

revised draft environmental impact statement
grizzly bear management program

september 1981

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YELLOWSTONE

NATIONAL PARK / WYOMING-MONTANA-IDAHO



UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT
GRIZZLY BEAR MANAGEMENT PROGRAM

YELLOWSTONE NATIONAL PARK
IDAHO, MONTANA, WYOMING

Abstract

This Revised Draft Environment Impact Statement brings up to date a similar Draft Environmental Impact Statement issued in 1974 for the grizzly bear management program in Yellowstone National Park. The basic proposal remains the same, but later research data has been included and alternative solutions have been somewhat altered from the original document.

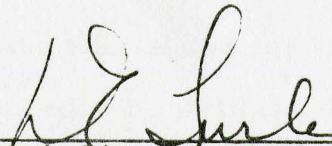
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PREFACE

The draft environmental impact statement (DEIS) for the proposed grizzly bear management program in Yellowstone National Park was made available to the public in September 1974. Comments were received from the public on that draft; however, a final EIS was never completed at that time. This revised DEIS updates the original document, provides new information, and is being circulated preparatory to issuing a final EIS.

Since 1974, much of the controversy on closure of garbage dumps to feeding bears, bear research, trapping methods, and similar issues has been muted by time, enlightened by additional knowledge, or otherwise resolved. The cooperative work of the interagency grizzly bear study team, the agreement between federal and state agencies on the Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area, and the draft Grizzly Bear Recovery Plan for the lower continental United States have all contributed towards a greater understanding of managing grizzly bear populations. This revised DEIS reflects this progress.

injuries occurring to humans in the park. (4) Since the program emphasizes the principle of the regulation of man (except where unavoidable necessity exists to regulate intractable bears), humans in the park (visitors to and residents) will experience restrictions of their behavior, inconveniences, and constant reminders of the dangers of their environment - all of which may detract from the enjoyment of the park.

Issues: Concerns expressed on the 1974 draft environmental impact statement concentrated on (1) the need for cooperative bear management practices among different agencies, (2) research methods and interpretation of data, (3) methods to get bears to rely on natural food sources rather than man-made sources, (4) methods and strategies of reducing or avoiding conflicts between bears and people, and (5) grizzly bear population dynamics.

Other issues raised during the scoping process for this revised draft environmental impact statement include (1) effects of park visitation and human encounters on grizzly bear behavior, (2) monitoring procedures to detect behavioral changes in bears, and (3) effects of different agency management philosophy and practices on bear behavior.

Alternatives: All the above issues are included in the discussions for the following alternatives considered in this revised draft environmental impact statement:

- A. Continue Present Management Program (the proposal).
- B. No Action.
- C. Eliminate Grizzly Bears from the Yellowstone Ecosystem.
- D. Further Restrict Visitor Use.
- E. Maintain Grizzly Bear Population by Artificial Feeding.

SUMMARY

Major conclusions of the statement: The National Park Service proposes to continue to implement an on-going grizzly bear management program the purpose of which is to perpetuate a wild, free-ranging grizzly bear population in Yellowstone National Park and minimize conflicts between humans in the park and grizzly bears by reducing man-generated food sources and by regulating visitor distribution in the park.

The principal impacts are: (1) the entire grizzly bear population in Yellowstone National Park will become wild and free-ranging and an integral part of the Yellowstone ecosystem as it was in the past by reestablishing natural food source feeding habits and by eliminating opportunities to establish and/or maintain unnatural relationships with man. (2) The grizzly bear population will experience temporary disturbance associated with readaptation to natural food sources. (3) Hazardous contacts and confrontations between humans and grizzly bears will be minimized, thus reducing the potential for personal injuries occurring to humans in the park. (4) Since the program emphasizes the principle of the regulation of man (except where unavoidable necessity exists to regulate intractable bears), humans in the park (visitors to and residents) will experience restrictions of their behavior, inconveniences, and constant reminders of the dangers of their environment - all of which may detract from the enjoyment of the park.

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I. PURPOSE AND NEED

Management of both grizzly (*Ursus arctos horribilis*) and black bears (*Ursus americanus*) has been a significant problem since the early days of park administration in Yellowstone. The easy availability of garbage, inadequate storage of campers' food and deliberate feeding of bears by both visitors and the government led to alteration of the bears' natural feeding habits and to conflicts between bears and people. These resulted in injuries, property damage, and ultimately, the transplanting or killing of bears as a control measure.

It has long been recognized that the bear's adaptation to man's food or garbage was the root of the problem, but prior to the 1960s little had been done to help the situation. The public feeding area at Otter Creek (a garbage dumping "arena," complete with bleachers where visitors could watch grizzlies being fed) was closed during World War II, but with open garbage dumps remaining, this closure only temporarily rearranged the bears' feeding habits. It may have had some effect by removing a feeding spectacle from the eye of the visitors, however.

Experiments began here by the mid-1960s with "bear-proof" garbage cans, and garbage collection schedules were increased and tightened to prevent accumulation of garbage. The large open-pit dumps were not closed until the fall of 1970, and proper storage of food in campgrounds was not required by regulation until 1971. Thus the grizzly bear management program was not a sudden development but rather the culmination of progressive steps taken over a period of nearly four decades for which we have records.

The controversy surrounding the relatively rapid closure of the two remaining open-pit garbage dumps was the primary influence in the decision to prepare the DES in 1974. While the period of time is past during which either rapid or phased-out dump closure could influence grizzly distribution, the need to prevent conflicts caused by other artificial food sources is still with us. These conflicts will remain at their present low level only so long as there is control of the accessibility of these foods and of the activities of humans in bear habitat.

II. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

A. Alternative A, Continue the Present Management Program

The National Park Service proposes to continue to implement an on-going and continually updated grizzly bear management program initiated in the 1960s. The program's purposes are to perpetuate a wild, free-ranging grizzly bear population in Yellowstone National Park, Wyoming-Montana-Idaho, and to minimize conflicts between humans in the park and grizzly bears.

Yellowstone National Park (figure 1), in the establishment act of March 1, 1872 (17 Stat. 32), was "dedicated and set apart as a public park for pleasuring-ground for the benefit and enjoyment of the people" and "for the preservation, from injury or spoilation, of all timber, mineral deposits, natural curiosities, or wonders . . . and their retention in their natural condition."

The program is designed to maintain as much as possible the natural ecosystems in Yellowstone National Park with the grizzly bear as an integral part. It is further designed to regulate those activities of man that tend to attract bears to developed areas of the park and which often result in individual bears becoming habitual users of artificial food sources. Thus, the program is concerned with preventing the causes of man-bear conflicts rather than treating the symptoms.

The program is known as the Yellowstone Bear Management Policy. It applies to both black and grizzly bears, with provisions that are specific to either species noted on a case-by-case basis. The basic elements of the program are (1) overall objectives; (2) education and enforcement; (3) reduction of unnatural visitor-bear contacts; (4) control of problem bears; (5) protection from claims; (6) statistics and monitoring; and (7) continue bear research. Its specific provisions are as follows:

1. Objectives

Preserve and maintain natural populations of bears as part of the park's native fauna and provide for safety of park visitors.

2. Education and Enforcement

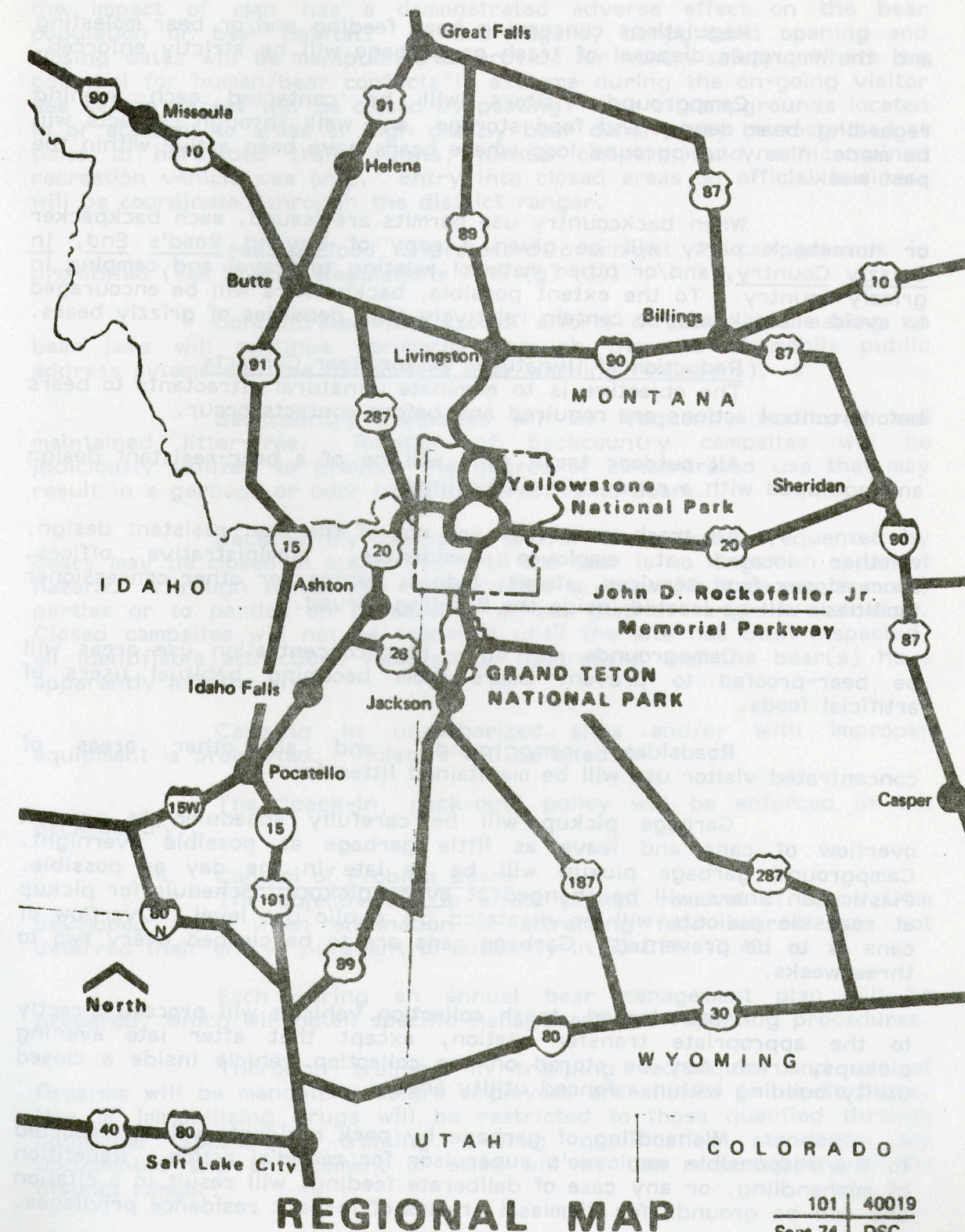
The objective is an informed public, with appreciation of the esthetic value of bears, and an awareness that exposing bears to unnatural food sources may lead to human injury or to the bears' destruction or both.

An active information program will be directed at both visitors and employees to inform them of policies and goals of bear management, and the reasons for these.

Review bear warning literature annually for pertinence to objectives. Incinerate all old literature after preserving an example of each in the research library.

The dispensing of warning literature pertinent to entrances, campgrounds, and to backcountry campers will be the responsibility of the district ranger, delegated to those in direct contact with the public.

FIGURE 1. THE REGION



Direct warning signs will be used at entrances, campgrounds, cabin and trailer areas, and trailheads.

Regulations concerning bear feeding and/or bear molesting and the improper disposal of trash or garbage will be strictly enforced.

Campground visitors will be contacted each evening regarding bear danger and food storage, and walk through contacts will be made in any campground loop where bears have been active within the past week.

When backcountry use permits are issued, each backpacker or horseback party will be given a copy of Beyond Road's End, In Grizzly Country, and/or other material relating to travel and camping in grizzly country. To the extent possible, backpackers will be encouraged to avoid areas known to contain relatively high densities of grizzly bears.

3. Reduction of Unnatural Visitor Bear Contacts

The objective is to eliminate unnatural attractants to bears before control actions are required and before contacts occur.

All outdoor trash cans will be of a bear-resistant design and equipped with a removable plastic liner.

All trash cans that are not of the bear-resistant design, whether located at employee residences, administrative offices, concessioner food services, stores, lodges, cabins, or other concessioner facilities, will be located inside the building served.

Campgrounds and other high-concentration use areas will be bear-proofed to prevent bears from becoming habitual users of artificial foods.

Roadsides, campgrounds, and all other areas of concentrated visitor use will be maintained litter-free.

Garbage pickup will be carefully scheduled to prevent overflow of cans and leave as little garbage as possible overnight. Campground garbage pickup will be as late in the day as possible. 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. Garbage cans are to be cleaned every two to three weeks.

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 within a fenced utility area.

Mishandling of garbage by park residents will be reported to the responsible employee's supervisor for remedial action. Repetition of mishandling, or any case of deliberate feeding, will result in a citation and will be grounds for dismissal or loss of in-park residence privileges.

Any area may be closed to human use and/or specific types of visitor activities for the purpose of human safety and/or where the impact of man has a demonstrated adverse effect on the bear population or bear habitat. In this regard, campground opening and closing dates will be manipulated to provide for human safety. Where the potential for human/bear conflicts is extreme during the on-going visitor use season, areas will be closed by posting. Use of campgrounds located in or adjacent to areas of high grizzly bear density may be restricted at times to hardsided trailer units, pickup campers, and self-contained recreation vehicle use only. Entry into closed areas on official business will be coordinated through the district ranger.

Leaving food unprotected overnight in campgrounds is prohibited (see Special Regulations 7.13 (g) (3)).

Concentrated but tactful efforts directed at breaking up bear jams will continue (primarily through the use of mobile public address systems and the handout of bear warning reminders).

Backcountry campsites will be frequently monitored and maintained litter-free. Rotation of backcountry campsites will be judiciously utilized to prevent the degree of concentrated use that may result in a garbage or odor buildup attractive to bears.

Backcountry campsites and/or trails being frequented by bears may be closed to public use until the bear is no longer an apparent hazard. Through travel may be restricted to large (four people or more) parties or to parties on horseback, at the district ranger's discretion. Closed campsites will not be reopened until the site has been inspected, all identifiable attractions removed or neutralized and the bear(s) have apparently left the area.

Camping in unauthorized sites and/or with improper equipment is prohibited. Violators will be cited.

The "pack-in, pack-out" policy will be enforced in the backcountry.

4. Control of Problem Bears

The objective is to effect prompt removal of bears from developed areas when elimination of attracting food sources has not deterred their entry, pursuant to authority in 50 CFR 17.40.

Each spring an annual bear management plan will be prepared, which will detail specific management and reporting procedures.

Thorough training in trapping techniques and use of firearms will be mandatory before employees are allowed to handle bears. Use of immobilizing drugs will be restricted to those qualified through additional specialized training. Drug qualification standards are documented and enforcement of same will be the responsibility of the district ranger.

Bear proof condition of campgrounds and other high use areas will be maintained coincidental with trapping programs to remove bears from these areas. Traps will not be baited or set in any area unless a bear is known to be present.

Baited traps will be identified by conspicuous warning signs and set traps will not be left unattended in public use areas during busy, daylight hours. Only personnel with specific assignments on control action teams will be present at the site during capture and handling of bears. No bystander will be permitted.

No bear will be captured for transplanting or destroyed in a backcountry area unless it has become unnaturally aggressive, or other alternative methods or providing for human safety cannot be employed.

Necessity for trapping, trapping hours, and procedure will be the responsibility of the district ranger. No experimental trapping or immobilizing will be permitted without his knowledge and approval.

Experimental methods of fencing, repelling, trapping, or immobilizing bears will not be used until these projects are approved by the superintendent.

All bear transplants will be coordinated through the office of the staff specialist in charge of bear management.

Bears will not be released outside the park except with the concurrence and cooperation of the Fish and Game Department and the U.S. Forest Service in the receiving state.

Bears captured or transplanted will be marked while immobile with a small, strap type ear tag.

No other marks or tags will be permitted without the approval of the superintendent.

No bear is to be destroyed for exhibiting its natural behavior---such as the defense of natural food sources or its young.

Bears being removed from the system may, with the approval of the superintendent, be donated to public zoos or given to any requesting state for reestablishment of populations. If there are no requests for live specimens, or it is impractical at the time to fill the request, the bear may be dispatched and the carcass processed as a scientific specimen or returned to the ecosystem.

Any bear killed in the park by any means will be reported by phone or radio as soon as possible to the communications center. The carcass of any bear, black or grizzly, that is killed shall be disposed of according to directions from the superintendent. Portions of the carcass that may be required for authorized in-park research may be removed from the carcass before disposal.

Except in emergency situations involving human safety, the decision to destroy a bear will be made by the superintendent. This authority will not be delegated.

Bears captured on adjacent forests or the JDR Parkway may, with the approval of the superintendent, or his delegate, be released inside the park. Bears adapted to dumps or garbage will not be considered for such release. Each proposal for accepting a bear from outside the park will be considered on its own merits and in light of the current park situation.

5. Protection from Claims

In the event of injury or serious property damage, the following actions will be taken.

Follow procedural instructions for possible tort claims. Obtain photographs, interviews with victims and witnesses, statements by all concerned National Park Service personnel.

Document all "pre-suppression" procedures prior to incident (i.e., statements from campground and/or patrol rangers, garbage men, other maintenance men, 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.

Document all bear sightings, patrols, campground "walk throughs," garbage collection schedules, other damage or injuries in the immediate area.

6. Statistics and Monitoring

The following information will be reported by radio or telephone to the communications center immediately.

Sightings of grizzly and black bears--description of bear(s), location, activity. This includes any occurrence of a bear in a developed area.

Any bear incident or management action which will later be reported on a case incident report.

Confrontations with bears, in which evasive action was required to avoid contact.

Any known death of a bear, regardless of cause.

Any closure or restriction of trails or areas because of bear activity.

In addition to the above, additional bear information as directed in current memoranda will be reported to the communications center on a daily basis. The communications center will assemble a parkwide bear log from this information. The resources management office will maintain the permanent park bear log records.

The special case incident report form (10-343), overtyped for bear reports, will be used to report all cases of property damage by bears, including vehicles that are damaged from striking bears. It is also used to report all cases of human injury inflicted by bears and all management actions concerning bears.

All handling of grizzly bears marked for research purposes is to be coordinated with the interagency grizzly bear study team.

7. Continue Bear Research

Research and monitoring are integral parts of bear management. The objectives of this program is to provide management with comprehensive factual knowledge of bear distribution, population dynamics, behavior, ecology of human-bear interrelations, and to evaluate the effectiveness of management programs affecting or affected by the grizzly bear population.

A vigorous integrated research program will be continued, including:

- the development of census techniques that will provide realistic population estimates of wild, free-ranging black bear and grizzly bear within and adjacent to the national park

- determining population dynamics, seasonal and annual distribution patterns, and movement of grizzly bears within national park and adjacent national forest lands

- 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

- 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

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, of course, be coordinated and regulated under a permit system, pursuant to 50 CFR 17.32.

The Yellowstone Bear Management Policy is reviewed annually.

8. Interrelationships with Other Programs

While the grizzly bear management program is concerned primarily with perpetuating a wild, free-ranging population of grizzly bears within Yellowstone National Park, it is directly related to a number

of programs of other federal and state agencies and to public and private activities outside the park boundaries.

a. Solid Waste Management in the Region

The inseparability of bear management and solid waste management is a situation common to gateway towns, private citizens, and land-managing agencies. Problems involved are longstanding and have not been created by recent, past, or proposed actions within the park.

Open pit dumps have been used in this area for decades, and while most of those in the park were closed by 1971, the small dump near Gardiner (inside the park) was in operation through 1977. Through the cooperation of state and county officials and the Forest Service, the West Yellowstone dump was replaced by a sanitary landfill in 1972, and by fall of 1978, the Cooke City and Flagg Ranch dumps, in addition to the Gardiner dump, were closed. As of the 1979 season, all garbage in or adjacent to Yellowstone National Park will be hauled to sanitary landfill facilities outside the park.

b. Other Conflicting Activities Outside the Park

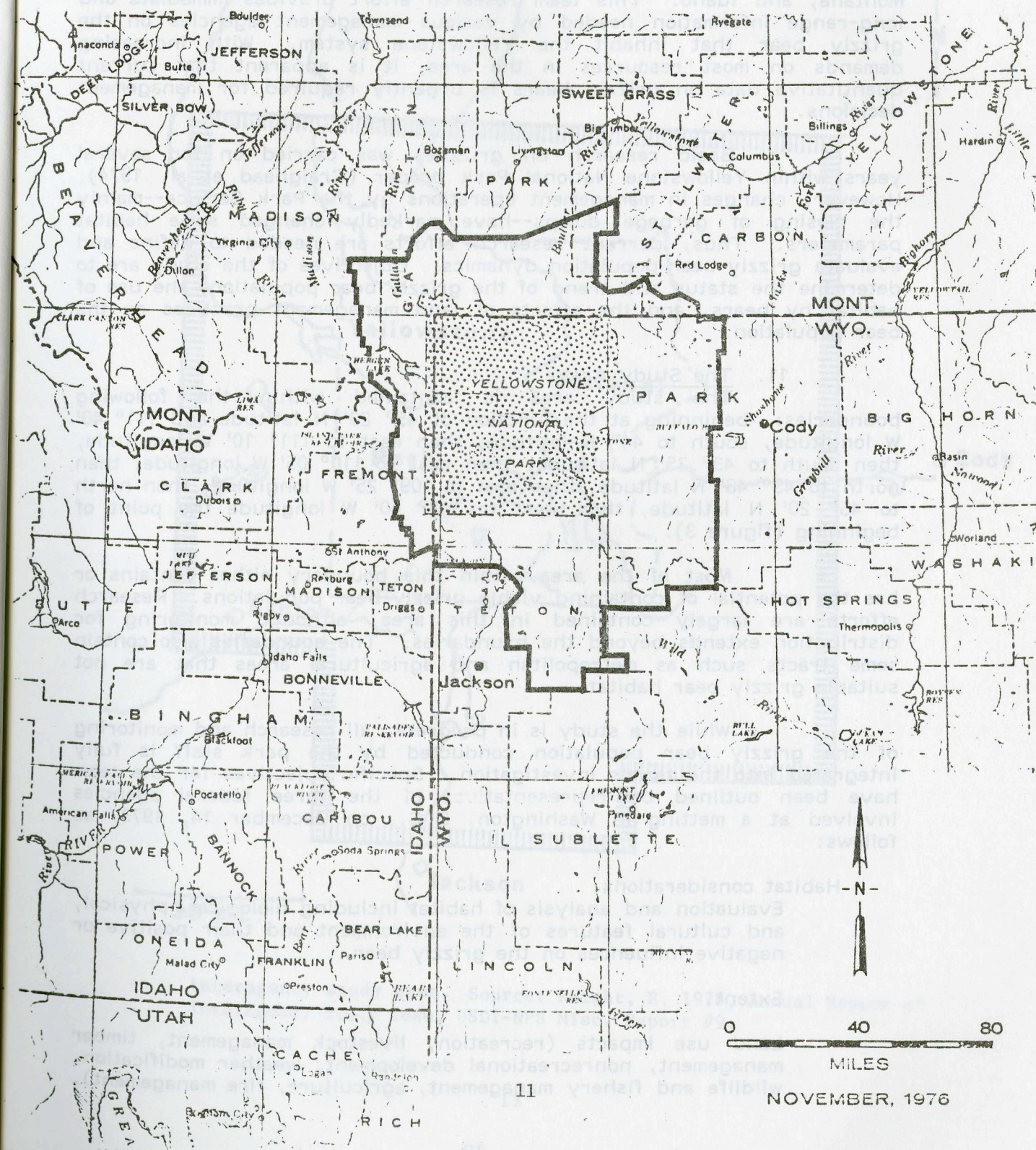
According to Knight (1976), grizzly bears do not confine themselves within the park boundaries but wander freely in and out. Two radio-collared bears spent the entire 1976 season outside the park and others frequently crossed both state and park boundaries.

Logging operations, commercial developments, summer home areas, and livestock grazing all contribute to situations that may result in conflicts with grizzlies. This, in addition to other factors, has led the Forest Service, in cooperation with the National Park Service and respective state game departments, to develop the Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area, December 1979 (hereafter cited as Guidelines).

The Yellowstone Bear Management Policy is a part of the Guidelines as appendix 6, and the principles of the Yellowstone Bear Management Policy are included in the management provisions of situation 1 of the Guidelines. Appendix 3 of the Guidelines is the "Interagency Agreement for Management Involving Grizzly Bears in the Greater Yellowstone Area, for Determining Grizzly Bear Nuisance Status and for Controlling Nuisance Grizzly Bears on National Forest Land." The cooperating agencies mentioned above are all signatory parties to this agreement. The National Park Service signed on June 16, 1980. The last provision of the above-mentioned interagency agreement is that it will be submitted to the U.S. Fish and Wildlife Service as a "Formal Aggregate Consultation" required by section 7 of the Endangered Species Act. Appendix 8 of the Guidelines is the official biological opinion of the U.S. Fish and Wildlife Service, dated November 5, 1979, in response to a formal request for consultation on the Guidelines. The biological opinion applies to management of grizzly bears in Yellowstone National Park because that management is directed by the Yellowstone Bear Management Policy as an appendix to the Guidelines. Thus the section 7 consultation requirements for this EIS has been satisfied.

GRIZZLY BEAR CRITICAL HABITAT PROPOSAL (YELLOWSTONE ECOSYSTEM)

FIGURE 2.



Finally, the Guidelines are cited in the review draft Grizzly Bear Recovery Plan (1980). This plan, when made final, will provide recommendations for actions necessary for the maintenance, enhancement, and recovery of the grizzly bear in selected areas where it is known to exist in the coterminous 48 states.

c. Grizzly Bear Mortality Outside the Park

Detailed and accurate records were not kept of grizzly bears mortality outside the boundaries prior to garbage dump closure inside the park, but there is little to suggest that dump closure within the park has increased bear mortality outside except in 1970-71. During those two years the removals were 53 and 48 respectively. However, the next largest known mortality was in 1967 and was primarily due to hunter kill (24) in Wyoming (Cowan et al. 1974). Some of the bears removed by the state of Montana in conjunction with the closure of the West Yellowstone dump in 1971 may have formerly used both the West Yellowstone dump and dumps inside the park, or may have moved from park dumps to the dumps outside the park boundary. During the period 1970-73, a total of 55 grizzly bears were reported killed, for other than control purposes, adjacent to Yellowstone National Park. The low proportion of these animals (seven) that bore ear tags, indicating they had been marked in Yellowstone National Park prior to or since 1970 (Cole 1974), suggests, however, that locally resident bears make up the bulk of man-caused bear mortalities outside the park.

Following classifications of the grizzly as a threatened species in 1974, both Wyoming and Montana ceased the issuance of grizzly hunting permits within the greater Yellowstone ecosystem. Idaho had not permitted the hunting of grizzlies for many years. This completely removed hunting as a threat to the grizzly population in the Yellowstone area. An average of 4.25 grizzlies have been killed outside the park during the past four years. Much of this reduction can be attributed to the cessation of hunting (seven grizzlies were killed by Wyoming hunters in 1974) but no doubt much may also be due to the publicity given to the threatened status of the grizzly.

9. USFWS Proposal on Critical Habitat for the Grizzly Bear

On July 28, 1974, (Federal Register, Vol. 40, No. 145, p. 31734) following a review of the status of the grizzly bear by the U.S. Fish and Wildlife Service, the grizzly was listed as a threatened species in the 48 coterminous states. Following this classification, the Fish and Wildlife Service began a survey to delineate the critical habitat of the grizzly.

Federal land management agencies and involved states were asked to comment on the proposed critical habitat, and public hearings were held in area cities during December 1976. Considerable adverse reaction to the proposal came from both the government sources and the public, and little progress as made on an official designation. At present, the critical habitat proposal has been placed in abeyance by the Secretary of the Interior pending further study (see figure 2).

10. Interagency Grizzly Bear Study Team

The interagency grizzly bear study team, initiated in 1973, consists of research biologists from the National Park Service, Fish and Wildlife Service, Forest Service, and since 1974 the states of Wyoming, Montana, and Idaho. This team research effort provides immediate and long-range information needed by various management agencies on the grizzly bear that inhabit the Yellowstone system. With increasing demands on most resources in the area, it is apparent that current quantitative data on grizzly bears is urgently required for management decisions.

Basic research on grizzlies was carried on for several years within Yellowstone National Park proper (Craighead et al. 1974). However, changes in management operations by the Park Service--mainly the closing of garbage dumps--have markedly changed some habitat parameters. Thus, current research efforts are needed to define and evaluate grizzly bear population dynamics. Objectives of the study are to determine the status and trend of the grizzly bear population, the use of habitat by bears, and the effects of land management practices on the bear population.

11. The Study Area

The study area is contained within the following boundaries: beginning at the junction of $45^{\circ} 20' N$ latitude and $111^{\circ} 40' W$ longitude, south to $44^{\circ} N$ latitude, then east to $111^{\circ} 10' W$ longitude, then south to $43^{\circ} 35' N$ latitude, then east to $110^{\circ} 05' W$ longitude, then north to $43^{\circ} 46' N$ latitude, then east to $109^{\circ} 25' W$ longitude, then north to $45^{\circ} 20' N$ latitude, then west to $112^{\circ} 40' W$ longitude the point of beginning (figure 3).

Most of the area within this boundary either contains or has the potential of containing viable grizzly bear populations. Research efforts are largely contained in this area, although monitoring for distribution extends beyond the boundaries. The boundaries also contain some tracts such as metropolitan and agricultural areas that are not suitable grizzly bear habitat.

While the study is in progress, all research and monitoring of the grizzly bear population conducted by the park staff is fully integrated into the team's investigation. Specific objectives for the team have been outlined by representatives of the three federal agencies involved at a meeting in Washington, D.C., on December 14, 1973, as follows:

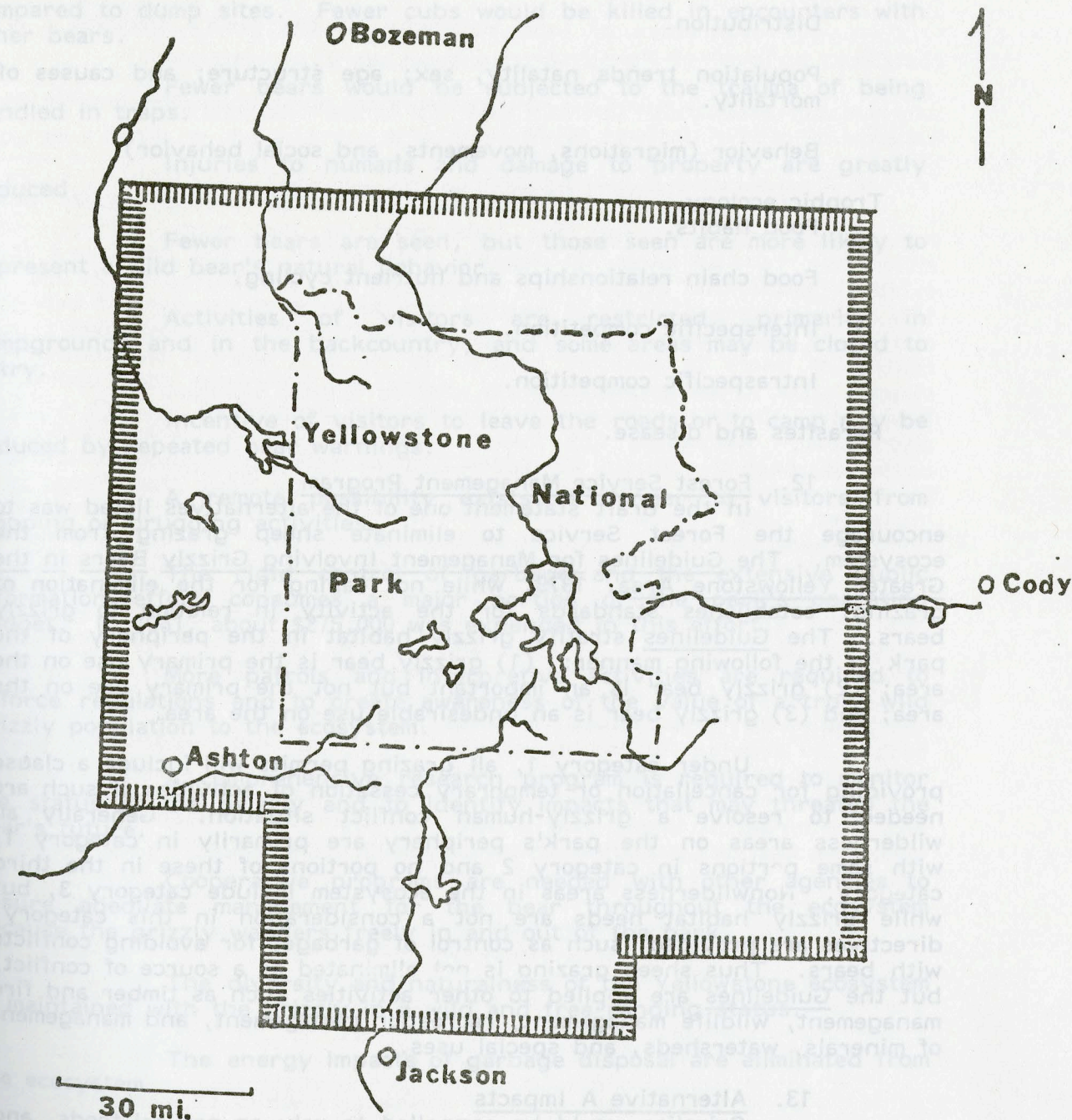
Habitat considerations.

