

UNITED STATES
DEPARTMENT OF
AGRICULTURE

FOREST SERVICE

APRIL 2006



FOREST PLAN AMENDMENT FOR GRIZZLY BEAR HABITAT CONSERVATION FOR THE GREATER YELLOWSTONE AREA NATIONAL FORESTS

EXECUTIVE SUMMARY OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT

BEAVERHEAD-DEERLODGE NATIONAL FOREST
BRIDGER-TETON NATIONAL FOREST
CARIBOU-TARGHEE NATIONAL FOREST
CUSTER NATIONAL FOREST
GALLATIN NATIONAL FOREST
SHOSHONE NATIONAL FOREST

COUNTIES IN IDAHO

BEAR LAKE, BONNEVILLE, CARIBOU, CLARK, FRANKLIN, FREMONT, MADISON, AND TETON

COUNTIES IN MONTANA

BEAVERHEAD, CARBON, GALLATIN, MADISON, PARK, STILLWATER, AND SWEET GRASS

COUNTIES IN WYOMING

FREMONT, HOT SPRINGS, LINCOLN, PARK, SUBLETTE, AND TETON



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Abstract: The Forest Service proposes to amend six forest plans on six Greater Yellowstone Area national forests (Beaverhead-Deerlodge, Bridger-Teton, Caribou-Targhee, Custer, Gallatin, and Shoshone National Forests) to incorporate the habitat standards and other relevant provisions in the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area. Forest plans proposed to be amended are the 1986 Beaverhead Forest Plan, the 1990 Bridger-Teton National Forest Land and Resource Management Plan, the 1997 Revised Forest Plan—Targhee National Forest, the 1987 Custer National Forest and Grasslands Land and Resource Management Plan, the 1987 Gallatin National Forest Plan, and the 1986 Shoshone National Forest Land and Resource Management Plan. The purpose and need is to ensure conservation of habitat to sustain the recovered grizzly bear population, update the management and monitoring of grizzly bear habitat, provide consistency among Greater Yellowstone Area national forests in managing grizzly bear habitat, and ensure the adequacy of regulatory mechanisms for grizzly bear habitat protection upon delisting as identified in the Grizzly Bear Recovery Plan. Five alternatives and their environmental effects are presented: Alternative 1 is the no action alternative (the IGBC Guidelines and current forest plans would continue to guide management of grizzly bear habitat in the recovery zone or Primary Conservation Area [PCA]); Alternative 2 is the proposed action (habitat standards and other relevant provisions in the Conservation Strategy would guide management of grizzly bear habitat in the PCA); Alternative 3 (more strict standards would guide management of grizzly bear habitat in the PCA); and Alternative 4 (same as Alternative 3 inside the PCA and increases the size of the area beyond the PCA where management direction would favor grizzly bears with more restrictive standards). Alternative 2-Modified was developed between the draft and final environmental impact statements in response to public comments and is the preferred alternative. Alternative 2-Modified adds additional direction and guidance for management of grizzly bear habitat inside and outside the PCA. The selected alternative, which will be described in a Record of Decision, would go into effect when all partner agencies have signed the Conservation Strategy, the Final Rule delisting the Yellowstone grizzly bear population has been published in the Federal Register, and the Record of Decision has been signed for the Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone National Forests. If the grizzly bear is not delisted, existing forest plan direction for grizzly bears would remain in place.

Introduction

This is a summary of the Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests Final Environmental Impact Statement (FEIS).

This proposal has been initiated to incorporate habitat standards and other relevant provisions into the forest plans of the six GYA national forests to ensure conservation of habitat to sustain the recovered grizzly bear population.

This Executive Summary includes a brief description of grizzly bear conservation in the Greater Yellowstone Area (GYA), the purpose and need for action, decision framework, public involvement, description of issues, alternatives considered but eliminated from detailed study, and summary tables of components and effects of the five alternatives considered in detail.

All references and citations used in this Executive Summary are fully described in the FEIS.

The Greater Yellowstone Area

Since the 1990s, the GYA has been acknowledged as an ecosystem that extends beyond the core of Yellowstone National Park. The GYA is approximately 18 million acres, including approximately 13.6 million acres of public lands. These public lands represent about 76 percent of the GYA. The GYA includes portions of six national forests, Yellowstone and Grand Teton National Parks, two national wildlife refuges, state lands, tribal lands, Bureau of Land Management lands, Bureau of Reclamation lands, and private lands.

Public lands are concentrated around the Yellowstone Plateau as the central core. Geographically, the GYA includes the headwaters of the Missouri-Mississippi, Snake-Columbia, and Green-Colorado river systems, the Yellowstone Plateau, and 14 surrounding mountain ranges. Elevations range from 4,288 feet to 12,496 feet and average 8,038 feet.

The six national forests included in this proposal are the Beaverhead-Deerlodge, Bridger-Teton, Caribou-Targhee, Custer, Gallatin, and Shoshone National Forests with a total area of about 13 million acres within proclaimed boundaries. Parts of individual forests are outside the area generally defined as the GYA. The FEIS evaluates the effects of the alternatives on the entire area encompassed by these forests. The Custer National Forest is an exception in that only the Beartooth Ranger District is included in the analysis.

