day-use only between the hours of 9 a.m. and 7 p.m.....29
- J. Clear Creek: Area J1** - From April 1 through August

10, travel is only allowed on the east shore from Nine-mile trailhead to Park Point. All campsites and all other trails are closed and off-trail travel is prohibited. On August 11, all campsites and trails open and off-trail travel is permitted.

29
K. Lake Spawn: From May 15 through July 14, no off-trail travel allowed and the trail between Cabin Creek and Outlet Creek is closed. Open Campsites are 7L5, 7L6, 7L7, 7M3, 7M4, 6A3, and 6B1 (no travel away from campsite). All other campsites are closed. On July 15 all campsites and trails open and off trail-travel is permitted.....	30
L. Two Ocean: From March 10 through July 14 and August 22 through November 10 , travel is allowed only on designated trails (off-trail travel is prohibited). From July 15 through August 21, a permit is required for persons wishing to travel away from designated trails. Contact the South Entrance Ranger Station for permit information.....	30
M. Riddle/Solution: Area is closed April 30 through July 14.....	30
N. Grant Village: Campground opens June 20 or earlier if bear use of the area spawning streams is over prior to that time. If bears are still frequenting the spawning streams after June 20, the campground loops adjacent to the stream(s) will remain closed until bear activity ceases. Campground closes October 16.....	30
O. Heart Lake: Area is closed April 1 through June 30.....	30
Bear Management Area Signs	32
Reduction Of Bear-Human Conflicts	33
Developed Areas	33
Removal Of Human Food, Garbage And Other Attractants	33
Other Measures To Reduce Bear-Human Conflict In Developed Areas - The following preventive management actions will be implemented within specific developed areas to reduce the potential for bear-human conflict:.....	34
Management Of Bears Frequenting Developed Areas - Report all bear sightings, management actions, warnings, closures, confrontations, bear-caused human injuries or property damages, and potential or developing conflicts within developed areas promptly to the Bear Management Office or the	

Communications Center (after hours).....	34
Roadside Corridors.....	36
Removal Of Human Foods, Garbage And Other	
Attractants - The availability of human food and garbage sources to bears along roadsides is recognized as a major potential cause of bear management problems and related public safety hazards within YNP. An objective of this plan is to eliminate unnatural attractants to bears so that bear control actions are not required.....	36
Other Measures To Reduce Bear-Human Conflict Along Roadsides.....	36
Management Of Bears Frequenting Roadside Areas.....	36
Backcountry Areas.....	37
Removal Of Human Foods, Garbage, And Other Attractants	
- The availability of human food and garbage to bears in backcountry campsites is considered as a major potential cause of bear management problems and related public safety hazards within the backcountry of YNP. An objective of this plan is to eliminate.....	37
Bears Frequenting Backcountry Trails, Campsites, and Cabins.....	38
Backcountry Trails - If any bear is consistently frequenting a backcountry trail the trail should be investigated to determine the attractant.....	38
Backcountry Campsites - If any bear is frequenting a designated backcountry campsite the campsite should be patrolled to determine the attractant.....	38
Backcountry Patrol Cabins - If any bear is frequenting a Patrol Cabin, the cabin, barn, and tool sheds should be checked for attractants. Any attractants should be removed or properly secured. Check shutters and doors for secure fit. Food, horse feed, garbage, or other attractants are not to be stored in non bear-proof barns, sheds, or enclosed porches. Resecure cabins when unattended for more than short periods of time.....	39
Emergency/Temporary Bear Safety Warnings.....	39
Emergency/Temporary Area Closures.....	40
Incident Investigation For Bear-Human Conflict Situations.....	43
Carcass Management.....	43
Carcasses In Developed Areas - All wildlife carcasses within developed areas will be	

disposed of if they pose a potential conflict/hazard to visitors (due to bear activity) or an unaesthetic (though natural) situation within a developed area.....44

Carcasses Along Roadside Corridors - All wildlife carcasses along road corridors that pose a potential conflict/hazard to visitors (due to bear activity) or a hazard to bears (danger of being hit by a vehicle while attempting to scavenge) will be disposed of.....45

Carcasses In Backcountry Areas - Wildlife carcasses in backcountry areas will be left on site for consumption by bears and other scavengers. If carcasses in backcountry areas pose a potential safety threat to backcountry users, the surrounding area, trails, or campsites will be temporarily closed and appropriately signed. The area should be monitored so that it may be reopened as soon as the carcass is no longer an attractant (see Emergency/Temporary Area Closures).....45

Carcasses Of Stock Animals - All stock users are responsible for carcasses of any of their stock animals (horses, mules, burro's, and llama's) that die within YNP. Dead stock shall be moved at least 100 yds from any campsite or trail and at least 100 yds from any streams or lakes. No attempt should be made to bury the carcass. Stock users must notify a park ranger of their dead stock as soon as possible.....45

Bear Carcasses - Any bear killed within the park by any means (natural or man-caused) will be reported immediately by phone or radio to the Bear Management Office or Communications Center (after hours). The Bear Management Office will be responsible for species identification and proper disposal of all bear carcasses.....45

Carcass Disposal Areas - Whenever possible, carcasses will be distributed spatially and temporally so as not to create a non-natural accumulation of scavenger food or "feeding site." However, due to the high number of road-kills and the limited number of carcass disposal sites, the park recognizes that bears and other scavengers will be attracted to, and learn to return to these sites to find carcasses. Carcass disposal sites will

be appropriately signed with closure signs when carcasses are present.....	45
North District	46
Lake District	46
Snake River District	46
West District	47
BEAR MANAGEMENT ACTIONS	48
Training	48
Firearms	49
Trapping And Capturing Bears	51
Bear Bait	52
Free-Darting Of Bears	52
Human Safety During Trapping/Capture Operations	52
Immobilization Of Bears	52
Approved Drugs	52
Drug Acquisition	53
Drug Storage And Inventory	53
Safety Protocol For Use Of Immobilization Agents	53
KETAMINE AND TELAZOL (TILETAMINE-ZOLAZEPAM)	54
ROMPUN (XYLAZINE HCL)	55
ETORPHINE (M-99) AND CARFENTANIL	55
NALTREXONE HYDROCHLORIDE	56
Bear Immobilization And Handling Procedures	57
Keeping Bears Overnight	58
Marking Bears	58
Relocation Of Nuisance Bears	58
Guidelines For Determining When To Relocate A Bear	58
Selection Of Relocation Sites	58
Removal Of Nuisance Bears	59
Guidelines For Determining When To Remove Nuisance Bears	59
Procedures For Removal Of Nuisance Bears	60
Management Hazing Of Bears	60
Definition	60
Goals	60
Guidlines For Determining When To Use Aversive Conditioning	61
Procedures For Use Within Yellowstone National Park	62
Cracker shells - May be used by all shotgun certified park rangers and resource management personnel to move bears away from roadsides, developed areas, backcountry campsites, or any situation when there is a bear-related human safety or crowd control problem.....	62

Bear Deterrent Rounds	- May only be used by ranger and resource management personnel that have been trained in use of these rounds. An annual qualification is also required. The course is fired at a 12 inch diameter scoring ring from a distance of 40 yards. Any hit inside the 12 inch ring is scored as one point per hit; any hit outside the 12 inch ring is scored as zero. A score of 80% (4 hits out of 5 shots) is required for qualification.....	63
Thumper Gun	- May be used only after approval by the Bear Management Committee for each individual bear. May only be used by ranger and resource management personnel that have been trained in the use of this weapon. An annual qualification is also required. The course is fired at a 12 inch diameter scoring ring from a distance of 15 yards. Any hit inside the 12 inch ring is scored as on point per hit; any hit outside the 12 inch ring is scored as zero. A score of 80% (4 out of 5 shots) is required for qualification.....	63
Sling Shots	- May be used by ranger and resource management personnel to move bears away from roadsides, developed areas, backcountry campsites, or any situation when there is a bear-related human safety or crowd control problem.....	64
Photography Of Bear Management Operations	64
BEAR RESEARCH	66

INTRODUCTION

The staff of Yellowstone National Park (YNP) is responsible for protecting and maintaining natural populations of grizzly bears and black bears as part of the park's native fauna and providing park visitors the opportunity to safely enjoy the park's natural resources. As part of this goal, the chance of bear-human conflicts (bear-caused human injuries and property damages) will be minimized through public education; management of human foods, garbage, and other attractants; and the direction and regulation of human activity. Direct manipulation of bears or their habitat will be kept to a minimum.

Throughout this plan, preventative management is emphasized as the first step toward solving bear management problems within the park. Efforts should be made continually to identify the causes of bear related problems. These causes, and not just the symptoms, should be the primary target of management actions.

This management plan is intended to provide guidance and direction to park employees responding to bear management situations occurring within the park. Although these guidelines are detailed, they are not intended to restrict personnel solely to predetermined courses of action. Bears are highly individualistic animals. Different bears may respond differently to similar situations and the same bear may not always respond the same way to the same type of situation. Park personnel must rationally evaluate each situation and act accordingly.

The Annual Bear Management plan complements and should be coordinated with other park planning documents. The park's *Master Plan, Yellowstone National Park (1973); Final Environmental Impact Statement, Grizzly Bear Management Program, Yellowstone National Park (1983); Statement for Management, Yellowstone National Park (1991); NPS-77 (1991); and Resource Management Plan, Yellowstone National Park (1995)* contain comprehensive information concerning policies, goals, and priorities for resource management within YNP.

In addition to this Annual Bear Management Plan, management actions involving grizzly bears shall also follow the *Interagency Grizzly Bear Guidelines (1985); the Grizzly Bear Recovery Plan (1993); 50 CFR 17.40; 36 CFR 1.2; U.S. Fish and Wildlife Service, Section 10 Regional Permit #PRT-740930, subpermit #87-1; and all regulations and guidelines set forth in the Endangered Species Act, as they pertain to the threatened grizzly bear.*

OBJECTIVES

1. To preserve and maintain the processes affecting the genetic integrity, distribution, abundance and behavior of the black bear and grizzly bear populations within the park.
2. To educate visitors and employees about bear ecology, the causes of bear-human conflicts, and how they can help prevent these conflicts and the resulting personal injuries, property damages, and subsequent removal of bears, through their personal actions and compliance with regulations.
3. To make all anthropogenic food sources unavailable to bears.
4. Alert visitors to the presence of bears and the inherent dangers of hiking and camping in bear country and educate visitors on how to avoid surprise encounters with bears and how to react to encounters, confrontations, and attacks once they occur.
5. To provide opportunities for visitors to understand, observe and appreciate grizzly bears and black bears in their natural habitat with a minimum of interference and influence by humans.

ORGANIZATION

All biological aspects of bear management including distribution, movements, behavior, food habits, habitat use, genetics, and population monitoring and research will be under the direction of the Director, Yellowstone Center for Resources and coordinated through the Bear Management Office. All human safety and law enforcement aspects of bear management including bear management actions, emergency closures, restrictions, or warnings for reasons related to bears, seasonal bear closures, Bear Management Areas, bear management signs, and carcass disposal, will be under the direction of the Chief Ranger and coordinated through the Bear Management Office and the District Rangers.