Evaluation and analysis of habitat including biological, physical, and cultural features of the environment and their positive or negative influences on the grizzly bear.

Extent.

Land use impacts (recreation, livestock management, timber management, nonrecreational development, weather modification, wildlife and fishery management, agriculture, fire management).

FIGURE 3.



Interagency study area. Source: Knight, R. 1976, Annual Report of Interagency Study Team, USDI-NPS Misc. Report #9.

Population considerations.
Population numbers.

Distribution.

Population trends natality, sex; age structure; and causes of mortality.

Behavior (migrations, movements, and social behavior).

Trophic ecology.
Food habits.

Food chain relationships and nutrient cycling.

Interspecific competition.

Intraspecific competition.

Parasites and disease.

12. Forest Service Management Program

In the draft statement one of the alternatives listed was to encourage the Forest Service to eliminate sheep grazing from the ecosystem. The Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area, 1979, while not calling for the elimination of grazing, establishes standards for the activity in relation to grizzly bears. The Guidelines stratify grizzly habitat in the periphery of the park in the following manner: (1) grizzly bear is the primary use on the area; (2) grizzly bear is an important but not the primary use on the area; and (3) grizzly bear is an undesirable use on the area.

Under category 1, all grazing permits will include a clause providing for cancellation or temporary cessation of activities if such are needed to resolve a grizzly-human conflict situation. Generally all wilderness areas on the park's periphery are primarily in category 1, with some portions in category 2 and no portions of these in the third category. Nonwilderness areas in the ecosystem include category 3, but while grizzly habitat needs are not a consideration in this category, directives are provided, such as control of garbage, for avoiding conflicts with bears. Thus sheep grazing is not eliminated as a source of conflict, but the Guidelines are applied to other activities such as timber and fire management, wildlife management, recreation management, and management of minerals, watersheds, and special uses.

13. Alternative A Impacts

Grizzlies would be compelled to rely on natural foods, and would be affected by seasonal and year-to-year abundance of food.

Some park bears that cannot adjust to natural foods are removed from the population. Others may move outside the park where they may be subject to other conflicts with man.

Feeding would be more diversified, and there would be less competition on a given food source at a given time and location, compared to dump sites. Fewer cubs would be killed in encounters with other bears.

Fewer bears would be subjected to the trauma of being handled in traps.

Injuries to humans and damage to property are greatly reduced.

Fewer bears are seen, but those seen are more likely to represent a wild bear's natural behavior.

Activities of visitors are restricted, primarily in campgrounds and in the backcountry, and some areas may be closed to entry.

Incentive of visitors to leave the roads or to camp may be reduced by repeated bear warnings.

A remote possibility exists of danger to visitors from trapping or drugging activities.

The rigid control of garbage and the extensive public information effort consumes a major portion of the park's operating budget. In 1981, about \$275,000 was expended in this effort.

More patrols and interpretive activities are required to enforce regulations and to create awareness of the value of a truly wild grizzly population to the ecosystem.

A comprehensive research program is required to monitor the status of the grizzly and to identify impacts that may threaten the bear's future.

Cooperative programs are needed with other agencies to ensure adequate management for the bear throughout the ecosystem because the grizzly wanders freely in and out of the park.

The diversity and naturalness of the Yellowstone ecosystem is maintained with the grizzly in a wild and free-ranging status.

The energy impacts of garbage disposal are eliminated from the ecosystem.

The impact of man's use is reduced for the grizzly as well as the total ecosystem.

Increased management activity is required by wildlife and land management agencies outside the park.

Other agencies are required to assume more responsibility for preservation of the grizzly.

Other agencies are required to engage in cooperative programs for grizzly management.

Activities of local residents on the park's periphery are restricted in favor of the grizzly.

Local residents and communities must go to the trouble and expense of proper garbage control.

B. Alternative B, No Action

The alternative of no action on the continuing grizzly bear management program may be considered in two ways. First, the alternative can be taken to signify a reversion to the conditions that existed before the dumps were closed during the period from 1968 to 1971. The alternative would require abandonment of the present program and would oblige return to the approach of treating the symptoms (i.e., control of bears to minimize hazards to visitors) without controlling the disease (i.e., the dependence of bears on unnatural food sources). Reopening of park garbage dumps is not considered a part of this alternative. Reopening the dumps, even if possible, would serve no useful purpose and would be in violation of existing regulations and the park's management objectives. The decision to close the dumps and implement high standards of sanitation in order to reestablish a wild grizzly bear population has never been contested. The only significant subject of disagreement was the rate at which cultural food sources were to be eliminated from the grizzly bear's diet. It is apparent that the relatively sudden closure of the dumps has not severely impaired the integrity of the park's present grizzly bear population (Cowan 1974). The no action alternative may be viewed more appropriately as failure to continue to implement those portions of the continuing program that could reasonably be discontinued while still allowing the park to fulfill its mission to provide for visitor use and to protect the integrity of natural resources. Fundamentally, this alternative would involve deemphasis of visitor use restrictions, sanitation standards, bear control, and research and monitoring of bears, but would not require the abandonment of these activities that are essential to perpetuating a park suitable for recreation use.

1. Alternative B Impacts

The grizzly would continue to learn to use man's food and garbage.

More control actions would be required for hazardous animals, endangering the population.

The social habits of the grizzly would be altered by closer association with man and by crowding and competition for food.

Bears would be concentrated near developments, creating a potentially hazardous situation for humans.

There would be fewer restrictions on the activities of visitors, allowing more freedom in their use of the park.

More injuries to visitors would occur, and also more damage to property, which can result in public demand for more intensive control of bears.

Visitors would see more grizzly bears.

Management would be required to exert more control on hazardous bears in the interests of public safety.

Energy pathways in the ecosystem would be altered.

Other species, such as black bears, coyotes, ravens, and gulls, would also be subject to the availability of man's food.

Bears moving outside the park would be tuned to seeking man's food and would create similar problems in peripheral towns.

Garbage control outside the park would be of little use if it is not controlled inside the park.

Peripheral residents and visitors alike would be exposed to a safety hazard from emigrating bears seeking man's food.

C. Alternative C, Eliminate Grizzly Bears from the Yellowstone Ecosystem

This alternative, as stated, would place the use of the park by people at a higher priority than the preservation of local faunal form that under some circumstances poses great hazards to man. There is no question that the grizzly bear does pose a threat to the safety and lives of some individuals who find themselves deliberately or inadvertently in conflict with grizzly bears. Convinced that people and grizzly bears are incompatible and that bears are not essential to maintain a viable ecosystem, some persons have advocated that grizzly bears be eliminated from national parks (Mowat 1968).

Grizzly bears could be eliminated from the area by two methods: (1) eradication, or (2) capture and relocation to areas outside the region. The latter method, of course, is the more complex of the two. The restocking or reestablishment of a viable grizzly bear population has not been attempted, and a thorough study and analysis of the diverse factors involved would be required before a potentially successful program could be designed. This alternative would not be consistent with the agreed-upon Guidelines or with the draft Grizzly Bear Recovery Plan. There are, however, areas in the western United States that may have potential for the reestablishment of grizzly bear populations.

1. Alternative C Impacts

The impact on the grizzly would be complete and final.

Visitors would be much less concerned for their own safety in campgrounds and in the backcountry.

Visitors would have more freedom, with fewer restrictions on their activities.

Visitors would have no opportunity to see or appreciate a wild grizzly in its natural habitat.

The sense of a true wilderness would be decreased by the loss of the grizzly.

Garbage and food controls, as well as the safety program, would still be required for the black bear.

The urgency of the bear management program would decrease.

An important and interesting component of the ecosystem would be lost.

The black bear population would probably increase.

The mechanics of trapping and/or killing grizzlies would severely impact other components of the ecosystem.

Management agencies outside the park would have far fewer management concerns, but they would still be involved to some degree with black bears.

There would be few if any restrictions on the activities of peripheral residents.

Such an action would likely be in violation of the Endangered Species Act.

D. Alternative D, Further Restrict Visitor Use

One solution to people-bear confrontations in the national park is to eliminate overnight camping in the park. The rationale for such a proposal is that injury to persons, destruction of private property, and the destruction of bears are the result of human carelessness and ignorance. During preparation of the Yellowstone National Park Master Plan, the implications of eliminating overnight accommodations were evaluated, and it was concluded that the possible benefits of such a solution would not justify the resultant reduction of visitor opportunities to use and enjoy the park environments. As it relates to people-bear conflicts, effects of eliminating overnight accommodations can be approximated by the establishment of campgrounds as bear-free enclosures. This alternative was, therefore, considered as a possible solution to the people-bear conflict. The concept is similar to methods employed in some wildlife parks in Africa where visitors and hazardous wildlife are physically separated. The advantage of this alternative is that it would keep bears out of areas that have been designated exclusively for the use of people, without seriously disrupting the distribution, movement, and behavior of the bears. The method of creating bear-free enclosures, however, poses complex engineering and aesthetic problems.

Fencing has been considered as the most practical method of protecting campgrounds. Fences, however, must be of a special

construction to stop the passage of a grizzly bear. Bears have been known to dig under, climb over, and go through sturdy, woven wire fences topped with three stands of barbed wire. Woven wire fencing supplemented with electric fencing is more effective. The conventional fence charger, however does not have sufficient voltage to disturb a grizzly. The thick fur and foot pads of the grizzly bear apparently are an effective insulation. Park personnel previously developed a modified electric fence charger (turned on as necessary) that appears to be effective in discouraging bears from entering sanitary landfills. This gives the inquisitive bear a jolt of approximately 12,000 volts at 22 microamps. The charge is not lethal nor injurious to the bears, but persons receiving an electric shock of this magnitude would experience unpleasantness and possibly serious injury. Protective fences, therefore, would have to be designed and located to minimize the possibility of human contact with the fence.

1. Alternative D Impacts

Grizzlies would have fewer conflicts with man.

Fewer control actions would reduce the trauma to bears of being handled in traps.

The bears would have a freer choice of habitat.

All visitor impacts from alternative A would apply, plus further restriction of activity.

Visitors enjoyment of the park would be lessened by further restriction of freedom.

The public information output would have to increase to explain tighter restrictions.

More intensive patrols and law enforcement would be required.

Fewer management actions would be required.

The diversity and naturalness of the ecosystem would be further enhanced.

The impacts of man's use would be further reduced.

Outside management agencies might be faced with a recreation spinoff from the park because of the park's tighter restrictions on visitor activity.

It should be recognized that this alternative could be used in conjunction with alternatives A and E. Such a possibility is not likely, however, if alternatives A and E were carried out appropriately.

E. Alternative E, Maintain Grizzly Bear Population by Artificial Feeding

Concerned with the relatively small populations of grizzly bears remaining in the coterminous 48 states, many individuals have proposed that the grizzly bears within the park be artificially maintained. The objectives of such a program would be, of course, radically different from the stated objective to maintain a natural dynamic equilibrium of all elements of the park ecosystems since it would necessitate artificially maintaining the population of a single species, at abnormally high levels. Past programs that have favored a single species, while they may have achieved a short-range goal of producing high numbers, have generally proved disastrous on a long-term basis. Attempts in the past to increase the number of elk by the removal of predators and implementation of artificial feeding programs is a case in point. The probability of a population's survival is not necessarily increased by artificially increasing the number of individual members of the population. Indeed, such programs may have an effect opposite to that desired by increasing the instability of the population.

Previously recommended as a means of drawing grizzly bears away from campgrounds (Craighead and Craighead 1967; Leopold et al. 1969), this alternative proposal requires that elk or other large mammal carcasses be provided for consumption by the bears. The original proposal was made at a time when it was believed that an artificial substitute for the open-pit garbage dumps might be required to prevent a massive grizzly bear invasion of the adjacent campgrounds.

This proposal and the alternative of reopening the open-pit dumps were considered as contingencies during 1970. The need to draw grizzly bears away from campgrounds did not arise, and it is obvious now that most grizzly bears are avoiding the campgrounds. More recently, the proposal to implement an artificial feeding program has been made by people who are concerned that without garbage or some other form of supplemental energy a viable population of grizzly bears cannot be supported in Yellowstone.

An elk carcass in a favorable location can attract and hold one or several bears for a period of several days. Usually such bears are resident to the immediate area rather than bears moving in from any great distance. The grizzly bear is an opportunistic feeder; if an elk, horse, mule, or burro is made available the bear will feed upon it. However, under the situation that exists today in Yellowstone National Park, man-supplied carcasses will tend to inhibit the bears from procuring other natural food sources. The winter kill of ungulates supplies a large quantity of food at the critical time of emergency from hibernation and in quantity probably would exceed that provided by shooting elk for the same purpose.

Strict sanitation standards in the campgrounds have significantly reduced the attractiveness of the campgrounds to the grizzly bears. A large variety of foods, however, are found throughout the grizzly bear's environment and the bears will most often be found where the food is most abundant and available. Elk and other large mammal carcasses are most abundant during spring and early summer. Some

natural deaths of elk, moose, bison, and other mammals, however, occur throughout the year, and the grizzly bear currently has a natural protein diet regime.

The artificial placement of carrion would provide an additional source of energy and may temporarily influence movement and location of individual grizzly bears. Food, however, is not a limiting factor for the grizzly bear population and it is doubtful that a supplemental feeding program would modify the size of the population.

1. Alternative E Impacts

Grizzlies would be artificially concentrated and their social habits would be altered.

The local grizzly population might increase.

The grizzlies dependence on man would increase.

Visitors might see more bears in selected feeding areas, but they would not get a true picture of grizzly ecology.

Visitor's travel would be restricted in feeding areas.

The National Park Service would be required to select feeding areas and to provide carcasses in a manner least damaging to the ecosystem.

Backcountry travel routes and campsites would have to be rearranged to avoid feeding areas.

Problems in campgrounds might decrease, but the problem level is so low now that the need for feeding is questionable.

F. Comparison of Alternatives

The following Table 1 displays a comparison among the various alternatives and their consequences.

There are primary differences of the impacts between the proposed action and those of the alternatives. The proposal relies on natural foods for grizzly bears and greater efforts at informing the public about bear behavior, resulting in a wider dispersal of the bears and reduced bear-human conflicts. The alternatives would have greater impact on natural processes and have more or less potential for bear-human conflicts.

TABLE 1. IMPACTS

Alternatives	Grizzlies	Visitors	Park Management	Total Ecosystem	Outside Management Agencies	Peripheral Public Use
A. Proposed Action	Rely on natural foods. Problem individuals removed. Emigration beyond park. Less competition, cub mortality. Feeding more diversified. Less handling in traps, etc. Possible illegal kills outside the park.	Injuries and property damage reduced. Fewer bears seen. Activity restricted in auto camps and in backcountry. Some areas may be closed to entry. Activity incentive may be reduced by bear warnings. More restrictive fishing regulations. Possible danger from trapping activities.	Expense of garbage removal, public information activities. Need for additional patrols, contacts. Comprehensive research program. Cooperative efforts with outside agencies required.	Diversity and naturalness enhanced. Energy impacts of garbage eliminated. Impacts of man's use reduced.	Increased management activity required. Assume more responsibility for preservation of grizzly. Necessity to cooperate with NPS and other agencies in bear management.	Activities restricted in some areas. Expense and trouble of garbage control.
B. No Action	Learn to use man's food. Increased conflicts with man. More removal of problem bears. Social habits altered. Concentrated near park developments.	Fewer restrictions on activities. More injuries, property damage. Visible bears poor example of wild bears.	Public safety requires control of problem bears.	Energy pathways altered. Other species affected by availability of man's food.	Bears emigrating from park are tuned to seeking man's food. Garbage control outside of little use if not controlled in park.	Safety hazard for emigrating park bears tuned to man's food.
C. Eliminate Grizzlies From Ecosystem	Total	Free from concern for safety. Fewer restrictions on activity. No chance to see wild grizzly. Sense of true wilderness decreased.	Garbage and food controls, safety program would continue for black bears. Urgency of management would decrease.	Important and interesting component of the ecosystem would be lost. Probable increase in black bear population. Mechanics of removing grizzlies might create severe impact on other species, wilderness quality.	Management activity greatly reduced, although would still be concerned with black bears.	Few restrictions on activity.
D. Further Restrictions on Visitors	Fewer conflicts with man. Less need for controls. Freer choice of habitat.	All impacts from alternative A, plus: Activity further restricted. Enjoyment of park lessened. Restriction of freedom.	Public information output increases. More intensive patrols required. Fewer management actions.	Increased diversity and naturalness. Impact of man's use further reduced.	May be faced with increased recreation spinoff from park.	Recreational use might increase because of restrictions in park.
E. Artificial Feeding	Artificially concentrated. Social habits altered. Local population may increase. Dependence on man increased.	Visitors may see more bears in selected areas. Will not see true picture of grizzly ecology. Travel would be restricted in feeding areas.	Necessity to select feeding areas and provide carcasses for food. Rearrange backcountry travel routes and campsites to avoid feeding areas. Possibly fewer problems in campgrounds, but need now questionable. If feeding area is saturated, spinoff may be to campgrounds.	Artificial energy source introduced. Species competition locally disrupted. "Food" species artificially reduced.	If bears are concentrated in park, need for outside management is reduced.	Less need for restrictions on bears concentrated in park.

III. DESCRIPTION OF THE ENVIRONMENT

A. The Park's Natural Environment--A Brief Overview

Yellowstone National Park, located in the extreme northwestern corner of the state of Wyoming, occupies an area of approximately 3,500 square miles (9,000 km²) and is the central portion of a vast mountain-encircled, upland plateau astride the Continental Divide. This entire wildland area covering approximately 7,000 square miles (20,000 km²) in Wyoming, Idaho, and Montana includes Yellowstone and Grand Teton National Parks, and portions of five adjoining national forests. Elevations in the Yellowstone area range from 5,000 feet (1,525 m) at Gardiner, Montana to over 11,000 feet for the highest peaks. Yellowstone National Park is characterized by several broad, forested volcanic plateaus ranging in elevation from 7,000 to 9,000 feet (2,140 to 2,750 m). These volcanic plateaus are bounded by mountains on all sides; the Absaroka Range on the east; Teton Range on the southwest; the Gallatin Range on the northeast and north; and the Snowy Range to the north outside the park boundary. The park is well known for its many thermal features that have developed in topographically low areas or along major fault systems.

The climate of Yellowstone National Park is characterized by long, cold winters, short cool summers, and a resultant short growing season. Frost occurs most nights at higher elevations; at lower elevations nights are always cool. Park weather records show that the average temperatures during the month of July is 62.8°F, during January, 18°F. The mean annual temperature at Mammoth (the warmest section) is 39.8°F. Summer temperatures generally range from 55°F (13°C) at night into the 70s F (22°C to 26°C) in the daytime. Freezing temperatures have been recorded at all park weather stations during all months of the year. Precipitation averages 25 inches (635 mm) per year, mostly in the form of snow. Snowfall varies with elevation in the park. Areas along the Continental Divide and in the Absaroka Range along the eastern boundary receive 200 to 400 inches (5,075 to 10,250 mm) annually, while the Mammoth area at 6,000 feet (1,830 m) elevation receives only about 90 inches (2,290 mm) annually. Lightning-caused fires are occasional and normal.

Much of the park is forested. Spruce-fir and lodgepole pine forest types predominate, followed by a smaller Douglas-fir forest. Nonforest vegetation is widely interspersed throughout the forest areas. Extensive grassland and sagebrush areas on high slopes and ridges as well as mesic meadows scattered throughout the forests on moist sites along streams and around ponds predominate in the nonforest vegetation (Despain, D.G. Major Vegetation Zones of Yellowstone National Park, Information Paper No. 19, 1973).

On the upper plateau levels and mountain slopes, subalpine meadows are found. To a limited extent, areas above about 10,000 feet support an alpine tundra.

These nonforest lands include the large, open valleys of Lamar, Pelican, Hayden, and Firehole. Dense sedge growth borders the streams and extends across the flat bottoms. Slightly higher slopes support bunchgrasses, forbs, and sagebrush, with scattered marshy swale areas.

Seasonally, these valleys and their vegetation are a major feature of the grizzly bear habitat.

The highly varied vegetation mosaic supports a wide variety of plant-eating animals. Among them are an array of large ungulates--bison, mule deer, moose, pronghorn antelope, elk, and bighorn sheep. The rodent population includes pocket gophers, mice, marmots, squirrels, muskrat, and beaver. These plant eaters support a second level complex of meat eaters such as the coyotes, fox, bobcat, wolf, mountain lion, black bear, and grizzly bear. Fish, both natural and introduced, are an important component of the fauna. A wide variety of birdlife can be found, including Canada goose, trumpeter swan, white pelican, osprey, sandhill cranes, great blue herons, and kingfishers, many of which are dependent upon fish for a major portion of their diet.

In addition to the large and visible animals so important to the visitor's experience, there exists a great diversity of lesser forms that interact to form the complex food web of which the grizzly bear is a part.

B. Park Development

The majority of development is concentrated in ten locations in three areas of the park (figure 4).

1. Northern Area: Mammoth-Norris-Tower

Mammoth is the site of park headquarters and is a year-round residential and tourist center. Overnight accommodations include a hotel, a lodge, tourist cabins, and a campground. The Norris and Tower areas have only campground facilities and a small employee housing area. (Visitor capacity, 2,140; resident capacity, 979.)

2. Western Area: Madison-Old Faithful

The Madison area has an overnight population capacity of 1,276 persons, 1,230 visitors, and 46 residents. The Old Faithful area, substantially larger in terms of overnight accommodations, has a capacity of 3,970 visitors and 770 residents (total 4,740). Visitor facilities include an inn, lodge, and cabins at Old Faithful, and a campground at Madison.

3. Southeastern Area: Bridge Bay-Fishing Bridge-Lake-Canyon-Grant/West Thumb

More than 2,500 persons are residents (2,000 in the residential developments at Canyon and Grant Village) and 15,850 visitors in overnight campgrounds, cabins, lodges, and trailers. The lodges are located at Canyon and Grant Village.

During the summer visitor peak, accommodations are usually near or at capacity. Winter use is increasing steadily. Present overnight capacities are expected to continue in the future so that in-park community populations should remain at present levels. Gateway towns, however, (West Yellowstone, Gardiner, Cooke City) may well continue to grow, given adequate tourist demand.

Backcountry trails and campsites are scattered throughout the park. Overnight camping and hiking are relatively more intensive in 21 areas that are distributed rather uniformly throughout the park.

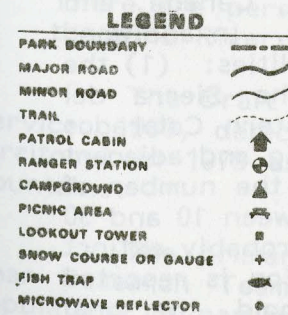
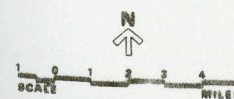


FIGURE 4
MAJOR LOCATIONS
IN YELLOWSTONE NATIONAL PARK



Collectively, these areas contain 312 backcountry campsites, receiving in 1977 approximately 40,000 nights use during the season of peak visitor use (figure 10).

Altogether, park developments, including roads, power and phone lines, etc., comprise less than three-tenths of one percent of the total park acreage.

C. Grizzly Bears

The following piece on the historical distribution of the grizzly bear is an excerpt from the National Academy of Sciences 1974 "Report of Committee on the Yellowstone Grizzlies."

"The grizzly bear of North America, Ursus arctos horribilis Ord (Rausch, 1963) is conspecific with the brown bears, Ursus arctos ssp., of the Old World. In North America, grizzly bears formerly occurred from northern Alaska and Canada southward to northern Baja, California and Durango, Mexico (Hall and Kelson, 1959), and from the Pacific Coast eastward to at least Ontario, Ohio, and Kentucky (Peterson, 1965; Guidlay, 1968). The range of the grizzly bear has been shrinking for at least 10,000 years. Populations east of the Mississippi River disappeared in early post-glacial time, and by the 16th century grizzly bears were found only in western North America. Farther north, grizzlies may have inhabited the "barren-grounds" of the Ungava Peninsula in northern Labrador and Quebec, but the evidence is equivocal, and no specimens exist (Elton, 1954; Harper, 1961). In any case, the range of the "barren-ground" grizzly north and west of Hudson Bay shrank during the 19th century. Grizzlies also disappeared from the Great Plains during the last half of the 19th century and from the Pacific Coast states in the first several decades of the 20th (Allen, 1942). In the Rocky Mountains, grizzly numbers also declined during this period, but more slowly. In the 1930's, grizzlies may have persisted in small numbers in the mountains of Arizona, New Mexico, and possibly Utah, but if so, they disappeared in the next several decades (Bailey, 1931), as did populations in northern Colorado and most of Wyoming; the last grizzly was seen in northern Colorado in 1920 (R.J. Tully, unpublished data, 1970; mentioned in Armstrong, 1972, page 271).

"By the 1950's grizzly bears survived in Alaska, Canada, and adjacent parts of Washington, Idaho, and Montana. In addition, small, isolated populations survived in three localities: (1) the mountains of Chihuahua, Mexico (especially the Sierra del Nido); (2) the San Juan Mountains of southwestern Colorado; and (3) the Yellowstone Plateau region of Wyoming and adjacent Idaho and Montana (Cahalane, 1964). In 1957, the number of Sierra del Nido grizzlies was estimated to be between 10 and 30 (Leopold, 1967). By 1968, that population was probably extinct (Koford, 1969). However, another small population is reported to persist in the Sierra Madre (A.S. Leopold, personal communication, 1974). Status of southwestern Colorado grizzlies

is less certain, but three were killed in the two decades preceding 1970 (R.J. Tully, unpublished data, 1970, as mentioned in Armstrong, 1972, p. 271), suggesting that a few individuals may survive in more remote parts of the San Juan Mountains (R.M. Hansen, personal communication, 1974).

"The only one of these three isolated populations that has maintained significant numbers is on the Yellowstone Plateau. The occupied area includes Yellowstone and Grand Teton National Parks and adjacent portions of the Gallatin, Shoshone, Teton and Targhee National Forests. The system is variously estimated to comprise 14,000 km² (Cole, 1974) as the "Yellowstone Ecosystem", about half (8,800 km²) of which lies within the boundaries of Yellowstone National Park (Cole, 1974)."

D. Present Distribution of the Species

Continuing with the excerpt from the National Academy of Sciences Report (1974):

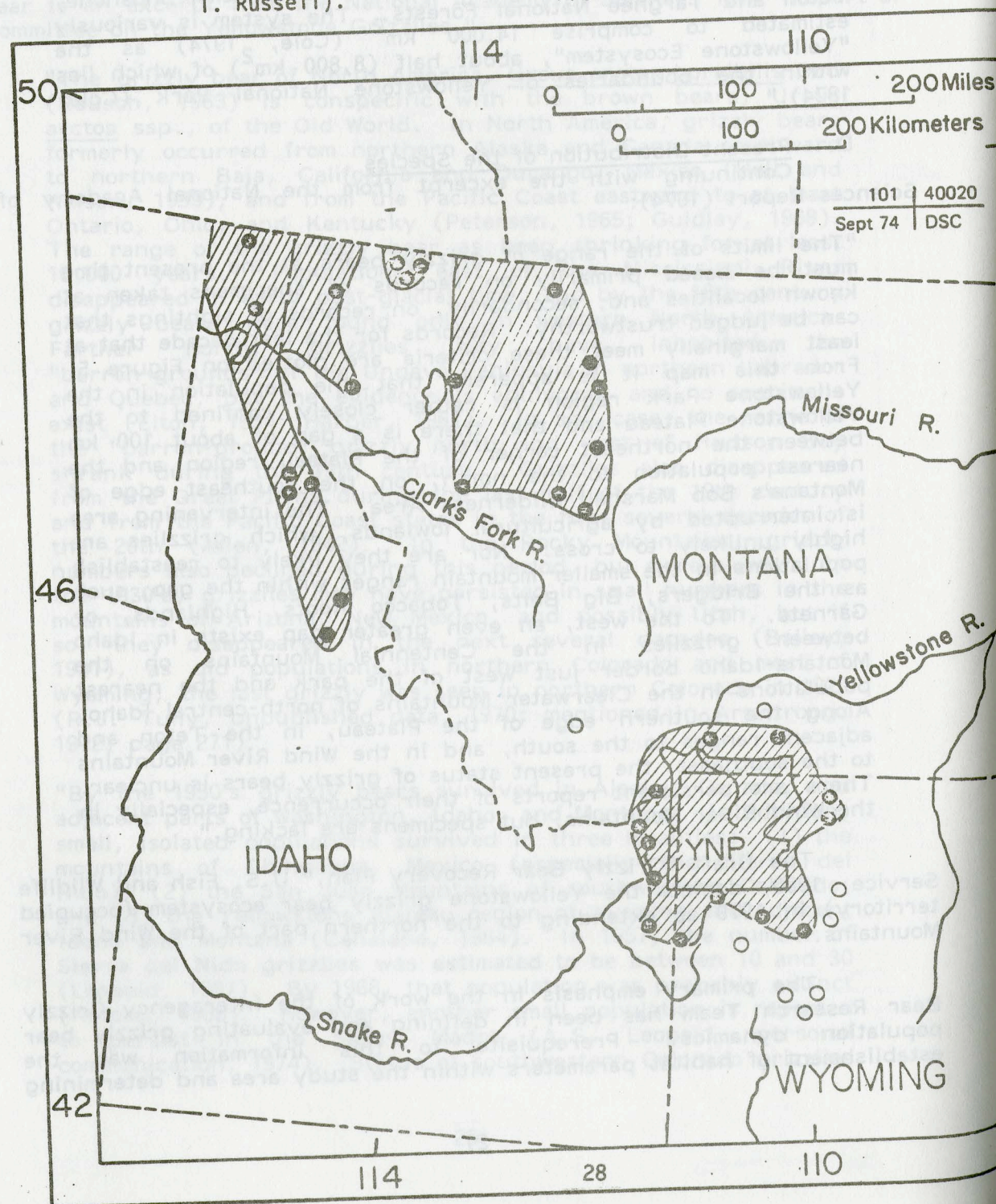
"The limits of the range of grizzly bears at the present time must be based primarily on records of specimens taken at known localities and, secondarily, on records of sightings that can be judged trustworthy. Records for the last decade that at least marginally meet these criteria are plotted on Figure 5. From this map it is apparent that the population in the Yellowstone Park region is rather closely confined to the Yellowstone Plateau and that there is a gap of about 100 km between the northeast corner of the Plateau region and the nearest population to the north, on the southeast edge of Montana's Bob Marshall Wilderness Area. The intervening area is interrupted by agricultural lowlands, which grizzlies are highly unlikely to cross. Nor are they likely to reestablish populations in the smaller mountain ranges within the gap, such as the Bridgers, Big Belts, Tobacco Roots, Highlands, or Garnets. To the west, an even greater gap exists in Idaho between grizzlies in the Centennial Mountains on the Montana-Idaho border just west of the park and the nearest populations in the Clearwater Mountains of north-central Idaho. Along the southern edge of the Plateau, in the Teton and adjacent ranges to the south, and in the Wind River Mountains to the southeast, the present status of grizzly bears is unclear. There are persistent reports of their occurrence, especially in the Wind River Mountains, but specimens are lacking."