Grizzly Bear Conservation in the Greater Yellowstone Area

In 1975, the U.S. Fish and Wildlife Service (USFWS) listed the grizzly bear as a threatened species in the lower 48 states, placing the species under federal protection under the Endangered Species Act (ESA) of 1973, as amended¹. Since listing, government agencies have worked to improve management coordination and habitat conditions, minimize grizzly bear/human conflicts and bear mortality, and increase public awareness and appreciation for the grizzly bear in the GYA.

Interagency Coordination

In 1975, land management agencies in the GYA initiated an effort to develop consistent management direction for grizzly bears. The first document, Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area, was completed in 1979 (Mealey 1979). The USFWS determined in a Biological Opinion (USDI FWS 1979) that implementation of the Guidelines would promote conservation of the grizzly bear. The Interagency Grizzly Bear Committee (IGBC) was formed in 1983 to coordinate management and research more effectively for recovery of the grizzly bear. The original 1979 Guidelines were modified slightly and the updated version, the Interagency Grizzly Bear Guidelines (Guidelines) (IGBC 1986), was approved by the IGBC in 1986. Following management direction in the Guidelines, lands within the Yellowstone grizzly bear recovery zone

¹ All references in this document to the Endangered Species Act of 1973 (ESA) are to the Endangered Species Act of 1973, as amended.

were mapped and managed according to three different management situations². The recovery zone was defined as the area within which the population and habitat would be monitored to assess achievement of recovery and would be large enough and of sufficient habitat quality to support a recovered grizzly bear population. Beginning in 1979, habitats for grizzly bears inside the recovery zone in the GYA have been managed under direction specified in the Guidelines³; this direction has been instrumental in recovery of the grizzly bear in the GYA.

In 1983, the Yellowstone Ecosystem Subcommittee (YES), a subcommittee of the IGBC, was formed to coordinate efforts specific to the GYA. The YES is comprised of representatives of the Forest Service, National Park Service (NPS), Bureau of Land Management (BLM), USFWS, Wyoming Game and Fish Department, Idaho Department of Fish and Game, Montana Fish, Wildlife and Parks, county governments, and tribes. The Interagency Grizzly Bear Study Team (IGBST), created in 1973, provides scientific information from monitoring and other research that is used by the YES and the IGBC for adapting management and sustaining the recovered Yellowstone grizzly bear population. Scientific protocols have been developed to monitor the grizzly bear population and important habitat parameters.

Recovery Plan

The 1982 and 1993 Grizzly Bear Recovery Plans⁴ were developed to identify actions necessary for the conservation and recovery of the grizzly bear. The 1993 Grizzly Bear Recovery Plan (Recovery Plan) required the documentation of the habitat necessary to support a recovered population and referenced the existing grizzly bear recovery zone, divided into 18 bear management units (BMUs), to provide a basis for ensuring that grizzly bears and their habitats were well distributed across the recovery zone.

The Recovery Plan defined a recovered grizzly bear population as one that could sustain a defined level of mortality and is well distributed throughout the recovery zone. The Recovery Plan outlined a monitoring scheme that employed three demographic targets to measure and monitor recovery of the Yellowstone grizzly bear population.

- Maintain a minimum of 15 unduplicated females with cubs-of-the-year (COY) over a six-year average both inside the recovery zone and within a 10-mile area immediately surrounding the recovery zone.
- Sixteen of 18 BMUs within the recovery zone must be occupied by females with young, including COY, yearlings, or two-year olds, as confirmed by the IGBST from a six-year sum of observations. No two adjacent BMUs may be unoccupied during the same six-year period. This is equivalent to verified evidence of at least one female grizzly bear with young at least once in each BMU over a six-year period.
- The running six-year average for total known, human-caused mortality as confirmed by the IGBST is not to exceed 4 percent of the minimum population estimate. The running six-year average annual known, human-caused female grizzly bear mortality is not to exceed 30 percent of the 4 percent total mortality limit over the most recent three-year period. These mortality limits cannot be exceeded in any two consecutive years.

² Management Situation 1: Grizzly habitat maintenance and improvement, and grizzly bear/human conflict minimization receive the highest management priority.

Management Situation 2: The grizzly bear is an important, but not the primary use of the area.

Management Situation 3: Grizzly habitat maintenance and improvement are not management considerations. For a complete description of the three management situations, see appendix B.

³ Most forests incorporated the 1986 Guidelines into their forest plans. Forest plans for the Custer and Beaverhead National Forests reference the 1979 Guidelines. The two Guidelines documents are very similar and all future references in the FEIS refer to the 1986 Guidelines, unless otherwise stated.

⁴ The 1993 Recovery Plan is a revised and updated version of the original Recovery Plan, published in 1982. Throughout this document, any reference to the Recovery Plan is to the 1993 version, unless otherwise stated.

The Recovery Plan did not designate critical habitat or specify recovery targets for habitat. Habitat management for grizzly bears in the GYA has been implemented according to the Guidelines. The USFWS has developed habitat criteria that will be added to the Recovery Plan before delisting. Those criteria are the same as the habitat standards identified in the proposed action in the FEIS.