Bear Management Committee

A Bear Management Committee shall be responsible for all decisions to initiate trapping, immobilization, translocation, aversive conditioning, or management removal of nuisance bears. The committee shall consist of the Chief Ranger (or his designee) as chairman, plus, a minimum of at least one person (or designee) from the following three positions: Bear Management Specialist, Chief, Branch of Natural Resources, or Director, Yellowstone Center for Resources; and, at least one person (or designee) from the following three positions: Assistant Chief Ranger, or District or Sub-district Ranger from the district in which the bear is a management concern. A permanent record of each bear management committee meeting will be maintained by the Bear Management Office.

Field Activities

The Chief Ranger; District Rangers; Sub-district Rangers; Director, Yellowstone Center for Resources; Chief, Branch of Natural Resources; and Bear Management Office staff are responsible for implementing the Annual Bear Management Plan. All bear management field activities will be coordinated through the Bear Management Office. This includes all trapping, free-darting, handling, translocations, management hazing, bear related area warnings and closures and bear research.

Bear Activity Monitoring/Reporting System

Each park employee is responsible for reporting to the Bear Management Office **all** the bears and bear sign (tracks, scats, feeding sign, etc.) he/she observes and for forwarding to the Bear Management Office all reports of bear activity received from visitors. All sightings of bears or bear sign in situations that may pose an immediate threat to human safety should be reported immediately by phone or radio to subdistrict patrol personnel, the Communications Center, or the Bear Management Office. Bear sightings that do not involve human safety concerns are also to be reported. However, these sightings may be called in to the Bear Management Office directly by phone (extension 2162), or recorded on the Bear Sighting Form (YELL 373) and mailed to the Bear Management Office through Park mail. All sightings of bears or bear sign (tracks, scats, feeding sign, etc.) are important for both current and future resource management, park planning, visitor protection, and research projects.

The following information will be reported by telephone or through park mail in a timely matter:

1. Bear Sightings - All bear sightings and observations of scats, tracks, diggings, or other bear sign. Especially evidence of bear activity in or near developed areas, auto campgrounds, backcountry campsites, and trails.
2. Any bear incident or management action including trail warnings, restrictions or closures due to bear activity (also see Closure ROP A-2-h).
3. Confrontations or encounters with bears in which evasive action was required to avoid contact.
4. Any known death of a bear, regardless of cause.
5. Any information regarding the death, or possible death of a bear.

Responsibility:

The Bear Management Office will:

1. Maintain the permanent park bear management records.
2. Record all bear sighting and sign reports on the Bear Sighting Form (YELL 373).

3. Code and enter into the computerized data base all bear sighting reports.
4. Report all incidents of bear-human conflict (bear-caused human injuries, property damages, and confrontations) as well as all incidents involving dead or injured bears to the Chief Ranger and ranger personnel from the Subdistrict in which the incident occurred.
5. Report all management actions including implementation of warnings, restrictions, and closures related to bear incidents as well as all trapping, handling, or management hazing of bears to the Chief Ranger and ranger personnel from the Subdistrict in which the management action took place.
6. Provide the Chief Ranger and appropriate Subdistrict staff with a periodic list of sightings, incidents and management actions occurring within their subdistricts.
7. Write an annual summary of all bear management activities occurring within the park. The summary will contain the number of bear sightings, bear-human confrontations, bear-caused human injuries, and all bear-caused property damage; as well as all management actions including management hazing, relocations, and removals of bears. These incidents and management activities will be reported by species of bear and subdistrict in which they occurred.

The objectives of the Bear Monitoring/Reporting System are:

1. To provide park staff and field personnel with pertinent and immediate information for their use in making logical decisions regarding bear/people management.
2. To provide base information for Visitor Protection, Resource Management and Research Programs.
3. To provide accurate information for alerting field personnel of potentially hazardous bears and/or bear situations.

BEAR SAFETY WARNINGS AND EDUCATIONAL INFORMATION

Educational and warning literature, posters, and signs related to bears will be evaluated annually as to content and effectiveness.

Literature, posters or signs which are outdated or no longer necessary will be immediately removed from distribution and/or no longer used.

Responsibility: The Bear Management Office is responsible for designing, and distributing (to the sub-districts) all bear management related signs and brochures. The Visitor Services Office is responsible for purchasing all bear management related signs and brochures. District Rangers are responsible for assuring the dissemination of all bear safety information to employees and the public.

Before Visitors Arrive In The Park

The Yellowstone Guide, which contains the bear safety warning articles "Bears Are Dangerous" and "Hiking And Camping In Bear Country" will be included in responses to mail inquiries about visiting Yellowstone National Park. These articles will be reviewed annually by the Chief Rangers Office and the Bear Management Office and evaluated as to content and effectiveness.

Entrance Stations

Everyone entering Yellowstone National Park through entrance stations will be given bear safety information in the following ways:

- 1. Wildlife Warning Sign (Required)** - Each entrance station will display the following sign: "Park Regulations Prohibit Feeding or Molesting of Animals -Warning Bears and Other Large Animals are Dangerous - For Your Safety Do Not Feed Wildlife - View From A Safe Distance". Approximately 6'x 6', brown with white letters.

2. **Park Newspaper "Yellowstone Today" (Required)** - The Spring, Summer, and Fall issues of the Park Newspaper "Yellowstone Today" distributed at all entrance stations will contain the following bear warning information articles: "Bears are Dangerous" and "Hiking and Camping in Bear Country." The park newspaper will be made available to the public when entrance stations are not staffed.
3. **Radio Information Station (Optional)** - Entrance stations serviced by the 1610 AM radio information station may have a bear safety/food storage message included in the informational message. The message should be consistent with the warning messages outlined in the "Bear Safety Warnings And Educational Information section, pages 5 - 12, this plan. The District Ranger is responsible for ensuring that the radio message is reviewed annually and updated as needed.

Developed Area Campgrounds

Visitors staying in developed area campgrounds will be given bear safety and food storage information in the following ways:

1. **Campground Entrance Warning Sign (Required in all NPS and Concession campgrounds)** - "BEAR COUNTRY - Store all food in vehicle - Read board regulations - All wildlife are dangerous." Signs currently in use are 26"x39", dark brown wooden signs with a red stripe and white letters.

NPS Distribution: Available from the Sign Shop.
2. **Campground Receipt (Required in all NPS campgrounds)** - The receipt stub on all campground fee envelopes will have the following bear warning/safety message printed on it:
Warning! Food must be secured. Read Regulations on Bulletin Board. Regulations strictly enforced.

NPS Distribution: Available from the Visitor Services Office.
3. **Campground Registration Flyer (Required in all Concession campgrounds)** - "CAMPGROUND GUIDELINES FOR A SAFE AND ENJOYABLE STAY IN YELLOWSTONE PARK." 8 1/2" x 11" flyer with green letters. To be distributed by campground registration office employees at all concession campgrounds.
(Used in Concession campgrounds instead of campground

receipt).

4. **Campground Registration Board Sign (Required in all NPS and Concession campgrounds)** - "Campground Rules" 11"x14" white sign with black letters. This sign must include the following messages:

a.) When not in use keep all food, beverages, cooking utensils, stoves, pet food, and empty or full food and beverage containers such as coolers, ice chests, and water jugs stored inside a hard-sided vehicle or suspended at least ten (10) feet above the ground and four (4) feet horizontally from a post or tree trunk; or in a food storage box (provided in some campsites). A citation will be issued for non-compliance.

b.) All trash and garbage must be disposed of in the provided bear-proof trash cans.

NPS Distribution: Available from the Visitor Services Office.

5. **Campground Rest-Room/Bulletin Board Sign (Required to be posted on all NPS and Concession campground information bulletin boards, rest rooms and vault toilets)** - "Warning Yellowstone Is Bear Country - Bears Are Attracted By Food And Odors - Keep A Clean Camp." Signs currently in use are 11"x14" white or yellow sign with black letters.

NPS Distribution: Available from the Bear Management Office.

6. **Picnic Table Warning Sign (Required on all NPS and Concession campground picnic tables)** - "Warning Food and Odors attract Bears." 5"x7" white or yellow sign with black letters.

NPS Distribution: Available from the Bear Management Office.

7. **Bear Safety and Food Storage Flyer (Optional)** - "Warning Food & Odors Attract Bears." 5 1/4" x 8 1/2" yellow flyer with black letters. To be distributed by rangers to visitors that have not properly secured odorous items.

Distribution: Available from the Mail Room (Yell 368b).

8. **Verbal Warnings (Optional, as staffing and time allow)** - Issued by park rangers during routine food security patrols. Discuss the following information:

a.) The risk of having a conflict is low, however there are no guarantees of your safety when camping in bear country. Visitors have been injured and killed by bears.

b.) Odors attract bears and other wildlife; keep a clean camp. Federal regulations require that when not in use all odorous items including food, garbage, and equipment used to cook or store food as well as all other potential attractants (items with strong odors such as toiletries) must be kept properly stored day or night, except when being consumed or prepared for consumption. The following items (new, clean, dirty, empty, or full) may **NOT** be left outside, in tents, or in tent trailers at any time, **DAY OR NIGHT**, unless they are in immediate use: water containers; cooking, eating, or drinking utensils; stoves; beverage containers; grills, empty or full coolers or ice chests; all trash and trash bags in the campsite including trash in the fire pit; food; cosmetics; toiletries; pails, buckets, and wash basins, pet food and pet food and water bowls; and any other odorous item.

c.) Bear attractants may be stored in the trunk of a car or cab of a truck, in a solid camping trailer that is constructed of non-pliable material (never in a tent or pop-up tent trailer), in a food storage box (provided in some campsites), or by hanging at least 10 feet above the ground and 4 feet horizontally from a post or tree trunk.

d.) A violation of these rules may result in a citation and/or temporary seizure of these items.

9. Radio Message (Optional) - Campgrounds serviced by the 1610 a.m. radio information station may have a bear safety/food storage message included in the informational message. The message should be consistent with the verbal warning message outlined on page 8, of this section. The District Ranger is responsible for ensuring that the radio message is reviewed annually and updated as needed.

10. Fishing Bridge R.V. Park Sign (Required in Fishing Bridge R.V. Park Only) - "Hard Sided Vehicles Only - Closed To Tents - Tent Trailers, Pop-Ups and Sleeping On the Ground - High Bear Frequency." Yellow wooden sign with brown letters.

The signs listed above will be posted prior to the opening of campgrounds and checked throughout the summer by ranger personnel. Signs that are stolen or damaged through weathering

and/or vandalism will be replaced as soon as possible within the limits of available staff and budgets.