The Draft "Grizzly Bear Recovery Plan," U.S. Fish and Wildlife Service, 1980, depicts the Yellowstone grizzly bear ecosystem (occupied territory) in 1979 as extending to the northern part of the Wind River Mountains.

The primary emphasis in the work of the Interagency Grizzly Bear Research Team has been in defining and evaluating grizzly bear population dynamics. Prerequisite to this information was the establishment of habitat parameters within the study area and determining

FIGURE 5. Distribution of Grizzly Bears in Contiguous 48 States

Approximate present distribution of grizzly bears in the contiguous 48 states. Solid circles indicate actual specimens or reliable site records; open circles represent records considered to be beyond the normal range. The crosshatched areas delineate approximate normal ranges of grizzly bears. (Based on unpublished records supplied by D.T. Fluckiger, K. Greer, D. Houston, A.E. Nielson, J. Reese, L. Roop, and T. Russell). From Cowan (1974)



the distribution of grizzlies within that habitat. The team's annual report for 1976 states, "Grizzly bears are distributed in varying densities throughout most of the study area. Figure 6 depicts our best estimate of the current distribution of grizzly bears in the Yellowstone area based on data gathered by team members, reconnaissance teams, and the monitoring system from 1973 through 1976. This represents an effort of 4,100 miles of foot or horseback travel and 619 hours of flight time over the four-year period. No reconnaissance teams were used in 1973. Most of Yellowstone Park was covered by foot travel in all years by team members. The entire area was covered by flights each year.

"The core of the population is still centered in Yellowstone National Park. Although some bears commonly move in and out of the park, there is probably a growing number that can be classified as nonpark residents. Females with cubs and females with yearlings have been sighted outside of the boundary on all sides of the park, and three den sites for the 1976-77 winter are known to be outside the park.

"Concentration areas appear to change somewhat from year to year, but this may be an artifact of varied effort in different parts of the study area."

E. Population Size and Density in the Region and Park

A predictable result of the dump controversy was a considerable difference in population estimates by the factions involved.

Craighead and Craighead (1971) estimated that grizzly bear density in the Yellowstone ecosystem was $1/75 \text{ km}^2$. Apparently the average count for 1959-66, 174 bears, was divided into an area of 12,950 km^2 which included the 8,800 km^2 park, plus a peripheral area. An adjacent corridor 16.1 km wide surrounding this area is mentioned but not included in the density calculation, perhaps because it was regarded as occupied only on a seasonal basis. Elsewhere in the same paper, they refer to a study area of 19,943 km^2 , including the corridor.

On the other hand, Cole (1973, 1974) estimated a minimum of 250 grizzlies within the 8,800 km^2 park ($1/35 \text{ km}^2$) and an additional 100 in the 5,200 km^2 peripheral area outside the park boundaries ($1/52 \text{ km}^2$) for a total of 350 bears and an average density of $1/40 \text{ km}^2$.

Both Cole and the Craigheads estimated crude densities; their estimates differ both in bear numbers (174 vs 350) and, less significantly, in area occupied (12,950 vs 14,000 km^2).

Knight (1974) has provided information on the density of grizzly bears within the park and has mapped areas of known or suspected high bear density (Figure 6). Knight reports that: "Areas of relatively high population density were computed from unduplicated sightings of identifiable bears or groups of bears. Densities ranged from 1 bear/3 square miles (7.8 km^2) in the Cougar Creek - West Yellowstone area to 1 bear/4 square miles (10.3 km^2) in the Hayden - Pelican and Lamar Valley areas to 1 bear/7 square miles (18.1 km^2) in the Fawn Pass -

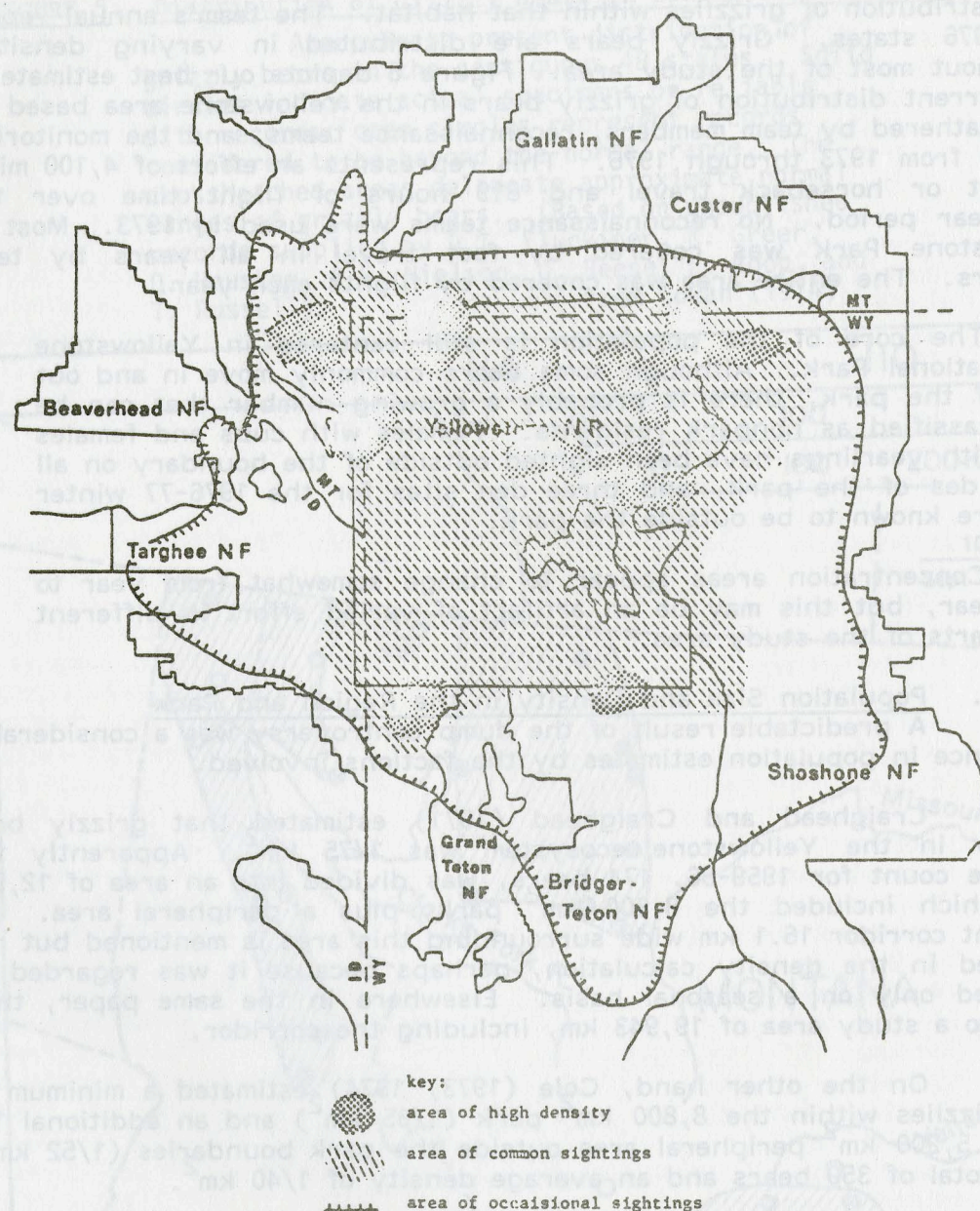


FIGURE 6. Distribution of Grizzly Bears in Yellowstone Area.
Source: Knight, R. et al, 1977 Annual Report of the Interagency Grizzly Bear Research Team, 1976. USDI-NPS Misc. Report #10.

Quadrant Mountain area. Most of the sightings coincided with open areas where bears were relatively easily seen. The Bechler Meadows in the southwestern corner of the park was the only extensive open area where grizzly bears were not observed."

Knight (1974) states further, "Identification of individual bears or family groups yielded a total of 157 (grizzly bears). Most of these (129) were within the boundaries of Yellowstone National Park. A number of other bears observed within the park were suspected to be different individuals but could not be positively identified. Judging from the number and distribution of sightings along with tracks and other signs, the 129 individuals probably account for 1/3 to 1/2 of the total park population."

"Considering observation conditions, cub production, and the size of the unduplicated sample, it is probable that the grizzly bear population in the study area is growing or at least stable." Knight, et al., 1976

Reports indicate dispersal of grizzlies beyond previously reported habitat, which would suggest an increasing population. (Knight, pers. comm., 1979)

1. Management of Natural Habitat

Present management is oriented to maintaining the integrity of natural ecosystems. Artificial control of resources and natural processes are held to the absolute minimum required to offset known human impacts on those resources and/or processes.

Former programs to regulate large populations of elk and bison within the national park by live trapping and slaughter programs have been replaced by natural regulation (Cole 1971; Meagher 1973). In lieu of removing assumed surplus animals from the ecosystem, either for use in restocking other ranges or as food for man, those animals that die because of age, malnutrition, disease, or other natural factors are permitted to complete their full cycle without human interference. This concept is based on the premise that nothing in nature is either "good" or "evil" and the death of the individual is as natural and necessary an event as is birth.

Late winter and early spring is the period when the greatest number of elk and bison deaths occur in the wild. The time of "winter kill" overlaps with the emergence of grizzly bears from their winter dens when food items other than carrion is scarce. Bears and other scavengers seek out the carcasses of elk and bison--a source of protein and energy that may be essential to the survival of the species within Yellowstone.

The grizzly bear is resourceful and has the ability to use a wide variety of foods--roots, berries, and other vegetative materials in addition to carrion, small rodents, etc. Some predation by bears, mainly on elk, has been noted by biologists in Yellowstone (Cole 1972). The grizzly bear is capable of killing both adults and calves, most frequently in spring.

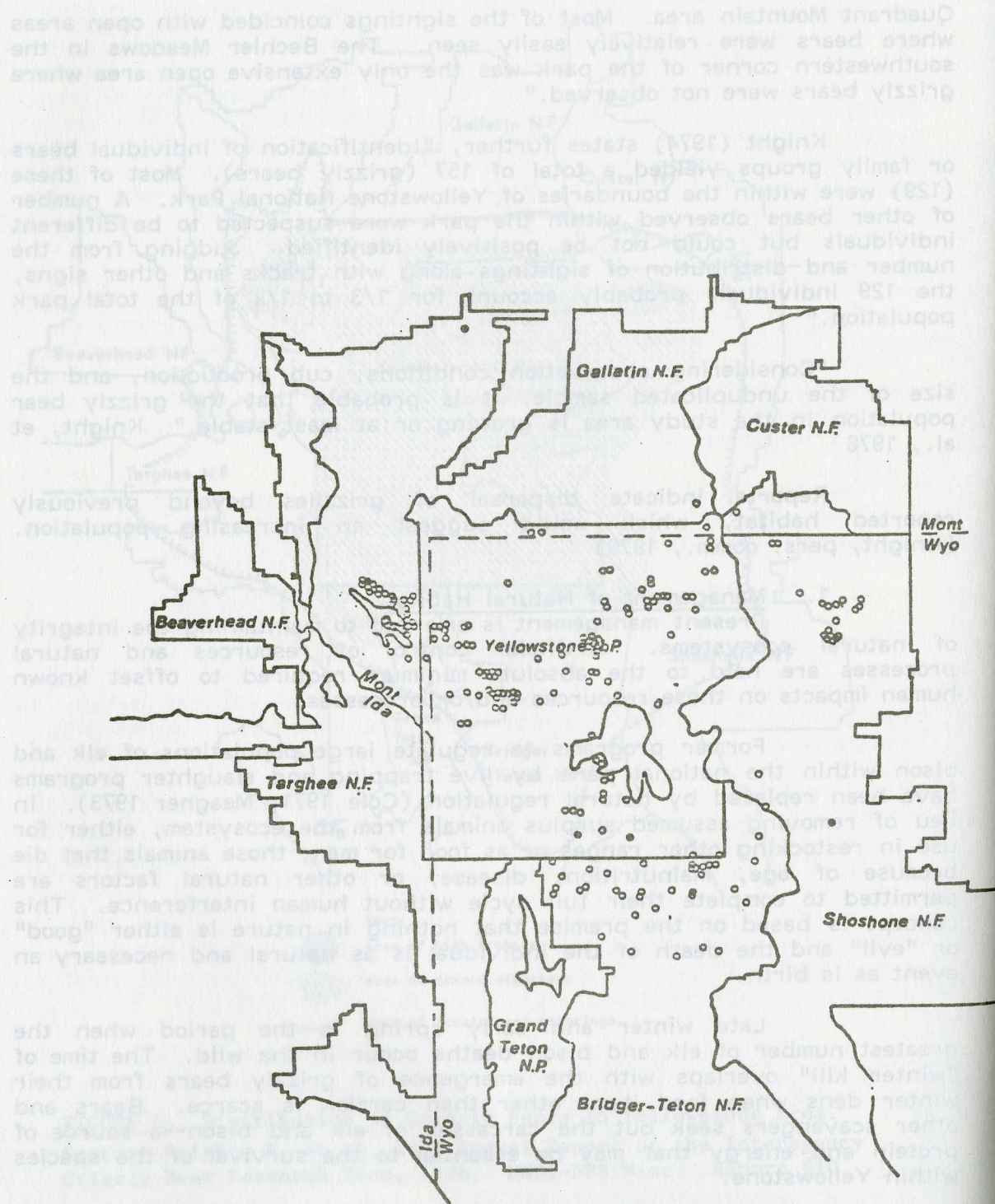
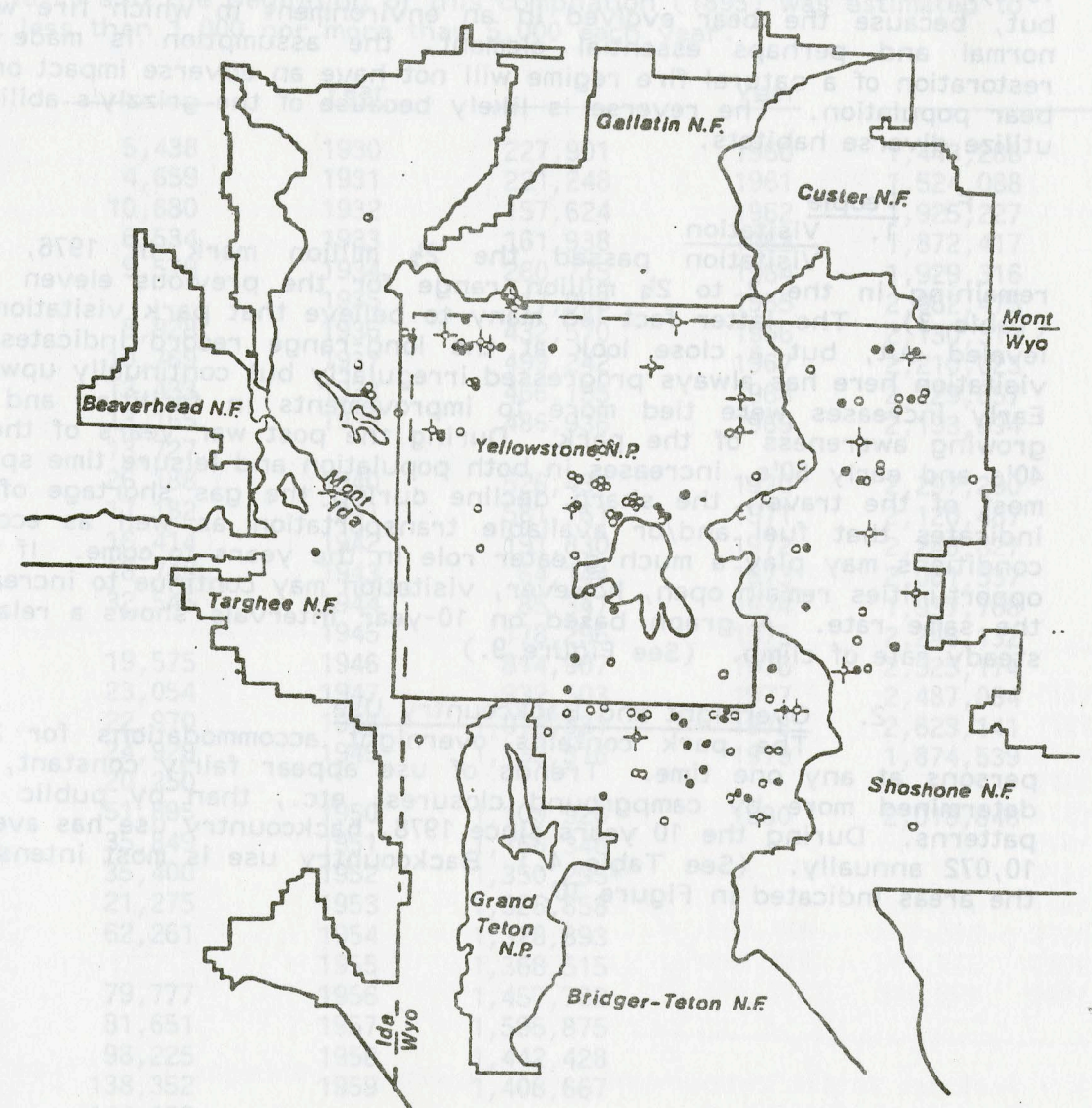


FIGURE 7. Distribution of reported grizzly bear sign in 1977.

Source: Knight, R. et al, 1978. Annual Report of the Interagency Grizzly Bear Study Team, 1977, Yellowstone Grizzly Bear Investigations.

FIGURE 8. Distribution of Observed Grizzly Bears in 1977.



Distribution of observed grizzly bears in 1977. Open circles denote lone bears, darkened circles sows with young, and + two or more bears but not sows with young. Source: Knight, R. et al, 1978. Annual Report of the Interagency Grizzly Bear Study Team, 1977, Yellowstone Grizzly Bear Investigations.

Yellowstone National Park has initiated a program to reestablish fire as a natural factor of the park ecosystems. Many years of fire suppression have somewhat modified the natural mosaic and species composition of vegetation, particularly on the northern range (Houston 1974). The effects of fire on the grizzly bear are not fully understood but, because the bear evolved in an environment in which fire was a normal and perhaps essential element, the assumption is made that restoration of a natural fire regime will not have an adverse impact on the bear population. The reverse is likely because of the grizzly's ability to utilize diverse habitats.

F. People

1. Visitation

Visitation passed the 2½ million mark in 1976, after remaining in the 2 to 2¼ million range for the previous eleven years (Table 3). The latter fact led many to believe that park visitation had leveled out, but a close look at the long-range record indicates that visitation here has always progressed irregularly but continually upwards. Early increases were tied more to improvements in facilities and to a growing awareness of the park. During the post war years of the late 40's and early 50's, increases in both population and leisure time sparked most of the travel, the sharp decline during the gas shortage of 1974 indicates that fuel and/or available transportation as well as economic conditions may play a much greater role in the years to come. If travel opportunities remain open, however, visitation may continue to increase at the same rate. A graph based on 10-year intervals shows a relatively steady rate of climb. (See Figure 9.)

2. Overnight and Backcountry Use

The park contains overnight accommodations for 23,360 persons at any one time. Trends of use appear fairly constant, often determined more by campground closures, etc., than by public choice patterns. During the 10 years since 1978, backcountry use has averaged 10,072 annually. (See Table 4.) Backcountry use is most intensive in the areas indicated in Figure 10.

Table 2. Yellowstone National Park Vistation 1895-1980

The number of visitors during the period between the establishment of the park (1872) and the beginning of this compilation (1895) was estimated to be not less than 1,000 nor more than 5,000 each year.

Year		Year		Year	
1895	5,438	1930	227,901	1960	1,443,288
1896	4,659	1931	221,248	1961	1,524,088
1897	10,680	1932	157,624	1962	1,925,227
1898	6,534	1933	161,938	1963	1,872,417
1899	9,579	1934	260,775	1964	1,929,316
		1935	317,998	1965	2,062,475
1900	8,928	1936	432,570	1966	2,130,313
1901	10,769	1937	499,242	1967	2,210,023
1902	13,433	1938	466,185	1968	2,229,657
1903	13,165	1939	486,936	1969	2,193,894
1904	13,727				
1905	26,188	1940	526,437	1970	2,297,290
1906	17,182	1941	581,761	1971	2,120,487
1907	16,414	1942	191,830	1972	2,246,827
1908	18,748	1943	64,144	1973	2,061,537
1909	32,545	1944	85,347	1974	1,937,768
		1945	178,296	1975	2,246,132
1910	19,575	1946	814,907	1976	2,525,174
1911	23,054	1947	932,503	1977	2,487,084
1912	22,970	1948	1,013,531	1978	2,623,141
1913	24,929	1949	1,133,516	1979	1,874,539
1914	20,250				
1915	51,895	1950	1,109,926	1980	2,018,848
1916	35,849	1951	1,166,346		
1917	35,400	1952	1,350,295*		
1918	21,275	1953	1,326,858		
1919	62,261	1954	1,328,893		
		1955	1,368,515		
1920	79,777	1956	1,457,782		
1921	81,651	1957	1,595,875		
1922	98,225	1958	1,442,428		
1923	138,352	1959	1,408,667		
1924	144,158				
1925	154,282				
1926	187,807				
1927	200,825				
1928	230,984				
1929	260,697				

*Beginning in 1952 the figures represent travel during the calendar year instead of the period October 1 to September 30 as previously used.

Source: Yellowstone National Park Files.

Table 3. Rates of Change
Yellowstone National Park Visitation 1929-1980

(Rounded to nearest whole number)

	Difference in vis.	% Change
1920-1930	+ 148,124	+ 185%
1930-1940	+ 298,536	+ 130%
1940-1950	+ 583,489	+ 110%
1950-1960	+ 333,362	+ 30%
1960-1970	+ 854,002	+ 59%
1970-1980	- 278,442	- 12%

SOURCE: Yellowstone National Park Files

Table 4
Yellowstone National Park Visitation Overnight Use 1970-1980

	Campgrounds ^a		Backcountry	Misc. ^b	Concessioner	Total
	Tents	RV/Trailers	Campers		Overnight Stays	
1970	263,023	418,391	C	10,653 ^d	608,320	1,300,387
1971	238,856	525,430	21,790	14,375	545,185	1,345,636
1972	259,883	565,475	24,946	8,811	605,506	1,464,621
1973	153,159	322,910	36,808	7,267	621,100	1,141,244
1974	245,628	404,034	41,624	9,855	612,073	1,313,214
1975	235,368	341,426	44,387	9,620	661,767	1,292,568
1976	297,189	471,956	42,212	11,261	684,067	1,506,685
1977	322,328	453,791	53,643	10,978	631,832	1,472,572
1978	236,676	497,103	52,686	7,665	691,997	1,486,127
1979	219,297	358,266	46,142	10,199	640,517	1,274,421
1980	198,216	317,349	24,010	10,122	670,259	1,219,946

a - Includes formal campgrounds and reported "undesigned", "Type B" or "overflow" camping.

b - Includes group camps, overnights aboard boats, and other overnights.

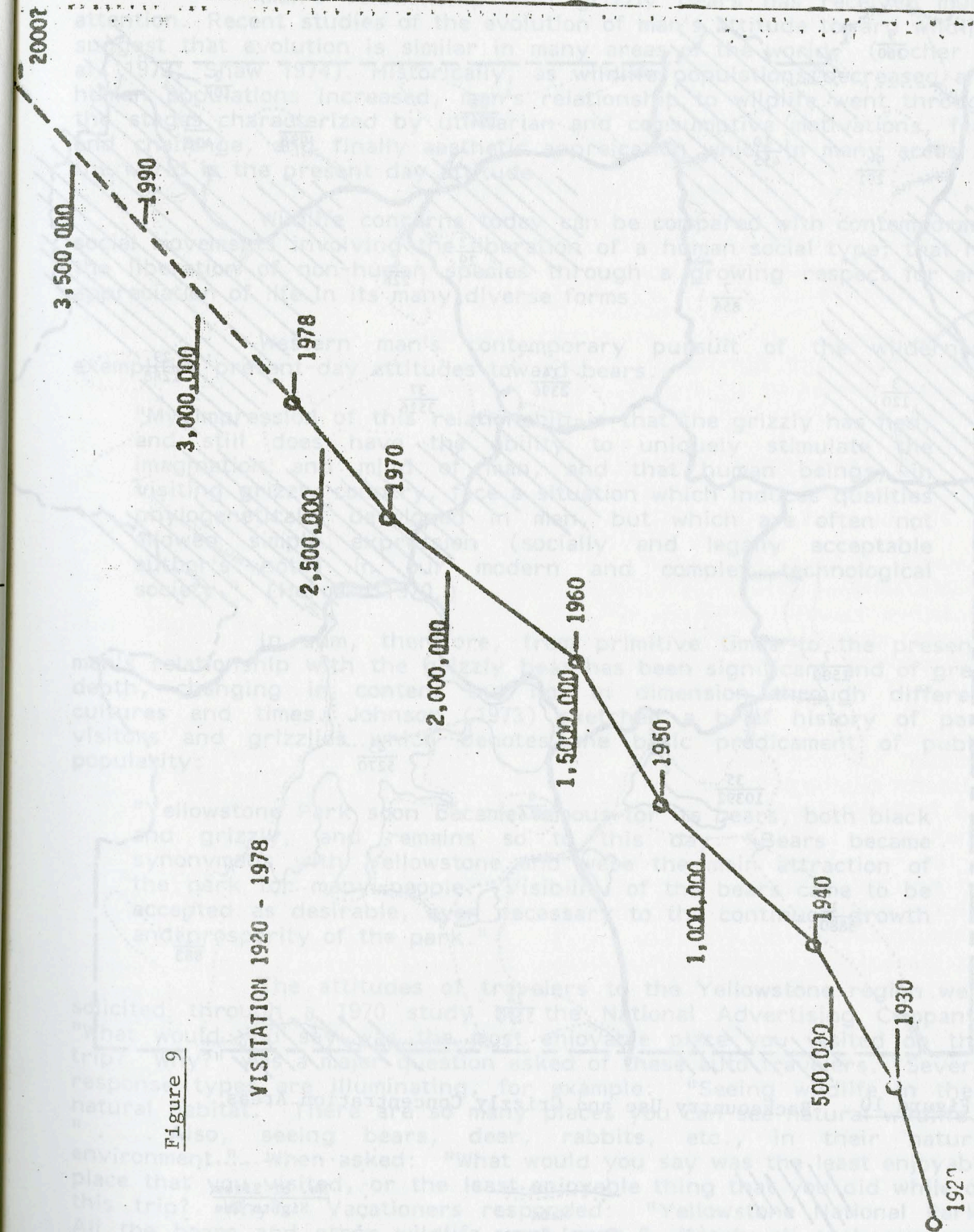
c - Backcountry camping was not separately identified in 1970 park reports.

d - Reported as "Other Overnight" in 1970. May have included back country.

e - Includes concessioner-operated rooms, cabins, and campgrounds

SOURCE: Yellowstone Park files, and National Park Statistical Abstracts, 1972-80

DATE: 4/30/79
TO: Jim R. Allen (Larry Phillips) RTRR
FROM: Ruth Chub. Ranford fiscal cell
SUBJECT: Visitation
TIME: 8:50
TELEPHONE: 234-2764
TELEPHONE: 885-441



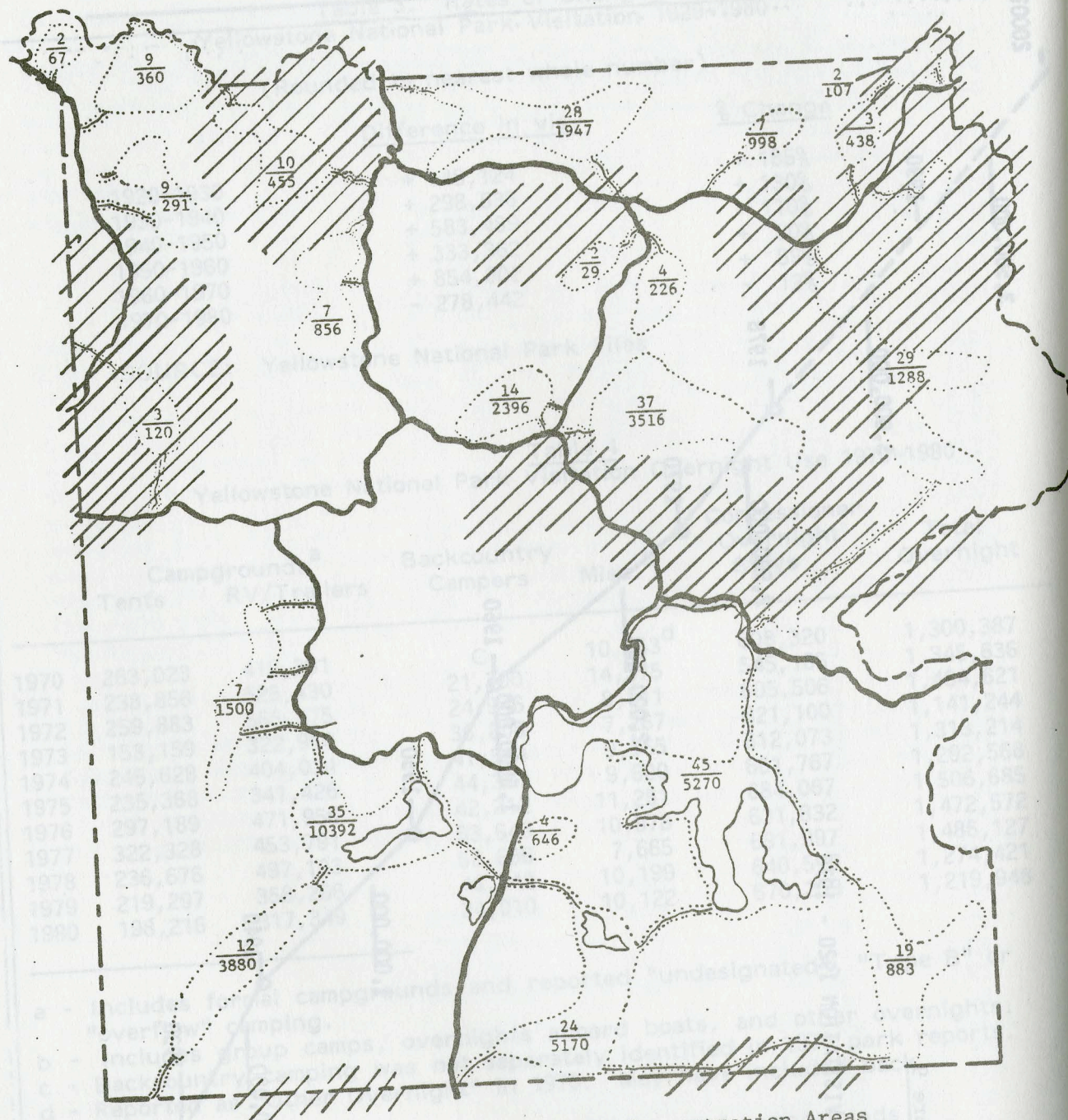


Figure 10 Backcountry Use and Grizzly Concentration Areas

Grizzly Concentrations

Main Travel Routes

No. of Sites
Nights Use

Backcountry Use Areas

Source: Yellowstone National Park files (untitled), 1975

3. Attitudes towards bears

Man's relationship with grizzly bears has received much attention. Recent studies of the evolution of man's attitude toward wildlife suggest that evolution is similar in many areas of the world. (Tocher et al. 1973; Shaw 1974). Historically, as wildlife populations decreased and human populations increased, man's relationship to wildlife went through the stages characterized by utilitarian and consumptive motivations, fear and challenge, and finally aesthetic appreciation which in many areas of the world is the present day attitude.