Conservation Strategy

The Recovery Plan called for the development of a grizzly bear conservation strategy to 1) describe and summarize habitat and population management, and 2) demonstrate the adequacy, continuity, and continued agency application of population and habitat management regulatory mechanisms. Development of a conservation strategy began in 1993. In March 2000, a draft conservation strategy was released to the public for review and comment. In 2003, the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area (Conservation Strategy) was released (Interagency Conservation Strategy Team 2003). The Conservation Strategy

- Describes and summarizes the coordinated efforts to manage the grizzly bear population and its habitat to ensure continued conservation in the GYA
- Specifies the population, habitat, and nuisance bear standards to maintain a recovered grizzly bear population
- Documents the regulatory mechanisms and legal authorities, policies, and management and monitoring programs that exist to maintain the recovered grizzly bear population
- Documents the commitment of the participating agencies

The Conservation Strategy was developed to be the document guiding management and monitoring of the Yellowstone grizzly population and its habitat upon recovery and delisting. The Conservation Strategy describes a Primary Conservation Area (PCA), which is the Yellowstone grizzly bear recovery zone identified in the Recovery Plan. Upon implementation of the Conservation Strategy, management using grizzly bear management situations would no longer be necessary. The PCA boundary would replace the recovery zone boundary. The PCA for the grizzly bear is approximately 5,893,000 acres in size and includes portions of six national forests, two national parks, and other intermingled lands.

The states of Idaho, Montana, and Wyoming developed state grizzly bear management plans that would be implemented when the grizzly bear is delisted. The state plans were incorporated as integral parts of the Conservation Strategy. These state grizzly bear management plans recommend and encourage land management agencies to maintain or improve habitats that are important to grizzly bears and to monitor habitat conditions outside the PCA. Each state recognizes the importance of motorized access management and road density issues related to grizzly bears and other wildlife.

Current Population Characteristics

All demographic recovery targets identified in the Recovery Plan were met from 1998 through 2003. Although mortality limits for female grizzly bears were exceeded in 2004, the numbers of females with COY at the end of 2004 were more than double the target identified in the Recovery Plan. At the end of 2004, the minimum population estimate was 431 bears, the running six-year average of known and probable human-caused grizzly bear mortality was 13.3, and the running-six-year average of known and probable human-caused female grizzly bear mortality was 6.0. The total mortality is under the mortality threshold set in the Recovery Plan, but the female mortality exceeds the mortality threshold set in the Recovery Plan. Beginning in 2000, the number of mortalities counted each year includes known and probable mortalities, but the mortality thresholds are set using only the minimum population estimate. The YES has approved new analysis protocols for estimating total population and sustainable mortality limits developed by the IGBST. This methodology will be incorporated into the Recovery Plan and appended to the Conservation Strategy.

The grizzly bear population continues to expand in distribution and increase in numbers (Eberhardt et al. 1994, Boyce 1995, Boyce et al. 2001, Schwartz et al. 2002, Interagency Conservation Strategy Team 2003, Schwartz et al. 2005d).

Potential for Delisting

The Yellowstone grizzly bear population has increased over the past 25 years to the point where all population goals have been met or exceeded since 1998. The USFWS reviewed the status of the Yellowstone grizzly bear population under the ESA. The Proposed Rule designating the Greater Yellowstone population of grizzly bears as a distinct population segment and removing it from protection under the ESA was published in the Federal Register November 17, 2005 (USDI FWS 2005a). The Proposed Rule evaluates the status of the population according to the five factors in the ESA section 4(a)(1). This analysis includes an evaluation of threats that existed at the time of listing and those that currently exist or that could potentially affect the species in the foreseeable future once the protections of the ESA are removed. These factors include threats to the habitat, over utilization, disease or predation, the inadequacy of existing regulatory mechanisms, and other factors affecting the continued existence of the species. The Proposed Rule identifies potentially suitable grizzly bear habitat in the GYA, provides the necessary supplements to the Recovery Plan as ordered by the U.S District Court for the District of Columbia and subsequent settlement, and appends the revised methodology for calculating total population size and establishing sustainable mortality limits to the Recovery Plan and the Conservation Strategy.

A public comment period and public hearings followed publication of the Proposed Rule. The USFWS will consider and incorporate public comments and new information as a result of the comment period. Remaining USFWS actions include publication of the Final Rule in the Federal Register that either removes the Yellowstone population from protection under ESA or maintains the existing status as threatened.

Purpose and Need for Action

The management of grizzly bear habitat on national forests in the GYA is a dynamic process. Experience provides the public and land managers with new understanding and insights regarding the conservation of grizzly bear habitat. Scientific research continues to bring forth new theories, observations, and findings relevant to the management of these resources. This learning is continuous. Most importantly, the Yellowstone grizzly bear population has increased over the past 25 years to the point where all demographic targets in the Recovery Plan were met or exceeded by 1998. As a result, the USFWS reviewed the status of the Yellowstone grizzly bear population to determine whether protection under the ESA is still warranted. Part of the Status Review involved a determination of the adequacy of regulatory mechanisms and an evaluation of the threats to the habitat of the grizzly bear in the GYA.

The proposed action to amend the six GYA national forests' forest plans has been initiated to incorporate the habitat standards and other relevant provisions in the Conservation Strategy into the forest plans of the six GYA national forests.

The purpose of this proposal is to:

- Ensure conservation of habitat to sustain the recovered Yellowstone grizzly bear population
- Update the management and monitoring of grizzly bear habitat to incorporate recent interagency recommendations and agreements, as described in the Conservation Strategy
- Improve consistency among GYA national forests in managing grizzly bear habitat
- Ensure the adequacy of regulatory mechanisms for grizzly bear habitat protection upon delisting as identified in the Recovery Plan

Figure 1. The six GYA national forests, the PCA boundary, and the Alternative 4 boundary.