Backcountry Permit Issuing Stations

All visitors receiving backcountry permits will be given bear safety and warning information covering the following topics: **camping in bear country, bear-human encounters, and proper food storage** (also see ROP R-6-c). The bear safety information will be given in at least one of the following ways:

1. Beyond Road's End (Required) - Sixteen page booklet (revised 4/92).
2. Verbal Warnings (Optional) - As per check list Yell 346 (revised 7/92, also see ROP R-6-c). Discuss the following information:
 - a.) The risk of having a conflict is low, however, there are no guarantees of safety.
 - b.) Make your presence known, hike in groups, and make noise (wear bells, whistle, talk loudly or sing) to avoid a sudden encounter.
 - c.) If you see a bear, give it plenty of room. Do not make abrupt moves or noises that would startle a bear. If you can't detour, wait until the bear moves away from your route. Do not approach a bear for a better view or for a photograph. If a conflict occurs - DO NOT RUN. If there is adequate time to climb a tree you may want to do so. However, you must be certain you have time to climb out of reach of the bear. There have been times when a bear has followed people up the tree and drug them out. You may want to drop an object in order to divert the bear's attention. It is best to drop something other than a your pack as it will help protect your back. In a close encounter situation, some people have been successful in avoiding an attack by either standing still or backing away slowly and talking to the animal in a calm voice. Some wildlife observers believe that avoiding eye contact is also less threatening to the animal. If you are caught by a bear or are sure the bear is going to attack, try playing dead. Curl up into a ball lying on both legs with your legs drawn up to your chest and clasp your hands over the back of your

neck. This technique has been especially successful during encounters with female bears accompanied by cubs of the year.

d.) Odors attract bears and other wildlife; secure food, garbage, and all other possible attractants (items with strong odors such as toiletries) by hanging them at least 10 feet off the ground and 4 feet from the tree trunk when not in use - both day and night; keep your sleeping area clean and free of food scraps and odors, and hang the clothes you wore while cooking and eating.

e.) Do not camp in an area where recent bear sign exists. Do not sleep along hiking trails, game trails, or stream-sides; these areas are often used by bears as travel corridors.

f.) Sleep at least 100 yards away, and whenever possible, upwind from the area where you prepare your meals and hang your food, garbage, and other attractants (Fig. 1).

g.) Discuss any pertinent bear activity in the vicinity of the trip itinerary. Parties that will be traveling through or near an established Bear Management Area should be notified of the restrictions and be issued a copy of the Bear Management Area handout. Instruct the party to accurately report any bear incidents, sightings or bear sign observations to a park ranger, ranger station, or visitor center.

3. Backcountry Safety Video Program (Optional) - Backcountry safety video approximately 15 minutes long.
4. Frequent User's Card (Optional) - Frequent users of the backcountry in Yellowstone National Park may apply for a "Frequent Users Card" after they have been given all of the standard bear warning information, have watched the backcountry safety slide/tape program, and have received a copy of Beyond Roads End. The card allows frequent users to obtain a backcountry permit without being given the standard bear warnings each time a permit is obtained. Any special emergency bear warnings must still be relayed to the permittee.
5. Additional Information (Optional) - In addition to the above information, the following bear information pamphlets may be distributed to people obtaining backcountry permits (while supplies last): "Entering Grizzly Country - A Risk", and "Bear Us In Mind, Grizzly Country."

Figure 1. Diagram of suggested layout of cooking, food storage, and sleeping areas for backcountry campsites in Yellowstone National Park.

Trailhead Information Boards

The following signs will be displayed at all trailheads designated under the Park's Backcountry Management Plan to have trailhead display boards:

1. Trailhead Poster (Required) - "Danger Entering Bear Country - a Risk" trailhead poster. 11" x 14" black letters on white background. This sign will be posted at all designated trailheads within the park. The poster contains the following bear warning information: avoiding bear/human encounters, reacting to an encounter if one occurs, and proper food storage. Revised 8/92.
2. Trailhead Poster (Required) - "Attention Yellowstone Backcountry Users - Overnight Stops Require A Backcountry Permit" trailhead poster. 11" x 14" black letters on white background. This sign will be posted at all designated trailheads within the park. This poster informs visitors that a backcountry permit is required for overnight camping. When obtaining a permit, the permittee will be given the required bear safety information concerning camping in bear country. Revised 8/92.

Trailhead information signs will be reviewed and potentially redesigned as part of the new Backcountry Trailhead Wayside Exhibits Plan.

Interpretive Programs

All interpretive staff should be knowledgeable of, and able to answer visitors questions concerning safety recommendations for hiking and camping in bear country. All campfire interpretive programs are required to present a short safety message containing information about hiking and camping in bear country.

The following references containing bear safety information are available from the Bear Management Office:

1. Beyond Road's End - Sixteen page booklet (revised 4/92).
2. Bear Us In Mind, Grizzly Country. Bear safety information pamphlet.
3. Ranger Operating Procedures R-6-C. Contains information concerning camping in bear country, bear-human encounters, and proper food storage.

4. Herrero, S. M. 1985. Bear Attacks - Their Causes and Avoidance. Winchester Press, New Century Publishers, Inc., Piscataway, N.J. 287pp. Available at the research library and most ranger stations.
5. Bears and Menstruating Women. Information Paper No. BMO-7. Also available from the mailroom (Yell 467).
6. Bear-Inflicted Human Injuries in Yellowstone, 1970-1994, A Cautionary and Instructive Guide to Who Gets Hurt and Why. Yellowstone Science 4 (1):2-9.
7. Also see Backcountry Permit Issuing Stations, pages 9 - 11, this report.

Employee Residential Areas

Bear safety information will be distributed to all National Park Service and park concession employee's by the following methods:

1. Residential Area Bear Information Pamphlet (Required) - The pamphlet "Living in Bear Country" will be distributed throughout all government employee residential areas within Park. Distribution should be completed by June 30. The pamphlet will be distributed to concession employees through their hiring packets. Revised 1/93.
2. Yellowstone News Employee Newsletter (Required) - The newsletter version of the pamphlet "Living In Bear Country" will be printed in two spring (May - June) issues of the "Yellowstone News." Revised 5/92.
3. Employee Orientation Sessions (Required) - Bear safety information concerning living, hiking, and camping in bear country will be presented at all Employee Orientation Sessions. The message should be consistent with the "Living In Bear Country" pamphlet and the verbal warning message outlined on pages 9-11 of this plan.

Educational Bear Information

The following bear information handouts are available from the Bear Management Office for distribution to interested staff, visitors, students, or the general public:

1. "Yellowstone National Park Bear-Related

- Injuries/Fatalities." BMO-1. 2 pages. Revised 1/95.
2. "Characteristics of Black Bears and Grizzly Bears in Yellowstone National Park." BMO-2. 2 pages. Revised 3/94.
 3. "Food Habits of Grizzly Bears in Yellowstone National Park." BMO-3. 2 pages. Revised 6/94.
 4. "Where Are All the Bears?" BMO-4. 2 pages. Revised 1/95.
 5. "Bear Management Area Program, Yellowstone National Park" BMO-5. 4 pages. Revised 1/95.
 6. "Recovery Parameters For Grizzly Bears In The Yellowstone Ecosystem." BMO-6. Revised 1/96.
 7. "Bears and Menstruating Women." BMO-7. 2 pages. Revised 1/95.
 8. Grizzly Bears and Cutthroat Trout: Potential Impacts of the Introduction of Non-Native Lake Trout to Yellowstone Lake. BMO-8. Revised 5/95.
 9. Potential Interactions Between Black Bears, Grizzly Bears, and Gray Wolves in Yellowstone National Park. BMO-9. Revised 6/95.
 10. "Bear Information Book". Compiled by the Bear Management Office, YNP. Revised 5/96.

AREA MANAGEMENT

Management Situation Designations

The Interagency Grizzly Bear Guidelines (1986) require that all Federal land management agencies within the Greater Yellowstone Area designate appropriate bear management situations for the land areas they manage. The management situation designations act as a guide for resource management planning, as well as management of human and bear activity within the designated areas. Three different grizzly bear management situations (I, II, and III) have been designated within YNP.

Management Situation I

Area Designations - All backcountry areas and areas adjacent to roadsides (but outside developed areas) within YNP are designated as Management Situation I grizzly bear habitat. This includes approximately 2,218,652 acres within the park.

Population and Habitat Conditions - Management Situation I areas contain grizzly bear population centers (areas key to the survival of grizzly bears where seasonal or year-long grizzly activity, under natural, free ranging conditions is common) and habitat components needed for the survival and recovery of the species or a segment of its population. The probability is very great that major Federal activities or programs may affect (have direct or indirect relationships to the conservation and recovery of) the grizzly.

Management Direction - In Management Situation I grizzly bear habitat, habitat maintenance and grizzly-human conflict minimization will receive the highest management priority. Management decisions will favor the needs of the grizzly bear when grizzly bear habitat and other land use values compete. Land uses which can affect grizzlies and/or their habitat will be made compatible with grizzly bear needs or such uses will be disallowed or eliminated. Grizzly bear-human conflicts will be resolved in favor of grizzly bears unless the bear involved is determined to be a nuisance. Nuisance bears may be controlled through either relocation or removal but only if such control would result in a more natural free-ranging grizzly bear population and all reasonable measures have been taken to protect the bear and/or its habitat (including area closures and/or activity curtailments).

Management Situation II

Area Designations - The following developed areas within YNP have been designated as Management Situation II grizzly bear habitat (approximately 2,619 acres):

1. Tower/Roosevelt (95 acres)
2. Tower Fall (29 acres)
3. Norris (138 acres)
4. Canyon (508 acres)
5. Fishing Bridge (188 acres)
6. Lake (202 acres*)
7. Bridge Bay (281 acres*)
8. Grant Village (492 acres*)
9. Madison (202 acres)
10. Old Faithful (395 acres)
11. West Entrance (89 acres)

*Spawning streams within these areas remain **Situation I**

Population and Habitat Conditions - Current information indicates that the area lacks distinct population centers; highly suitable habitat does not generally occur, although some grizzly habitat components exist and grizzlies may be present occasionally. Habitat resources in Management Situation II either are unnecessary for survival and recovery of the species, or the need has not yet been determined but habitat resources may be necessary. Certain management actions are necessary. The status of such areas is subject to review and change according to demonstrated grizzly population and habitat needs. Major Federal activities may affect the conservation of the grizzly bear primarily in that they may contribute toward (a) human-caused bear mortalities or (b) long-term displacement where the zone of influence could affect habitat use in Management Situation I habitat.

Management Direction - In Management Situation II grizzly bear habitat, the grizzly bear is an important, but not the primary

use of the area. In some cases, habitat maintenance may be an important management consideration. Minimization of grizzly-human conflict potential that could lead to human-caused mortalities is a high management priority. In this management situation, managers would accommodate demonstrated grizzly populations and/or habitat use in other land use activities if feasible, but not to the extent of exclusion of other uses. A feasible accommodation is one which is compatible with (does not make unobtainable) the major goals and/or objectives of other uses. Management will at least maintain those habitat conditions which resulted in the area being stratified Management Situation II. When grizzly population and/or grizzly habitat use and other land use needs are mutually exclusive, the other land use needs may prevail in management consideration. In cases where the need of habitat resources for recovery has not yet been determined, other land uses may prevail to the extent that they do not result in irretrievable/irreversible resource commitments which would preclude the possibility of eventual restratification to Management Situation I. If grizzly population and/or habitat use represents demonstrated needs that are so great (necessary to the normal needs or survival of the species or a segment of its population) that they should prevail in management considerations, then the area should be reclassified under Management Situation I. Managers would control nuisance grizzlies.

Management Situation III

Area Designations - The following developed areas within YNP have been designated as Management Situation III grizzly bear habitat (approximately 495 acres):

1. Gardiner (49 acres)
2. Mammoth (446 acres)

Population and Habitat Conditions - In Management Situation III habitat, grizzly bear presence is possible but infrequent. Developments, such as campgrounds, resorts or other high human use associated facilities, and human presence result in conditions which make grizzly bear presence untenable for humans and/or grizzlies. There is a high probability that major Federal activities or programs may affect the species' conservation and recovery.