Wildlife concerns today can be compared with contemporary social movements involving the liberation of a human social type; that is, the liberation of non-human species through a growing respect for and appreciation of life in its many diverse forms.

Western man's contemporary pursuit of the wilderness exemplifies present-day attitudes toward bears.

"My impression of this relationship is that the grizzly has had, and still does have the ability to uniquely stimulate the imagination and mind of man, and that human beings, in visiting grizzly country, face a situation which induces qualities phylogenetically developed in man, but which are often not allowed simple expression (socially and legally acceptable author's note) in our modern and complex technological society." (Herrero 1970.)

In sum, therefore, from primitive times to the present, man's relationship with the grizzly bear has been significant and of great depth, changing in content but not in dimension through different cultures and times. Johnson (1973) sketched a brief history of park visitors and grizzlies which denotes the basic predicament of public popularity:

"Yellowstone Park soon became famous for its bears, both black and grizzly, and remains so to this day. Bears became synonymous with Yellowstone and were the main attraction of the park for many people. Visibility of the bears came to be accepted as desirable, even necessary to the continued growth and prosperity of the park."

The attitudes of travelers to the Yellowstone region were solicited through a 1970 study by the National Advertising Company. "What would you say was the most enjoyable place you visited on this trip? Why?" was a major question asked of these auto travelers. Several response types are illuminating, for example: "Seeing wildlife in their natural habitat. There are so many places you can see natural wildlife." "... Also, seeing bears, deer, rabbits, etc., in their natural environment." When asked: "What would you say was the least enjoyable place that you visited, or the least enjoyable thing that you did while on this trip? Why?": Vacationers responded: "Yellowstone National Park. All the bears and other wildlife were gone." Nearly all such comments refer to opportunities to see black bears, which, until a few years ago, were commonly seen on roadsides. Grizzly bears have rarely been seen at any time waiting for handouts at park roadsides.

Regardless of the particular species involved, wildlife is important to the viewing public. Grizzly bears are aesthetically important to the visiting public although they are seen infrequently.

In a questionnaire survey conducted 1969-70 in Alberta, Canada, the objective was "to determine the degree to which wildlife in western mountain national parks is perceived as being hazardous and factors associated with the perceptions . . ." (Bryan and Jansson 1973). The implicit assumption was the perception of wildlife as a hazard affects behavior toward wildlife. The data suggested that more contact (by frequency of national park visits, size and location of residential community, hunter; non-hunter status) instilled a lesser perception of hazard.

One interpretation of such results (although not that of the researcher) is that as human populations become more distant, experientially and proximally, from wildlife, (urbanized, etc.) and contact lessens, perception of hazard will increase hopefully followed by more cautious behavior when hazardous species are in the vicinity.

G. Bear-People Interactions

1. Nature of interactions

a. Passive-viewing bears

Many visitors come to Yellowstone National Park primarily to see and enjoy its diverse native wildlife, including the grizzly bear. Most of the bears seen in the park are the more common black bears, which were at one time responsible for major traffic jams as visitors stopped to observe or photograph bears that were visible from the roadway. Since the more rigid enforcement of feeding regulations began, it is much more difficult to see black bears.

Opportunities to see grizzlies have never been common. At certain seasons and in particular areas, opportunities do exist for visitors in cars to view wild grizzlies safely as the bears travel and forage naturally. Such opportunities cannot be guaranteed.

Sightings may be made in many places in the park, but are not frequent in the areas indicated on Figure 5. In areas where grizzly bears are known to occur, sightings are possible at any time the bears are active.

b. Active

Active interactions occur when visitors intentionally or unintentionally attract bears, or when visitors encounter a bear that illustrates aggressive behavior, often in defense of cubs or to protect a food supply. A small percentage of these interactions result in injury to the visitor. Such injuries often are due to the visitors lack of awareness of the potentially dangerous nature of these powerful animals. Carelessness, often inadvertent, may subject the visitor to increased risk of serious injury.

Active interactions may occur anywhere there are both grizzly bears and visitors.

Bears in campgrounds are always potentially dangerous, and established campgrounds in areas that may be frequented by grizzly bears during spring and early summer sometimes are opened late to reduce the likelihood of personal injury. Today, permanent closure of only one campground--the Pelican Creek campground--has been required because of unusually high grizzly bear density.

Restrictions on the types of camping equipment may also be applied. Canyon and Fishing Bridge campgrounds are located in areas of high grizzly bear density and prior to 1969 were both considered to have critical grizzly bear problems. In 1970, camping in the Canyon Campground was limited to hardsided recreation vehicles. The use of tents, tent trailers, and bedrooms on the ground is prohibited. This same restriction was applied to the Fishing Bridge Campground beginning in 1977.

There is evidence to suggest that with the increased standards of campground sanitation and food storage in effect, bears are avoiding developed area campgrounds (Table 5). In 1973, it was necessary to capture and relocate two sow grizzly bears and one black bear from the Canyon Campground. This is in contrast with the necessity to destroy four and relocate ten grizzly bear and eleven black bear from the Canyon Campground in 1969. In the past four seasons, no grizzly control actions have been necessary at Canyon.

No grizzly bears required control actions within the Fishing Bridge Campground during 1978, compared to a need to destroy three and relocate six in 1969. This may be attributed to the fact that no food--in the form of groceries or garbage--was available for bear use. It may also be attributed to a plentiful supply of natural foods.

Hiking and backcountry camping are becoming increasingly popular activities within Yellowstone. Many of the backcountry campsites are within areas of relatively high bear densities and/or can be reached only by traveling through prime grizzly bear habitat. (See Figures 5 and 6.) To date, personal injuries attributed to grizzly bears in the backcountry have been rare. The potential danger, however, is there. In order to minimize the potential of human-bear conflicts, backcountry activities and facilities (trails and campsites) must be closely regulated and monitored. Trails and backcountry campsites are closed when the area is known to contain a bear that is considered to be a special hazard, such as bear that has demonstrated an aggressive behavior pattern.

More frequent grizzly/human conflicts in the Gallatin Range have resulted in restricting travelers in that area to horseback or to parties of four or more people. Relatively short walks into the backcountry normally do not expose the visitor to the same degree of danger as the backpacker. Hiking is a day-use activity and takes place during the period when bears are least active, often in fairly open country with good visibility adjacent to main park roads. Walks, however, are often spontaneous events in which the participants are relatively unprepared, in terms of equipment, background, and attitude, to avoid conflicts with bears. Portions of the interpretive program and monitoring program are directed toward making hiking a safe activity.

Table 5. Grizzly Bear Control Actions in Developed Areas,^a
Yellowstone National Park, 1968-80 (from park files)

Developed areas:	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Old Faithful	1 ^b	0 ^b	22	1	0	0	1	0	3	3	1	1	0
Canyon	14	16	9	11	10	3	6	0	0	1	0	0	2
Lake Outlet	16	25	11	20	13	4	5	0	11	3	0	0	0
Grant Village	20	5	15	5	0	0	0	0	0	0	0	0	0
Bridge Bay	8	9	0	1	3	3	2	0	0	2	1	0	2
Eleven other units	0	2	13	1	0	0	0	0	1	0	0	0	0
Total control actions	59	57	70	39	26	10	14	0	15	9	2	1	4
No. different bears ^c	?	?	50	33	21	7	11	0	9	7	0	1	13
Pct. successful transplants	33 ^d	10(5)	60	80	74	70	77	0	36	78	0	100	50
No. bears destroyed ^e	5(3)	0	12(6)	6(2)	6(4)	0	2(1)	0	1	1(1)	2	0	1
No. bears to zoos	0	0	8	0	1	0	0	0	0	0	0	0	0

^aNumber of times a bear was captured for transplanting, shipped to a zoo, or destroyed.

^bGrizzlies present until Rabbit Creek dump opened each year.

^cNumbers in 1968 and 1969 unknown due to unmarked animals; 4 of 33 were 1970 transplants, 4 of 21 were 1970 or 1971 transplants.

^dSample of 20 marked and 1 recognizable bear.

^eYearly totals with the number that were unintentional because bears charged personnel, came out of traps during handling, injured themselves in traps, or failed to recover from drugs shown in parentheses.

Fishing is either a primary purpose of or an incidental activity in the majority of backcountry visits. Backcountry fishing may expose the visitor to risk of bear-induced injury, especially in areas where discarded fish carcasses serve as bear attractants. Fish cleaning and cooking also have the potential to attract bears. Therefore, fishing areas must be monitored very closely to prevent the development of backcountry nuisance bears. Backcountry fishermen are now instructed to dispose of fish entrails in the water in which the fish were caught.

To date, no fishing areas have been closed specifically to prevent possible bear-visitor interactions. However, in 1973, the National Park Service closed the first mile of the Yellowstone River--including the popular Fishing Bride area--to fishing. The action was taken in response to the concern of the U.S. Fish and Wildlife Service that continued fishing pressure would adversely affect the outlet-spawning cutthroat trout, causing high cutthroat mortality and excessive competition from the fry of suckers and shiners (Dean 1972). Fishing Bridge is in an area of documented high density of grizzly bears (see Figure 6). Closure of the area to fishing undoubtedly reduced the number of discarded fish carcasses along the river, thereby reducing the area's attractiveness to grizzly bears. The likelihood of bear-visitor interactions in this area possibly is less than before the closure. In 1977, Pelican Creek was restricted to catch-and-release fishing primarily to reduce the number of fishermen and lessen the chance for contacts with grizzlies.

The black bear is more common, more often seen, probably more adaptable to man or tolerant of man, and during the days of roadside feeding, was more responsible for injuries than the grizzly. Indeed, the majority of all bear injuries to park visitors have been attributed to the black bear (Table 6). During the period 1931-69 an average of 47 people per year were injured by all bears. The highest recorded number of injuries occurred in 1937 when 115 people were injured. The lowest number of injuries prior to 1978 were recorded during the period 1943-45 when visitation was greatly reduced. An average of 26 bears per year (including an average of 3 grizzly bears) during the period 1931-69 were killed as the result of a nuisance bear control program (Table 7).

The park staff estimates that approximately 500-650 black bears live within the park. Historically, large numbers of the population were associated with park roadsides and developed areas. As a corollary to the grizzly bear management program, the absence of garbage and increased enforcement of regulations prohibiting bear feeding has resulted in the black bear's return to the forest.

Following closure of the dumps, the number of personal injuries attributable to both black and grizzly bears declined markedly (Tables 6 and 7) during a period when total park visitation remained roughly constant. The number of bears killed for control was positively correlated with the number of injuries during the period. Both black bears and grizzlies have been less often killed for control purposes since the dumps were closed and high protection standards enforced (Table 7).

H. Probable Future Environment Without the Proposed Action
The primary emphasis of the proposed action is in the regulation of human activities and solid waste management. Failure to continue these measures could lead to significant environmental changes through pollution and could increase the potential for people-bear conflicts. The latter could result in personal injuries, deaths and property damages, accompanied by an increased restriction of individual bears, and the possible loss of the grizzly bear from the Yellowstone ecosystem. The integrity of the natural environments would be weakened, and the value of the national park for visitor enjoyment and scientific study would be altered.

Table 6. Personal Injuries Attributed to Black Bears and Grizzly Bears, 1963-78.

Year	Number of Personal Injuries	Attributed to:	
		Grizzly Bears	Black Bears
1963	36		
1964	30		
1965	39		
1966	66		
1967	61	(3)	(58)
1968	20	(2)	(18)
1969	28	(6)	(22)
1970	11	(3)	(8)
1971	9	(0)	(9)
1972	8	(3)*	(5)
1973	4	(0)	(4)
1974	7	(0)	(7)
1975	3	(2)	(1)
1976	8	(4)	(4)
1977	3	(1)	(2)
1978	2	(1)	(1)

* One was fatal

SOURCE: Yellowstone National Park Files.

For the 1978 season, the injury rate was the lowest it has been since the low-travel years of World War II.

Table 7. Bear Incidents, Yellowstone National Park, 1931-1980.

Year	Personal Injuries (all bears)	Property Damage (all bears)	Damage Amount	Total No. Bears Killed for Control (all bears)	No. of Grizzlies Killed ^a (for control)	Park Visitation
1931	78	209	--	34	--	
1932	34	451	--	55	--	221,248
1933	22	146	--	22	--	157,624
1934	25	38	--	2	--	161,938
1935	36	141	--	69	--	260,775
1936	42	34	--	14	3 ^b	317,990
1937	115	81	--	51	10	432,570
1938	97	81	--	46	--	499,242
1939	78	92	--	23	--	466,185
1940	41	75	--	12	--	486,936
1941	90	102	--	26	--	526,437
1942	29	118	--	83	--	581,761
1943	5	38	--	14	28	191,830
1944	2	18	--	12	--	64,144
1945	2	7	--	2	3	85,347
1946	15	20	--	4	--	178,296
1947	40	9	--	8	--	814,907
1948	36	27	--	8	--	932,503
1949	47	26	--	19	3	1,013,531
1950	51	48	--	20	8	1,133,516
1951	38	75	--	44	--	1,109,926
1952	40	84	--	9	4	1,166,346
1953	43	66	--	11	1	1,350,295
1954	45	115	--	11	1	1,326,858
1955	73	121	--	23	5	1,328,893
1956	109	106	--	14	--	1,368,515
1957	91	125	--	21	1	1,457,782
1958	39	117	--	28	1	1,595,875
1959	41	269	--	30	2	1,442,428
1960	69	358	14,620	89	6	1,408,667
1961	58	247	13,138	59	4	1,443,288
1962	42	112	3,510	52	1	1,524,088
1963	36	278	10,810	21	4	1,925,227
1964	30	224	9,520	12	2	1,872,417
1965	39	290	8,239	11	2	1,929,316
1966	66	298	11,192	39	2	2,062,475
1967	61	195	6,769	20	3	2,130,313
1968	20	240	8,659	10	4	2,210,023
1969	28	207	5,269	42	6	2,229,657
1970	11	89	2,582	19	10	2,193,894
1971	9	71	2,832	8	12	2,297,290
1972	8	87	8,161	16	6	2,120,487
1973	4	38	8,206	3	8	2,246,827
1974	7	29	2,230	3	0	2,061,537
1975	3	27	513	0	2	1,937,768
1976	8	23	1,106	4	0	2,246,132
1977	3	31	2,201	4	1	2,525,174
1978	2	13	1,036	2	0	2,487,084
1979	2	7	317	0	2	2,623,141
1980	1	12	1,424	1	0	1,874,539
					1	2,018,848

^aThis number is included under "Bears Killed."
^bMuseum specimens.

SOURCE: Yellowstone Park files

IV. ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

A. Impacts - Proposed Action

1. Impacts on Bears

The analysis of the impacts of continuing the existing grizzly bear management program is based on information collected during three periods in the park's history. The data collected on the grizzly bear population before closure of the dumps (1968) provide a baseline against which to evaluate the effects of the management program on the grizzly bear population. The data amassed during the period of dump closings (1968-1971) provide some indication of the immediate effects of that significant management decision on the population. The data collected since the last park dump was closed in 1971 facilitate assessment of trends in the population dynamics and ecological interrelationships of the grizzly bear that have occurred since the dumps were closed. The latest data, collected during the last eight years, have substantial value in defining the impacts of continuing the existing management program.

The report of the National Academy of Sciences (Cowan 1974) indicates that the available data have "many shortcomings," owing in part to still incomplete analyses, inconsistencies in the methods of various investigators in collecting and analyzing data, variability in the skill of observers and resultant effects on the accuracy of observations, and differing emphasis in interpretation of data. However, the Academy was interpreting data assembled prior to the establishment of the Interagency Grizzly Bear Study Team, and since then a considerable amount of information has been gathered on a professional level. Some impacts are certain or nearly so, others probable, and still others only possible. Based on the Academy's findings, the work of the interagency team and other available information cited in Section II of this statement, the following conclusions may be made as best estimates of impacts on the future of the grizzly bear population.

a. Relatively certain impacts

Continuation of the grizzly bear management program will require that the park's grizzly bears will have to rely exclusively on natural food sources so long as they remain within the park boundary. The only occasion for bears to have access to garbage will be through intentional or unintentional violation of existing regulations for solid waste management, visitor activities, or visitor behavior with respect to bears. The park's grizzly bear population therefore will continue to be an essentially wild population that is integrated into the natural food web.

The concern that rapid closure of the park's open-pit dumps with no supplemental feeding would result in a significant decline and probably rapid extirpation of the park's grizzly bear population has not been borne out by documented changes in the population following this management action. Indeed, there was an increase in the number of problem bears that had to be killed or removed from the population immediately following closure of the dumps. However, such actions have become progressively less necessary during the last few years and, from 1973 through 1980 only seven grizzlies have been removed from the population in park management operations (vs. 20 bears in 1970). Today, young bears do not learn to use people-introduced foods from either

open-pit dumps or camping areas. Habituation of bears to the natural environment has been largely responsible for the steady decrease in the incidence of control actions. Available population data indicate that the population decline during and immediately following the dump closures was temporary and that replacement of losses has occurred. Compensatory processes have resulted in replacement of bears that were removed from the ecosystem in 1968-1973. Such compensatory processes involved increases in reproductive success, reduced competition between bears in a more dispersed population and therefore less morbidity and mortality (particularly of young), and increased juvenile recruitment.

Long-term perpetuation of a stable, viable population will depend on land use and management practices throughout the Yellowstone ecosystem, of which the park is merely a part. Because these conditions are subject to change either to the benefit or the detriment of the grizzly bear, the long-term prognosis for survival of a wild grizzly bear population is not certain. However, there is no evidence to support the contention that the management action itself has induced, or will continue to induce, a long-term population decline.

Continuation of the management program will have some adverse effect on the grizzly bear population whenever control actions are needed. While the objective is to reduce to zero the use of garbage and other introduced foods by bears, it is recognized that individual grizzly bears may occasionally become dependent upon man's food through human carelessness. Bears may also accidentally wander through campgrounds located near prime habitat such as at Fishing Bridge or Canyon. If food is received, the bear may become accustomed to man's food. When attempts to restore such bears to an independent existence fail, they must be removed from the population as a public safety measure. It is difficult to predict the number of grizzly bears that annually may be affected by this phase of the management program. If the average since 1973 of only one grizzly removed from the park per year does not increase in the future, then this control factor may be insignificant. If the invasion by humans of grizzly habitat outside the park continues at the present rate however, then both the reduction of habitat and control actions in these peripheral areas could be a serious detriment to the bears survival.

Nuisance bears that become serious safety hazards from time to time to the point where they must be removed from the park's population will be either (1) transferred to other jurisdictions for use in restocking programs, (2) donated to zoos, or (3) destroyed. Unfortunately, grizzly bears that have been corrupted by man's garbage are not good risks in restocking programs. In effect, relocating such bears would be merely transferring the problem from one area and one jurisdiction to another. Grizzlies which cause stock depredations outside the park, however, and have no prior record of adaptation to garbage, may on a case-by-case basis be considered for relocation within the park. Zoos have requested grizzly bears from time to time. Wild bears, however, are much more difficult to maintain in captivity than zoo-reared bears. As there appears to be an abundant supply of the latter, it is questionable if many requests for Yellowstone grizzly bears will be forthcoming in the future. Destruction of individual bears known to be

extremely hazardous, therefore, is often the only course of action available to prevent human injuries.

It is anticipated that the continuation of the grizzly bear management program will have a positive impact on the black bear population by significantly reducing the number of nuisance black bears that must be destroyed. Reduced dependence on cultural sources of food may be expected to have somewhat similar effects on black bears as on grizzly bears, although differences in behavior and habitat requirements will unquestionably be associated with differences in response. Data are inadequate to enable prediction of these differences at this time.

b. Less Certain Impacts.

Data collected on the park's grizzly bear population since the dumps were closed indicate various changes in the population which may represent trends that will continue in the future. Data insufficiencies and the short period of record often make it difficult to determine whether these possible trends are significant in the long run or whether they merely represent temporary fluctuations in population characteristics.

Knight (1974) reported that cub: female ratios (i.e., litter size) in 1973 were lower than the 2.2 reported by Craighead and Craighead (1967) when the bears were using the open-pit dumps, and slightly lower than the 1.9 reported for 1972 by Cole (1973). Knight indicated that the most likely explanation is relative increase in the proportion of younger females with only one cub. Alternatively, increased cub mortality could be a causal factor. This increase may be caused by the fact that during the period of relative intensive control actions, 1970-72, "... proportionally greater numbers of adult males were removed (from the population) than of either adult females or younger bears ..." (Cole 1974). The former explanation is supported by the increased numbers of observations of females with cubs and the larger proportion of one-cub females.

Knight (1977) reports: Ratios of young:female for 1974 through 1977 are given in Table 8. Cub production as indicated by observation was lower than during 1976 but higher than 1975. The number of yearlings was higher than 1976 or 1975, possibly a reflection of the large number of cubs observed in 1976. Overall production for 1977 was good in comparison to other years of study. However, mortality, altered this by the end of the season. Ratios of young:female with young have not changed significantly during the course of the study. Frequency of litter size (Table 9) was not appreciably different from other years of the study.

2. Impact on Other Natural Resources in the Park

In general, intraspecific and interspecific relationships and interactions of many plant and animal species may be affected by the restoration of the black and grizzly bear to their natural distribution, abundance, and behavior. The current knowledge of the ecological role of the grizzly bear in a natural ecosystem is increasing with each year of study by the interagency team. Studies of food habits and habitat use by grizzlies indicate a wide variety and abundance of food in different

Table 8. Summary of females with young observed, 1974-77

Year	Females w/cubs	Cubs	Ratio	Females w/yearlings	Yearlings	Ratio
1974						
Cumulative	21	36	1.7	35	52	1.5
Individual	15	26	1.7	18	31	1.7
1975						
Cumulative	5	8	1.6	4	9	2.2
Individual	4	6	1.5	3	6	2.0
1976						
Cumulative	36	69	1.9	10	18	1.8
Individual	17	35	2.0	7	12	1.7
1977						
Cumulative	24	43	1.8	19	32	1.7
Individual	13	25	1.9	9	16	1.8

SOURCE: Knight (1977)

Table 9. Frequency of litter size among females with young, 1974-77

	1974	1975	Cubs 1976	1977	1974	Yearlings 1975	1976	1977
Females w/1	6	2	3	3	7	1	3	3
Females w/2	7	2	10	8	10	1	3	5
Females w/3	2	0	4	2	1	1	1	1

SOURCE: Knight (1977)

vegetative types throughout most of the ecosystem. Knight, 1977, states: "Foods eaten varied considerably within each type and often did not reflect vegetative composition of the type. Animal foods like ants, rodents, or ungulates are not reflected in habitat analysis but are used in almost all habitat types. It does not appear a single or selected group of habitats can be singled out as critical for the bear. The bear makes use of all habitats available and probably requires the options that a variety of habitats provides."

Knight states further: It appears that no one food plant is of critical importance in the grizzly bear diet. Many of the plants are used seasonally but overall, there does not appear to be a food shortage for bears.

3. Impact on People

Bears, both grizzly and black, are creatures of habit. It is believed that if the habit of eating man's food is broken, "if bears were deprived of handouts and if all garbage cans were made bearproof, the animals would be forced to seek their natural foods which are just as abundant today as they were before man came on the scene." (Cahn 1968). Such a change of habit would reduce human-bear contact, hence reducing possibilities of human-bear confrontations, hence improving visitor safety. Since the inception of the policy to remove "unnatural" food sources began, bear incidents involving personal injuries have decreased (see Table 6).

When sanitation standards require that particular campgrounds, backcountry campsites, trails, and fishing areas be restricted or close to human activity, opportunity for the visitor to enjoy the park is subsequently lessened. Additionally, official reprimand by government (park) authorities either through verbal warnings or citations is not a pleasant experience for anyone, and especially for a park visitor whose purpose in the park is for a pleasant experience. The desirable experience of feeding a bear, as a visitor may envision it, will be denied to him. Generally speaking, the more a park visit is structured (i.e., by rules and regulations), the more the feelings of "freedom" and "relaxation" and the like are lessened.

Improvement of visitor safety is the purpose and direct consequence of any bear control measure. Some visitors will appreciate the removal of danger and other visitors will not. Unfortunately, the proportions of both are unknown within the visitor-public as a whole. Gardiner B. Moment is a well-known advocate of hazard removal and speaks for the complete elimination of the grizzly from the park. "Old Faithful and St. Mary Lake cannot be seen elsewhere nor can they be transplanted. Grizzlies can." (Moment 1970.) The general public is probably distributed on a normal curve between these two extremes.

Lastly, bear control operations are conducted in such a manner as to minimize the possibility that the park visitor could unintentionally blunder upon a baited trap or into a control action in progress. (See Bear Management Policy 4.d., above.)

Abiding by strict sanitation standards requires precautionary practices and generally more time and energy than not abiding by such standards. The storage of camping and food supplies, the pack-in, pack-out rule for backpackers, and required trash disposal methods are inconveniences for park visitors.

Although probably not extensive, particular gear for camping and hiking activities may be warranted in order to abide by sanitation standards, and this would entail additional investment to the park visitor.

4. Impact on Historical-Archeological Resources

After consultation with the National Register of Historic Places and National Park Service historians it has been initially determined that none of the historic or archeological resources in the park will be affected by the proposed action. However, the historic preservation officers of the States of Montana, Idaho, and Wyoming and appropriate persons at the Midwest Archeological Center have been contacted in order to insure that the park's historic and archeological resources are adequately considered. The President's Council on Historic Preservation has also been consulted.

5. Impacts on Waste Handling

The increased standards of solid waste management, as proposed in the management action, will significantly reduce the potential pollution of surface and ground waters and terrestrial environments with man's garbage and litter. This in turn will enhance the park environments for human use, and, equally as important, will decrease the impact and stress of man on the national park ecosystems.

B. Mitigation Measures Included in the Proposed Action

1. Information and Interpretation

The objective is an informed public with an appreciation of the aesthetic value of bears and awareness that exposing bears to man's food and garbage increased the probability of conflict between people and bears and may lead to personal injury and/or destruction of bears.

An active information program will be directed at park visitors and park and concessioner employees to keep them advised of policies and goals of bear management and the reasons for them. This program will include:

An annual review and, as necessary, a revision of bear warning and related literature to insure accuracy of factual matter and pertinence to objectives. All outdated materials except for official file copies will be destroyed.

Information concerning bears and bear hazards will be presented prior to or during campfire programs, conducted walks and hikes, and as appropriate at other interpretive programs.

Annual orientation programs will be scheduled to inform all seasonal park employees and concession employees of black and grizzly bear hazards and of their respective responsibilities concerning individual

and public safety and protection of park resources. This orientation will be continued on a less formal basis throughout the summer.

The impact on visitor satisfaction of the reduced possibility of viewing bears will be alleviated by providing guided viewing at specific sites where the potential to view grizzlies is high. This will be accomplished in organized group situations accompanied by an appropriate Yellowstone National Park staff member. The possibility of viewing a bear will not be 100 percent, but this opportunity, coupled with facets of the educational program which explain that bears are shy and solitary and therefore difficult to observe in their natural condition, will help to mitigate visitor dissatisfaction.

The impact of restricting visitor use by temporarily closing areas being frequented by bears can be mitigated in several ways. Firstly, although in fact visitors' opportunities for park enjoyment may be lessened, the action helps to prevent human-bear confrontation which could result in bodily injury to visitors. Secondly, when the decision is made to close a particular area, visitors will be told of alternative locations available to them so that they may still pursue their chosen activity.

Visitor inconvenience and expense associated with gear necessary for sanitation regulations will be somewhat mitigated by park assistance.

Campers can purchase rope at campstores for food suspension in campgrounds. Trash receptacles are placed close and convenient to campgrounds and visitors will be strongly encouraged to use them. Park staff members are always available to assist and explain useful procedures to campers.

2. Mitigation of Control Actions

When it becomes necessary to capture and relocate a grizzly bear, attempts will be made to select a relocation site within or adjacent to the bears' previous home range. The dangers inherent in any bear control action will be mitigated against by warnings issued by park personnel, by posting the control areas (especially those where traps will be used) with conspicuous warning signs, and by guarding baited traps when there is reason to believe that harm to visitors may result. Only park personnel adequately trained in the control measures necessary to carry out specifically assigned tasks will be employed on a control action team. No bystanders will be permitted. All DEA and FDA regulations will be followed with respect to the use of immobilizing drugs. Control actions will be located and timed to minimize public involvement.

Problem bears may be unintentionally killed during a control action because of a drug overdose or other handling problems or by being shot when charging humans during the operation. Such possibilities are mitigated by proper training in capture techniques and the use of live traps as first choice. Bears killed-accidentally or deliberately--will be used as scientific specimens.

C. Any Adverse Effects Which Cannot be Avoided Should the Proposal be Implemented

The wilderness is inherently dangerous. Many people seeking a wilderness experience are seeking the challenge of coping with the wilderness on a purely personal basis. It is an unavoidable probability that some number of wilderness users will suffer adverse consequences as a result of their wilderness experience. As long as there are grizzly bears, there will always be some element of danger, however minimized and mitigated, to park visitors, especially in the backcountry. Human danger must be considered in two ways. Danger which becomes a reality in personal injury is a complete and total negative consequence, an unavoidable adverse effect of the management program. However, the aura of danger which does not become a violent reality is an integral part of human experience in the wilderness for many.

An illustration of this seeming contradiction is a statement in 1968 by a Glacier National Park visitor, Robert Hahn, after he himself was injured by a grizzly bear: "The thing that makes me very unhappy about the whole incident is my fear that this will only add fuel to the fire for those people who advocate the destruction of the grizzly to make our national parks safe The only thing that will prevent me from hiking in the wilderness again is the eventual destruction of that wilderness itself and when anyone advocates the destruction of grizzlies they are in essence advocating the destruction of true wilderness." (Herrero 1970.)

But once again, . . . "For a person who neither loves nor understands the grizzly any risk is too great." (Herrero 1970.) In other words, by allowing the potential of realized danger to occur (such potential is very small, as mentioned previously). For example, in 1978, two persons were injured by bears out of 1,623,141 who visited Yellowstone National Park that year, or less than one per million, one of which involved a black bear rather than a grizzly. Thus the benefit of "true wilderness experience" is preserved for others.

For those visitors whose trips to Yellowstone National Park were highlighted by feeding bears or observing black bears up close there will be a loss. Some number of visitors may be completely dissatisfied with their park visit without such experiences, and some may have their negative attitudes reinforced by having been cited for violating regulations concerning bears.

When the situation necessitates a bear-control action, the adverse effect of a bear being killed may not be avoidable. In 1978 for example, the fact that two grizzly bears were killed in control situations was an adverse effect of the program.

D. The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

The purpose of the proposed action, i.e., the restoration and maintenance of a wild grizzly bear population, is to minimize and offset the stresses and impacts associated with man's short-term uses of the park environments to insure that those environments will remain unimpaired for the benefit and use of future generations.

While it is the intention that the regulation of human activity in Yellowstone National Park will accomplish a great deal in preserving the Yellowstone ecosystem, including the grizzly bear, it may not be equally apparent that the intent of the bear control program is to have a similar effect of preserving the integrity of the Yellowstone National Park ecosystem.

When the decision is made to control a problem bear and the bear is killed, there is the immediate loss of a member of the grizzly or black bear population. However, when one less bear who has adopted the behavior pattern of frequenting campgrounds or otherwise foraging for man's food is eliminated, the grizzly population is that much further along in being restored to its wild, free-ranging nature. An additional direct, long-term benefit of the removal of a problem bear is that future public safety is enhanced.