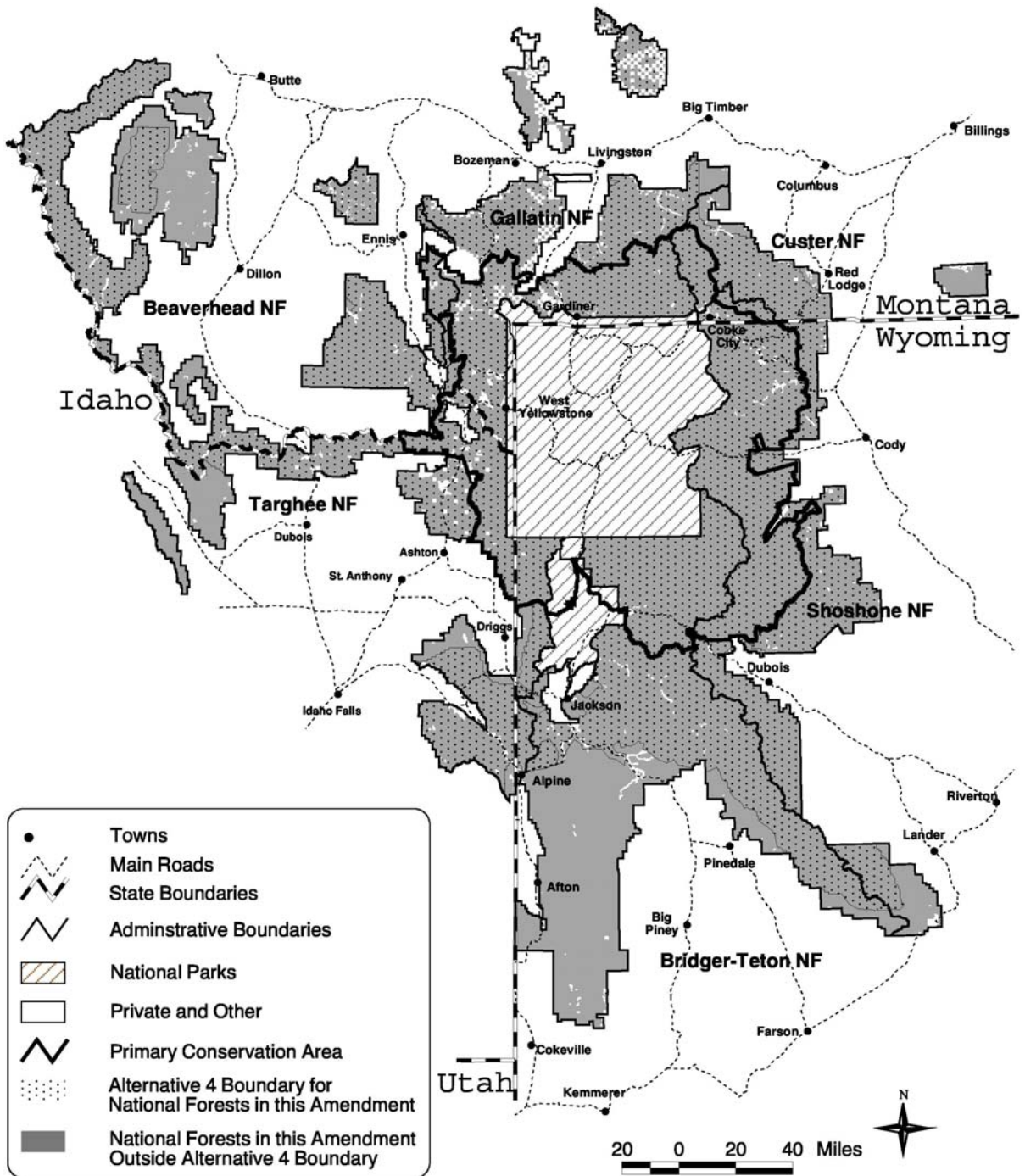


Figure 2. Criteria and definitions common to all action alternatives.