Management Direction - Grizzly habitat maintenance and improvement are not management considerations. Grizzly-human conflict minimization is a high priority management consideration. Grizzly bear presence and factors

contributing to their presence will be actively discouraged. Any grizzly involved in a grizzly-human conflict will be controlled. Any grizzly bear frequenting an area will be controlled.

BEAR MANAGEMENT AREAS

In addition to Management Situation designations, the park implemented a Bear Management Area program in 1983. The Bear Management Area program restricts recreational use in areas with seasonal concentrations of grizzly bears. The goals behind these restrictions are to: (1) minimize bear/people interactions that may lead to habituation of bears to people; habituated bears are often removed from the population due to concern for human safety, (2) prevent human caused displacement of bears from prime food sources, and (3) decrease the risk of human injury in areas with high levels of bear activity. See map figure 3 or detailed maps located in the Bear Management Office or the Chief Rangers Office for Bear Management Area locations.

Exceptions to the Bear Management Area restrictions are required for administrative use (research, patrols, monitoring, etc.) and shall be coordinated through the Subdistrict Ranger and the Bear Management Office and approved by the Chief Rangers Office prior to such use.

Responsibility: District Rangers are responsible for coordinating enforcement of all Bear Management Area closures or restrictions within their district. The Chief Ranger or Assistant Chief Ranger are responsible for approving all administrative use of Bear Management areas. The Bear Management Office is responsible for maintaining a record of all administrative use of Bear Management Areas.

The following areas are designated as Bear Management Areas for the 1994 season:

- A. **Firehole:** Area (includes Firehole Freight Road and Firehole Lake Road) is closed March 10 through the Friday of Memorial Day weekend. The Mary Mountain Trail from the Nez Perce trailhead to Mary Lake is closed March 10 through June 15. Through travel from the Canyon trailhead is not allowed, however, travel is allowed from the Canyon trailhead to Mary Lake and back. Streamside use is allowed from the point where Nez Perce Creek crosses the main road to a point one mile upstream along Nez Perce Creek.
- B. **Richard's Pond:** Area is closed March 10 through the Friday of Memorial Day weekend. From the Saturday of Memorial Day

weekend through September 30, Duck Creek, from the park boundary upstream to the Campanula Creek/Richards Creek fork, is open to streamside travel. The area upstream from Campanula Creek/Richard's Creek fork is closed from March 10 through September 30.

- C. **Gneiss Creek**: Area is closed March 10 through June 30. From July 1 through November 10, travel is allowed only on designated trails (off-trail travel is prohibited).
- D. **Gallatin**: From May 1 through November 10, travel is allowed only on designated trails (off-trail travel is prohibited). A minimum group size of four or more is recommended for hiking and camping.
- E. **Blacktail**: Area is closed March 10 through June 30.
- F. **Washburn**: Area is closed August 1 through November 10. From March 10 through July 31, the area is open by special permit only. Contact the Tower Ranger Station or Bear Management Office for permit information.
- G. **Antelope**: Area is closed March 10 through November 10. The Dunraven Road and related turnouts are open. From May 25 through November 10, foot travel is allowed on the old Road Trail from Tower Falls Campground to the Buffalo Picnic Area.
- H. **Mirror Plateau**: From May 15 through November 10, the area is open to day use only with the exception that from July 1 through August 14 overnight camping is permitted for a combined total of 14 nights per summer at the 301 and 5P7 campsites.
- I. **Pelican Valley**: Area is closed April 1 through July 3. From July 4 through November 10, the area is open to day-use only between the hours of 9 a.m. and 7 p.m.
- J. **Clear Creek**: **Area J1** - From April 1 through August 10, travel is only allowed on the east shore from Nine-mile trailhead to Park Point. All campsites and all other trails are closed and off-trail travel is prohibited. On August 11, all campsites and trails open and off-trail travel is permitted.
Area J2 - From April 1 through July 14, travel is allowed only on the east shore trail from Park Point to Beaverdam Creek. All other trails are closed and off-trail travel is prohibited. Open campsites are 5E3, 5E4, 5E6, and 5E8 (no travel away from campsite). All other campsites are closed. On July 15, all campsites and trails open and off-trail

travel is permitted.

- K. **Lake Spawn**: From May 15 through July 14, no off-trail travel allowed and the trail between Cabin Creek and Outlet Creek is closed. Open Campsites are 7L5, 7L6, 7L7, 7M3, 7M4, 6A3, and 6B1 (no travel away from campsite). All other campsites are closed. On July 15 all campsites and trails open and off trail-travel is permitted.
- L. **Two Ocean**: From March 10 through July 14 and August 22 through November 10 , travel is allowed only on designated trails (off-trail travel is prohibited). From July 15 through August 21, a permit is required for persons wishing to travel away from designated trails. Contact the South Entrance Ranger Station for permit information.
- M. **Riddle/Solution**: Area is closed April 30 through July 14.
- N. **Grant Village**: Campground opens June 20 or earlier if bear use of the area spawning streams is over prior to that time. If bears are still frequenting the spawning streams after June 20, the campground loops adjacent to the stream(s) will remain closed until bear activity ceases. Campground closes October 16.
- O. **Heart Lake**: Area is closed April 1 through June 30.

Figure 2. Map of Bear Management Area locations in Yellowstone National Park, 1996.

Bear Management Area Signs

Major entry points to all Bear Management Areas (BMA's) shall be marked with the appropriate sign(s):

1. "Area Beyond This Sign Closed To All Travel - Bear Management Area." Paper sign 8 1/2" x 11" black letters on white background. For temporary use in seasonally closed areas.
2. "Area Beyond This Sign Closed - Bear Management Area." Aluminum or wood sign 10" x 6". For long term use in seasonally closed areas.
3. "You Are Entering A Bear Management Area, No Off Trail Travel, May 1st - November 10" For use in the Gallatin Bear Management Area.
4. Bear Management Area Interpretive Signs - Interpretive signs shall be developed for posting at major entry points to all Bear Management Areas with roadside access. The interpretive signs should contain information concerning both human safety and the importance of the area to bears. Bear Management Area interpretive signs are currently available for the Pelican Valley, Firehole, and Clear Creek BMA's.

Reduction Of Bear-Human Conflicts

Developed Areas

Removal Of Human Food, Garbage And Other Attractants - The availability of human food and garbage sources to bears is recognized as a major potential cause of bear management problems and related public safety hazards within YNP. An objective of this plan is to eliminate unnatural attractants to bears so that bear control actions are not required.

1. All outdoor trash cans and dumpsters will be of a bear-resistant design; all trash cans will have a plastic removable liner.
2. Developed areas, roadsides, campgrounds, picnic areas, and all other areas of concentrated visitor use will be maintained as litter-free as possible within the limits of available staff and budgets.
3. Garbage pickup will be carefully scheduled to prevent overflow of cans and to assure leaving as little garbage as possible overnight. Plastic can liners will be changed at every pickup. Overflow of cans is to be prevented.
4. When loaded, trash collection vehicles will proceed directly to the appropriate transfer station, except that after late evening pickups, trash may be stored on the collection vehicle inside a closed utility building or within a secured, fenced utility area.
5. Mishandling of garbage by park residents will be reported to area rangers. Repetition of mishandling of garbage, or any case of deliberate feeding of bears, will result in a citation and may be grounds for dismissal or loss of in-park residence privileges.
6. Leaving food and/or garbage unsecured when unattended in campgrounds is prohibited. See CFR 2.10, Camping and Food Storage. CFR 1.7, Compendium Yellowstone Park.
7. Ranger personnel will patrol all auto campgrounds each night to assure that food and garbage are stored properly and to talk with visitors about bears and camping in bear country. All unsecured food and food containers will be removed from unattended campsites and properly stored until claimed by the owner. Written notification will be left at the site,

informing the owner as to the location of his/her property.

Regulations will be enforced when food and garbage are not stored properly. Warnings or citations will be issued. All campgrounds should supply food storage lockers in some sites for use by hikers, bicyclists, motorcyclists, hitch-hikers, or other campers without automobiles.

8. Maintenance will assure that bear-proof garbage cans are available where needed.
9. Sewage lagoons and garbage transfer stations will be fenced with bear resistant fence. Fences will be repaired and maintained as needed within the limits of available staff and budgets. Improved bear-resistant fences will be constructed if funds become available.

Other Measures To Reduce Bear-Human Conflict In Developed Areas -

The following preventive management actions will be implemented within specific developed areas to reduce the potential for bear-human conflict:

In campgrounds with a history of early season bear problems (Grant Village and Bridge Bay), the District Ranger and the District Resource Management Coordinator will work with the Chief Ranger and the Bear Management Specialist to analyze available bear activity data and adjust auto campground opening dates to minimize the potential for bear-human conflict.

In the Bridge Bay Campground, the G, H, and I loops as well as the western portions of the hiker/biker and group loops will remain closed when spawning stream surveys indicate the presence of bears on adjacent streams during the cutthroat trout spawning season. In addition, there will be no advance reservations of campsites in these loops.

In the Lake Lodge area, a split-rail fence has been constructed between the Lodge cabins and Lodge Creek. In addition, removable barricades will be in place throughout the spawning season to block vehicle use of the road and discourage pedestrian traffic between the cabins and the spawning stream. The District Ranger and Resource Management Coordinator will review the effectiveness of this action annually and in coordination with the Chief Ranger, and Bear Management Office will adjust this closure as needed so that it is most effective in reducing the potential for bear/human conflict.

Management Of Bears Frequenting Developed Areas - Report all bear sightings, management actions, warnings, closures,

confrontations, bear-caused human injuries or property damages, and potential or developing conflicts within developed areas promptly to the Bear Management Office or the Communications Center (after hours).

If any bear is consistently frequenting a developed area:

1. Ranger personnel should investigate all reports of bears in developed areas to identify the species of bear and to learn behavior patterns.
2. Night patrol will thoroughly and carefully inspect the area for any possible food sources/attractants.
3. Verify the garbage pickup schedule. Arrange for late-evening pickup if necessary.
4. Double check the food storage situation, i.e. campgrounds, residences, garages, back porches, garbage cans left out, etc.
5. Investigate any signs of, or rumors of, deliberate feeding and use appropriate means aggressively to suppress this activity.
6. The continued presence of any bear in a campground or developed area, even without evidence of the bear obtaining unnatural foods, demonstrates persistence sufficient to require investigation and may require implementation of any of the following alternatives as determined by the Bear Management Committee: warnings, restrictions, closures, aversive conditioning, translocation, or removal of the bear.
7. If a bear has obtained unnatural foods or demonstrates the potential for conflict within a developed area, remove/secure the unnatural attractant and consider immediate management action (bear warnings, area closure, translocation, aversive conditioning, or removal).
8. Any bear foraging in the daytime in a developed area, should be considered for immediate management action (bear warnings, area closure, aversive conditioning or translocation).
9. Night patrol coverage should be intensified to monitor persistent bear activity within developed areas.
10. All persons residing in developed areas should implement the park's food/garbage storage regulations. PREVENTION of bear

problems is our primary objective.

Roadside Corridors

Removal Of Human Foods, Garbage And Other Attractants - The availability of human food and garbage sources to bears along roadsides is recognized as a major potential cause of bear management problems and related public safety hazards within YNP.

An objective of this plan is to eliminate unnatural attractants to bears so that bear control actions are not required.