When the control situation requires a bear to be relocated, that particular bear will go through a temporary readjustment period resulting from the stress of transplant and the process of defining new home territory with a bear population already in the area. Over the long run, the bear has been removed from a potentially dangerous (to humans and the bear) situation and the population is closer to being a totally wild, free-ranging population.

When the management program requires that a visitor use area be temporarily closed due to potential human-bear confrontation, the loss in terms of limitations on visitor enjoyment is immediate. Such actions cumulatively over time, however, enhance public safety and lessen the number of grizzlies in the population which have experienced contact with humans and hence are not given the opportunity to establish any undesirable behavioral relationships with humans. With the substitution of suitable alternative visitor use areas, the loss of enjoyment will be diminished.

The visibility of bears in Yellowstone is important to many park visitors. A consequence of the sanitation phase of the bear management program is to reduce the probability of this visibility and "not seeing a bear" may be disappointing. In actuality, past viewing displayed the bear in an artificial manner which led to unsafe human behavior, and perpetuated and ill-informed public in terms of what bears "were really like."

In the future, therefore, when a bear is viewed, the visitor will see the animal as a wild animal in its natural ecosystem. Future observations will contribute to a better informed public that understands the true nature of the bear, both black and grizzly, appreciating it on its own terms as part of the Yellowstone ecosystem.

The inconvenience to the visitor of regulations and standards designed to reduce hazardous human-grizzly contacts will in a sense be short-term. Although the initial perceived inconvenience is adapted to and becomes routine procedure as part of a visit to Yellowstone, the perception of inconvenience should dissipate. Therefore, the long-term end product becomes the positive benefits of modified human behavior which reduces the potential for hazardous human-grizzly contacts.

E. Impacts - Alternative B

Relaxation of sanitation standards and reduced effort on the part of the park staff to distribute information on bears and regulate visitor use to minimize bear-people interactions would have significant impacts on both bears and people. The probability that an individual bear would become dependent on cultural food sources would rise and the number of nuisance bears would increase. Control actions would become more frequent and the grizzly bear population would probably decline unless natural compensatory mechanisms were sufficient to offset increased man-caused mortality. The visitor would experience increased freedom to use the park for a wide variety of recreational activities, but would also be subjected to a greater risk of injury as a result of active interaction with bears. A less well-informed visitor would also be more likely to attract bears inadvertently if information programs were deemphasized.

A less intensive research program would perpetuate existing informational voids in our knowledge of the park's grizzly bear population and would severely impair attempts to develop an ecologically sound plan for its management. Deemphasis of in-park research and the participation of the National Park Service in the Interagency Grizzly Bear Study Team could only jeopardize the long-term perpetuation of the species by increasing the risk of inappropriate management actions.

F. Impacts - Alternative C

The impact of the total elimination of the grizzly bear from this Region cannot be predicted with certainty; however, it is probable that the elimination of the grizzly bear would:

Relieve visitors from anxiety over possible conflict with grizzly bears. Fear of the grizzly bear undoubtedly affects the attitude of some visitors toward the park and its environment;

Possibly result in an increase of backcountry use, including backpacking, fishing, horseback riding, hiking, and tent camping;

Eliminate personal injuries and deaths attributed to the grizzly bear;

Eliminate conflicts between grizzly bears and other land uses in the regional vicinity

Possibly result in a reduction of the visitors' perception of the need for proper food storage and handling, general housekeeping, and garbage and litter disposal;

Guarantee that future generations of visitors would experience Yellowstone National Park and its surroundings as an ecosystem lacking a significant historical component;

Preclude scientific study to determine the ecological role of the grizzly bear in one of the last refuges of the grizzly bear in the lower 48 states;

Reduce the diversity of the park ecosystem which would increase its instability and eliminate a major predator-scavenger population

which, in turn, would eliminate its role in the energy flow of the ecosystem; and

Set a precedent for the eradication of grizzly bears in other national parks and national forests which may lead to demands for the elimination of other potentially hazardous species such as alligator, black bear, rattlesnakes, scorpions, and mountain lions.

Mitigating measures: Relocation of the Yellowstone grizzly bear to a new location would partially mitigate against loss of the species in the national park. Bears destroyed could be used as scientific specimens.

Short-term versus long-term relationship: The long-term implications of this alternative cannot be fully evaluated. There is a possibility that after an indeterminate period of adjustment, the Yellowstone ecosystem would achieve a new equilibrium. The nature of such an equilibrium, however, is not known except that without the grizzly bear it would be different in many major and subtle ways from the Yellowstone of today and yesterday. If the endemic grizzly bear population of Yellowstone National Park were eliminated, it could not be restored. A new population could probably at some future time be reestablished in the park, but genetic characteristics would be different even if the present population had only been relocated and not destroyed. The most extreme efforts in all probability could not trace an adequate number of previous population members to reconstitute the Yellowstone grizzly bear population.

G. Impacts - Alternative D

No fence can be considered bear-proof, and it is highly likely that occasionally a bear--either black or grizzly--will gain entry to the enclosure. A bear inside a fenced enclosure may become disoriented and frightened. This could result in an extremely hazardous situation to both humans and bears.

Supposed bear-free enclosures would provide campers with a sense of security from bears and would permit them to camp in a more relaxed and carefree manner. Some campers may subsequently limit their park experiences to the campground sanctuaries fearing nonfenced environments.

The fencing of campgrounds would have a minimum of influence on bear movements (other than into the areas themselves) and habitats.

The development of enclosed campgrounds would require the construction of several miles of fence that would be inconsistent with the park scene. The potential for impacts on archeological and natural resources of the park would be increased and would require examination.

The flexibility of park development would be reduced by making it more difficult to relocate, decrease, or enlarge campgrounds.

Fenced campgrounds as described would constitute a safety hazard to visitors coming in contact with the electric wires or attempting to scale the fence.

The cost of campground maintenance and operation would increase significantly. (It would probably be necessary, for instance, to have almost daily inspections of the fence line and to post a guard at the campground entrance 24 hours per day.)

Some visitors may feel unduly restricted by fenced campgrounds.

1. Mitigating measures

The aesthetic impact of fences could be offset to some extent by sensitive design and location.

The fences would be located to avoid archeological sites when feasible or if unfeasible the recovery of artifacts could be accomplished prior to construction.

Interpretive programs could be instituted to offset the belief that only those areas behind fences are safe.

Unfenced campgrounds could be provided for those individuals for whom the enclosed campgrounds would detract from their park experience.

Signs could be provided to warn visitors of the hazards of coming into contact with high voltage electric fences.

2. Unavoidable adverse impacts

The degree of impact of fence construction would depend on the miles of fence to be built and the nature of the environment through which it was built. A fence through lodgepole forest, for instance, would require a clearing of sufficient width to preclude trees falling across the fence. (As the clearing would have to be maintained in the early stages of plant succession, the clearing could provide habitat requirements that would be attractive to bears.)

The aesthetic intrusion upon park environments and loss of the feeling of "openness" could not be avoided.

3. Short-term versus long-term relationships

The permanency of bear-proof fencing would tend to make the location and size of campgrounds static. Such continually heavy use of campgrounds would very likely result in a deterioration of campground environments (vegetation, soil compaction, etc.).

H. Impacts - Alternative E

The implementation of an artificial feeding program would result in the following impacts:

Elk or other animals would have to be sacrificed for an artificial feeding program. Cropping to feed bears, however, cannot duplicate nature in timing, location, or age and sex of animals.

The segments of the elk population that are most readily available for this purpose are those segments along park roads that provide the best opportunities for visitors to see this large native ungulate.

Judging from past experience, many people would be distressed by the slaughter of elk in Yellowstone.

In order to prevent personal injury, artificial bear feeding programs would have to be carried out in sites of considerable acreage that are closed to public use. The Federal Government may be held responsible for any human injuries attributed to bears attracted to an area to feed on artificial baits.

If the carcass-feeding program were carried out at a specific site over a period of several years, conditions could approach those that formerly existed around the open-pit dumps.

The use of elk carcasses may have limited value in the grizzly bear research program. A synthetic scent that would replace the elk or other wildlife carcasses as an attractant is presently being developed for such purposes.

Regardless of how it was conducted, an artificial feeding program would contribute to an erosion of the grizzlies' wild traits and natural social behavior. The result would be something more akin to a zoo animal and would be a contradiction to the purpose of natural areas in the National Park System. During recent years, zoos have become self-sufficient in breeding populations of grizzly bears within their walls. If we can be satisfied with these specimens as grizzly bears, then there is no need to be concerned for the species, because zoos are very likely capable of maintaining the captive grizzly indefinitely. Conversely, if we wish to preserve the wild grizzly, in the full context that this designation implies, then any artificial food source that might make this bear dependent on man must be carefully avoided.

V. Consultation and Coordination with Others

The proposed grizzly bear management program is the continuation of a program initiated in the 1930's (Wright and Thompson 1934), and reaffirmed in 1969 (Leopold 1969). Since 1969 there have been annual meetings with various Federal and state agencies and organizations, including the Fish and Wildlife Service, U.S. Forest Service, state game and fish departments of Idaho, Montana, Wyoming, and Colorado, the International Association of Game, Fish and Conservation Commissioners, and others that have provided review and comment of the grizzly bear management program.

The Draft Environmental Statement was made available to the public in September of 1974, and considering the time involved in preparation and printing, the document was essentially based on information available in 1973. The Preface discusses the time that has elapsed since then and the fact that many of the comments received are no longer pertinent to the current situation.

In developing the supplemental statement, and in responding to comments, we have taken into account the attitudes and concerns of the various respondents and have attempted to anticipate their current concerns. While we have no illusions of being able to satisfy by this method all of those who commented, we hope that the final document, together with these responses, will give the majority of those concerned an accurate portrayal of the grizzly management program in Yellowstone.

During the DES review, the National Park Service received 30 letters, of which 10 were general acknowledgements without specific comment. Those requiring a response are listed in the Appendix. The revised DEIS has been improved to acknowledge the major comments, but the letters are provided in the Appendix anyway to display that earlier involvement. In the final EIS these letters will be dropped and only the more recent letters will be included.

The revised DEIS will be sent to all those correspondents listed in the appendix; to affected Congressional offices; to the Institute of Ecology, Indianapolis, Indiana; to the Bureau of Indian Affairs, Portland, Oregon; and to a number of individuals who requested the document during the scoping process.

VI. List of Preparers

List of Preparers

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APPENDIX

Copies of written comments and responses as noted in "Consultation and Coordination with Others," above are included in this appendix. Individual comments in each letter are numbered and the corresponding response is adjacent to it. The letters are from the following sources:

- | | |
|----------------------------|--|
| 1. A.F.C. Greene | Colorado Chapter, The Wildlife Society |
| 2. Allen W. Stokes | Utah State University |
| 3. Philip Handler | National Academy of Sciences |
| 4. I. Mct. Cowan | University of British Columbia |
| 5. Joseph C. Greenley | Idaho Fish & Game Department |
| 6. Frank C. Craighead, Jr. | Environmental Research Institute |
| 7. Jesse R. Lowe | Bureau of Land Management |
| 8. John G. Wood | Fish and Wildlife Service |
| 9. John H. Craighead | Montana Coop. Wildlife Research Unit |
| 10. Lewis Regenstein | Fund for Animals |
| 11. Levi L. Mohler | Idaho Chapter, The Wildlife Society |
| 12. R.A. Rausch | Alaska Dept. of Fish & Game |
| 13. Alice Herrington | Friends of Animals |
| 14. Ken Stolz | State Clearinghouse, State of Idaho |
| 15. Wesley R. Woodgerd | Montana Dept. of Fish & Game |
| 16. R. Max Peterson | U.S. Forest Service, Washington, D.C. |
| 17. Daniel A. Poole | Wildlife Management Institute |
| 18. Gerald A. Jayne | Idaho Environmental Council |
| 19. Thomas L. Kimball | National Wildlife Federation |
| 20. W.E. Vehnekamp | Wyoming Wildlife Federation |

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COMMENTS

15 Cody Street
Lakewood, Colorado 80226
October 19, 1974

Lynn H. Thompson, Regional Director
Rocky Mountain Region - National Park Service
655 Parfet Street
P. O. Box 25287
Denver, Colorado 80225

Dear Mr. Thompson:

The Colorado Chapter of the Wildlife Society greatly appreciates receiving a copy of the recently issued Draft Environmental Statement on the Yellowstone Park Grizzly Bear Management Program. I have reviewed it and do have some comments that follow. However, this being a matter of national significance and being located outside Colorado, I have suggested that a copy of the Statement be sent to our parent society headquarters for review and official comment for the Society. These comments therefore reflect only this Chapter's interest in the matter and should not be interpreted as the Wildlife Society's position. You should hear separately from them in the near future as well as from Forest Service, with whom I am employed.

The following are submitted for your consideration when preparing the final environmental statement.

1. We agree with the objective, stated on page 1, of maintaining natural ecosystems in Yellowstone National Park as it pertains to grizzly habitat, but believe mention should be made in the Statement that the maintenance of such ecosystems within the Park will be integrated with the whole so-called Yellowstone Ecosystem, since grizzlies wander in and out of the Park and increases of bears within the Park is quite apt to also increase the populations outside.
2. It is inferred from Item 3-b on page 5 that the trapping of non-problem bears for research, study or transplanting purposes would be precluded. It is our belief this would more likely be representative of the natural population than problem bears for study and would be preferable for introduction into new areas.
3. With reference to Item 2, page 9, we believe it is correct that the F&WS decided against the inclusion of the grizzly bear on the endangered species list after reviewing the opinions of the State

RESPONSES

1. The revised Draft Environmental Impact Statement (RDEIS) recognizes that Yellowstone National Park is a part of the larger area of the grizzly's habitat and needs a method of cooperation between the various agencies and organizations that have an interest in the grizzly and the problems associated with his well being. The recent interagency cooperative development of the Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area, December, 1979 (the Guidelines) for both the park and the surrounding forests is an encouraging step in assuring concern for the grizzly in land management practices outside the park. See page 9 of the DEIS.

2. In the RDEIS the trapping, identification, and relocation activities have been revised and have incorporated many of the comments received including the use of drugs in trapping procedures and the marking of all handled bears with a small metal tag. The relocation of problem bears has been revised to reflect current knowledge as to areas for relocations and cooperations of surrounding resources management agencies which not only address the park's problems, but those constraints and mandates of these organizations. Bears will not be moved in or out of the park without prior consultation and agreement of all parties concerned in each case. See pages 5-7.

3. The comment is correct--grizzly bears are a threatened species. See page 10.

COMMENTS

2.

wildlife management agencies and others. They now have under consideration its classification as a "threatened" species. In our opinion classification of this species is premature at this time in view of the effects it could have on the ongoing interagency studies and the supporting facts such studies may have for either the pro or con arguments.

4. Line 15, Item 3, page 10 should include the grizzly's habitat as well as its populations a matter of preservation and enhancement.

5. The second paragraph on page 15 lists cougars and mountain lions among the meat eaters. Since these are common names for the same species we suggest you may want to replace "cougar" with "bobcat" or merely delete it if bobcats are not common in the Park.

6. We are inclined to concur with the observation made in the second paragraph of page 21 concerning the validity of using counts of unmarked bears and cannot help but wonder why such is being considered and why markings from previously marked bears have been removed.

7. Substantial reductions have been made in domestic sheep use on most parts of the National Forests involved in the Yellowstone Ecosystem (see Item 2, page 84). In fact there are none on the Shoshone NF and no problems have been identified in the others that would justify this recommendation at this time. At this point a determination of the extent of the Yellowstone Ecosystem has not been made nor its boundaries defined. Both the Ecosystem area and effects of sheep use should be items for the interagency study team to determine. There have been considerably more grizzlies killed as part of the control measures within the Park than have been killed outside as a predatory animal control measure.

We hope the above will serve constructively in your considerations. The compilation of the material used in the Draft Statement is commendable.

Sincerely,

A. F. C. Greene

A. F. C. Greene, President
Colorado Chapter, The Wildlife Society

RESPONSES

4 The discussion of the Interagency Grizzly Bear Study Team has been condensed in the RDEIS (see page 12). Bear research and monitoring includes determination of habitat requirements and ecological relationships (see page 8). Preservation of such habitat is an on-going program and commitment of Yellowstone National Park, and is consistent with the Guidelines.

5 Correction made--see page 25.

6 The section on population size in the park and region has been rewritten and condensed (see page 30). See response 2 concerning the marking program.

7 Sheep grazing allotments still exist on all of the national forests surrounding the park except Bridger-Teton, although those on the Shoshone are some 20 miles from the park boundary and have not, to date, been a problem. In 1977 grizzlies reported killed 54 sheep in three separate areas within the region covered by the study area. We feel the Forest Service is aware of the conflicts involved in issuance of grazing permits and will take these into consideration.

COMMENTS

COLLEGE OF NATURAL RESOURCES

UMC 52

Utah State University

Logan, Utah 84322



Department Wildlife Science
752-4100 EXT. 7928

October 21, 1974

Lynn H. Thompson
Regional Director
Rocky Mountain Regional Office
655 Parfet Street
P. O. Box 25287
Denver, Colorado 80225

Dear Mr. Thompson:

I have read the environmental statement on grizzly bear management program in Yellowstone National Park. I find the report very well thought out and consistent with known facts about the past history and current practices in Yellowstone Park. I cannot make any suggestions for its improvement.

8 I think the big question is the scope and size of any research program to be undertaken in the future. I'm inclined to agree that so long as grizzly bear management in the Yellowstone ecosystem remains controversial, it would be well to have some person outside of the National Park system directing or coordinating the program.

9 One could make a pretty good case for having no research whatsoever on the grizzly bear. It looks to me as though they are well able to maintain their numbers within Yellowstone Park under the present management program and that a minimal harvest could be maintained in the surrounding states. This would recognize the prime value of the grizzly bear for its nonconsumptive uses of general recreation and observation rather than hunting. I would be inclined to think that a very strong majority of Americans now would feel that there is little justification for hunting the grizzly bear in the Yellowstone ecosystem in view of its limited numbers. This may be beyond your mission. I do recognize that the tagging of bears in Yellowstone has some real drawbacks as far as the public is concerned. On the other hand I find it difficult to see how one could make really good population estimates without some tagging program.

Sincerely yours,

Allen W. Stokes

Allen W. Stokes
Professor

AWS:sir

RESPONSES

8 Research concerning grizzly bears is being conducted by an interagency study team staffed and supported by each of the resource management agencies in the Yellowstone grizzly region. The team leader Richard Knight is funded by the National Park Service but is not accountable to local or regional management, but reports to a steering committee composed of the top scientific officials of the representative agencies. He has functioned in an autonomous manner along with the other members of the team. The objectives of this study are to determine the status and trend of the grizzly bear population, the use of habitat by bears, and the effects of land management practices on the bear population. In the 7 years of the study the information they have produced is objective and useful and has apparently used all avenues of research open to them. Each year the team has issued a report covering their work to date.

9 A case could be made for no further research needed on grizzly bears. However, the Guidelines are directed towards (1) maintaining and improving (on national forests) habitat; (2) minimizing grizzly-human conflict potential; and (3) resolving grizzly-human conflicts. The Guidelines recognize that these objectives are subject to change as research provides additional data and/or management directives change. Such directives may change based on research. The draft Grizzly Bear Recovery Plan also recognizes the necessity for research and the concerns of managing agencies. Therefore, the case seems stronger for continuing bear research.

COMMENTS

NATIONAL ACADEMY OF SCIENCES

OFFICE OF THE PRESIDENT
2101 CONSTITUTION AVENUE
WASHINGTON, D. C. 20418

November 7, 1974

Mr. Lynn H. Thompson
Regional Director
Rocky Mountain Region
National Park Service
U. S. Department of the Interior
655 Parfet Street
P. O. Box 25287
Denver, Colorado 80225

Dear Mr. Thompson:

We appreciate the opportunity to review and comment on the draft environmental statement for a proposed grizzly bear management program in Yellowstone National Park, as forwarded to us on October 9. I have asked the staff persons most directly responsible for our study to review it carefully.

Generally, the statement seems to make liberal use of the report of our Committee on the Yellowstone Grizzlies and does not appreciably distort it either by selective quotation or misinterpretation. But the typographical device by which the authors have chosen to identify these quotations strikes us as likely to lead to confusion that could easily be avoided. To wit, they use what are referred to as "double bar" (please see the bottom of page 15), and as a result it is by no means always easy to distinguish quoted material from that developed by the authors of the environmental statement, per se. This difficulty is most conspicuous in the next-to-last line of paragraph three, page 31. At later points in the report, the double-bar device is used without a reminder to the reader as to precisely what they mean.

The net effect, particularly to the casual reader, is to make it difficult to distinguish quotations from the Academy report from the running text of the environmental statement. We suggest that it would be far wiser to use italics for the Academy material. If this be impossible,

RESPONSES

10 The quotation from the National Academy of Sciences has been clarified (see page 27). See response 6 concerning discussion of bear populations.

COMMENTS

Mr. Lynn H. Thompson
November 7, 1974
Page 2

then at the very least quotations from the Academy report should not be mixed in the same paragraph as non-Academy commentary. Our concern, of course, is not whether the National Park Service accepts all of our Committee's viewpoints and recommendations but rather that each reader of the environmental statement know unequivocally which items are taken from our report and which are not.

A list of more trivial items follows:

--Page 7, par. 4, line 3--the word should be "operational"

--Page 9, second full paragraph, line 11--the word should be "Dump"

--Page 31, lines 2 and 3--suggest the words "are predestined to" be deleted

--Page 50, line 2 of first quotation--the word should be "still"

--Page 62, first full paragraph, line 4--change "be" to "by"

--Pages 92-93--remove the asterisks before the citations to these three papers. In the Academy report they were keyed to a footnote, but the asterisks have no significance at this point.

Sincerely yours,

Philip Handler

Philip Handler
President

RESPONSES

11 Corrections have been made.

COMMENTS

THE UNIVERSITY OF BRITISH COLUMBIA
2075 WESBROOK PLACE
VANCOUVER, B.C., CANADA
V6T 1W5

FACULTY OF GRADUATE STUDIES
OFFICE OF THE DEAN

November 18, 1974

The Regional Director
Rocky Mountain Regional Office
National Park Service
645-655 Parfet Avenue
Denver, Colorado 80215

Dear Sir:

This is a response to the draft statement on the environmental impact of the grizzly bear management program, Yellowstone National Park, which, though dated September 18, 1974, reached me only last week.

I find this to be a straightforward, useful document that makes an honest job of presenting the facts and speculations concerning the Yellowstone ecosystem grizzly bear in what seems to me to be unbiased fashion.

I have only minor comments to make. On page 10 in the discussion of the Inter-agency grizzly bear study team, the task force of which I was chairman suggested that it would be to everyone's advantage to have this task force chaired by someone external to both the State and the Park. I still regard this as an important issue.

In two places in the document, especially on pages 39 and 64, reference is made to the lower birth rate that has been detected since the new management program went into effect. I don't think adequate attention has been paid to a third possibility that seems to me to be a very likely explanation for either part of or all the slight decline in birth rate in the last three years. We have no information whatsoever on the role that the supplementary feeding available through the use of garbage played in the nutritive regime of the grizzlies.

12 Jonkel and I showed that there was strong inductive reason to believe that the rate of implantation was governed by the amount of food available in the late summer and autumn. In our wild-living black bears where the autumn food source failed, bears that we knew to have bred failed to implant the fertilized ova. This was postulated as one of the more interesting roles of delayed implantation in the rather intricate biology of population regulating mechanisms in the black bear.

It is fair to postulate, therefore, that if the garbage food source was of importance to the bears one of the most likely first responses to its removal would be a reduction in implantation rate which would be reflected in either the number of females of reproductive age bearing young

..... 2

RESPONSES

12 Many of the problems or projected problems related to the closure of the garbage dumps are now academic and as such were eliminated from the RDEIS, however, the subject of supplemental or artificial diet is of course still an alternative. However, recent studies indicate that there does not appear to be a food shortage for bear (Knight, et al, 1977). The RDEIS assumes that the most desirable solution would be bears sustained by natural food sources and regulated by its normal availability.

COMMENTS

Regional Director, Rocky Mountain Regional Office

page 2.

or the number of young per litter.

It would be most interesting to look for evidence of this effect. It will probably show up in a monitoring of the autumn food sources and relating these to the subsequent birth rate in the spring following. Thus, in years where there is a tremendous crop of berries or white bark pine seed in the autumn one would postulate a relatively higher birth rate seen the next spring. This would take both forms of expression - i.e. more potentially reproductive females with young and a higher number of young per female with young.

12 On page 81, third paragraph - there is the statement "Food, however, is not a limiting factor for the grizzly bear population." I doubt that there is any evidence to back up this statement. If there is, I would like to see it. The facts seem to me to be that we do not know whether or not food under any circumstance limits either directly to failure of young bears to survive or indirectly through alteration of the fecundity rate in the ways I have already outlined. One of the peculiarities of the population with which the Craigheads worked was the very high rate of mortality during the first year of life. This has not been detected in any other population of bears that I am aware of. The usual pattern is to have less than 5% mortality during the first year. It seemed to our team that this was a consequence of the concentration of bears at the garbage dump and that one of the elements in compensation would be seen in the reduction of this first year mortality to a more normal level. It remains to be seen, however, whether this higher survival in the first year leads to higher survival through to independent age.

Sincerely yours,

I. McT. Cowan

I. McT. Cowan, Dean
Faculty of Graduate Studies

/ap

RESPONSES

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COMMENTS

CECIL D. ANDRUS, Governor
COMMISSION
PETE THOMPSON, Sandpoint
PAUL C. KEETON, Lewiston
JOHN EATON, Cascade
JACK HEMINGWAY, Sun Valley
H. JACK ALVORD, Pocatello

IDAHO FISH AND GAME DEPARTMENT

November 21, 1974

JOSEPH C. GREENLEY
Director
POST OFFICE BOX 25
800 SOUTH WALNUT STREET
BOISE, IDAHO 83707

Mr. Lynn H. Thompson
Regional Director
Rocky Mountain Region
U.S.D.I.
National Park Service
655 Parfet Street
P.O. Box 25287
Denver, Colorado 80225

Dear Mr. Thompson:

I am sending this response to the preliminary draft Environmental Statement titled "Grizzly Bear Management Program, Yellowstone National Park, Wyoming, Montana, Idaho".

Several of our comments are in the form of a question rather than a positive or negative response. This is primarily due to the way the proposal is written, causing confusing interpretations on our part.

Page 5, F: We question why immobilizing drugs and tranquilizers are not being used to tag bears which are captured in conventional traps. Have you experienced excessive mortality? Based on an ongoing Idaho black bear project, there is very low risk involved in using immobilizing drugs and tranquilizers on that species. The value of marking as many bears as possible on a study area such as the one you are working with seems very important to us.

Pages 5 and 6: It would be beneficial in appraising a statement such as this if you would define sub-district and district. We have to assume it is some type of administrative delineation of area within the Park.

Comment: We would hope the decision on where a bear may be released would be based on the welfare of the bear and not the desires of a human, who at the present time is responsible for management or administration of an arbitrary block of land which may or may not be a desirable place to release a grizzly bear.

Page 6, 1: What are the criteria which determine a bear must be destroyed and who makes the decision?

Page 6, 3: Why are grizzly bear kills to be reported to the Superintendent's office by phone? How are black bear kills reported?

RESPONSES

13 See response No. 2.

14 True--districts and subdistricts are administrative delineations of the park for management purposes.

15 The specificity of relocating in districts and subdistricts is no longer a part of the Yellowstone bear management policy included in the Guidelines. The policy simply states that "all bear transplants will be coordinated through the office of the staff specialist in charge of bear management." Each proposed transplant will be considered on its own merits.

16 See pages 5-7.

17 Bear-human relationships are viewed as emotional and in some cases controversial. Speed in communications is deemed necessary to maintain integrity and credibility in managing bears as a natural resource. This is true for both grizzly and black bears.

COMMENTS

Mr. Lynn Thompson
November 21, 1974
Page Two

Page 7, b: Why are all management actions involving bears reported by phone to the resource management office? Paragraph 4 on page 58 of the document questions the method of Park record keeping on injury rates.

Comment: Is the telephone reporting system partially the cause of this problem? Would a sound, written reporting system be better?

Page 8, c: Grizzly bear sightings made by whom will be recorded in what station log?

Page 8, paragraph 4:

Comment: Areas such as these closed dump sites could be surveyed for bear use with time lapse photography equipment.

Page 9, paragraph 3, line 6: The word "second" should be changed to "third" because both 1970 and 1971 (53 and 48 respectively) exceeded the 1967 bear kill.

Page 9, last paragraph: Did the National Park Service review and comment on the U.S. Fish and Wildlife Service proposal to place the grizzly bear on the Endangered Species list? If so, are these comments available for our information?

Page 10, paragraph 2: The statement is incorrect which states "The Interagency Grizzly Bear Study team... consists of research biologists from the National Park Service, Fish and Wildlife Service, U.S. Forest Service, and the states of Wyoming, Montana and Idaho." There is no biologist from Idaho working on this field study team.

Page 10, paragraph 3, line 15: You state "research and monitoring of grizzly bear conducted by the Park staff will be integrated into the team's investigations".

Comment: It is absolutely necessary that all research and monitoring in the entire Yellowstone system be done by the Interagency Grizzly Bear Study Team. Any satellite work by the Park staff would jeopardize the study team work and would likely be a duplication of work by the study team.

Page 11, last paragraph: The "research effort" and "the specific purposes of this grizzly bear management proposal" are two separate entities. The research effort is progressing on the same population you are proposing to manage and the NAS recommendation was for the "research" portion of the program to be conducted by a non-governmental body. That did not include the management direction, therefore, it has no effect on the item this paragraph considers.

Page 20, last paragraph: You state it is regrettable the number of bears marked, etc., has not yet been reported. Who paid for these studies and is there no recourse in recovering these data by, if necessary, withholding current ongoing funds to get these data?

RESPONSES

18 See response 17.

19 This paragraph has been rewritten. See page 7.

20 This paragraph has been deleted.

21 This paragraph has been rewritten. See page 10.

22 The National Park Service did not comment on the proposal.

23 The statement has been updated. See page 12. Idaho is considering placing a participant on the team.

24 The paragraph has been rewritten to stress a team effort.

25 See response 24.

26 This whole section has been rewritten and condensed. See pages 30-32.

COMMENTS

Mr. Lynn Thompson
November 21, 1974
Page Three

- 27 Page 24, paragraph 3, last sentence: If it is recommended a recognizable, marked element of known size of the population be established; is this to be on a sustained basis or if for a specific period, how long?
- 28 Page 28, paragraph 2: When bears are transported to areas "far removed" from the trouble area, how close to the Park boundary have they been released? Have any at any time been released outside the Park boundary without being requested by the state involved?
- 29 Page 45, paragraph 45: "Closing garbage dumps. . . , may have altered the population status by altering survivorship rates in the population."
- 29 Question: The elimination of or reducing the chance of sows with cubs coming in contact with other bears should increase survivorship of cubs if male adults are predatory on cubs. Did you mean altering survivorship up or down?
- Page 45, last sentence:
- 30 Comment: Idaho has no sport hunting on grizzlies. Table 4, page 43 shows that there were more grizzlies killed in Idaho (for the year 1970-1973) than in Montana where there is sport hunting and nearly as many as Wyoming where there is sport hunting. If livestock depredation killings were stopped, it would reduce this Idaho kill to near zero and would reduce the overall grizzly bear kill by nearly one-third within the Yellowstone System.
- Page 46, second paragraph:
- 31 Comment: You state the rate increase of visitation peaked around 1950 and has been steadily declining. On page 56, Table 10, your figures indicate Park visitations first passed the two million mark in 1965 and have since fluctuated just above that figure. We think you should consider numbers of visitations NOT rate of increase. It is a lot easier to increase 10% above the 1943 visitation figure of 64,000 than to increase the 1973 visitation number of two million-plus by 10%.
- 32 Page 53, paragraph 4: "In 1973 it was necessary to capture and relocate two sow grizzly bears. . . ."
- Question: Were there any cubs involved?
- Page 57, paragraph 2: You comment on grizzly and black bear caused injuries and deaths.
- 33 Question: During the period since records have been kept in Yellowstone, how many injuries and deaths have been caused by bison, auto wrecks and people falling into the hot water pools within the Park? How much publicity have these "incidents" received compared to bear interactions with humans and what actions have resulted from these "accidents". How many deaths have resulted from drowning in the Park's lakes and rivers and have they been closed to human activity as a result? My point is, if areas and activities are closed to the public as problems occur, the Park will soon be closed to all humans. We would hope the management plan calling for no artificial feed for bears will eliminate all but very rare human-bear encounters.