Criteria	Definition
Motorized access routes	Motorized access routes are all routes having motorized use or the potential for motorized use (restricted roads) including motorized trails, highways, and forest roads. Private roads and state and county highways are counted.
Restricted road	A restricted road is a road on which motorized vehicle use is restricted seasonally or yearlong. The road requires effective physical obstruction, generally gated (IGBC Taskforce Report 1998).
Permanently restricted road	A road restricted with a permanent barrier and not a gate. A permanently restricted road is acceptable within secure habitat.
Decommissioned or Obliterated or Reclaimed road	A decommissioned or obliterated or reclaimed road refers to a route which is managed with the long-term intent for no motorized use, and has been treated in such a manner to no longer function as a road. An effective means to accomplish this is through one or a combination of several means, including recontouring to original slope, placement of logging or forest debris, planting of shrubs or trees, etc. (IGBC Taskforce Report 1998).
Secure habitat	Secure habitat is more than 500 meters from an open or gated motorized access route or recurring helicopter flight line. Secure habitat must be greater than or equal to 10 acres in size ⁵ . Large lakes (greater than one square mile) are not included in the calculations.
Project	A project is an activity requiring construction of new roads, reconstructing or opening a permanently restricted road, or recurring helicopter flights at low elevations. Opening a gated road for public or administrative use is not considered a project as the area behind locked gated roads is not considered secure habitat.
Temporary project	To qualify as a temporary project under the Application Rules, project implementation will last no longer than three years.
Opening a permanently restricted road	Removing permanent barriers such that the road is accessible to motorized vehicles.
Permanent barrier	A permanent barrier refers to such actions as placement of earthen berms or ripping the road surface to create a permanent closure.
Removing motorized routes	To result in an increase in secure habitat, motorized routes must either be decommissioned or restricted with permanent barriers, not gates. Non-motorized use is permissible.
Seasonal periods	Season 1 – March 1 through July 15 Season 2 – July 16 through November 30 Project activities occurring between December 1 and February 28 do not count against secure habitat.
Developed site	A developed site includes but is not limited to sites on public land developed or improved for human use or resource development such as campgrounds, trailheads, improved parking areas, lodges (permitted resorts), administrative sites, service stations, summer homes (permitted recreation residences), restaurants, visitor centers, and permitted resource development sites such as oil and gas exploratory wells, production wells, plans of operation for mining activities, work camps, etc.
Vacant allotments	Vacant allotments are livestock grazing allotments without an active permit, but that may be restocked or used periodically by other permittees at the discretion of the land management agency to resolve resource issues or other concerns.
Recurring conflicts	Recurring grizzly bear/human or grizzly bear/livestock conflicts are defined as three or more years of recorded conflicts during the most recent five-year period.

⁵ Secure habitat in the FEIS did not include areas open to cross country off-highway vehicle (OHV) travel.

Decision Framework

Given the purpose and need, the responsible officials will decide whether to amend forest plans to ensure conservation of habitat to support the recovered grizzly bear population by incorporating standards, guidelines, and monitoring requirements from the Conservation Strategy, and if so, what that direction would contain.

The selected alternative, which will be described in a Record of Decision, is proposed to go into effect when all partner agencies have signed the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area, the Final Rule delisting the Yellowstone grizzly population has been published in the Federal Register, and the Record of Decision has been signed for the Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests. If the grizzly bear is not delisted, existing forest plan direction for grizzly bears would remain in place.

Grizzly bear management direction for Yellowstone and Grand Teton National Parks is being updated to incorporate relevant portions of the Conservation Strategy. Upon delisting, the states of Idaho, Montana, and Wyoming would manage grizzly bear populations as directed by the Conservation Strategy and associated state grizzly bear management plans. This proposal is an integral part of the interagency efforts agreed to under the Conservation Strategy for management of the recovered grizzly bear population in the GYA.

Additional direction for the grizzly bear, including but not limited to, guidance on information and education, coordination with other agencies on project level analyses for habitat connectivity, and the designation of the grizzly bear as a regionally sensitive species, would be promulgated, as necessary, through the Forest Service directives system and special orders.

Public Involvement

The Notice of Intent to prepare an environmental impact statement was published in the Federal Register on July 16, 2003. The Notice of Intent asked for public comment on the proposal from July 16 through August 15, 2003. On August 12, 2003, a revised Notice of Intent was published, extending the comment period to September 2, 2003. News releases were published in local newspapers in the GYA and the proposal was listed in each forest's Schedule of Proposed Actions quarterly report beginning in the summer of 2003. Nearly 55,000 responses were received, including 396 original responses and 54,505 organized campaign responses.

The Notice of Availability of the DEIS was published in the Federal Register on August 13, 2004. The comment period on the DEIS ended November 12, 2004. The Forest Service received 675 original responses and 44,984 organized campaign responses. A content analysis was completed in February 2005.

Responses to comments are detailed in chapter 5 of the FEIS. All correspondence from scoping and the DEIS comment period is retained in the project file.

Issues

Comments that addressed the effects of the proposed action were sorted into several primary issues—these issues were used to develop alternatives to the proposed action that meet the purpose and need.

Some issues were not addressed in the FEIS. Issues not carried forward are included in this Executive Summary.

Primary Issues

Issue 1 - Adequate Habitat Standards

Many respondents requested more restrictive habitat standards or an extension of habitat standards to lands outside the PCA, or both, to provide additional protection for the grizzly bear, including habitat connectivity within the GYA. Some respondents requested the elimination of temporary changes in secure habitat, no new developed sites, mandatory phase out of sheep grazing, and establishing road

density standards. Some felt logging would degrade habitat for the bear. Others felt habitat standards should be extended to areas outside the PCA. Others requested fewer restrictions, including omitting the Plateau Bear Management Unit from habitat standards. Many respondents had concerns about 1998 as a baseline for resource management. Although the grizzly bear population achieved all demographic recovery goals by 1998 with this management regime in place, some respondents felt the baseline could be adjusted to allow either more management flexibility, or increase protections for the grizzly bear. Some respondents mentioned key roadless areas for maintaining secure habitat.

Issue 2 - Changes in the PCA Boundary

There were concerns about the size of the PCA boundary. Some felt the PCA is adequate because it has allowed the grizzly bear population to achieve all demographic recovery targets. Others felt the PCA is too small as habitats outside the PCA have been occupied by grizzly bears and contributed to the recovery of the grizzly bear. Others felt that the PCA should be smaller and the numbers of bears reduced.