1. All outdoor trash cans will be of a bear-resistant design and equipped with a plastic removable liner.
2. Roadsides, picnic areas, and all other areas of concentrated visitor use will be maintained as litter-free as possible within the limits of available staff and budgets.
3. Garbage pickup will be carefully scheduled to prevent overflow of cans and to assure leaving as little garbage as possible overnight. Plastic can liners will be changed at every pickup. Schedule for pickup at roadside pullouts will be dictated by public use level. Overflow of cans is to be prevented.

Other Measures To Reduce Bear-Human Conflict Along Roadsides

The Old Faithful to Madison road will close to snowmobiles each spring, the Monday following the third Sunday in March. It may close earlier depending on budgets and weather conditions, but will not close later than the third week of March each year. The Old Faithful to Madison road will open to wheeled vehicle visitor use on April 15. It may open later depending on budgets and weather conditions.

Management Of Bears Frequenting Roadside Areas

1. Report all management actions, incidents, and sightings promptly to the bear management office or the Communications Center (after hours).
2. Prompt follow-up of bear reports by ranger personnel is essential to identify the species of bear and to learn behavior patterns.

3. Investigate any indications or possible evidence of deliberate feeding and initiate appropriate measures to curtail this activity.
4. Verify the garbage pickup schedule. Arrange for late-evening pickup if necessary. Double check the garbage/food security situation, i.e. picnic areas, pull-out garbage cans, out-of-bounds campers, etc.
5. If a bear has obtained unnatural foods or demonstrates a high potential for conflict, consider immediate management action (aversive conditioning, relocation, or removal of the bear).

Backcountry Areas

In all backcountry areas, bears exhibiting natural behavior patterns will be given priority over human activities. Trapping, translocation, or removal of bears will be a last resort. Management options include: posting bear warnings, restriction of trails or campsites to horse parties or hiking parties of 4 or more people, temporary closures of trails or campsites, relocation of campsites or sections of trails, or as a last resort, aversive conditioning, translocation, or removal of the bear.

In backcountry areas bears will not be captured for translocation or destroyed unless the bear has become unnaturally aggressive, or other alternative methods of providing for human safety cannot be employed or have been unsuccessful.

Removal Of Human Foods, Garbage, And Other Attractants - The availability of human food and garbage to bears in backcountry campsites is considered as a major potential cause of bear management problems and related public safety hazards within the backcountry of YNP. An objective of this plan is to eliminate unnatural attractants to bears so that bear control actions are not required and the potential for bear-caused human injuries is minimized.

1. The "pack in, pack out" policy will be enforced in the backcountry.
2. Backcountry campsites will be frequently monitored and maintained as litter free as possible within the limits of available staff and budgets.
3. It is the goal of park managers to provide a food storage pole at every designated backcountry backpacker/boater

campsite within YNP and two poles at every backcountry campsite commonly used by large stock parties. Park management recognizes that due to normal use, high winds, and the shallow root system of Lodgepole pine, that not all campsites will have a food pole at all times. Backcountry rangers will install and replace food poles as needed within the limits of available staff and budgets. The Bear Management Office will maintain a current backcountry campsite food pole list. Visitors are expected to properly store their food at all backcountry campsites regardless of the presence of food storage poles.

4. Dispose of fish entrails at least 100 yards from the nearest campsite or trail. Sink entrails by punching the air bladder and throwing into deep water.

Bears Frequenting Backcountry Trails, Campsites, and Cabins

Backcountry Trails - If any bear is consistently frequenting a backcountry trail the trail should be investigated to determine the attractant.

1. Unnatural Foods - If a bear is food conditioned and has learned to associate hikers with food, consider trail closure, aversive conditioning, translocation, or removal of the bear.
2. Natural Attractants (Temporary) - If the attractant is a temporary natural food such as a carcass or other high quality food, the trail should be temporarily closed until bears are no longer using to the area.
3. Natural Attractants (Seasonal) - If the attractant is of a seasonal nature, consider seasonal closures of the trail or rerouting of the trail to reduce the impact of the trail on bears and to make the trail safer for human travel.

Backcountry Campsites - If any bear is frequenting a designated backcountry campsite the campsite should be patrolled to determine the attractant.

1. Unnatural Foods - if the attractant is human foods or garbage, clean up the area and temporarily close the site until it no longer attracts bears. If a bear has become food conditioned and associates hikers or backcountry campsites with food, consider campsite closure, aversive conditioning, translocation, or removal of the bear.
2. Natural Attractants (Temporary) - if the attractant is a

temporary natural food such as a carcass, the site should be temporarily closed until it no longer attracts bears.

3. Natural Attractants (Seasonal) - if the attractant is a natural food that is predictable on a seasonal basis (such as spawning fish, elk calves, or vegetal food), consider closing the campsite during the season of predictable bear use.
4. Natural Attractants (Permanent) - if the attractant is of a permanent nature (such as a known natural travel corridor or an area with important bear foods during the spring, summer, and fall) consider relocation of the site.

Backcountry Patrol Cabins - If any bear is frequenting a Patrol Cabin, the cabin, barn, and tool sheds should be checked for attractants. Any attractants should be removed or properly secured. Check shutters and doors for secure fit. Food, horse feed, garbage, or other attractants are not to be stored in non bear-proof barns, sheds, or enclosed porches. Resecure cabins when unattended for more than short periods of time.

Emergency/Temporary Bear Safety Warnings

Bears are found throughout the backcountry of YNP. Bears and bear sign (tracks, scats, diggings, etc.) are frequently observed near backcountry campsites and along trails. Visitors are given bear safety warnings at entrance stations, backcountry permit issuing stations, and at trailheads. The bear warning sign posted at all trailheads contains a thorough, very strongly worded bear warning/safety message which is sufficient to cover the types of bear activity normally expected on trails and near campsites. Additional emergency bear warnings should be posted **only** when an unusually dangerous situation exists or significant threat to human safety has occurred or is likely to occur.

Responsibility:

The investigating ranger and District Ranger will:

1. Evaluate the situation and consult with the Bear Management Office to determine if a significant threat to human safety exists.
2. Post Bear Frequenting Area signs at all known entry points to the area being posted.
3. Notify the Bear Management Office and the Chief Ranger.
4. Monitor the situation to determine if the warning remains necessary. This shall be accomplished by on site

investigation at least once every 7 days. Emergency warnings shall be terminated at the earliest time they are no longer necessary.

5. Notify the Bear Management Office of the decision to terminate the Emergency warnings.

The Bear Management Office will:

1. Record the action and notify all necessary stations through the Communications Center, the backcountry situation report, by radio, or by phone.
2. Track emergency warnings to assure appropriate monitoring of the situation by sub-district personnel. Areas posted with emergency bear warnings should be investigated at least once every 7 days to determine if the warning remains necessary.
3. Contact the District Ranger if appropriate monitoring has not been done.

Emergency bear warnings may be posted under the following circumstances:

1. When an individual bear is known to be remaining in an area of predictable visitor use (such as trails, backcountry campsites, picnic areas, developed areas, roadside or other areas).
2. When a bear is attracted to an area of predictable visitor use by natural or artificial sources of food.
3. When a female bear with cubs is known to be frequenting an area of visitor use.
4. When a bear has displayed unusually aggressive behavior during a bear-human encounter.

The following sign is to be posted for emergency bear safety warnings:

"Warning Bear Frequenting Area" sign. 8 1/2" x 11" red and black lettering on white background. For use in backcountry or frontcountry areas.

Emergency/Temporary Area Closures

Any area, road, trail, facility, or campsite can be temporarily

closed by any NPS employee when imminent life threatening or potential serious injury situations exist. Emergency closures should then be investigated/evaluated by subdistrict personnel.

Responsibility:

The investigating ranger and District Ranger will:

1. Evaluate the situation and consult with the Bear Management Office to determine if a significant threat to human safety exists.
2. Post appropriate closure signs at all known entry points to the area being closed. Barriers (rope, forestry ribbon or other barricade) should be posted across closed trails.
3. Notify the Bear Management Office and the Chief Ranger.
4. Document the action on a Case Incident Record.
5. Monitor the situation to provide for appropriate signing, and enforcement.
6. The District Ranger is responsible for the termination of the closure at the earliest possible time the closure is no longer necessary. The determination will be based on the documented knowledge that the immediate life threatening or serious injury situation has been resolved. This shall be accomplished by on site investigation at least once every 7 days.
7. Notify the Bear Management Office of the decision to terminate the Emergency closure.

The Bear Management/Backcountry Office will:

1. Record the action and notify all necessary stations through the Communications Center, the backcountry situation report, or by phone.
2. Track emergency closures to assure appropriate monitoring of the situation by District personnel.
3. Contact the District Ranger if appropriate monitoring has not been done.

Closures may be implemented under the following circumstances:

1. When a bear is remaining in an area of predictable visitor

use (such as trails, backcountry campsites, picnic areas, developed areas, roadside or other areas).

2. When a bear is attracted to an area of predictable visitor use by natural or artificial sources of food.
3. When a bear has physically attacked a human.
4. When a bear has displayed unusually aggressive behavior during a bear-human encounter.
5. When a female bear with cubs is consistently occupying an area where an encounter is highly possible.
6. Due to the presence of a carcass or other concentrated bear food source which is likely to attract and hold bears near a trail, campsite, or other area of predictable visitor use.

The following signs are current for emergency bear closures:

1. "Warning This Campsite Closed Due To Bear Danger." 8 1/2" x 11" red and black lettering on white background. For use in backcountry or frontcountry campsites.
2. "Warning This Trail Closed Due To Bear Danger." 8 1/2" x 11" red and black lettering on white background. For use at trailheads, along trails or at trail junctions.
3. "Warning Due To Bear Danger Area Beyond This Sign Closed To All Travel." 8 1/2" x 11" red and black lettering on white background. For use in backcountry or frontcountry areas.
4. "Closed - Area Behind This Sign Is Closed To Human Travel - Dangerous Bear." 8" x 10" black letters on white background. For use in backcountry or frontcountry areas.
5. "Warning Campsite _____ Closed Due To Bear Danger." 8 1/2" x 11" red and black lettering on white background. For use at trailheads or trail junctions.
6. "Warning _____ Trail Closed Due To Bear Danger." 8 1/2" x 11" red and black lettering on white background. For use at trailheads or trail junctions.
7. The park still has a small supply of similarly worded signs with an orange background and black or reflective lettering. These signs will be used while supplies last.

Also see ROP A-2-h for closure and reporting procedures.

Incident Investigation For Bear-Human Conflict Situations

A careful and thorough investigation shall be conducted of all incidents of bear-caused human injury or property damage. All appropriate procedures should be followed in anticipation/preparation for possible tort claims.

Responsibility:

The District Ranger will:

1. Obtain photographs, interviews with victims and witnesses, and statements by all concerned National Park Service personnel.
2. Document all bear "pre-suppression" procedures that were in place prior to the incident, i.e., statements from campground and/or patrol rangers, garbage persons, other maintenance persons, interpreters, etc., anyone who talked to the victim and precisely what was said. If the victim himself/herself was warned directly, it is very important to be able to document this fact.
3. Document all patrols, campground "walk-throughs," garbage collection schedules, other damage or injuries in the immediate area.
4. Collect and/or document all related informational material from points of entry (trailheads and entrance stations).