RESPONSES

- 27 This paragraph has been deleted.
- 28 See response 2.
- 29 This section has been rewritten. See page 46.
- 30 This section has been rewritten. See page 48.
- 31 The discussion of visitation and rates of use has been clarified and rewritten. See page 35.
- 32 There were no cubs involved from the Canyon Campground in 1973.
- 33 No roads, pools, rivers, or lakes in Yellowstone have been closed to public use solely because of accidents. Some areas may have been restricted from use to protect fragile resources. The Yellowstone bear management policy as given in the Guidelines says that certain areas may be closed to use to reduce bear-human conflicts to a minimum. However, these are temporary closures; e.g., the policy concerning backcountry use states "Backcountry campsites and/or trails being frequented by bears may be closed to public use until the bear is no longer an apparent hazard (emphasis added). We agree that no artificial feed for bears should reduce human-bear encounters. The purpose of such actions is to protect both humans and the bears."

COMMENTS

Mr. Lynn Thompson
November 21, 1974
Page Four

- 34 Page 57, paragraph 6: Who receives all official notices of injury to humans in the Park? If it is the Park headquarters, why aren't these regarded as the official records with disregard for other sources which, it would seem, have more limited opportunity to record all incidents and injuries.
- 35 Page 58, paragraph 2: You cite in this paragraph (Table 3) with respect to injury rates to human. Table 3 on page 43 refers to removal of bears from the Park. Table 9 on page 55 refers to injuries of humans.
- 36 Page 58, paragraph 4: During all years listed in Table 11, the Park data indicate more injuries to humans in 1960, 1966 and 1970, than the Craighead data indicate. This would show injuries to humans were reported to the Park headquarters rather than to the Craigheads. Is this not the proper procedure for Park employees to follow in reporting injuries? There is no reason stated anywhere in this report which indicates Craigheads were to receive all injury reports. The Park Service data should be the maximum number and any unofficial source should be less. See comments for page 57, paragraph 6.
- Same paragraph: Who is H.V. Reynolds whom you quote here and what access to records and knowledge does he have to substantiate that records in the Park office may not be accurate?
- 37 Page 62, paragraph 2: You note that Cole recorded 35 grizzly bears being removed from the population from 1970 through 1972 (Table 7). On page 48, Table 7 shows Yellowstone National Park overnight visitors from 1969-1973. You should have referred to either Table 3 or 4 on page 47, not Table 7. The last two sentences in the paragraph state 22 bears were "removed intentionally" and the remaining 13 bears were killed either accidentally or to prevent human injury during capture. Were these not also intended to prevent immediate injury?
- 38 Page 63, first paragraph: Has the level of danger been changed whereby a bear is shot? What was the old level and what is the new level?
- 39 Page 63, paragraph 2: It should be clarified in the first sentence which species of bear or if you are referring to both species having significantly fewer individuals destroyed as nuisance animals. The caution regarding this statement could be an increased intraspecific and interspecific competition for both food and habitat and perhaps should be indicated in this statement.
- 40 Page 63, paragraph 4: In the middle of this paragraph it is stated: "Alternatively, increased cub mortality could be a causal factor. This increase may be caused by the fact that during the period of relative intensive control actions, 1970-72, proportionally greater numbers of adult males were removed (from the population) than of either adult females or younger bears. . . (Cole 1974)." This statement is the reverse of all information available to me or members of this Department with regard to survival of grizzly bear cubs. The adult males have been characterized as predatory upon cubs and removal of the adult males should enhance survival of cubs.

RESPONSES

- 34 See Statistics and Monitoring, pages 6 and 7.
- 35 See Table 16, page 45.
- 36 See response 34.
- 37 The corrected reference is Table 5, page 43. The comment is correct regarding the intent of control actions.
- 38 The term "level" in this instance referred to numbers rather than a judgement factor. However, the paragraph has been rewritten. See page 48.
- 39 The paragraph has been clarified. See page 49.
- 40 The evaluation has been expanded to add Knight, (1977). See page 49.

COMMENTS

Mr. Lynn Thompson
November 21, 1974
Page Five

- 41 Page 64, first paragraph, line 2: There is apparently a typo error in the "101 ex 189 man-induced kills and removals". Are the numbers correct; what is the "ex" for?
- 42 Line 5 states there were only 17 documented grizzly bear kills in the eco-system in 1973. Is it possible the bear kills made to protect livestock are being kept very secret. There were probably as many kills (outside the Park), only, no one is talking. The reasoning in this line of thinking is there are as many units of domestic livestock as previously and there is no reason to believe bear-livestock interactions have decreased.
- 43 Page 65, paragraph 3: You state "cub mortality may have decreased". See page 63, paragraph 4: "Cub:female ratios were reported to have decreased in 1974; increased cub mortality could be a causal factor". To which statement are we to direct our comments?
- 44 Page 66, first paragraph: Who is Gardiner B. Moment and what is his field of expertise which merits his addressing himself to this issue to the degree which he receives?
- 45 Page 67, last paragraph: How can restricting visitor use by temporarily closing areas be mitigated in several years?
- 46 Page 70, paragraph 4: How effective are grizzly bears in defining a new home territory? What percentage established anew area and didn't go directly back to where they were captured? How much data on how many bears do you have available to document this type adjustment?
- 47 Page 70, paragraph 6: You refer to this as a grizzly bear management program. If the stated problem is one of bears causing injury to humans and black bear cause the majority of these injuries (See Table 9), why not refer to it as a "bear" management program and de-emphasize "grizzly"?
- 48 Page 73, sentence 4: Do you mean conditions that contained or existed before the dumps were closed?
- 49 Page 74, paragraph 3: Again, who is Mr. Moment and why is his apparent singular voice so evidently considered?
- 50 Page 74, paragraph 4: Is it really possible grizzly bear could be eliminated from the Park? How could this be done mechanically? How could this be done in defiance of people who would not be sympathetic to this type action? Where would you propose to relocate grizzly bear outside the Park? To transplant a problem is not to solve it.
- 51 Page 75, Impact, paragraph 1, a.: Most injuries to humans in the Park have been inflicted by black bear (Table 9, page tt); therefore the problem would not be solved by eliminating the grizzly bear and not black bear. The injuries to humans by grizzly bear, since 1967 (17) have occurred while approximately 17 million visitors (Table 10) have been in the Park. This low level of injuries is untestable for statistical purposes to indicate if in reality

RESPONSES

- 41 The section on less certain impacts has been rewritten and the use of quotes from the National Academy report has been substantially reduced or eliminated. See pages 47-49.
- 42 See response 41.
- 43 The wording about bear cub mortality decrease has been deleted and the section rewritten. See page 49.
- 44 See page 51.
- 45 See page 53.
- 46 The annual reports of the interagency grizzly bear study team address bear movements, home ranges, and similar relevant data.
- 47 Good point; correction made. See page 55.
- 48 "Existed" is correct. See page 16.
- 49 See page 51.
- 50 We concur that it would be difficult if not impossible to relocate bears to new areas, but after each fatal bear mauling of humans, the National Park Service receives a number of letters and comments from concerned citizens to get rid of the bears. Thus this action has been retained as an alternative. If chosen, it would not be carried out without clear congressional direction.
- 51 Refer to table 6. We concur that there have been fewer injuries since closure of garbage dumps and installation of bear-proof garbage cans.

COMMENTS

Mr. Lynn Thompson
November 21, 1974
Page Six

- 51 there has been a reduction in injuries since the dumps have been closed. The injuries by black bear have significantly decreased during this period and, therefore, a portion of the problem has been alleviated.
- 52 Page 76, paragraph 3: To where would you propose to relocate the Yellowstone grizzly bear population? Relative to comment on Page 74, paragraph 4.
- 53 Page 78, paragraph 1: It would be better to advise campers to stay home or stay out of the Park and stay in commercial campgrounds. If they are uncomfortable in the Park, why should the magnificent grizzly bear be compromised on behalf of a squeamish human.
- 54 Page 80, paragraph 2: (1) Is there any indication from present research (since 1971) that grizzly bear are starving or the population is being restricted by a shortage of food? If not, how can the artificial feeding of grizzly bear do anything but create a problem which is unnecessary. (2) In this paragraph you suggest trophy hunting will increase natality and decrease mortality. I refer again to paragraph 4, page 63 where it is stated that removing adult male (trophy) animals from the population could be a causative factor in increased cub mortality.
- 55 Page 80, paragraph 4: Who are the people that suggest the grizzly bear population in Yellowstone cannot be supported without an artificial feeding program? What data have they compiled and what is its validity to indicate food is a severe limiting factor.
- 56 Page 82, last paragraph: (Glenn 1973; Murie 1961) "have noted dominant males may kill cubs and other subordinate grizzly bears." This statement is in direct disagreement with the statement in paragraph 4, page 63.
- 57 Page 83, paragraph 2 (1): This statement should be to the effect that trophy hunting would destroy some proportion of the grizzly population, not some proportion of individual bears.
- 58 Page 83, paragraph 4 (3): The implementation of a trophy hunt would not be different from the old control program. It would only substitute removal of animals from the population by sport hunters for removal by Park Service personnel. Under the old control system, research was not being conducted on an unaltered population; i.e., in 1970, 20 animals were removed, Table 3, page 43.
- 59 Page 83, last paragraph: The first sentence states the National Park Service would encourage the state of Idaho (and others) to regulate hunting grizzly bears. The Idaho Fish and Game Commission stopped all sport hunting of grizzly bear in this state in July, 1946. There has been no legal hunting since that date, nor is there any indication this policy will change in the future.

RESPONSES

- 52 See response 50.
- 53 The possibility of eliminating overnight camping in the park is considered. See page 18. We are constantly seeking other methods of deterrents.
- 54 The former alternative titled "Increase Grizzly Bear Population by Artificial Methods" has been changed to "Maintain Grizzly Bear Population by Artificial Feeding," and the discussion has been expanded. See pages 20, 22, 58, and 59. The discussion of trophy hunting has been deleted.
- 55 This was an early suggestion by the Craigheads.
- 56 The discussion on trophy hunting has been deleted.
- 57 See response 56.
- 58 See response 56.
- 59 The draft "Alternative Actions Outside the Direct Authority of the National Park Service" has been deleted as inappropriate to this document.

COMMENTS

Mr. Lynn Thompson
November 21, 1974
Page Seven

60 Page 84, paragraph 3: This proposal to encourage the U.S. Forest Service to eliminate sheep grazing from the ecosystem would virtually eliminate grizzly kills in Idaho. There have been numerous kills (Table 4, page 43) (19) since 1970 in this state and nearly all are in the name of livestock depredation complaints.

61 Page 85, paragraph 2: See comments about page 84, paragraph 3.

Thank you for the opportunity to review and comment on this document.

Sincerely,

IDAHO FISH AND GAME DEPARTMENT

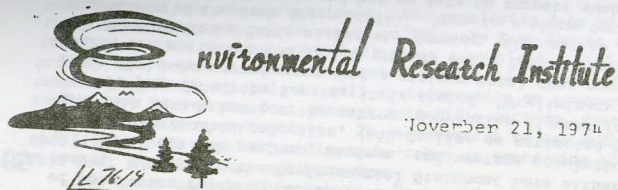
Joseph C. Greenley
Joseph C. Greenley
Director

RESPONSES

60 See response 59.

61 See response 59.

COMMENTS



November 21, 1974

Mr. Lynn H. Thompson
Regional Director, Rocky Mnt. Region
U.S. Dept. of Interior
665 Parfet Street
Lakewood, Colorado 80225

Officers and Directors
President
Frank C. Craighead, Jr.
Secretary-Treasurer
Samuel Scrivener, Jr.
Frank H. Goodyear
John J. Craighead
Gerald J. Stout
Charles R. Phil
Paul Buser

Dear Lynn:

I am enclosing my comments on a draft of the environmental statement for the proposed grizzly bear management program.

I have prepared this with the hope that it may do some good, perhaps bring about some communication between the so-called parties of controversy regarding the grizzly bear issue. As I have said in my statement, I feel that this impact statement is inadequate, and that it has been prepared on the basis of a number of false assumptions. I also sincerely feel that Park Service policies are often quite inconsistent. The reason for this I believe, is that a number of them are unrealistic. Thus, at times they have to be shored up with supporting, but often contradicting statements. That is, statements that either contradict policy or contradict current activities. I am not, as has been implied from time to time, opposed to the Park Service as such. I am opposed to the unscrupulous measures that certain Park Service individuals have taken to suppress my views and to cover up their own mistakes. I sincerely hope that one of these days we will get together to discuss this and other subjects under friendly, rather than hostile conditions as now appear to exist in both Yellowstone and Washington.

Sincerely,

Frank C. Craighead, Jr.
Frank C. Craighead, Jr.

FCC/mv

RESPONSES

COMMENTS

Comments On The Park Service Grizzly Bear Management Program Environmental Statement

by
F.C. Craighead, Jr.

- 62 The Park Service Environmental Statement can be divided into three parts: The Proposal, the Description of the environment, which is more-or-less a re-publication of the National Academy of Sciences Report, and Environmental Impacts and Proposed Actions. National Park Service policy is consistent, in that it is regularly inconsistent. The Environmental Statement reflects this trait of present day Park Service administration and management. The report not only reveals the Park Service's inconsistencies, but is well sprinkled with bureaucratic 'gobbledy-goop' as well as outright mis-representations of data.
- 63 No scientific population estimate of the grizzlies in the Yellowstone ecosystem has been used in this report. The Craighead data on this subject has been completely ignored or mis-represented. Instead, unrealistic figures have been utilized, or total population figures cited for past years and mis-represented as currently applying (page 19 of Environmental Statement). The estimate here of 234 grizzlies represented the population prior to the drastic reduction in grizzly numbers. Thus, starting with erroneous population information, many of the proposed management actions are meaningless. Throughout, there is an attempt to use the material in the National Academy of Sciences Report as support for the Park program. One such example can be found on page 72. It reads, "The National Academy of Sciences Committee on the Yellowstone Grizzlies (Cowan, 1974) has reviewed all available data and concluded that there is no convincing evidence that this population of grizzly bears is in danger of extinction." The word "immediate" which preceded "danger" in the National Academy of Sciences Report, was eliminated. I would like to state very emphatically that if present Yellowstone National Park management and research methods continue, there is a very good probability that this population of grizzly bears will become in danger of extinction. They are currently "Threatened".
- 64 On page one of the Environmental Statement it is stated that, in carrying out the purposes of the Establishment Act of March 1, 1872, "the objective is to restore and maintain the natural integrity, distribution, abundance, and behavior of an endemic grizzly bear population; provide for the safety of Park visitors; and provide opportunities for visitors to understand, observe, and appreciate the grizzly bear as a significant member of America's wildlife heritage." In order to carry out these objectives, it is essential to have accurate demographic data on the grizzly bear population, and particularly reliable figures on the total number of bears inhabiting the Yellowstone ecosystem. In order to plan a management program for the grizzly, it is essential to start with the most probable population of these animals existing in 1974. The National Academy of Sciences Report computes that this is probably around 158 animals for 1973. Craighead, et al., on the basis of years of population research conclude that the most probable 1974 figure is 136 grizzly bears. Nowhere in the Environmental Statement have either of these figures been utilized. Data on maximum, minimum, and average populations for the years preceding the drastic reduction, (44% decline as estimated by Craighead, et al, 1974) have been cited, but not the current population figures for 1974.
- 65 On page 24 of the Report, it is stated, "Preliminary information from the first field season suggests that a minimum total area population may be 350 to 400 bears. An estimated 100 to 150 grizzly bears form a viable resident population in the Shoshone-Teton National Forest, Wyoming, adjacent to the east and southeast boundaries of the Park (Roop, 1974)". Roop in a phone conversation said he knew nothing of this reference and has no data to support such a statement. This then, a figure of as many as 450 - 550 grizzlies, is the population that the Park Service claims exists in the Yellowstone ecosystem in 1974. These very significant figures are merely stated. There is no substantiating data or information as to how they

RESPONSES

- 62 The RDEIS is rewritten to be more readable and to eliminate former inconsistencies.
- 63 The preparers of the RDEIS have used the best data available and have indicated where such data was subject to question. However, a concerted effort is made to present only verifiable data.
- 64 The most difficult problem in the studies and management of bears has been and continues to be determining a method of assessing grizzly bear population and its dynamics. Many systems have been tried and in some cases rejected and later reused, i.e., radio collaring and tracking. This area of research is still continuing, but based on what are believed to be the best current method and using automatic data processing techniques and various models developed by many different researchers, the present population figures have been developed. These figures, which show a stable or very slightly increasing population were used as a basis for the RDEIS. As with most animal populations the grizzly population is not static and the management plan is intended to be flexible enough to compensate for new developments in research and/or population dynamics. The discussion on page 72 of the DEIS has been deleted as no longer pertinent. Data from the National Academy of Sciences report has been used, but judiciously. See pages 47-49.
- 65 Use of bear population figures has been simplified and updated (see pages 30-32). Craighead and Craighead data has been used as appropriate (see page 30). This was done to reduce or eliminate former inconsistencies and shortcomings in the data (see page 47).

- 66 See response 65. Citations of sources are given.

COMMENTS

page two

- were gathered, or the methods used. The population data by Craighead, et al., 1974, and accompanying information on "Grizzly Bear Ranges and Movement", (Craighead, 1974 - being published) gives a completely different picture of the grizzly bear population, a most probable ecosystem figure of 136 for 1974. This computed population total, as well as information on movement, migration, and ranges have been arrived at through scientific methods, described in detail, and are supported by accompanying data. It is essential to any future management program that a realistic population figure be taken as a starting point for management. This most certainly has not been done.
- 67 Two terms used in this report - "natural" and "wild", have also appeared in many past Park Service publications. In regard to the grizzly, this refers to a population of grizzlies un-influenced by man, living away from campgrounds, and not eating at the dumps, as compared to those that did. These two terms are hazy and should be clarified. For example, on page one, it is stated that the Park Service management objective is to restore and maintain the natural integrity, distribution abundance, and behavior of an endemic grizzly bear population. But, what is natural? If it were possible to completely isolate the grizzly from contacts with man and man's activities, would it be a natural population? The grizzly and man have co-existed on this continent through eons of time. Man and bear have been co-dominants. They have roamed the same habitats, shared and fought over the same food supplies. In other words, there's been a close association and interaction between the two species. Is it natural to attempt to abolish this relationship? And, can it be done without exterminating the grizzly?
- The question well might be asked, How does a wild, free-roaming grizzly population, the aim of Park management, differ from a herd of elk, supposedly considered wild, that largely winter on Refuge lands where they are artificially fed hay or pellets? Also, the population of elk are controlled not only through modern hunting, but through reductions in their numbers by deputized rangers, and in the past by planned elk reductions. These reductions in the Northern Yellowstone herd were carried out by rangers within national park boundaries. Is the grizzly not wild because he occasionally eats the refuse food of man, a thing that he has done through time immemorial, but the elk is wild even though artificially fed? Can there be completely natural conditions for an animal such as the grizzly, in a Park which is too small to be a natural ecosystem for this animal? Again, on page 6 of this report, it is stated that, "no bear is to be moved or destroyed in retaliation for exhibiting its natural behavior - such as defense of natural food sources or its young." What is considered natural behavior? Is an attack by a bear due to being surprised by man natural? Are aggressive actions by a bear that feels threatened by the close presence of man natural? This term has little meaning as used in this report. On the same page it is stated that the development of census techniques that will provide realistic population estimates of wild, free-roaming black bear and grizzly bears within and adjacent to the National Park will be continued. This implies a wild as opposed to a population of bears that is not wild. As I have pointed out from time to time, this term as applied by Park officials is not valid. The N.A.S. Committee came to the same conclusion and stated, "The concept of two or three wholly distinct populations -- i.e., back country ("wild") versus "dump" populations (Cole, 1971) or peripheral populations -- is misleading. All grizzlies inhabiting the Yellowstone Plateau must be regarded as belonging to the same population, as their great mobility demonstrates (Craighead & Craighead, 1971). Bears exhibit a heterogeneity of behavior depending on where they are and the conditions of the moment. William Wright as far back as the 1920's in his book, The Grizzly Bear (1922) recognized that Yellowstone grizzlies that frequented the dumps at that time were just as wild as any grizzlies that had ever known. I quote from Wright: "Altogether I did not find the grizzlies of Yellowstone Park

RESPONSES

- 67 The term natural habitat as used in the RDEIS is assumed to be a relative one as man's influence is always present and one might say is a part of the natural habitat. However, in Yellowstone National Park it is hoped this impact will be minimal and the habitat for a given species will be as little influenced by humans as possible. Due to the mandate from Congress to the National Park Service its managers tread a narrow line between preservation and providing use by the people, i.e., while the Service may not "improve" a habitat the obligation is there to protect as much as is practical and is naturally there.

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page three

67 in any degree more tame or less cunning than they are today, for example, in the Selkirks. Many of them, it is true, come to the garbage piles to feed, but these very bears, fifty yards back in the timber, are again as wild as any of them anywhere."

The criticisms that could be made of this Report, both major and minor, the inconsistencies that are found throughout, and the general lack of understanding of the problem involving this population of Yellowstone grizzlies, are such that it would be too time consuming to refute each inaccurate or debatable point in writing. I personally feel that public hearings are essential so that all interested and knowledgeable people can properly criticize and/or make suggestions regarding this report.

Signed,

Frank C. Craighead, Jr.

Frank C. Craighead, Jr.
Senior Research Associate
Atmospheric Sciences Research Center
State University of New York at Albany

President, Environmental Research Institute
Moose, Wyoming

November 19, 1974

RESPONSES

COMMENTS



United States Department of the Interior

IN REPLY REFER TO

BUREAU OF LAND MANAGEMENT
State Office
P. O. Box 1828
Cheyenne, Wyoming 82001

1792 (930)

NOV 20 1974

MEMORANDUM

TO : Regional Director, National Park Service, Rocky Mountain Region, P. O. Box 25287, Denver, Colorado 80225

FROM : Associate State Director, Wyoming

SUBJECT: Draft Environmental Statement on Grizzly Bear Management Program, Yellowstone National Park, Wyoming

The subject draft statement was forwarded to us from our Washington Office for comment.

We have reviewed the draft statement and generally concur in the information brought forth. We are not too involved with grizzly bear management, however some National Resource Lands are on the fringe edge of the Yellowstone Ecosystem. Our comments follow:

68 On page 5, item g. A statement should be added that bears will not be released adjacent to or outside the boundaries of the national park, except that, upon request of a State Fish and Game Department, and concurrence of the land management agencies involved with the lands where the releases will be made. The underlined portion should be added. Also, it would be desirable to require that the State Fish and Game Departments submit an Environmental Analysis Report of the proposed transplant action before any releases are made.

69 On page 6, item i. The above comments on item g. should also apply. As to alternatives to the proposed action we favor alternative E, Alternative Actions Outside the Direct Authority of the National Park Service. On page 15 cougar and mountain lion are mentioned as if they are separate species. On page 84 under impacts, the first sentence needs correction or clarification. We believe it should read "Regulations of hunter kill on lands outside the park....". The underlined portion should be substituted for non-Federal. In no place have the impacts of changes in the grizzly bear feeding behavior upon the black bear been evaluated. Changes in grizzly bear behavior could have influences upon the interrelationship between black and grizzly bears in a given area.

Jesse Blower

RESPONSES

68 We agree and the Guidelines have incorporated the need for concurrence among agencies. See pages 5-7.

69 See responses 68, 5, and 59.

COMMENTS



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
711 Central Avenue
Billings, Montana 59102
November 22, 1974

IN REPLY REFER TO:

DES-74-87
LTC/17

MEMORANDUM

To: Regional Director, National Park Service, Rocky Mountain
Regional Office, 655 Parfet Street, P.O. Box 25287, Denver
Federal Center, Denver, Colorado 80225

From: Acting Area Manager

Subject: Draft Environmental Statement - Grizzly Bear Management
Program, Yellowstone National Park, Wyoming (DES-74-87)

We have reviewed the subject draft Environmental Impact Statement which was forwarded through channels to this office from the Office of Environmental Project Review, Department of Interior. Our comments follow.

On the basis of the information presented, the proposal's treatment of potential impacts on grizzly bear and the related environment appears generally adequate.

One consideration of the management proposal is that of reducing the chances of hazardous human-grizzly contacts in Yellowstone National Park. In this area, Bear-People interactions, pages 51-58, could possibly be developed further on one point. It appears that sufficient data could be developed from Park records to substantiate that some grizzly bears that have been handled repeatedly in either research programs or nonlethal control actions have subsequently had to be destroyed when charging Park control action team members. It could possibly be shown that grizzlies without a history of being repeatedly handled did not lose their fear of humans to such a marked degree.

The draft EIS does an excellent job of describing the Yellowstone ecosystem of which about half lies within the boundaries of Yellowstone National Park.

The heart of the grizzly bear habitat is within the Park; therefore, survival of the Yellowstone grizzly is dependent on the management program in the Park. The proposed actions, if implemented as described, appears to guarantee the perpetuation of the grizzly bear as the

RESPONSES

70 As long as bears have not had a food reward, handling only seems to increase their shyness. "Bears that have obtained food from people are not deterred by trapping and handling . . . Bears that have been successfully aggressive and obtained food retain the behavior pattern after trapping and handling . . . Instrumented bears that have come into direct contact with field personnel have fled . . . There is no evidence that bears that have been handled for purposes of marking are more aggressive because of it." (R. Knight, Draft Notes on Some Behavior Patterns in Radio - Instrumented Grizzly Bears, unpublished, March, 1981, page 10).

COMMENTS

dominant wild species in the Park ecosystem. We could not condone Alternative B., as outlined in Section VIII, Alternatives To The Proposed Action - Eliminate Grizzly Bears from Yellowstone National Park (p. 74). In our opinion, this should not be a viable alternative for grizzly bear management in the Yellowstone ecosystem.

Yellowstone National Park personnel have done a commendable job in consulting with others on their proposed grizzly bear management program. By virtue of the large Park grizzly population, the Park will always be looked to for leadership in managing the Yellowstone grizzly. We strongly endorse a continued coordination program of this nature to insure that management proposals will protect grizzlies to the maximum extent possible.

We have no comments on specific language of the draft; however, inclusions of photos of bears and of the Yellowstone ecosystem would enhance the draft.

John G. Wood
JOHN G. WOOD

RESPONSES

71 See response 50.

72 The Guidelines for Management involving Grizzly Bears in the Greater Yellowstone Area, constitute the official management direction for bear management. The Guidelines include the Yellowstone Bear Management policy, as modified by suggestions and participation by the Interagency Grizzly Bear Study Team and by comments to this environmental statement. The Guidelines are endorsed by all participating Federal agencies, including the various biological opinions from the U.S. Fish and Wildlife Service as required by the Endangered Species Act. The Guidelines are also a reflection of scientific references at the time of their development. Accordingly, we believe that the Yellowstone Bear Management program, being an integral part of the Guidelines, is scientifically sound and is supported by this environmental statement.

73 The EIS and the Yellowstone bear management program falls on the Guidelines (see answer 72). Also see response 50 regarding use of

COMMENTS

MONTANA COOPERATIVE WILDLIFE RESEARCH UNIT
UNIVERSITY OF MONTANA
MONTANA FISH AND GAME COMMISSION
WILDLIFE MANAGEMENT INSTITUTE
FISH AND WILDLIFE SERVICE, UNITED STATES DEPARTMENT OF THE INTERIOR
UNIVERSITY OF MONTANA
MISSOULA, MONTANA 59801

November 26, 1974

Mr. Lynn H. Thompson
Regional Director
Rocky Mountain Regional Office
National Park Service
U. S. Department of the Interior
P. O. Box 25287
Denver, Colorado 80025

Dear Mr. Thompson:

I appreciate receiving your letter of October 24, 1974, in which you asked me to critique the NPS Environmental Impact Statement on the Yellowstone grizzlies. I know you are deeply interested in the grizzly bear problem, and I know that in asking me to critique the statement, you wanted a candid report with constructive criticism.

I have tried to be as objective as possible and, at the same time, not to offend those who may be sensitive to criticism. I suspect that there will be those who will interpret this critique as an attack on the Park Service, but I assure you it has been prepared after much thoughtful evaluation of the EIS. I hope that it will prove useful.

Very sincerely,

John J. Craighead, Leader
Mont. Coop. Wildl. Res. Unit

JJC:gs

Encl: 1

RESPONSES

COMMENTS

CRITIQUE OF THE NATIONAL PARK SERVICE ENVIRONMENTAL IMPACT STATEMENT (1974).

Summary

The Leader of the Montana Cooperative Wildlife Research Unit has been asked by the National Park Service, Department of the Interior, to review and critique the recent National Park Service (NPS) Environmental Impact Statement (EIS) concerning proposed management of the grizzly bear in Yellowstone National Park, an integral component of the 20,000 km² (Craighead et al., 1974) Yellowstone Ecosystem. The National Park Service proposal was studied in detail and numerous specifics questioned. However, this critique considers the validity of the proposal and presents an overview including only certain specifics of primary importance.

The National Park Service Environmental Impact Statement of 1974 does not objectively address the subject of the grizzly bear and its environment with regard to past and future National Park Service management practices and policies. It has prejudged the situation to conform to its established policy and concludes, a priori, that it proposes to do "business as usual". Since 1970, the NPS has consistently made the mistake of ignoring scientific evidence of a serious population decline in favor of "continuing to implement an on-going management program" that it claims to be effective, but which has been seriously questioned by scientists and conservationists.

The statement omits or fails to recognize the most pertinent facts:

- a) the magnitude of the population decline; b) the failure of current management procedures to redistribute grizzly bears during the summer months of high visitor use; c) the failure to effectively reduce the probability of bear-man encounters except by killing bears; d) the widespread adverse.

RESPONSES

72 The Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area, constitute the official management direction for bear management. The Guidelines include the Yellowstone Bear Management policy, as modified by suggestions and participation by the Interagency Grizzly Bear Study Teams and by comments to this environmental statement. The Guidelines are concurred in by all participating Federal agencies, including the official biological opinion from the U.S. Fish and Wildlife Service as required by the Endangered Species Act. The Guidelines also cite a substantial number of scientific references as the basis for its recommendations. Accordingly, we believe that the Yellowstone Bear Management Policy, being an integral part of the Guidelines is scientifically sound and is supported by this environmental statement.

73 The RDEIS and the Yellowstone bear management program relies on the Guidelines (see answer 72). Also see response 65 regarding use of data.

COMMENTS

-2-

effects on the bear population outside of the Park due to management action initiated within the Park; and e) the fact that most current data show a reproductive rate that is still depressed and a mortality rate that exceeds the number of man-caused deaths "allowed" by the NAS committee if the population was to restabilize. Failure to come to grips with these basic facts, now thoroughly documented, raises a question as to whether the EIS is an objective presentation of data and conclusions or an attempt to justify past NPS actions.

For its factual data concerning the grizzly bear, the NPS relied heavily upon a comprehensive report prepared by a special committee of the National Academy of Sciences (Cowan, 1974) and based primarily upon 15 years of in-depth research done by Drs. John J. and Frank C. Craighead, Jr. (this report will be referred to as the "NAS report"). The NPS statement, however, fails to cite most of the conclusions of the NAS report which were critical of the NPS program and frequently paraphrases the content of the NAS report in a self-serving manner.