Issue 3 - Recreation Opportunities

Many respondents had concerns the habitat standards would result in reduced motorized recreation opportunities and in closing more roads. Some respondents were concerned about public safety while recreating in grizzly bear habitat. Although not part of the proposed action, concerns about food storage requirements were expressed and some respondents felt black bear baiting should be restricted in grizzly bear habitat. There were concerns about the effects to special use permitted resorts, ski areas, and lodges if developed sites were limited to 1998 levels. Additionally, some respondents felt information and education could play an important role in how to recreate in bear country.

Issue 4 - Social and Economic Effects

Some respondents were concerned with the effects on income, employment, and lifestyle changes related to livestock operations, ranches, people associated with the timber industry, and recreation-related businesses. Some counties have passed resolutions banning the presence of grizzly bears and are concerned about the social and economic well being of their areas. Some expressed that reduced grazing could accelerate the breakup of ranches into subdivisions in the GYA if ranching is not economically viable.

Issue 5 - Vegetation, Fuels, and Access

Some respondents, including land managers, were concerned the standards would be too restrictive and would affect the ability to manage hazardous fuels; programs such as the Healthy Forests Initiative would be compromised and treatment of fuels in the wildland urban interface could be affected. Managers were concerned the proposed action would limit the administrative use of roads and motorized trails and the construction of roads and motorized trails—this potentially influences activities such as timber harvest, wildfire suppression, administrative management activities, and other uses associated with Forest Service roads and motorized trails.

Issue 6 - Minerals

Some respondents were concerned the habitat standards would limit oil and gas and mining and exploration programs because of limitations on developed sites and secure habitat. Others felt additional restrictions should be imposed on these programs.

Issue 7 - Food Source Stability

Some respondents said threats to food sources are not fully understood and must be further studied, suggesting that major foods for bears, such as army cutworm moths, spawning cutthroat trout, whitebark pine nuts, and wild ungulate carcasses may not be available in future years because of disease or other threats. Some said fire prevention is a prime factor in the decline of whitebark pine. Some respondents felt that due to the uncertainty of the loss of these major foods, a larger area should be managed for grizzly bears.

Issue 8 - Connectivity and Linkage between the Six GYA National Forests

Some respondents felt the ability for bears to move between important habitats in the GYA should be addressed. They suggested the Forest Service should increase efforts to make the landscape in these linkage areas less lethal for bears through implementation of food storage requirements, elimination of domestic sheep, and habitat maintenance and restoration of degraded areas.

Issue 9 - Commercial Livestock Grazing

Some respondents were concerned about how much impact the habitat standards would have on livestock grazing, and in particular, what the effects would be from phasing out sheep grazing. Grizzly bear/livestock conflicts were also a concern, as well as changes in livestock operations.

Issues Not Addressed in this Analysis

The following issues and comments were received through public and internal scoping. The interdisciplinary team did not carry them forward in the analysis because they were either outside the scope of the proposed action, already decided by law, regulation, forest plan, or other higher level decision, or may be a project level issue that will be addressed during future site-specific analyses as projects are proposed.

Connectivity and Linkage Zones outside the GYA National Forests

Issue: Many respondents felt the Forest Service should manage for increased habitat connectivity and linkage zones connecting the Yellowstone grizzly bear population with grizzly bear populations in other recovery zones.

Response: The scope of the proposed action addressed in this FEIS is limited to the six national forests within the GYA. It does not propose any changes to management direction on other national forests. Land management and grizzly bear habitat management direction for other national forests is outside the scope of this proposal. Issues and concerns associated with habitat connectivity between grizzly bear recovery zones may be addressed through appropriate interagency coordination efforts. The analysis in the FEIS addresses how the proposed action and alternatives potentially affect habitat connectivity within the six GYA national forests.

Concerns for maintaining the genetic diversity of the Yellowstone grizzly bear population in the absence of movement between ecosystems is addressed in the Conservation Strategy. Because the Yellowstone population is an isolated population, genetic declines over time are expected due to inbreeding effects. The Conservation Strategy recommends appropriate actions to maintain genetic diversity between the Yellowstone and the Northern Continental Divide Ecosystem (NCDE) grizzly populations, with monitoring and managing adaptively for genetic health.

An evaluation of the potential linkage between existing ecosystems is a key task in the Recovery Plan. In 2001, the USFWS issued a report titled Identification and Management of Linkage Zones for Wildlife between Large Blocks of Public Land in the Northern Rocky Mountains (USDI FWS 2001). This report was updated in 2003 (Servheen et al. 2003b) and documents a five-year process of evaluating potential linkages between the NCDE, Selkirk and Cabinet/Yaak, and Bitterroot recovery areas. Servheen et al. (2003b) define linkage zones as “the area between larger blocks of habitat where animals can live at certain seasons where they can find the security they need to successfully move between these larger blocks of habitat.” Linkage zones are not corridors, which imply an area used just for travel. Linkage zones are areas that can support low-density wildlife populations often as seasonal residents. The USFWS is currently working on a similar evaluation of habitat fracture and potential linkage between the Yellowstone recovery area and the NCDE and Bitterroot recovery zones.