The Bear Management Office will:

1. Conduct or coordinate the field investigation of related bear activity, sightings, and sign.
2. Write and provide to the Chief Ranger and appropriate District Ranger a summary report of all known bear activity and related management follow up actions (warnings, restrictions, closures,) in the immediate area.

Carcass Management

All known wildlife and stock carcasses that result from natural or unnatural causes will be investigated to determine the potential for conflict/hazard to both park visitors and bears (also see ROP R-2-b).

Responsibility:

The investigating ranger will:

1. Determine the species, sex, age class, UTM location, and probable cause of death.
2. Evaluate the potential for conflict/hazard to park visitors or the hazard to bears.
3. Notify and coordinate the disposition of carcass (if necessary) with the Bear Management Office. After hours, carcasses may be disposed of in designated carcass disposal areas (notify the Bear Management Office promptly the following morning), stored within the bear-resistant fencing surrounding garbage transfer stations (for disposing of the following morning) or left on site (if not considered to be a safety threat to bear or people) and the Bear Management Office notified immediately the following morning.

The Bear Management Office will:

1. Maintain a record system of requests for carcasses (species, age, sex, parts, etc.) from approved institutions, agencies, research staff, etc.
2. Maintain a record of carcass disposal locations.
3. Coordinate disposition of carcasses, in consultation with the investigating ranger, the respective district ranger, and the Chief Rangers Office.
4. Coordinate DNA and Wildlife Disease sampling of the carcass.
5. Assure that all applicable regulations are met.
6. Maintain a record of disposal including accountability of removed threatened and endangered species.

Carcasses In Developed Areas - All wildlife carcasses within developed areas will be disposed of if they pose a potential conflict/hazard to visitors (due to bear activity) or an unaesthetic (though natural) situation within a developed area.

Disposal will be made by:

1. Relocating to an area designated by the Bear Management Office (see carcass disposal areas).
2. Collection and storage for future resource management, scientific, or exhibit use.
3. Fragmentation by blasting.

Carcasses Along Roadside Corridors - All wildlife carcasses along road corridors that pose a potential conflict/hazard to visitors (due to bear activity) or a hazard to bears (danger of being hit by a vehicle while attempting to scavenge) will be disposed of.

Disposal will be made by:

1. Dragging the carcass away from the road (minimum 50 yds, ideally 100 yds). Due to the limited number of carcass disposal areas within the park, dragging carcasses away from roadsides is the preferred method of handling road-killed wildlife.
2. Relocation to an area designated by the Bear Management Office (selection of relocation sites will attempt to prevent the creation of a non-natural feeding site through the accumulation of carcasses).
3. Collection and storage for future resource management, scientific, or exhibit use.
4. Fragmentation by blasting.

Carcasses In Backcountry Areas - Wildlife carcasses in backcountry areas will be left on site for consumption by bears and other scavengers. If carcasses in backcountry areas pose a potential safety threat to backcountry users, the surrounding area, trails, or campsites will be temporarily closed and appropriately signed. The area should be monitored so that it may be reopened as soon as the carcass is no longer an attractant (see Emergency/Temporary Area Closures).

Carcasses Of Stock Animals - All stock users are responsible for carcasses of any of their stock animals (horses, mules, burro's, and llama's) that die within YNP. Dead stock shall be moved at least 100 yds from any campsite or trail and at least 100 yds from any streams or lakes. No attempt should be made to bury the carcass. Stock users must notify a park ranger of their dead stock as soon as possible.

Bear Carcasses - Any bear killed within the park by any means (natural or man-caused) will be reported immediately by phone or radio to the Bear Management Office or Communications Center (after hours). The Bear Management Office will be responsible for species identification and proper disposal of all bear carcasses.

Carcass Disposal Areas - Whenever possible, carcasses will be

distributed spatially and temporally so as not to create a non-natural accumulation of scavenger food or "feeding site." However, due to the high number of road-kills and the limited number of carcass disposal sites, the park recognizes that bears and other scavengers will be attracted to, and learn to return to these sites to find carcasses. Carcass disposal sites will be appropriately signed with closure signs when carcasses are present.

The following areas have been pre-approved for carcass disposal:

North District

1. Stephens Creek jeep road (east fork of water service road)
2. Bunsen Peak Road/Osprey Falls (dump over cliff)
3. Tower Gut Road (within 1/2 to 2/3 mile from upper end, dump over steep slope)
4. Ice Box Canyon

Lake District

1. Grebe Pit Road
2. Road to Norris water tank (opposite residential turnout)
3. Natural Bridge Road (minimum of at least 2 miles from entrance)
4. Sedge Pit (only for carcasses that can be dragged)
5. Fishing Bridge Sewage Lagoons Road (for spring and fall use only)

Snake River District

1. Arnica Creek road (minimum of at least 2 miles from entrance)
2. West Thumb Pit
3. Lewis River Divide Road

4. Dry Creek Road

West District

1. Mesa Pit

2. Soldiers Pit

BEAR MANAGEMENT ACTIONS

All bear management actions including trapping, free-darting, aversive conditioning, relocation, and removal will be determined by the Bear Management Committee. Experimental methods of trapping, immobilization, or aversive conditioning will not be implemented without the knowledge and approval of the Bear Management Committee.

Training

Thorough training in trapping techniques, immobilization agents, and the use of firearms will be mandatory before employees are allowed to handle bears or other wildlife. Use of immobilizing drugs will be restricted to those qualified through additional training and only under supervision of the park practitioner. A list of qualified persons will be maintained by the Bear Management Office.

The following minimum qualifications are required for employees handling or immobilizing bears within the park:

1. Successful completion of a 24 hour wildlife immobilization class covering the following topics: drug pharmacology, wildlife reactions to drugs, human and wildlife safety, wildlife handling ethics, and monitoring immobilized wildlife.
2. Current CPR qualification.
3. Successful completion of a 4 hour refresher training every year.
4. Successful qualification semi-annually with immobilization rifles, pistols, and blow guns. A minimum of 80% proficiency is required on a course specifically designed for capture weapons used within YNP. The YNP course exceeds the proficiency requirements outlined in NPS-44. The capture gun qualification course for Yellowstone National Park includes the following:

Capture Rifle Course - This course is fired at an 8 inch diameter scoring ring. Any hit inside the 8 inch ring scores as one point per hit; any hit outside the 8 inch ring is scored as zero. A minimum score of 80% is required for qualification.

20 Yards	offhand/standing	5 rounds	5cc dart
30 Yards	offhand/standing	5 rounds	5cc dart

Total rounds	10
Possible score	10
Minimum score	8

Capture Pistol Course - This course is fired at an 8 inch diameter scoring ring. Any hit inside the 8 inch ring scores as one point per hit; any hit outside the 8 inch ring is scored as zero. A minimum score of 80% is required for qualification.

5 Yards	offhand/standing	5 rounds	5cc dart
10 Yards	offhand/standing	5 rounds	5cc dart

Total rounds	10
Possible score	10
Minimum score	8

Capture Blow Gun Course - This course is fired at an 8 inch diameter scoring ring. Any hit inside the 8 inch ring scores as one point per hit; any hit outside the 8 inch ring is scored as zero. A minimum score of 80% is required for qualification.

5 Yards	offhand/standing	5 rounds	5cc dart
---------	------------------	----------	----------

Total rounds	5
Possible score	5
Minimum score	4

Firearms

The use of firearms for bear management purposes shall follow guidelines as listed in NPS-44, Resource Management Qualifications. The policy of Yellowstone National Park is as follows: The primary purpose for the issuance of a weapon to Resource Management personnel is for the protection of the visitor in case of animal attack, or for the disposal of animals. Secondly, the weapon is available for personal protection in case of animal attack, during management actions, and patrolling of areas closed due to bear problems. The firearms training courses for Natural Resource Management employees include the

following components:

Pistol Course - This course is fired at a 12 inch diameter scoring ring. Any hit inside the 12 inch ring scores as one point per hit; any hit outside the 12 inch ring is scored as zero. A minimum score of 80% is required for qualification.

3 Yards	offhand/standing	6 rounds	15 second time limit
7 Yards	offhand/standing	6 rounds	20 second time limit
15 Yards	offhand/standing	6 rounds	25 second time limit

Total rounds	18
Possible score	18
Minimum score	13

Shotgun Course - This course is fired at a 12 inch diameter scoring ring. Any hit inside the 12 inch ring scores as one point per hit; any hit outside the 12 inch ring is scored as zero. A minimum score of 80% is required for qualification.

7 Yards	standing shoulder	slug	2 rounds	6 sec limit
15 Yards	standing shoulder	slug	2 rounds	8 sec limit
15 Yards	standing shoulder	slug	4 rounds	16 sec limit

Total rounds: 8

Score: 70% of buckshot must be within the 12" scoring ring.
3 of 4 slugs must be within the 12" scoring ring.

Rifle Course - This course is fired at a 12 inch diameter scoring ring. Any hit inside the 12 inch ring scores as one point per hit; any hit outside the 12 inch ring is scored as zero. A minimum score of 80% is required for qualification.

15 Yards	standing shoulder	2 rounds	10 second time limit
25 Yards	standing shoulder	4 rounds	30 second time limit
50 Yards	kneeling	2 rounds	30 second time limit
50 Yards	sitting	2 rounds	30 second time limit

Total rounds	10
Possible score	10
Minimum score	8

Trapping And Capturing Bears

Trapping will normally be used prior to application of other capture techniques.

Approved Traps

Culvert traps, aluminum traps, barrel traps and foot snares are approved (through this plan) for use in all bear trapping within YNP. The use of any other types of traps must be approved by the Bear Management Committee prior to use.

Bear Trap Maintenance

All bear traps shall be maintained so as to be safe and functional.

Responsibility:

The Subdistrict will:

Annually check each bear trap stored within their respective Subdistrict for any needed repairs and report trap maintenance needs to the Bear Management Office.

The Bear Management Office will:

Coordinate the maintenance of all bear traps within the park.

The Bear Management Office will send out an annual notice reminding the Subdistricts to do a maintenance check on the bear traps stored within the Subdistricts.

The following items should be checked annually on each bear trap:

1. LOCKS - The main trap door as well as all side doors on bear traps will be secured with combination locks. **All traps will be locked shut at all times when not in use.**
2. BALL HITCH COUPLER - All traps shall have a working 2 inch ball hitch coupler with safety pin or wire.
3. SAFETY CHAIN - All traps must have a safety chain with bolt.
4. LIGHTS - All traps should have working brake, turn signal, and tail lights.
5. TIRES - The air pressure should be checked on all tires.
6. SPARE TIRE - All traps should have a spare tire.

7. DOOR - The door should be greased so that it slides smoothly.
8. DANGER SIGN - All traps should have two DANGER - KEEP AWAY signs posted on them.
9. TONGUE JACK - All traps should have a working tongue jack.
10. WHEEL BEARINGS - The wheel bearings of all traps should be greased annually.

If any of the above items are missing or not working contact the Bear Management Office to schedule needed repairs.

Bear Bait

Road-killed wildlife or wildlife blood will be used as bear bait whenever possible. To reduce the potential for bears becoming conditioned to human foods, bacon, cantaloupe, or other foods nonnative to YNP will only be used in emergency situations or in circumstances when native bear foods are not readily available.

Free-Darting Of Bears

Bears may be captured through darting of free ranging animals. However, free-darting should be used only in emergency situations, after failure of trapping efforts, or under special circumstances as determined by the Bear Management Committee. The risks to both human and animal safety should be evaluated prior to making the decision to free-dart an animal.