The EIS is incomplete. It fails to cite directly the content and conclusions of the Craighead publication "A Population Analysis of the Yellowstone Grizzly Bears", Bulletin 40, Montana Forest & Conservation Experiment Station, September 1974. Also, the statement fails to cite and compare the population calculations of Craighead *et al.*, 1974 with the NAS estimates and with those of Dr. Jack Gross, Colorado State University, Fort Collins, Colorado. All three analyses show a rapid decline in population size and strongly suggest that this trend will remain uncurbed unless the annual man-caused deaths decrease drastically and the reproductive rate increases or some other population compensatory process becomes operative. The

RESPONSES

74 The full NAS report was published and given wide distribution by NPS. There was no intent to hide any of its conclusions and recommendations.

75 At the time the DEIS was written, the full Craighead report was not available to the NPS. Thus only the data presented in the NAS report was used.

COMMENTS

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inescapable conclusion is that the Yellowstone grizzly bear population is in serious trouble and is not simply experiencing a "temporary disturbance" as summarized on page 1 of the EIS.

The EIS fails to objectively evaluate the grizzly bear problem or to offer realistic suggestions for rectifying it. Failure in the past to utilize all pertinent scientific data in evaluations has been a consistent mistake of NPS personnel since 1968 and has often resulted in erroneous conclusions which have subsequently been translated into management actions and administrative policy statements. In summarizing its EIS, the NPS offers the following management alternatives:

- A. No action.
- B. Eliminate grizzly bears from Yellowstone National Park.
- C. Further restrict visitor use.
- D. Increase grizzly bear population by artificial methods.
- E. Alternative actions (presumably cooperative action with other agencies) outside the direct authority of the NPS.

The most obvious and realistic action was neither considered nor listed as an alternative. An additional alternative action that would best serve the resource would be Alternative F: to recognize that the grizzly bear population in the Yellowstone Ecosystem has experienced, and is continuing to experience, a serious decline associated with the abrupt closure of the garbage dumps; to take immediate cooperative action with the states of Wyoming, Montana, and Idaho and various federal agencies to halt the decline and restore the population level. To do this would contradict the NPS objective (page 1 of the EIS) of perpetrating old practices that have been

RESPONSES

76 Since the proposed action of continuing the present management program is consistent with the Guidelines and with the draft Grizzly Bear Recovery Plan, we believe the concern has been met about cooperating with other agencies toward stabilizing the grizzly bear population. Thus we believe an additional alternative to this effect is not needed.

COMMENTS

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seriously questioned, if not discredited, by the NAS committee report. Continuation of "grizzly bear management as usual" could place the population in greater jeopardy in the near future. Neither the NAS nor the Craighead et al. analyses provide data or conclusions which would support the NPS supposition that their grizzly bear management program has been

76 successful and should be continued. The broad management objectives of the NPS (enunciated in the EIS) have never been contested; only the means for obtaining certain objectives and the evaluation of results. The current status of the grizzly bear population (which is serious and documented) should not be confused with statements in the EIS of estimates and hypotheses (largely undocumented) of impacts on the future of the grizzly bear population.

John Craighead
John J. Craighead, Leader
Montana Coop Wildlife Research Unit

RESPONSES

COMMENTS

Appendix

Grizzly Bear Kills, 1974 - Yellowstone Ecosystem
(pers. comm., Mr. Larry Roop, Wyoming Game & Fish Department).

1. Legal kill. May 31. 3/4 mile above Game & Fish cabin on North Fork Shoshone. Lg. dark phase male.
2. Legal kill. June 11. 5 miles up Grinnell Creek on snow slide. Medium sized female.
3. ?? Spring killed bear in Teton Co. Legal kill by resident from Big Piney. Warden Petera did not remember details when I talked to him, but he stated he included it in his monthly reports. Will check with Bill Morris on this for info.
4. Legal kill. Sept. 1. South Crandall Creek., Clark's Fork. Non-res. Old male. Marked w/ Craighead tatoo and ear streamer.
5. Depredation kill. Sept. 8. Arizona Creek about 1 1/2 miles above Teton Peak boundary. Pinky Bonner's camp. Young male.
6. Natural death. Sept. 21 (?) Sulphur Creek on Sunlight Creek drainage. Large male that was brought from West Yellowstone one month earlier. Found by use of radio telemetry equipment. Discovered in 11,000 feet glacial cirque, extremely rugged terrain. Possibility that bear was shot, but could find no sign of open wounds. More likely animal was killed in rock slide since there were several abrasions and skinned areas. Attempt to remove carcass by helicopter for autopsy was unsuccessful.
7. Legal kill. Sept. 24. Jones Creek about 3 miles above junction with North Fork. Adult male.
8. Legal kill. Sept. 29. North Crandall Creek. Old female. Evidently a Craighead bear but no tatoo or ear tag discovered. Had green and white braided plastic loop in left ear. Loop still had part of blue streamer attached. Also notch in lower (rear) edge of left ear where tag might have been.
9. Illegal kill. Oct. 4. About 4 miles above Turpin Creek, T45N R112W Sec. 2. Old sow shot and left lay. Investigated by Warden Petera. Had Montana Fish & Game tag # H1583.

RESPONSES

COMMENTS

10. Illegal kill. Cub of the year with above sow. Only one paw found according to Peters. Another cub in area — aggressive, had to be driven away from carcass of sow. Part of jaw removed from sow by Peters and given to Frank Craighead.
11. Legal kill. Oct. 24. Timber Creek. Old female. Had Yellowstone National Park tag # 7187.
12. Control action. Nov. 11. Yellowstone National Park. Carcass sent to Montana State Fish and Game laboratory in Bozeman.

RESPONSES

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COMMENTS

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Critique

The following items constitute some of the most evident inconsistencies and questionable procedures in the NPS report. All paragraph and page designations refer to the National Park Service Environmental Impact Statement, unless otherwise stated.

1. On page 1, opening paragraph of the EIS, the NPS states that it "proposes to continue to implement an on-going grizzly bear management program initiated in the 1960's and designed with the purpose of perpetuating a wild, free-ranging grizzly bear population in Yellowstone National Park, Wyoming-Montana-Idaho, and to minimize conflicts between humans in the Park and grizzly bears". Thus, the NPS has prejudged its own program before submitting any data or evidence. The purpose of an EIS is to present evidence that permits other agencies to judge the merits of an environmental situation. Data presented in the NPS statement as well as data and conclusions of the NAS and Craighead reports show that the success of the "on-going program" can be seriously questioned. Program success has frequently been confused with program objectives. The NPS should address itself to evaluating past and future management in terms of the dynamics of the grizzly bear population. The NAS report questioned past management and research policies of the NPS (see pages 7, 8, 15, 16, 27 and 38 of the NAS report, Cowan, 1974).
2. In quoting the NAS report, information critical of the NPS management program or contradicting NPS statements or data were often

RESPONSES

77 See response 8.

93

77

RESPONSES

COMMENTS

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omitted or paraphrased without indication. This has led to basic misinterpretations by the NPS staff, and has made the report difficult, if not impossible, for reviewing agencies to evaluate. Examples:

- 78 a. 1st paragraph, page 17: two different sentences were welded to omit estimates of the size of the Yellowstone Ecosystem by the Craighead team, as well as by the NAS committee.
- 79 b. Following 3rd paragraph, page 28: omission of a continuing discussion in the NAS report which was critical of the Interagency Grizzly Bear Research Team established in 1973 to obtain objective data on the grizzly bear population. Statements critical of the fact that the chairman of the team is also the Chief Scientist of the National Park Service and a consideration implicit in the NAS discussion that a conflict of interest was a distinct possibility was deleted. Deletion of this information deprives reviewers of a NAS criticism necessary to judge the NPS population estimates, as well as the NPS current research and management proposals for the future.
- 80 c. 3rd paragraph, page 58: NAS criticism of using injury rates as a means of evaluating the NPS management program was altered in the NPS statement to make it appear favorable to the NPS point of view. In addition, a judgment of "valueless" by the NAS committee regarding such comparisons, as well as information that "strongly suggest" that there was increased

RESPONSES

78 This has been clarified by the draft Grizzly Bear Recover Plan.

79 See response 8. The Study Team is under the guidance of a steering committee composed of 3 Federal and 2 State representatives and their findings are subject to peer review by bear biologists, including the International Association of Bear Biologists. Findings and results are not influenced by management.

80 The excerpt from the National Academy of Sciences report has been deleted from this section. See page 46.

COMMENTS

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grizzly activity in campgrounds and other developed areas during the period of dump closure from 1968-70, was omitted. Scientific data showing the number of grizzlies in campgrounds and movement of grizzlies back to campgrounds and developed areas after transplant have not been presented. Such data is necessary to a candid evaluation of the management program. A listing of control actions is not sufficient.

3. Statements were made in the NPS report that were unconfirmed by any valid data-gathering procedures. Such references to Cole's data are especially common. Examples:

- 80 a. 3rd paragraph, page 21: "However, the assumptions on which the estimates are based are assumed to be valid." This statement is made by the NPS with reference to a statement immediately preceding that was quoted from the NAS report as follows: "Estimates of bear numbers for 1971 to 1973 (Cole, 1973, 1974) are based on hypothetical calculations and there are no data to verify them." The NPS makes no explanation as to why their "assumptions...are believed to be valid." Expediency appears to be the most likely motivation.
- 81 b. 3rd paragraph, page 24: "The above population estimates are presented, therefore, as the best possible guess based on current knowledge." A "...guess..." most definitely, but not "...the best..." nor "...based upon current knowledge."
- 82 c. 1st paragraph, page 62: "However, at the present time, the population [of grizzly bears] appears to be recovering

RESPONSES

81 This section has been simplified and rewritten. See pages 30-32.

82 See answer 81.

COMMENTS

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- 83 from the adverse effects of the dump closure and there is no evidence to support the contention that the management action itself has induced, or will continue to induce, a long-term population decline." There is no valid scientific evidence to support the contention that the population is recovering. Furthermore, the fact that no improvement is demonstrable indicates that the severe population declines following the abrupt closure of the garbage dumps have not been, and will not be, ameliorated in the future by the NPS management program of the past.
- 84 4. The NPS did not use and has refused to incorporate a marking program as suggested by the NAS committee. The various investigations proposed for the future will be subject to the same fatal errors as those of the past.
- 85 5. The report states that "independent" research will be encouraged... but under the license of the NPS. Past experience has shown NPS control to be inhibitory of creative effort and of independence, particularly when its own programs are threatened by factual data.
- 86 6. While paragraph 2, page 61, states that "This evaluation [of the NPS in Yellowstone Park] should not impair the viability of the Park's grizzly bear population in the short term", the NAS report does not say this. The evidence of a 45 percent decline in the ecosystem population between 1967 and 1974 (Craighead et al., 1974) was, in general, supported by the NAS analysis. This can only be viewed as a serious "short-term" impairment that could be devastating if the trend continues long-term.

RESPONSES

83 This section has been simplified. See pages 47-49. Also see response 75 concerning Knight's opinion about the stability of the bear population.

84 See response 2.

85 It is and has been the policy of NPS to encourage independent research as a valuable contribution to knowledge of science in general and of the national parks in particular.

86 See answer 83.

COMMENTS

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- 87 7. Figures concerning bear mortalities may be even higher than reported by Craighead et al. (1974) or Cowan (1974).
- 88 a. Mortality rates in the population after 1970 were calculated by the NAS committee using to a large degree the ratio of marked to unmarked bears in the total kill. This is likely to be misleading as the NPS has repeatedly stated that they had been removing all markers from bears since 1970.
- b. All mortalities within the Park may not have been reported to all interested parties. This is the substance of the allegation by H.V. Reynolds on page 58, an allegation which the NPS has neither discussed nor explained.
- 89 8. The management programs proposed by the NPS are naive in some cases and poorly explained with respect to scientific procedure in all cases. Examples:
- a. Some of the management alternatives are unrealistic (Summary, page 1, Part 4). The grizzly bear cannot be eliminated from the Park, as suggested in Alternative B, without also eliminating it from the ecosystem. There is no scientific evidence that a grizzly bear population can be increased by artificial methods as suggested in Alternative D. The most obvious alternative, to alter "on-going" management in order to curb the population decline is not considered in the NPS statement.
- 90 b. Of major concern is the question of control actions as outlined beginning on page 4, Part 3. To where will bears be transported? Will the bears be assured of arrival at their destination?

RESPONSES

87 See answer 29. Only ear streamers were removed, not ear tags. During 1980, for example about 20 bears had radio collars.

88 This passage has been deleted and the section rewritten. See pages 41-44.

89 See answer 50.

COMMENTS

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without physical impairments? How often will individual bears be transported before they are judged "problems" and liquidated? What is a free-ranging bear as compared to bears that before 1970 utilized garbage as well as natural foods, but moved throughout the entire 5,000,000 acre ecosystem? What specifically is the current distribution of bears throughout the Park during the visitor season?

c. How will animals be censused, population parameters obtained, or seasonal and annual distribution and movement patterns recorded without reliable identification, as suggested on page 6, Part 4, a and b? If, as demonstrated by Craighead

et al. (1974) and substantiated by Cowan (1974), two-thirds of the total ecosystem population visited the open pit dumps before closure, then to establish a purely "free-roaming" population may have, and apparently has, required that most of the truly free-roaming bears be eliminated from the population.

d. At the top of page 31, the programs for management of elk and bison are said to be based on nature being neither good nor evil. This platitude, however, does not prevent the range from being severely depleted due to overgrazing. Generally, ungulates die of "malnutrition" following serious range depletion or a combination of lack of food and severe winter conditions.

e. The fifth paragraph on page 5 states the NPS intention of managing the black bear according to the same program devised

RESPONSES

90 The section of the Yellowstone Bear Management policy has been revised to be consistent with the Guidelines. We believe this policy will alleviate the concerns about the proper transport and releasing of bears. See pages 5-7.

91 Bear research and monitoring will be done according to the Guidelines. See page 8. Also see answer 8.

92 A definitive work on elk population dynamics of the Northern Yellowstone Elk herd is in manuscript form and will be published soon by Dr. Douglas Houston of Olympic National Park.

COMMENTS

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for the grizzly bear "...because of similarity in behavior [sic] traits and associated problems." While there is some "similarity" between the species, the black bear is a separate and unique entity for which control death statistics, population assessments (scientifically valid), distributions and all other pertinent parameters must be assessed. An entirely separate and specific EIS should be prepared regarding the status of the black bear in Yellowstone National Park and adjoining areas.

9. The final sentence on page 24 attributes a grizzly bear population estimate for the Shoshone-Teton National Forest of 100-150 to Mr. Larry Roop, biologist with the Wyoming Game & Fish Department. Mr. Roop (pers. comm. to F.C. Craighead) claims that he made no such statement to the NPS and no such estimate of grizzly bear numbers. This raises serious questions as to the credibility of other NPS statements that are supposedly derived from personal communiqués.

10. Page 9 holds reference to an official position document regarding "threatened" status of the grizzly bear in preparation by the U.S. Fish and Wildlife Service. It is stated to be unavailable "at this time". There are strong indications that the position paper was in circulation at the time the NPS report was being prepared and at least before its release on 18 September 1974. In any case, the position paper is now available and calls for the grizzly bear to be classified as a "threatened" species in the Yellowstone Ecosystem (based in large part, incidentally, on the identical NAS

RESPONSES

93 The Yellowstone bear management policy (incorporated in the Guidelines) is directed towards regulating human activities and preventing bears from access to garbage and other food introduced by man. Breaking bears' dependence on man has permitted both black and grizzly bears to carry out their individual lifestyles.

94 See answer 81. The reference to Mr. Roop has been deleted.

95 The "threatened" status of the species is now recognized.

COMMENTS

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report that was the bases for the NPS EIS). A re-evaluation of the NPS policies regarding the grizzly bear are definitely called for in view of this status evaluation by the U.S. Fish and Wildlife Service.

The primary concern of the National Park Service is naturally the maintenance and administration of the National Park system. The NPS EIS actually makes this priority clear, but fails to deal with the problem in question, that of a declining grizzly bear population. In several instances, the National Park Service disclaims any responsibility for the grizzly bear in the total Ecosystem (e.g., the bottom of page 61 and top of page 62), preferring "to continue to implement an on-going grizzly bear management program initiated in the 1960's". The actual amount of information relating directly to the grizzly bear that has been accumulated by the National Park Service in the course of this program was stated by the NAS committee on the Yellowstone Grizzlies to be "inadequate to provide the data essential for devising sound management policies..." (Cowan, 1974). It is thus assumed that the primary bases for the decision to perpetuate the management policies of the past were research data accumulated by Dr. John J. Craighead and his colleagues, and subsequently interpreted by the Craighead team (see "literature cited" of NPS EIS for reference to the 12 separate publications) and independently by a special investigatory committee of the National Academy of Sciences (Cowan, 1974). It is interesting to note that virtually all references to the research results of the Craighead team are not direct ones, but are contained within the lengthy quotations extracted from the NAS report (Cowan, 1974). This is particularly true regarding data which contravenes positions taken by the NPS through the sundry reports of G.F. Cole

96

RESPONSES

96 Since the proposed action of continuing the present management program is consistent with the Guidelines and with the draft Grizzly Bear Recovery Plan, we believe these concerns have been adequately addressed. See answers 41, 65, 72, 74, 75, 80, and 83.

COMMENTS

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(1971a, 1971b, 1972, 1973, 1974). It thus becomes obvious that the National Park Service, by incorporating much of the NAS report as their own EIS, was obligated to accept the conclusions of the NAS report. It is indeed strange that apparent acceptance of the body of the NAS report by the National Park Service was not accompanied by a similar acceptance of the final conclusions from the report. Nowhere are the NAS conclusions listed, although a few have been inconspicuously incorporated, piecemeal, into the body of the text. By failing to report verbatim the NAS conclusions, the NPS has made it impossible for reviewers and critics to compare the two sets of conclusions (NAS vs. NPS), developed from the same data and from virtually the same analysis, without closely scrutinizing and cross-referencing both reports. The tendency could be for reviewers to accept the NPS evaluation in toto.

96 The NPS has erroneously concluded that the NAS report has upheld its management policies, a very basic error. The NAS report, while differing slightly in terms of numerical values from those arrived at by the Craighead team, clearly agreed with the population assessment of the team. While Cole (1973, 1974) estimated a minimum population of 350 grizzly bears for the Ecosystem in 1973 (paragraph 3, page 19) using techniques and data discredited by the NAS committee (2nd paragraph, page 24 and 3rd paragraph, page 19), the Craighead team calculated a population of 136 bears using advanced computer analytical techniques to assess 15 years of data from marked animals (Craighead et al., 1974). The NAS report (Cowan, 1974) stated that "if there were no other changes in the population parameters, then the population that we have estimated to be 234 or greater could have been as low as 158 by 1973" (final paragraph, page 42). The NPS report stated in an interpretation of the NAS report that "there is no convincing evidence that this

RESPONSES

COMMENTS

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population of grizzly bears is in [immediate] danger of extinction" (the word "immediate" is bracketed because it appeared in the actual NAS statement, but was omitted from the statement on page 72 of the NPS report). Precisely what "immediate" means must be established. The grizzly bear ecosystem population has declined by 45 percent over the past seven years (Craighead *et al.*, 1974). This magnitude of decline was generally recognized by the NAS committee and suggests that "immediate" must be limited to a period of less than two decades if current trends are not reversed by a change in NPS management procedures. The NAS committee obviously believed that, unless man-caused mortalities were held to 10 or fewer per year (average for the past four years has been 36) and unless the recruitment rate improved to compensate for past mortalities, the grizzly bear population in the Yellowstone Ecosystem would be threatened. The mortality for 1974 has already surpassed the suggested limit of 10 (see Appendix). Current work by Knight (1974), though possibly invalid due to techniques that precluded differentiation of individual bears, suggests that the average litter size was lower in 1973 than the 2.2 reported by Craighead and Craighead (1967) and Craighead *et al.*, (1974), or the 1.9 reported by Cole (1973). Therefore, there is no reason to believe that the grizzly bear population is rebounding to former levels. Indeed, its integrity quite probably is suffering further deterioration from the "on-going" NPS management program under the impact of continuing pressures inside and outside the Park. Nonetheless, the major administrative action offered in the NPS EIS is: "The National Park Service proposes to continue to implement an on-going grizzly bear management program the purpose of which is to perpetuate a wild, free-ranging grizzly bear population in Yellowstone National Park

RESPONSES

COMMENTS

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and minimize conflicts between humans in the Park and grizzly bears by reducing man-generated food sources and by regulating visitor distribution in the Park". The NPS purpose is admirable and has never been contested, but the methods for accomplishing the purpose have been controversial. Clearly, the NPS, in spite of the conclusions and warnings of the NAS report, the results of the Craighead *et al.* analysis, the position document of the Fish and Wildlife Service and its own current death and reproductive rate statistics (not included in the EIS but which show a progressively deteriorating situation) has opted to recommend management as usual—management which has been seriously questioned by a NAS-NRC committee.

John Craighead
John J. Craighead, Leader
Montana Coop Wildlife Research Unit

RESPONSES

COMMENTS

The Fund for Animals

1765 P STREET N.W.
WASHINGTON D.C. 20036

TELEPHONE
(202) 234-4002

LEWIS REGENSTEIN
Executive Vice-President

November 29, 1974

L76/7

Mr. Lynn H. Thompson
Regional Director
Rocky Mountain Region
National Park Service
655 Parfet Street, P.O. Box 25287
Denver, Colorado 80225

Dear Mr. Thompson:

Thank you for your letter of 10 October, 1974 and the attached study.

104
97 It is the opinion of the Fund for Animals that the draft environmental impact statement (DEIS) for Yellowstone National Park's grizzly bear management program, besides being five years late in preparation, is not a valid assessment of the actual situation.

Space does not permit a detailed, point-by-point rebuttal of the DEIS; but it should be stressed that this document is based on "data", compiled mainly by Yellowstone biologist Glen Cole, which has been shown to be invalid.

Since the DEIS relies heavily on the recent Report of the Committees on the Yellowstone Grizzlies, compiled by the National Academy of Sciences (NAS), the following excerpts from the NAS report should be kept in mind:

98 Estimates of bear numbers for 1971 to 1973 (Cole, 1973, 1974) are based on hypothetical calculations and there are no data to verify them. (page 15, para. 2)

99 During the period 1968-73, the removal of grizzly bears from the Yellowstone ecosystem exceed that of the 1959-67 period by 76 animals. Despite possible compensatory response in survival of young, it is most probable that the grizzly population was reduced substantially during this period of readjustment to exclusively wild feeding. (page 37, Conclusion 12)

RESPONSES

97 See answer 77.

98 See answers 6 and 64.

99 See answer 64.

COMMENTS

Mr. Lynn H. Thompson
Page Two

November 29, 1974

100 Yellowstone National Park authorities should continue their efforts to eliminate the need to destroy bears as hazards to humans. Managers of adjoining public and private lands are urged to intensify their efforts in this direction. (page 40, recommendation 4)

101 The research program carried out by the National Park Service administration since 1970 has been inadequate to provide the data essential for devising sound management policies for the grizzly bears of the Yellowstone ecosystems (page 38, Conclusion 17)

102 . . . the present inter-agency research approach (should) be re-evaluated; its close ties to management supervision and management authority impose severe constraints on its effectiveness. (page 42, recommendation 2)

105 There are many more statements from the NAS study indicating the invalidity of the NPS position, but I believe the above will suffice to make the point that there was no valid data available to support NPS management decisions.

In addition, the NAS report states that:

The largest single source of information has been the long-term study carried out by John T. Craighead and Frank C. Craighead, Jr., and their colleagues, which has been reported in a series of publications (See references) and three substantial progress reports that received limited distribution. (page 5, para. 3)

The Fund for Animals feels that the past warning given by the Craigheads (which follows) is more representative of the actual situation than is the DEIS:

The present NPS management program, if continued, will very probably exterminate, or nearly exterminate, the Yellowstone grizzly population in about 20 to 25 years.

It is obvious that the DEIS represents a continuing attempt to cover-up what has become a tragic scandal. This

RESPONSES

100 See answer 1.

101 See answer 8.

102 See answer 8.

COMMENTS

Mr. Lynn H. Thompson
Page Three

November 29, 1974

103 cover-up includes the fabrication of data and the falsifying of records, which has been attested to by at least one former Park Service official involved in the Yellowstone grizzly bear extermination program. These facts and countless others available to the NPS have been systematically excluded from the DEIS. It is demonstrably biased and inaccurate, and represents only the views of those with a vested interest in suppressing the true facts of this matter.

We are convinced that the DEIS, as presently written, would not stand up in court if used as a basis for continuing the "management" program.

Thank you for considering our views.

Sincerely yours,

Lewis Regenstein
Lewis Regenstein

LR/dsh

RESPONSES

103 See answer 63.

COMMENTS



IDAHO CHAPTER

THE WILDLIFE SOCIETY

502 Michael St.
Boise, Idaho 83705
November 29, 1974

NATIONAL HEADQUARTERS
SUITE 5176
3900 WISCONSIN AVE. N.W.
WASHINGTON, D.C. 20016

Mr. Lynn H. Thompson
Regional Director
Rocky Mountain Region
National Park Service
365 Hartford Street
Denver, Colorado 80225

Dear Mr. Thompson:

We appreciate your commitment to review the draft environmental state statement to Idaho's wilderness with your letter of October 9, 1974. Mr. Weiners suggested that I contact you for the Idaho Chapter of The Wildlife Society.

The draft state statement is largely forthright, and we are in general concurrence with its content. We applaud and encourage cooperation and coordination of effort in broadscale research in the Yellowstone ecosystem in the interests of perpetuation of free-ranging grizzly bears and other wildlife.

A separate sheet is enclosed concerning minor errors and/or suggested changes in the draft.

Thank you for forwarding a copy of the draft statement. We hope our comments will be helpful.

Sincerely,

Levi L. Mohler
Levi L. Mohler
Member, Idaho Chapter
The Wildlife Society

Enclosure

cc: William E. Weiners

RESPONSES

COMMENTS



NATIONAL HEADQUARTERS
SUITE 5176
3900 WISCONSIN AVE. N.W.
WASHINGTON, D.C. 20016

IDAHO CHAPTER THE WILDLIFE SOCIETY

Notes (to accompany letter dated November 20, 1974)

Errors noted or change suggested

line 2. 4 re ord
or
line 2. 4 re ord

104

2. d. 4 re ord
1st sentence
under 3. 4 clarity
3rd line 7 spelling
of 1. 28
1st line 31
line 14 54 change table 3 to 9
last line, 50 spelling
3rd paragraph 32 spelling
line 9 32 spelling
line 12 32
line 6 37 presentations

105

Change 2. 3. 13
Re table 2 on page 53: The table has been changed.
The table has been re-phrased so the footnotes clarified. The
ratios as given do not agree with the heading.

106

Re page 74: Suggest reword the last sentence
under VIII. A. Impacts on page 74: re emphasis.
The sentence is not clear as given.

LLK

RESPONSES

104 Corrections have been made or in some instances the questionable wording has been rewritten.

105 The table has been revised. See page 50.

106 See answer 50.

COMMENTS

STATE OF ALASKA DEPARTMENT OF FISH AND GAME

L7/T

OFFICE OF THE COMMISSIONER

WILLIAM L. EMM, GOVERNOR
Jay S. Hammond, Governor

STATE OF ALASKA
JANUARY 1975

December 2, 1974

Lynn H. Thompson
Regional Director
Rocky Mountain Region
P.O. Box 25287
Denver, Colorado 80225

Dear Mr. Thompson:

RE: L7617 (RMR)CS

I greatly appreciate having the opportunity to review the Yellowstone Grizzly Management Program EIS. It appears a forward step in the management of this controversial but significant animal.

As I recall past meetings on the grizzly bear in the northwestern United States, the present position is a reversal of previous Park Service attitudes; formerly human safety was considered of paramount importance and bears would have to give way. I'm curious about this reversal and wonder if it is a practical approach. On the other hand the proposal that bears be considered an integral part of the ecosystem and that human uses be restricted to accommodate the bears certainly is progressive and one that I applaud.

107

Portions of the EIS appear to be an advocacy paper rather than an objective appraisal of the facts such as they are. In my opinion considerable space was devoted to discrediting the research done by the Craigheads, especially where they disagree with the Park Service. Some reconciliation of the conflicting viewpoints must be attempted and if reconciliation is not possible then the two viewpoints should be presented objectively without drawing conclusions, at least in the EIS.

108

The plan is incomplete in several areas, particularly on future direction. More emphasis should be directed toward research programs to be conducted in and out of the Park if the prime concern is for the bear population. The research coverage on page 6 is fairly complete, however, it might be considered lip service if not implemented. An example of my concern is illustrated on page 88 in the first paragraph.

109

It might be helpful to have cooperative research and management agreements between the Park Service and the various associated agencies as appendices to the EIS. Research should be cooperative within and outside the Park boundary. In essence then, this is not a viable plan because it does not include the entire grizzly bear range.

RESPONSES

107 See answer 96.

108 See answers 8 and 72.

109 See answers 1 and 72.

COMMENTS

110

I, as a reviewer, would like to see complete documentation on research and management activities to be conducted, including what, where, how much and by whom. There is concern that the National Park Service will disregard the proposal, by the National Science Advisory Committee, that the research be conducted by independent institutes. It is conceivable that they would go their own research "direction" on their own and completely ignore an integrated approach by the Interagency Grizzly Bear Study Team (page 7).

Again, aside from the brief comments that I've made, the EIS does represent one step in the long struggle to recognize the need for management of this important species.

Sincerely,

R.A. Rauch
R.A. Rauch
Deputy Director
Division of Game

RESPONSES

110 See answer 8.

COMMENTS

friends of animals, inc.

11 West 60th Street, New York, N.Y. 10023 Circle 7-8120

December 2, 1974

L7617

Mr. Lynn H. Thompson, Regional Director
Rocky Mountain Region
National Park Service
655 Parfet Street
Denver, Colorado 80225

Dear Mr. Thompson,

Re: L7617 (RMR) CS

In response to your request for our comments on the draft environmental statement pertaining to grizzly bears in Yellowstone Park, may we quite simply subscribe to the critique made by the Research Unit of the Montana Cooperative Wildlife, University of Montana, Missoula.

111

Our 60,000 members continue to be appalled at the facility with which the USDI caters to the demands of the "sports-hunters" ignoring the rights in the animals held by more than 200 million non-hunters.

Sincerely yours,

Alice Harrington
President

RESPONSES

111 Grizzly bears have been determined to be threatened and not subject to hunting in the Yellowstone area.

COMMENTS



STATE OF IDAHO

DIVISION OF BUDGET, POLICY PLANNING AND COORDINATION
BOISE, IDAHO 83720

H. W. TURNER
ADMINISTRATOR

CECIL D. ANDRUS
GOVERNOR

December 2, 1974

Mr. Lynn H. Thompson
Regional Director
Rocky Mountain Region
U. S. D. I.
National Park Service
655 Parfet Street
P. O. Box 25287
Denver, Colorado 80225

Dear Mr. Thompson:

The Idaho State Clearinghouse has reviewed the draft Environmental Statement, "Grizzly Bear Management Program", and forwarded it for comment to the following agencies:

Idaho Fish and Game Department
Idaho Department of Health and Welfare, Environmental Services

The Idaho Fish and Game Department has already submitted its comments and Environmental Services had no comments concerning the proposal.

The State Clearinghouse makes the following general comments:

- 112 1. Much of the text concerning population of the Grizzly was confusing. However, we realize that the data available is far from straightforward.
- 113 2. Part four of your proposal, "continue bear research and monitoring", appears to be the single-most important part of the program. Much of the controversy concerning the Grizzly centers on data. Research and monitoring are listed as part of your management proposal and yet are not really discussed in the body of the statement. Shouldn't the alternatives to the proposed action include "less research", "more research", or the "same level of research"? What would take place should a drastic decline in Grizzly populations be documented by this monitoring effort?
- 114 3. Several pages were missing from our copy of the draft and several references to tables were incorrect.