The linkage opportunities for connecting grizzly bear ecosystems are in Montana and Idaho. The Yellowstone Grizzly Bear Management Plan (State of Idaho 2002) does not preclude allowing bears to occupy new habitats. The Grizzly Bear Management Plan for Southwestern Montana (State of Montana 2002) recognizes the importance of linkage zones and has a long-term goal for grizzly bears “to allow populations in western Montana to reconnect by occupying currently unoccupied habitats.”

The conclusion that this issue is outside of the scope of this proposed action does not imply that the Forest Service considers habitat connectivity and the need for maintaining linkage between recovery zones to be unimportant. Maintenance of linkage zones between ecosystems is a multifaceted issue, involves more species than just grizzly bears, and is well beyond the authorities of the Forest Service alone to address. The Forest Service, in concert with the IGBC, the USFWS, and various other governmental and non-governmental groups, continues to evaluate opportunities to improve habitat connectivity and linkage zones. The IGBC has agreed through an MOU to support linkage zone identification and the maintenance of existing linkage opportunities for wildlife. The IGBC has appointed three task forces (public lands, private lands, and highways) to evaluate linkage opportunities. The private lands task force has completed a report (Parker and Parker 2002) that provides agency personnel with guidance for involving rural communities in the development of linkage zones. The Public Lands Task Force Report, completed in 2004 (IGBC Public Lands Wildlife Linkage Taskforce 2004) serves four functions:

- A tool to public land managers for use in developing and revising land and resource management plans
- Presents the results of wildlife linkage assessments in three specific high priority areas in northern Idaho and western Montana.
- Protocols developed in the report can be used as a template by agencies in other locations to assist in maintaining healthy wildlife populations where fragmentation due to human development is a threat
- Complements and provides supportive information for the IGBC private lands and highways linkage taskforces

Forest Service wildlife biologists are evaluating regional and finer scale opportunities for maintaining and improving habitat connectivity and linkage zones. The Forest Service created a national level position to coordinate efforts to maintain linkage associated with roads and highways. Region 1 of the Forest Service conducts an annual workshop entitled “People, Economics and Forest Carnivore Management” that stresses connectivity issues for carnivores. Invitees include Forest Service personnel and representatives from the Federal Highways Administration and the three state highway departments. Connectivity analyses and considerations for wildlife in road construction and reconstruction have become common practice within the Forest Service. The Conservation Strategy directs the agencies to ensure that habitat connectivity is addressed for new road construction or reconstruction in the GYA and to evaluate habitat connectivity during NEPA analysis.

Management of the Grizzly Bear Population

Issue: Many respondents were concerned about the size of the population (there are too few, or too many, grizzly bears); how populations would be managed, including the use of hunting as a management tool; banning of black bear baiting; and mortality limits.

Response: Management of grizzly bear populations, including size, mortality rates, and possible hunting of the bear are outlined in the Conservation Strategy, and are outside the scope of this analysis. The USFWS and three state wildlife management agencies manage the grizzly bear population. Additional direction for management of grizzly bear populations is included in the grizzly bear management plans for Idaho, Montana, and Wyoming.

In regards to black bear baiting, wildlife management agencies have the authority and responsibility to regulate black bear baiting, although Alternative 4 would require Forest Service coordination with states in closing black bear baiting where grizzly bear conflicts occur. Currently black bear baiting is prohibited throughout the PCA. Black bear baiting is not allowed in the State of Montana. The State of Idaho allows black bear baiting outside the PCA in Idaho. The State of Wyoming allows black bear baiting outside the PCA in some areas; other areas are closed to baiting and in other areas, baits are restricted to non-processed foods to minimize grizzly bear conflicts. Grizzly bear hunting is identified

as a future management tool in the Conservation Strategy; hunting would be under the authority and responsibility of the state wildlife management agencies, not the Forest Service.

Delisting the Grizzly Bear

Issue: Some respondents wanted to see the grizzly bear delisted immediately, while some do not want the grizzly bear delisted at all.

Response: The decision to delist the grizzly bear is the responsibility of the USFWS. The relationship between this proposal and delisting is described in the decision framework and potential for delisting sections in this summary.

Thresholds and Mechanisms to Compensate for Possible Food Declines, including Establishing Specific Levels of Habitat Effectiveness and Road Density Standards

Issue: Some respondents felt an approach is needed that recognizes differences in habitat productivity, including food sources, between BMUs throughout the ecosystem and that defines thresholds for habitat security by BMU so as to prompt corrective actions if such thresholds are violated. They also felt the approach should determine what level of habitat security and habitat effectiveness is needed to ensure a positive growth rate in each of the BMUs, accounting for changing levels of key foods in the future.

Response: Differences in habitat productivity between BMUs were evaluated in the Conservation Strategy. The analysis demonstrated that secure habitat in each BMU subunit contained similar proportions of relative habitat value when compared to the subunit as a whole. Habitat effectiveness values for the 1998 baseline have been calculated for each bear management subunit using the CEM. The amount of secure habitat, habitat effectiveness values, or the abundance of certain key foods within specific BMUs and subunits and the relationship to birth and death rates of grizzly bears for specific BMUs and subunits is not known. Grizzly bears in the GYA are effectively one population. All research to date has focused on addressing the relationships among bears and environmental variables at the population level. Grizzly bear home ranges are large and often overlap several BMUs; therefore, it is not appropriate to manage populations at a BMU level and the mechanisms to manage populations at the BMU level are not available.