Human Safety During Trapping/Capture Operations

Baited traps will be identified by conspicuous warning signs, and set traps shall not be left unattended in public use areas during busy, daylight hours. Area closed signs will be used to close the area in the immediate vicinity around all baited traps. Only personnel with specific assignments on control action teams will be present at the site during capture and handling of bears. No unassigned personnel will be permitted without permission of the Chief Ranger.

Immobilization Of Bears

Approved Drugs

The following wildlife immobilization agents are approved (through this plan) for use on bears within YNP:

1. Telazol (Tiletamine Hydrochloride-Zolazepam Hydrochloride)
2. Ketaset (Ketamine Hydrochloride)

3. Rompun (Xylazine Hydrochloride)
4. M-99 (Etorphine Hydrochloride)

Use of any other wildlife immobilization agent on bears within YNP must first be approved by the Bear Management Committee.

Drug Acquisition

The Park Practitioner will be responsible for purchasing, storing, transferring, and dispensing all immobilization agents used by YNP personnel for bear management purposes. Personnel from cooperating agencies and bear research projects will be responsible for obtaining, securing, and dispensing their own supplies of immobilization drugs, in accordance with federal and state laws, DEA regulations, and 36 CFR 2.35.

Drug Storage And Inventory

All wildlife immobilizing agents will be stored in locked facilities when not in use. Schedule II narcotics must be stored in a class V safe or other approved facility within a secured area. All drugs will be stored in Mammoth, except during transfer to/from and use during an immobilization operation. During transfer, all drugs and loaded darts will be kept in crush-proof containers lined with absorbent material in case of vial or dart breakage or spillage.

The Park Practitioner will keep an inventory of wildlife immobilization drugs stored within the park. The Park Practitioner will ensure that expired drugs, empty drug vials, used syringes, and disposable darts are properly disposed of.

Drugs must be stored in labelled vials. Any vials or containers with labels removed, illegible, altered, or re-labelled will be destroyed. In addition, containers used in transporting drug vials or loaded syringes or darts will be labelled "**Dangerous Chemicals - Authorized Personnel Only**", in case of accident, loss, or mishandling.

Safety Protocol For Use Of Immobilization Agents

Prevention Of Accidents:

1. Work in pairs when preparing drugs or darts.
2. Splashed drugs can be absorbed through the eyes, oral mucous membranes, or cuts on hands. Wear surgical gloves, protective clothing, and eye protection when handling drugs and loading syringes and darts.
3. Do not inhale powder or aerosol from drugs.
4. Treat all guns, darts, and syringes as if they were loaded

- firearms.
5. Store loaded darts and used darts and syringes in non-breakable, leak-proof containers.
 6. Dispose of used darts, syringes, and drug vials in Sharps Containers.
 7. Contact local hospital emergency doctor before field operations begin and alert him/her to the types of immobilization agents you will be using.
 8. Know your antidote kit and transport it each time darts or medications are handled.

KETAMINE AND TELAZOL (TILETAMINE-ZOLAZEPAM)

Effects On Humans:

1. Excitation, agitated behavior, and loss of coordination with lower doses.
2. No sense of pain.
3. Disassociation from mind and body.
4. Coma, and respiratory depression with large doses.
5. Bizarre behavior - suicide, self mutilation, violence, and aggression.

Treatment In Field: (if symptoms warrant it)

1. There is no antidote.
2. Remove dart or syringe.
3. If wound is on arm or leg, apply a venous tourniquet between extremity and heart. You should be able to insert 2 fingers between the tourniquet and the skin and be sure a pulse is still present below the tourniquet.
4. Maintain a patent airway.
5. Keep patient on their side.
6. Assist ventilation as needed (mouth to mouth).
7. The victim may be given cranberry juice to drink in order to acidify the urine and facilitate removal of these drugs from the body. Care must be taken in giving a victim of Ketamine or Telazol exposure cranberry juice to drink because of increased risk of emesis and/or aspiration.
8. Avoid stimulation (lights, sirens, horns, sudden movements etc.) maintain low-light and quiet surroundings.
9. Do not leave victim alone. The victim should be wrapped in a blanket to achieve a total body restraint in case of behavioral toxicity.
10. Transport to hospital in lying down position with feet raised.

Treatment In Hospital:

1. Remove tourniquet if present.

2. Prepare for bizarre or violent behavior.
3. Haldol 2-5 mgm IM may be required for several hours.
4. Call regional poison center (1-800-525-5042).

ROMPUN (XYLAZINE HCL)

Effects On Humans:

1. Low blood pressure.
2. Low respiratory effort.
3. Heart damage-myopathy and arrhythmia

Treatment In Field: (if symptoms warrant it)

1. Remove dart or syringe.
2. If wound is on arm or leg, apply venous tourniquet between extremity and heart. You should be able to insert 2 fingers between the tourniquet and the skin and be sure a pulse is still present below the tourniquet.
3. Observe for mental alertness and breathing.
4. Transport to hospital in lying down position with feet raised.

Treatment In Hospital:

1. Intubation and ventilation as indicated.
2. Cardiac monitoring.
3. Begin IV D5W.
4. Remove tourniquet.
5. Prepare to treat for hyper or hypotension.
6. Call regional poison center (1-800-525-5042).

ETORPHINE (M-99) AND CARFENTANIL

Do not work with these narcotics without first drawing up a human dose of antagonist (naloxone).

These narcotics cannot be used in the park except by a licensed practitioner with a class II special use permit and a certified EMT present in the field with the practitioner.

Effects On Humans:

1. Decreased mental status.
2. Severe respiratory depression.
3. Severe drop in blood pressure.
4. Dizziness and disorientation.
5. Loss of consciousness.
6. Muscle rigidity.
7. Pin-point pupils.

Treatment In Field: (if symptoms warrant it)

1. Remove dart or syringe.
2. If exposure is from splash or spill, flush with large quantities of water.
3. If wound is on arm or leg apply venous tourniquet between extremity and heart. You should be able to insert 2 fingers between the tourniquet and the skin and be sure a pulse is still present below the tourniquet.
4. Maintain airway and administer CPR if necessary.
5. Administer antagonist. Give 25 mg naloxone for every mg of the narcotic that was accidentally injected. Naloxone is given either IM or IV or under tongue. If there is no response in 3-5 minutes, give additional dose. Note: if narcotic drug effects are rapid, do not hesitate, inject the first dose in the buttocks through the persons clothing.
6. Give additional antagonist if clinical signs of narcotic poisoning begin again as the antagonist is metabolized.
7. Diprenorphine (M50-50) can be used a narcotic antidote only if naloxone is unavailable.
8. Transport to hospital in lying down position with feet raised. Inform attending physician of the name, dose, and time of the exposure to the immobilization drug and the dose and time of the antagonist given.

Treatment In Hospital:

1. Inform the attending physician of the name, dose, and time the immobilization drug (narcotic) was injected and the dose and time the antagonist was given.
2. Intubate and ventilate as needed.
3. Begin IV D5W.
4. Administer 2 mgm boluses of narcan (naloxone) as needed. Repeat doses up to 72 hours.
5. Remove tourniquet.
6. Cleanse and dress dart wound.
7. Administer tetanus prophylaxis as needed.
8. Call regional poison center (1-800-525-5042).

NALTREXONE HYDROCHLORIDE

Effect On Humans:¹

1. Onset occurs in 15 to 30 minutes. Effects peak after 12 hours; effects persist about 24 hours.
2. Opiod antagonist, partially or completely, reversibly blocks the subjective effects of IV opioids including analgesics possessing agonist and antagonist activity. Blocks the effects of opioids by competitive binding at opiod receptors. It has few other, if any, intrinsic actions.
3. Hepatotoxicity; can cause dose-related hepatocellular (liver

- cell) injury.
4. Facial swelling, itching, generalized erythema.
 5. Difficulty sleeping, anxiety, low energy or increased energy, disorientation, and hallucinations.
 6. Increased blood pressure, phlebitis, edema.
 7. Abdominal cramps, pain, nausea, excess gas.
 8. Nasal congestion, shortness of breath, sore throat.
 9. Joint and muscle pain, twitching.
 10. Blurred vision, light sensitive.
 11. Increased thirst, weight loss or gain.

Treatment In Field:²

1. Naltrexone has a very low toxicity, a person can be given large doses without adverse effects.
2. If an individual is inadvertently poked with a Naltrexone-loaded dart or syringe, the concern is mostly mechanical, meaning the person should thoroughly clean the wound to prevent infection and make sure they are current on their tetanus shot.
3. Keep the drug-exposed individual well hydrated.
4. The drug-exposed individual needs to be medically evaluated only if they express allergic symptoms including shortness of breath or hyperventilation.
5. Taking aspirin or ibuprofen to relieve possible Naltrexone-caused cramping or pain is not advised. Drinking alcoholic beverages shortly after accidental exposure to Naltrexone is also not advised.

Treatment In Hospital:²

1. The drug-exposed individual needs to be medically evaluated only if they express allergic symptoms to the drug including shortness of breath or hyperventilation.

¹this information comes from Drug Facts and Comparisons 1994 and Nursing Drug Handbook 1996.

²this information comes from the Regional Poison Center in Denver, CO at 1-800-525-5042.

Bear Immobilization And Handling Procedures

All bear immobilization, handling, marking, and sampling will follow standard procedures as described in recently published scientific literature and/or the following reference manuals:

1. Jessup, D. A., B. Clark, B. Hunter, D. Clark, K. Jones, and M. Fowler. 1989. Wildlife restraint handbook. Calif. Dep. of Fish and Game, Rancho Cordova, California. 151pp.
2. Jonkel, J. J. 1993. A manual for handling bears, for managers and researchers. Office, Grizzly Bear Recovery Coordinator, U.S. fish and Wildlife Service, Missoula, Montana. 175pp.

3. LeCount, A. L. 1990. Black bear field guide, a managers manual. Arizona Game and Fish Department, Phoenix, Arizona. 130pp.

Keeping Bears Overnight

While in captivity, bears that are to be relocated, will be isolated from human activity, will be kept in a cool, shaded area, given water, and natural foods as needed, and held for not more than 24 hours if possible.

Marking Bears

Bears handled for management or research purposes may be marked by ear-tag, paint mark, tattoo, radio collar, backpack radio, or radio implant. Other methods of marking bears must be approved by the Bear Management Committee prior to use.

Relocation Of Nuisance Bears

Bear relocations are generally considered to be a temporary solution to bear/human conflicts.

Guidelines For Determining When To Relocate A Bear

The decision to relocate a bear will be made by the Bear Management Committee. Non-problem bears captured unintentionally will not be relocated. The decision to relocate a bear will be based on an evaluation of the following criteria:

1. The degree of aggression displayed by the bear.
2. The degree of habituation to humans and conditioning to human foods.
3. The bears past history and disposition.
4. Age, sex and physical condition of the bear.
5. Area of the park (backcountry, roadside, developed area) the bear is considered a problem in.
6. Human safety considerations.

Selection Of Relocation Sites

Bears will not be released outside the park except with the permission and cooperation of the state Fish and Game Department of the receiving state, and the forest supervisor of the cooperating National Forest. In addition, releasing a grizzly

bear outside the park requires consultation with the grizzly bear recovery coordinator of the U.S. Fish and Wildlife Service.