RESPONSES

112 See answer 64.

113 See answers 8 and 9.

114 Corrections have been made.

COMMENTS

Mr. Lynn Thompson
December 2, 1974
Page two

- 115 4. Your consultation with other governmental bodies outside the Park cannot be overemphasized. The impact of state and local decisions (particularly land-use) will have increasing effect on the Grizzly's niche in the Yellowstone ecosystem in the future.

The State Clearinghouse appreciates this opportunity to review and comment. We encourage you to use us to coordinate future reviews. If you desire specific information on the activities of Idaho State and local governmental agencies that may affect your programs and/or planning efforts, please don't hesitate to contact us.

Very truly,

Ken Stolz

Ken Stolz,
State Clearinghouse

KS/lf

RESPONSES

115 See answers 1 and 72.

116 This section has been revised. See page 11.

117 This section has been revised. See page 11.

118 This section has been revised. See page 11.

COMMENTS

STATE OF MONTANA

DEPARTMENT OF FISH AND GAME

Helena, Montana 59601
December 2, 1974

Mr. Lynn H. Thompson, Regional Director
Rocky Mountain Region
National Park Service
655 Parfet Street, P.O. Box 25287
Denver, Colorado 80225

Dear Mr. Thompson:

As requested, we have reviewed the Department of the Interior's "Proposed Grizzly Bear Management Program." We have also seen Idaho's response to the statement and will try not to repeat corrections they have offered.

Item 4 on page 1 discusses "alternatives considered." None of the five as individually listed will address the objectives, and we believe a combination of "B" and "E" will be necessary.

On page 1 the report states Yellowstone Park will continue grizzly management initiated in the 60's to perpetuate wild and free-ranging grizzlies in the ecosystem and to minimize conflicts between humans in the park and grizzly bears. With the park considering that they must perpetuate grizzlies in the park and in Wyoming, Montana and Idaho, they must also recognize that conflicts with humans are thereby not restricted only to the park, but to the "ecosystem" in general.

Page 4 discusses the "control of problem bears." Can we now expect the present "policies" that prevail for grizzly bears to be reevaluated and redeveloped to meet current and future needs to determine the optimum grizzly density and distribution, not only in the park but in adjacent states as well?

The national attention of pressure groups, multiple land jurisdiction and the several agencies involved with the Yellowstone grizzly warrants the consideration of a management plan that will determine management of the grizzly population in the park and surrounding areas. The policy of waiting and expecting the fringe areas of Montana, Wyoming and Idaho to assume the burden of managing by hunting the marauders and nuisance bears from a grizzly population emanating within the park is clearly outdated.

The management program of trapping will probably increase during these next 3-4 years due to the "no hunting" harvest of grizzlies in Montana and Wyoming during 1975 and 1976. It is expected that grizzly bear sightings and complaints will increase in adjacent states.

RESPONSES

116 See answers 54, 59, and 76.

117 See answer 1.

118 This section is rewritten to be consistent with the Guidelines.

119 See answer 1.

COMMENTS

Mr. Lynn H. Thompson

-2-

December 2, 1974

Park policies should be revised to permit and perhaps require that any grizzly captured and released within the park have a radio collar. The best knowledge available to date indicates there is no other method than the radios that can provide the intimate information necessary to determine and evaluate the seasonal and annual movements of the grizzly.

On page 61 it is stated, "Habituation of bears to the natural environment has been largely responsible for the steady decrease in the incidence of control actions." It is much more likely that removal of problem bears, causing a temporary decline in the population, is the primary reason for fewer control actions than "habituation of bears to natural environments." Problem bears were removed, and a lower population may be the cause of fewer control actions.

On page 63 the statement, "Reduced dependence on cultural sources of food may be expected to have somewhat similar effects on black bears as on grizzly bears, although differences in behavior and habitat requirements will unquestionably be associated with differences in response," is made. This is speculation. We don't know that black bears and grizzlies react the same way to similar factors, and it's possible that increased use of back country areas by grizzlies, perhaps with an accompanying increase in the grizzly population, may in fact create competition with black bears to their detriment.

On page 64 the report states, "If man-induced mortality continues to decline (there were only 17 documented grizzly bear kills in the ecosystem in 1973), and if the dispersed population illustrates an increased survivorship of young, then the grizzly bear population of the Yellowstone ecosystem should stabilize at a larger size than presently exists." An increased population of grizzlies and a saturated habitat may result in increased dispersal of grizzlies leading eventually to a greater potential for man/bear interactions, particularly if back country human use continues to increase.

On page 65 the statement, "Although believed by some, there are no data to support the contention that the higher sanitation standards (i.e., denial of man's food) drives the grizzly bear outside the park seeking a food source replacement," is made. The increase outside the park that we have noted the last 2 or 3 years may in fact be a dispersal from the park because of dump closures - nobody knows this. It is possible that the grizzly bear population in the Yellowstone ecosystem may increase while the resident population within Yellowstone Park may stay at a lower level.

Section C on pages 65 and 66 discusses "impact on people." We believe there is a very significant failure to address the report to a segment of people affected by this program - namely, hunters in Wyoming, Montana and Idaho. The report has not mentioned the impact on hunters and this should be addressed. In particular, it should be mentioned that the Yellowstone grizzly controversy has stimulated a strong antihunting reaction to all grizzly populations in the surrounding states.

On page 70, the 4th paragraph discusses adjustments to relocation of grizzly bears. We don't know the effects of transplanting bears in areas which already possess

RESPONSES

120 See answer 2.

121 This comment may be correct in referring to bear populations prior to 1973. However, the statement on page 47 that "from 1973 through 1980 only seven grizzlies have been removed from the population in park management operations (vs. 20 bears in 1970)" seems to remove support from the comment.

122 See answer 93.

123 This section has been rewritten. See pages 47-49.

124 This section has been rewritten. See page 51.

125 Hunting is not an alternative which can be considered in the control or management of grizzlies in Yellowstone National Park. A number of laws prohibit its use. However, the game management agencies in the surrounding States are free to use this method within the limits of the Endangered Species Act limitations placed on the threatened species such as the grizzly. Wyoming Game and Fish has proposed such a plan to the State's legislature (1978).

126 The current program shows very little need for transplanting bears. In 1980, for example, only 3 bears were transplanted. Of these, only one was a problem bear.

COMMENTS

Mr. Lynn H. Thompson

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December 2, 1974

126 resident, native bears, but if what is true with certain other animal species applies, survival of transplanted bears may be very low, while at the same time depressing the native population so that the net effect of transplanting may in fact be negative.

127 On pages 70 and 71 in general, the report assumes that with the new program people will see a bear in its natural ecosystem and they will like it. This is a value judgment that is certainly questionable. Even after visitors understand the situation they may be happier with and want roadside bears.

128 On page 74 it is stated, "Control actions would become more frequent and the grizzly bear population would probably decline unless natural compensatory mechanisms were sufficient to offset increased man-caused mortality." It seems contradictory to say the population would decline with artificial food sources when a few years ago, open dumps in the park apparently supported a higher grizzly population than at present. This is contrary to what little historical evidence we have.

Page 75 discusses "impacts." Items j and k should be included on page 76, as follows:

129 Item j. One impact of removing grizzlies would be to remove a source of pleasure for the public.

Item k. Eliminating grizzlies in the park would possibly reduce grizzly populations in adjacent states, thus lowering hunting and other recreational opportunities.

130 On page 81 the report states, "Food, however, is not a limiting factor for the grizzly bear population and it is doubtful that a supplemental feeding program would modify the size of the population." This statement needs presentation of supporting evidence. Food could very well be a limiting factor at critical times - for example, immediately after emergence from hibernation in the spring.

131 On page 83 in discussing impacts we feel the subject of adverse public reaction to a problem - that is, to hunting within the confines of a national park - should be discussed. Before the park urges the states to "determine ...," the park should determine in advance the density, population components, and number of grizzlies in the park that should be removed to maintain the optimum population and eliminate management problems.

132 On pages 83, 84 and 85, a number of controversial topics are covered. Many actions are dismissed as being outside the Interior's direct authority; however, these things are not action programs. They simply encourage action programs by other agencies, but they should be a very direct part of the program. They should not be evaded by saying, "this is not within our authority."

RESPONSES

127 This is a valid comment. See the discussion on pages 41-44. Roadside feeding is not good for bears, and bears begging on the roadside alters a visitor's perception of bears.

128 This section has been rewritten. See page 56.

129 See answer 50.

130 We concur. See pages 47-49.

131 See answers 59 and 125.

132 See answer 59 and 72.

COMMENTS

Mr. Lynn H. Thompson

-4-

December 2, 1974

In conclusion we would like to offer the following general comments and emphasis:

133 (1) We would like the report to reemphasize that both the park and the Academy of Science reports made the statement that hunting is a legitimate use.

134 (2) It is critical that the Forest Service be either required or encouraged to eliminate sheep grazing where grizzly conflicts are known to occur. While it may not increase the grizzly population, it should allow for a greater harvestable surplus for hunters outside the park. The killing of grizzlies by sheepherders should be directly approached.

135 (3) If elimination of nuisance bear control programs applies to the Yellowstone ecosystem, and hunting should be substituted for nuisance bear programs, it does not seem reasonable or consistent that the states have been requested to stop hunting in their portions of the Yellowstone ecosystem.

136 (4) The states, Interior and the Department of Agriculture must address themselves to conflicting land uses, and attempt to minimize exploitation such as logging, mining, subdividing, recreational developments and other similar activities.

We thank you for the opportunity to review this report. If we have additional comments we will offer them when they are prepared.

Sincerely,

Wesley R. Woodgerd

Wesley R. Woodgerd
State Fish and Game Director

WRW/JAP/sd

RESPONSES

133 See answer 125.

134 See answer 7.

135 See answer 125.

136 See answers 1 and 72.

COMMENTS



L7617

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

Washington, D. C. 20250



8420

DEC 3 1974

Mr. Lynn H. Thompson, Regional Director
Rocky Mountain Region
National Park Service, USDI
P. O. Box 25287
Denver, Colorado 80225

Dear Mr. Thompson:

We have reviewed the Draft Environmental Statement on the Grizzly Bear Management Program, Yellowstone National Park.

Our comments on this statement are enclosed. Additional concerns, not significant enough to warrant consideration in the Environmental Statement, will be discussed with the Park Superintendent by the Shoshone National Forest Supervisor.

We appreciate the opportunity to review and comment on this environmental statement.

Sincerely,

R. Max Peterson
for R. MAX PETERSON
Deputy Chief

Enclosure

6200-116 (4/74)

RESPONSES

COMMENTS

FOREST SERVICE COMMENTS

Re: PROPOSED GRIZZLY BEAR MANAGEMENT
PROGRAM, YELLOWSTONE NATIONAL PARK

137 Page 1, paragraph 3, 5th line. It will be impossible to "eliminate" opportunities to establish and/or maintain unnatural relationships with man. The objective should be to reduce such relationships.

138 The three-part objective, third paragraph, page 1, is a commendable management objective. Unfortunately, the proposed management and/or alternatives do not reflect a positive direction to attain this objective.

139 The four basic elements of the on-going grizzly bear management program place the grizzly bear in a compromising position in each element. Is there an opportunity to delineate grizzly bear habitat where the bear is the principal user?

140 Page 5, f. We feel that the policy of not tagging or marking grizzlies that are trapped in conventional bear traps should be reconsidered. This offers an opportunity to mark additional bears without very much additional effort. Such tagging and telemetry could add greatly to our knowledge of bear movements, life history, and populations.

141 In several instances the statement refers to maintaining and retention of the "natural ecosystems" and "natural condition" in Yellowstone National Park with the grizzly bear as an integral part. The natural ecosystems and conditions have been subject to continuing change and alteration ever since March 1, 1872. Section II, A, page 12, provides a resume' of some of the changes and alterations that have occurred to the natural ecosystem and conditions of the Park. The number of residences, inns, lodges, cabins, trailers, and associated improvements can accommodate 4,175 resident personnel as well as approximately 23,000 visitors. Back country facilities can accommodate approximately 22,000 additional visitors.

142 Table 5 on page 47 provides the number of annual visitors to the Park for the period of 1895 to 1973. For the past 9 years, the number of visitors has exceeded the two million level. Maintaining and/or retention of the natural ecosystems and conditions appear to be an unattainable goal at this period in time. If the grizzly bear is to thrive under the present circumstances, special concessions and programs are needed to meet the requirements of the grizzly bear.

143 The Environmental Statement should include a recommendation(s) to amend the present on-going grizzly bear management program to provide for a more positive and beneficial management direction for the grizzly bear and its habitat. For example, habitat improvement projects are needed to compensate for the loss of the natural conditions and ecosystems.

RESPONSES

137 This section has been rewritten.

138 See answers 70 and 54, as consistent with the draft Grizzly Bear Recovery Plan.

139 See answer 67.

140 See answer 2.

141 See answer 67.

142 The table has been updated (see page 36), but see answer 67.

143 The RDEIS incorporates the park bear management policy as presented in the approved Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area. The park bear management plan and guidelines are updated and refined annually.

COMMENTS

-2-

The management of grizzly bears in Yellowstone National Park is not a single entity program. Studies and activities involving the grizzly bear in this area during the past 10-plus years clearly show that in addition to the Park, three States and four National Forests are closely associated with this grizzly bear population. For example, the transplanting and relocating of grizzly bears outside of the Park is on National Forest lands. This activity requires close cooperation and coordination between the respective State Fish and Game Department and the National Forest as well as the Park (Item 1, 3, g, page 5). The Environmental Statement fails to recognize this widespread involvement and the coordinated efforts needed to prepare and activate an effective grizzly bear management plan and program.

144

The policy, as stated in Item g, page 5, should be clarified to assure that any release of captured grizzly bears, where release on National Forest lands is contemplated, will be done only in accordance with a mutually coordinated interagency agreement. We further believe that trapping of nonproblem bears will better serve restocking, research, and study purposes than will problem bears, as inferred in Item 3-b, on page 5.

145

There is evidence that a control action in September or October 1974 resulted in a grizzly bear mortality. The statement in the fifth paragraph of Section I, B, 1, page 9, should be changed in the last line to read "control purposes in and surrounding the National Park." This information should be included in Section III, A, 1, fifth paragraph on page 63.

146

The fifth paragraph of Section II, B, page 15, list the cougar and mountain lion as part of the meat-eating animals in the Park. It is suggested that "bobcat" replace the cougar in this listing.

147

We are unaware of persistent reports of grizzly bear in the Wind River Mountains, as mentioned on page 17.

148

In Item II, C, 4, entitled "Population size in the Park and region," the various population estimates and basic methodology are presented. The last paragraph on page 24 refers to the Interagency Grizzly Bear Study Team and the population estimate following the first field season. The survey methodology and techniques should be included with this estimate to provide the proper perspective of this population estimate with the other population data.

149

The Environmental Statement quotes a portion of the National Academy of Sciences report on grizzly bear mortality (Item II, C, 9). On page 42, the next to last paragraph states the mortality for the period of 1970 to 1973 as 53, 48, and 17, respectively. Tables 3, 4, and 8 account for

150

RESPONSES

144 See answers 1 and 8.

145 See answer 2.

146 Monitoring of bear mortalities is being done.

147 Correction made.

148 See reference to the Grizzly Bear Recovery Plan on page 10 of the RDEIS.

149 See answers 8 and 64.

150 See answers 11 and 63.

COMMENTS

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a portion of this 145 grizzly bear mortality, but there is no complete accounting. The sixth paragraph of Section I, B, 1, page 9, contains conflicting mortality figures, too. It would strengthen the Environmental Statement if the final draft clarified and accounted for the mortality figures.

150

The incidence of bear-incurred injuries has declined since 1970 and back-country injuries have always been rare. There is a need to coordinate the Park policy on monitoring and regulating back-country use, as stated on page 53, with Forest Service Wilderness policies on adjoining areas. We do not feel the facts to date justify this degree of user regimentation on the National Forest back-country areas.

151

We are deeply concerned that the assessment of impacts beginning on page 60 does not evaluate the possible effects the program will have on established and probable future patterns of land use outside the Park.

152

On page 62, second paragraph, a reference is made to "Table 7." This should be corrected to read "Table 4" as this table contains the material referred to. The kill records in Table 4 are not of much value unless the percent of total population that was tagged at any one place and time is known. The second paragraph of Section III, C, page 65, would be strengthened if this information were made available.

153

In the Information and Interpretation portion of Item IV, page 67, there is a provision that will provide guided viewing (grizzly bears) at specific sites accompanied by an appropriate Park staff member. This type of mitigation is not favorable to the grizzly bear and could result in bear-man conflict that would have a negative effect on the grizzly bear.

154

Section VIII, E, contains several statements that, to us, appear inaccurate. Item 1 implies that the States are not now regulating hunting of grizzly bears, when, in fact, the State of Idaho has protected grizzlies from sport hunting for many years. This should be corrected.

155

Item 2 adopts the suggestion of the National Academy of Sciences report concerning elimination of sheep grazing within the "ecosystem." The NAS report did not establish any basis for such a recommendation and we have not identified any evidence that an action of such potential impact is warranted.

156

Item 2 also implies some problem associated with vegetation on grazed lands. The lands on the Targhee National Forest adjacent to Yellowstone Park that are being grazed are vegetated with good quality vegetation. If grazing were eliminated completely, and this does not appear to be warranted, there would be very little change in vegetative cover.

157

RESPONSES

151 In addition to the long range bear management plan a yearly plan is used. This plan deals with the particular problems of each region and is designed to insure conformity throughout the park in both the short range objectives and overall goals. Its review and design are a product of research and management input involving most of the park staff and the surrounding resource management agencies plus other interested parties.

152 This section has been rewritten in part. See especially page 48, second paragraph. Also see answer 72.

153 Corrections have been made.

154 Viewing of bears will be on an opportunistic basis.

155 The alternative "Alternative Actions Outside the Direct Authority of the National Park Service" has been eliminated from the RDEIS.

156 See answer 7.

157 See answer 7.

COMMENTS

-4-

- 158 On page 85, the last paragraph of Section VIII, E, 2, is incorrect. Information on the extent of grazing on National Forest lands is available.
- 159 The enhancement and preservation of grizzly bear habitat as well as population should be included in the efforts of the Interagency Grizzly Bear Study Team. Suitable habitat is a major key to the maintenance of a viable grizzly bear population.

RESPONSES

- 158 See answer 155.
- 159 See answer 8.

COMMENTS

DANIEL A. POOLE
President
L. R. JAHN
Vice-President

WILDLIFE MANAGEMENT INSTITUTE

Dedicated to Wildlife Restoration
WIRE BUILDING, WASHINGTON, D. C. 20005 (202) 347-1774

IRA N. GABRIELSON
Board Chairman
HARRY L. HAMPTON, Jr.
Treasurer

December 5, 1974

Rocky Mountain Regional Office
National Park Service
655 Parfet Street
Denver, CO 80226

Dear Sir:

Re: The preliminary draft of an environmental statement
for the Grizzly Bear Management Program, Yellowstone
National Park.

We are concerned about the surprisingly inadequate list of private organizations and citizen groups from which review comments were requested. The names of a number of major national wildlife conservation organizations do not appear on the list. Unlike many of those listed, these organizations have experienced and qualified biological staff.

It is hoped that these other organizations, like this Institute, have learned about the availability of the preliminary statement and have obtained a copy of it. Because of this oversight, broader distribution should be made of the statement and the deadline extended for receipt of comments.

The draft EIS presumes that the park's grizzly bear population may not be continuing to decrease. On page 62, this statement appears "However, at the present time, the population appears to be recovering from the adverse effects of the dump closure and there is no evidence to support the contention that the management action itself has induced, or will continue to induce, a long-term population decline."

The word "appears," contrasts with conclusion No. 17 of the recent NAS report: "The research program carried out by the National Park Service administration since 1970 has been inadequate to provide the data essential for devising sound management policies for the grizzly bears of the Yellowstone ecosystem." By not defining "long-term", the EIS provides no frame of reference by which the attainment of the park's management objectives may be evaluated.

On the subject of compensatory mechanisms, also discussed in the NAS report, the EIS states (page 45): "...our evidence does not suggest that there are compensatory mechanisms adequate to maintain the Yellowstone population under the impact of continued mortality as high as that which occurred in the years 1970-72."

RESPONSES

- 160 Page 61 gives a more comprehensive listing of individuals, organizations and agencies consulted.

- 161 See answer 8.

- 162 The section relating to compensatory mechanisms has been deleted and the section on "Relatively Certain Impacts" of the proposed action has been rewritten. See pages 47-49.



COMMENTS

Page 2
National Park Service
December 5, 1974

In this regard, and suggesting that the mortality level is now less severe, the EIS notes (page 63) "that through July of this year (1974) no grizzly bears have been killed and no control actions taken in the park. If the current level of control actions continues, the impact of artificial removal of grizzly bears from the population on the long-term stability of the population should be negligible."

What was the record of control actions and other on-and-off park mortality from August 1 to the end of the 1974 season? This is important inasmuch as the record of mortality since 1972 covers too brief a period to warrant unqualified reliance. What further information is available about the reproductive record during 1974? How does mortality and reproduction fit with the optimism for population stabilization and recovery in the ecosystem?

Again, quoting from page 63: "If the current level of control actions continues, the impact of artificial removal of grizzly bears from the population on the long-term stability of the population should be negligible." Did the 31 July 1974 level of control actions (presumably zero) continue for the remainder of the 1974 season? If not, then what are the implications re. the presumption of a "should be negligible" effect on the population?

We share, with the NAS committee, the view (page 42) that "The most urgent needs are to obtain reliable data on present population size, trend and distribution; present reproductive rates by age class; present mortality rates by age class; and effects of social behavior on population regulation."

The NAS report sharpened our concerns with respect to the ultimate fate of the grizzly bear in the Yellowstone ecosystem. We find little assurance in the NPS preliminary environmental statement. Substantial question remains about the status and direction of the bear population.

Hence, we are dissatisfied with the emphasis and the scope of the proposed management program that is described in the report on pages 1-11, and more particularly, item 4 (pages 6-8) "Continue bear research and monitoring."

The statement "A vigorous integrated research program will be continued..." is self serving. We question whether the NPS research program to date has been "vigorous" or "integrated" for the grizzly or for any other species. It is well known that funding and manpower have been inadequate throughout the national park system for appropriate study of the natural fauna and flora for which the National Park Service is responsible.

In view of the diverse opinion about the population status and trend of the grizzly in the Yellowstone ecosystem, we believe the EIS should include and discuss an alternative that considers the possibility that the overall population is declining. As things now stand, there is fully as much reason

RESPONSES

163 See answer 64.

164 See answer 8.

165 We don't consider this to be an alternative, however, the Interagency Grizzly Bear Study Team is continuing to study grizzly bear population dynamics.

COMMENTS

Page 3
National Park Service
December 5, 1974

to support this alternative as any other. Its inclusion would help gain support for the broad and active kind of a research program that will yield information vital to the development of a responsive management program.

Sincerely,

Daniel A. Poole

Daniel A. Poole
President

DAP:mkv

RESPONSES

COMMENTS



National Wildlife Federation

1412 16TH ST., N.W., WASHINGTON, D.C. 20036

Phone: 202-483-1550

L7617

December 12, 1974

Lynn H. Thompson
Regional Director
Rocky Mountain Region
National Park Service
655 Parfet Street
P. O. Box 25287
Denver, Colorado 80225

Dear Mr. Thompson:

126 Reference is made to your October 9, 1974 letter request for comments on the draft environmental impact statement (EIS) for the proposed grizzly bear management program, Yellowstone National Park, Wyoming.

166 After reviewing the draft EIS, the National Wildlife Federation has serious reservations about its objectivity and completeness. It seems to us that the statement attempts to justify, without sufficient corroborating documentation, the continuation of essentially the same grizzly bear research program as has been conducted for the past few years in Yellowstone Park by the National Park Service. Since that program has received considerable criticism, including some from the special committee of the National Academy of Sciences (NAS) which prepared a special report on the grizzly bear earlier this year (note, for example, conclusion #17 on page 38 of the NAS Report), we question the wisdom and advisability of continuing the same inadequately funded grizzly bear research effort. In our estimation, that program has been less than "vigorous" or "integrated" as suggested in paragraph 4, page 6 of the EIS. We urge you to work more closely in this regard with the appropriate Federal agencies, state wildlife agencies, and universities drawing upon their expertise, research experience, and management information, especially since the Yellowstone ecosystem embraces considerable acreage outside the boundaries of the Park.

167 Further, the draft EIS is deficient, in our judgment, for failing to consider that the Park's grizzly bear population might be continuing to decline. Since that is a possibility which, at this point in time, cannot be discounted--despite specious language in the EIS to the contrary--the draft EIS should include and discuss fully the ramifications of that alternative.

RESPONSES

166 See answers 8 and 72 as consistent with the draft Grizzly Bear Recovery Plan.

167 See answer 165.

COMMENTS

National Wildlife Federation

Lynn H. Thompson

-2-

December 12, 1974

168 Next, we would emphasize that any grizzly bear management program is going to fall short unless it is solidly based on sound research. In that regard, we fully endorse the views of the NAS committee (see recommendation #3, page 42 of the NAS Report) that "The most urgent (research) needs are to obtain reliable data on present population size, trend, and distribution; present reproductive rates by age class; present mortality rates by age class; and effects of social behavior on population regulation. Of these, the single most critical question is whether bear numbers are now increasing, decreasing, or relatively stable. Investigations since 1970 have not provided satisfactory data on these points." (Underlining added for emphasis.)

169 Last, we note that in the coordination of the draft EIS with private organizations and citizens groups, several which have both professional staff competence and an interest in the management of grizzly bears were overlooked. Consideration should be given to making a wider distribution of the draft EIS and extending the deadline for comments accordingly.

We appreciate this opportunity to express our views and we regret this late submission.

Sincerely yours,

THOMAS L. KIMBALL
Executive Vice President

cc: Director, National Park Service
NWF Staff

RESPONSES

168 See answers 8, 9, 64, and 72.

169 See answer 160.

COMMENTS

W. E. (Bill) Vehnekamp
R. R. 2 Box 3580
Cody, WY 82414

January 1, 1975

Regional Director
Rocky Mountain Regional Office
National Park Service
645 - 655 Parfet Avenue
Denver, CO 80215

Dear Sir:

I have been requested by Mr. Jerry Minger, President of the Wyoming Wildlife Association; to comment on the Proposed Management Program of the GRIZZLY B&F, in Yellowstone National Park.

I am not much of a diplomat, so I am going to say it as I see it.

I have lived around Yellowstone Park for the most of the last 28 years. The greater part of this time I have been either guiding or outfitting.

I think most of the report is a lot of mumble jumble that no one really understands; not even the people who wrote it.

For many years the Park Service spends many thousands of dollars advertising to get people to come to Yellowstone Park, which was money wasted, as people were going to come anyway. Each year the Park has been more than filled during the season and the more people we have there, the more bear incidents you have had and consequently more bear were destroyed.

The reports that come out of Yellowstone Park by the people that have worked up there and have seen what is happening to the bear in no way correlates with what the Park Service tells in their reports.

There have been many more bears; both black and grizzlies, killed in Yellowstone Park, by the bureaucracy that manage the Park than ever has been reported. They tell the public only what they want them to hear.

Several years ago; say 10 to 15 years, there was a good population of bears in the Park, both in the back country and along the public roads but they are not near that many now and probably won't be in the future.

Since 1914, there never has been as many grizzlies killed in the State of Wyoming in one year as there has been in Yellowstone. Between 1914 to 1965, I made a survey for my own benefit and to report to the Wyoming Game & Fish Commission and during that time there was an average of 5 3/4 grizzlies killed per year.

RESPONSES

170 See answers 1, 63, and 72.

COMMENTS

The Wyoming Game & Fish Commission announced that the grizzly bear season was going to be closed after 1967. That year there were 22 grizzlies killed by hunters and two (2) for predator control. I do not believe there would have been 22 killed by sportsman if it had not been announced that the season would be closed in 1968.

The number of grizzlies that has been removed from the Park -- 1970 - 1973, certainly does not concure with the reports of the many people that work in Yellowstone during the summer seasons. If the report was from just one person, I would think he or she could be mistaken but they come from several people. As I said earlier the Park Service only tell you what they want you to hear.

I think if our Wyoming Game Department continues to manage their grizzlies as they are doing now that we can continue to keep the Yellowstone Park with grizzlies, so their rangers will have something to shoot at.

Maybe I sound a little bitter; well, I am. The bureaucracies are blaming the declining grizzly population on to the sportsman which is UNTRUE.

The grizzly bear is a very forward animal and if he is not hunted to a degree, then he will become unafraid of people and then he will give much more trouble than he does now.

The Grizzly Bear Management Plan is sound but I think there should be representatives from Idaho, Montana and Wyoming to work with Cole continuously to find out the facts of what is really happening to the bears in Yellowstone Park. I would also suggest that a no hunting season be declared in the Park for the Rangers.

Thanking you for letting me comment.

Very truly yours,

W. E. (Bill) Vehnekamp
Committee person for Wyoming Wildlife Federation.

cc: Jerry Minger, President
Wyoming Wildlife Federation
P. O. Box 58
Hamilton Dome, Wyoming 82427

RESPONSES

171 See answer 8.

COMMENTS

Lynn H. Thompson, Director,
Rocky Mt. Region, Natl. Park Service
655 Parfet St.
Denver, Col. 80225

Dec. 11, 1974

Grizzly Bear Management

Dear Mr. Thompson;

I have a few belated comments on the draft Environmental Impact Statement for the proposed Grizzly Bear Management Program in Yellowstone National Park, dated September 18, 1974.

I am in complete agreement with the objective of perpetuating a wild, free-ranging grizzly bear population in Yellowstone Park. The EIS seems to be somewhat academic, since the proposal it discusses is pretty much a description of the status quo. The EIS contains some interesting information, and some mention of policies which I think deserve support.

172 One of the items included, about which I have been curious for some time, is the numbers of bears killed and "deported" out of the Park. I have had the impression that the Park Service has not been completely candid with the public on this matter, and of course cannot impress upon you too strongly the necessity of government agencies avoiding this error. I am also glad to see that the Park Service has not killed as many bears recently as it did in 1970.

173 I support your general policy of trying to maintain the integrity of natural ecosystems (page 30); and in particular the idea of letting fires burn and of not interfering in the population cycles of deer and elk. I think that this policy will prove not only beneficial to the grizzly, but also to the whole cycle of natural evolution. In fact, I question why a fire in a remote area of the Park was suppressed this past summer.

174 The grizzly bear is a part of the North American wilderness, most of which we have so thoughtlessly destroyed. It is necessary to preserve remaining wilderness, including the grizzly. The EIS discusses the alternative of eliminating the grizzly from the Park, but I don't think that this is really a reasonable alternative.

175 Depending on which estimate is taken, there are somewhere between 175 and 350 grizzly bears in the whole 5 million acre Yellowstone ecosystem. Considering the low reproductive rate of the animal, this is not a population from which we can afford to lose many individuals in a year. I would like to see the Park Service encourage the Fish & Game Departments of Wyoming and Montana to quit issuing hunting permits for grizzlies. (I understand that Idaho does not now do so?) Also, I am a little concerned about what may be happening to too many bears outside the Park; I am referring to those shot by sheepherders and irresponsible hunters. Do we have any idea what number are being killed this way? Is there anything the Park Service and the Fish & Game Departments of the 3 adjacent states can do to control this?

Thank you for the opportunity to comment.

Sincerely, *Gerald A. Jayne*
Gerald A. Jayne
1568 Lola St.
Idaho Falls, Idaho
83401

cc: Tom Reinecker, Fish & Game Dept., I.B.

RESPONSES

172 See answer 63.

173 The section has been revised. See pages 32-35.

174 See answer 50.

175 See answers 125 and 148. Since the bear is a threatened species, no hunting takes place.

As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration. NPS 834A