Bears captured on adjacent state, national forest, NPS, or private land may, with the approval of the Bear Management Committee, and after consultation with the U.S. Fish and Wildlife Service Grizzly Bear Recovery Coordinator, be released inside the park. Each proposal for accepting a bear from outside the park will be considered on its own merits and in light of the current park and Greater Yellowstone Area situation. Bears accepted from agencies outside of the park may be marked with an ear tag, paint mark, lip tattoo, radio collar, or radio implant as determined by the Bear Management Committee.

To enhance the chances of successful relocation, habitat type, seasonal foods, elevation, and density of bears should all be considered when selecting relocation sites. Distance from capture site and geographic barriers (mountain ranges, large lakes etc.) should be maximized.

Removal Of Nuisance Bears

Except in emergency situations involving the immediate threat to human safety, the decision to destroy a bear will be made by the Superintendent upon recommendation of the Bear Management Committee and pursuant to the provisions of 50 CFR 17.40 G (i) C., and the concurrence of the U.S. Fish and Wildlife Service Grizzly Bear Recovery Coordinator.

Bears will not normally be destroyed for exhibiting natural behavior (such as the defense of young or natural food sources).

Guidelines For Determining When To Remove Nuisance Bears

The decision to relocate a bear will be based on an evaluation of the following criteria:

1. The degree of aggression displayed by the bear.
2. The degree of habituation to humans and conditioning to human foods.
3. The bears past history and disposition.
4. Age, sex and physical condition of the bear.
5. Area of the park (backcountry, roadside, developed area) the bear is considered a problem in.
6. Human safety considerations.

Procedures For Removal Of Nuisance Bears

Except in emergency situations involving an immediate threat to human safety, the options for removal of grizzly bears from the ecosystem will follow the sequence below (in priority order):

1. Relocation of the bear as a free-roaming individual to another ecosystem, state, or country.
2. Relocation of the bear as a captive individual to an established zoo, research laboratory, or other appropriate facility.
3. Humane termination of the bear. Except during emergency situations involving an immediate threat to human safety, all bears will be destroyed through euthanasia at the Montana, Fish, Wildlife, and Parks Laboratory in Bozeman. Signed receipts shall be obtained if the bear or bear carcass is transferred to the Montana Fish, Wildlife, and Parks Lab for analysis.

Any bear killed within the park by any means (natural or man-caused) will be reported immediately by phone or radio to the Bear Management Office or Communications Center (after hours). The Bear Management Office will be responsible for disposal of all bear carcasses.

Management Hazing Of Bears

Experimental methods of repelling bears will not be implemented until such methods are approved by the Bear Management Committee.

Definition

Management hazing of bears is defined as the use of Bear Deterrent Rounds, Thumper Gun projectiles, sling shots, rocks, cracker shells, sirens, or horns to temporarily move bears away from roadsides, developed areas, backcountry campsites, or other areas when there is a bear-related human safety or crowd control problem. As an added benefit, management hazing may aversively condition some bears to avoid human developments and roadsides during daylight hours.

Aversive conditioning is a specialized form of learning imposed upon an animal by punishing it for behavior that is deemed undesirable.

Goals

Specific goals for using aversive conditioning techniques within

YNP are to:

1. Reduce the number of bears that must be removed from the ecosystem. In the Yellowstone Ecosystem, control actions have become a major cause of grizzly bear mortality.
2. Reduce the number of nuisance black bears and grizzly bears that must be trapped and relocated to backcountry areas. Relocation of a bear from a conflict area does not prevent the problem from recurring by the same bear in a new location or by the bear returning and causing the same problem in the same location. Most bears have an innate ability to return to their original home range. Many bears become repeat offenders at the same or different sites and are eventually removed or destroyed. Aversive conditioning offers the potential to modify nuisance behavior, whereas relocation is often only a temporary solution or moves the problem to a new area.
3. Reduce the rate of bear-caused human injuries and property damages occurring within the park by discouraging black bears and grizzly bears from frequenting developed areas, campgrounds, and backcountry campsites.
4. Establish a fear of humans in bears that might otherwise become dangerous due to their habituation to humans.
5. Evaluate the effectiveness of various aversive conditioning agents in keeping bears away from sites of human activity and/or food sources.

Guidelines For Determining When To Use Aversive Conditioning

1. Aversive conditioning may be used as an additional management technique to prevent removal of some bears from the ecosystem. Under some conditions, free-ranging grizzly bears may be conditioned to avoid people and specific sites within their home ranges.
2. Aversive conditioning will be most effective if it is used on bears when they first encounter humans or situations offering a potential food reward.
3. The ideal candidate for aversive conditioning is the yearling through subadult bear conditioned during its initial exposure to humans or human foods.
4. Adult bears that have been repeatedly food rewarded and have lost their fear of humans are not good candidates for aversive conditioning.

5. Aversive conditioning should not be used when food attractants cannot be removed. Aversive conditioning was ineffective at open sewage lagoons and trout spawning streams, situations where food attractants could not be removed. (This limits potential success/application within the park since most of our bear-human conflict situations involve habituated bears feeding within developed areas or along roadsides on abundant natural foods such as spawning fish or vegetation)
6. Aversive conditioning should not be attempted on sick or injured bears.
7. Aversive conditioning should not be used on aggressive bears.
8. Aversive conditioning should only be conducted by individuals that have been properly trained.
9. Only equipment approved for aversive conditioning should be used.
10. Shot placement is critical to insure the target animal is not severely injured.

Procedures For Use Within Yellowstone National Park

The decision to use Bear Deterrent Rounds and Thumper Rounds on any bear will be made by the Bear Management Committee.

Cracker shells and sling shots may be used on bears by any qualified park ranger or resource management personnel, to move bears away from roadsides, developed areas, backcountry campsites, or in any other situation when there is a bear-related human safety or crowd control problem. Approval (through radio or phone) for use of cracker shells should be obtained from the Sub-district Ranger (or designee) or higher level, or in their absence, from the Bear Management Office.

The following methods of aversive conditioning are considered non-experimental and are approved (through this plan) for use within the park as a bear management tool:

Cracker shells - May be used by all shotgun certified park rangers and resource management personnel to move bears away from roadsides, developed areas, backcountry campsites, or any situation when there is a bear-related human safety or crowd control problem.

Limitations:

1. Cracker shells are not always effective. Bears quickly learn

- to ignore them after repeated use.
2. They are not always dependable, shells may misfire, fail to explode, or explode prematurely.
 3. Their use is limited to open areas.
 4. An exploding shell could start a fire in dry forest, brush or grass.
 5. High cost, \$2.66 per shell.
 6. Document use of aversive conditioning on the appropriate Aversive Conditioning form (available from the Bear Management Office).

Guidelines For Use:

1. Always consider human safety first. Have proper crowd control.
2. Always leave the bear an escape route.
3. Place explosive between you and the bear. An explosion behind the animal may scare it toward you.
4. Cracker shells travel in an arc approximately 60 yards.
5. Fire into the air at a 45 degree angle for maximum distance.

Bear Deterrent Rounds - May only be used by ranger and resource management personnel that have been trained in use of these rounds. An annual qualification is also required. The course is fired at a 12 inch diameter scoring ring from a distance of 40 yards. Any hit inside the 12 inch ring is scored as one point per hit; any hit outside the 12 inch ring is scored as zero. A score of 80% (4 hits out of 5 shots) is required for qualification.

Limitations:

1. Potential to kill bear with misplaced shot at distances less than 40 yards.
2. Small window of opportunity, minimum distance of 40 yards, ineffective at distances beyond 50 - 60 yards.
3. Poor accuracy, especially in high winds.
4. High cost, \$3.50 per round.

Guidelines For Use:

1. Always consider human safety first. Have proper crowd control.
2. Always leave the bear and escape route.
3. Rump shots only. No shoulder shots.
4. Minimum distance 40 yards.
5. Document use of aversive conditioning on the appropriate Aversive Conditioning form (available from the Bear Management Office).

Thumper Gun - May be used only after approval by the Bear Management Committee for each individual bear. May only be used

by ranger and resource management personnel that have been trained in the use of this weapon. An annual qualification is also required. The course is fired at a 12 inch diameter scoring ring from a distance of 15 yards. Any hit inside the 12 inch ring is scored as one point per hit; any hit outside the 12 inch ring is scored as zero. A score of 80% (4 out of 5 shots) is required for qualification.

Limitations:

1. Short range, inaccurate, accurate distance is only 20 - 30 yards.
2. Gun requires frequent cleaning.

Guidelines For Use:

1. Always consider human safety first. Have proper crowd control.
2. Always leave the bear an escape route.
3. Rump shots only. No shoulder shots.
4. Minimum distance 15 yards.
5. Document use of aversive conditioning on the appropriate Aversive Conditioning form (available from the Bear Management Office).

Sling Shots - May be used by ranger and resource management personnel to move bears away from roadsides, developed areas, backcountry campsites, or any situation when there is a bear-related human safety or crowd control problem.

Limitations:

1. Short range.
2. Low impact.

Guidelines For Use:

1. Always consider human safety first. Have proper crowd control and escape plan.
2. Always leave the bear an escape route.
3. Rump shots only.
4. Document use of aversive conditioning on the appropriate form.

Photography Of Bear Management Operations

Any photography (still or video) of bear management operations, if done by other than NPS employees or NPS employees for non-training purposes, should be under the auspices of a special use permit from the Public Affairs Office through the permission of the Bear Management Committee. The terms and conditions of the permit should be developed by NPS personnel experienced in all aspects of bear management operations and personnel with

experience in the preparation of permits for commercial filming.

All personnel involved in bear management operations should have, as a minimum, basic training in bear management procedures and appropriate safety measures. This is especially critical with respect to photographers, pilots and others not directly involved in actually handling the bear.

Video tapes and still photographs of management actions can serve as a valuable training tool but their value must be weighed against human and bear safety concerns.

BEAR RESEARCH

Research and monitoring are integral parts of bear management. The objective of the Interagency Grizzly Bear Study Team research program is to provide management with comprehensive factual knowledge of bear distribution, population dynamics, behavior, ecology of bear-human interrelations, and to evaluate the effectiveness of management programs affecting, or affected by the grizzly bear population. All bear research projects will be approved by the Research Permit Panel. All bear trapping activities for research purposes shall be coordinated through the Bear Management Office.

A vigorous integrated research program will be continued, including:

1. The development of census techniques that will provide realistic population estimates of wild, free-ranging black bears and grizzly bears within and/or adjacent to the national park.
2. Determine population dynamics, seasonal and annual distribution patterns, and movement of grizzly bears within national park and adjacent national forest lands.
3. Determining habitat requirements and the ecological relationships of the grizzly bear to other fauna and to plants of the national park and adjacent national forest ecosystems.
4. Determining immediate and probable long-term stresses and impacts on bears caused by various land use practices within and adjacent to the park. This will include an evaluation of the various types and intensities of visitor use activities, resource use, land development, and other management actions.
5. In carrying out the above general research objectives, the efforts of National Park Service scientists and the Interagency Grizzly Bear Study Team will be supplemented by encouraging outside scientists from the diverse disciplines of physical, biological, and behavioral sciences to undertake studies within the national park and to contribute to the understanding of park ecosystems. Such additional research efforts will be coordinated and regulated under the YNP researcher permit system.