Research efforts have provided insights into the relationships among bears and the components of habitat. Recognizing that grizzly bears are opportunistic omnivores and that a landscape's ability to support grizzly bears is a function of overall habitat productivity, the distribution and abundance of major food sources, the levels and type of human activities, grizzly bear social systems, bear densities, and stochasticity (random variation), there is no known way to deductively calculate minimum habitat values (USDI FWS 2005a). The 1998 level of secure habitat and corresponding vegetative conditions have provided the habitat necessary for the Yellowstone grizzly bear population to reach and exceed population recovery goals. Proposed habitat security thresholds for each BMU subunit do provide the necessary trigger to prompt corrective action if those thresholds are violated.

The uncertainty over future availability of the major foods and the effect on the grizzly bear population is discussed in chapter 3 and identified as an issue in this chapter. The potential loss of major foods is addressed in the FEIS through consideration of Alternative 4 and Alternative 2-Modified. Alternatives 2-Modified, 3, and 4 include monitoring requirements related to trends in the abundance of the major foods. Further, the Conservation Strategy commits other agencies, such as the NPS, to contribute to monitoring key foods.

Alternatives Considered in Detail

The Forest Service developed five alternatives, including the no action and proposed action alternatives. In the DEIS, Alternative 1 was the no action alternative. Alternative 2 was the proposed action. Alternative 3 addressed comments suggesting the Forest Service provide more restrictive habitat protection for grizzly bear habitat inside the PCA, and Alternative 4 was developed in response to suggestions the Forest Service extend grizzly bear habitat direction beyond the PCA. In the FEIS, a new alternative, Alternative 2-Modified, was developed in response to issues raised by the

public during the DEIS comment period and is the preferred alternative. The FEIS presents the analysis of effects of these five alternatives.

Some grizzly bear management direction would continue under all action alternatives, including direction contained in agreements, state management plans, and the Forest Service directives system. This includes direction on:

- Coordination with other Forest Service regions and other federal and state agencies
- Participation on the IGBC and associated subcommittees
- Grizzly bear mortality prevention
- Information and education programs to inform users of proper behavior in bear country
- Translocation of grizzly bears including the use of helicopters in wilderness
- Habitat analysis and planning
- Animal damage control efforts
- Designation of the grizzly bear as a sensitive species once the bear is removed from protection under the ESA

Additionally, minerals development under the 1872 General Mining Law would be allowed, but mitigated to avoid impacts to bears.

Figures 3 and 4 provide summaries of the specific features of the five alternatives considered in detail, while Figure 5 shows a summary of the comparison of the effects.

Alternatives Considered but Eliminated from Detailed Study

Federal agencies are required by the NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the proposed action provided suggestions for alternative methods for achieving the purpose and need. Some of these alternatives may have been outside the scope or similar to the alternatives considered in detail. Therefore, a number of alternatives were considered, but dismissed from detailed consideration for reasons summarized in this section.

Alternative 5

This alternative proposes implementation of the appropriate habitat standards and monitoring protocols as documented in the Conservation Strategy (similar to Alternative 2), plus less restrictive habitat direction for areas outside the PCA. These areas were described in the state management plans. The interdisciplinary team initiated detailed study of this alternative until determining it was similar to Alternative 4. Alternative 5 would extend habitat standards outside the PCA to nearly the same area as Alternative 4. Standards would be less restrictive than Alternative 4. A complete analysis was unnecessary because the effects would have been within the range of effects for Alternatives 2 and 4.

Alternative 6

This alternative was developed in response to public comments both in scoping and on the DEIS suggesting the Forest Service reduce the area of habitat protection and the amount of restrictions for the grizzly bear and allow more natural resource development to better support local economies. In particular, the Plateau BMU would be removed from the PCA. Some of the reduction in restrictions included less restrictive application rules for the secure habitat standard, such as allowing more than one active project per subunit at a time, and emphasizing the use of silviculture in improving grizzly bear habitat. This alternative was not given further detailed study in this analysis as it did not meet the purpose and need for action, which is to ensure conservation of habitat to support continued recovery of the grizzly bear population in GYA national forests. The standards and application rules in the Conservation Strategy were identified as minimums to sustain a recovered grizzly bear population upon delisting. The application rules do permit a temporary 1 percent change in secure habitat within

a BMU subunit, which would allow silvicultural activities and related road construction to occur that could benefit the grizzly bear.

During the planning process to revise the Targhee Forest Plan, public comments were received suggesting that the Plateau BMU should be removed as a bear management unit. This suggestion was made based on the perception that the Plateau BMU was poor quality habitat and had low grizzly bear use.

During 1993 and 1994, a technical committee appointed by the YES conducted a study to evaluate habitat capability and grizzly bear use in the Plateau BMU (Puchlerz 1994). Results and recommendations from that study are summarized below.

Methods used in the study included calculating habitat value and habitat effectiveness values for the Plateau BMU using the Unified Cumulative Effects Model and other modeling software. The habitat value is a measure of the amount and quality of vegetative and non-vegetative habitat currently in the unit, and habitat effectiveness is the habitat value after discounting for current human activity. Results indicated that subunits within the Plateau BMU were of adequate size to support an adult female grizzly bear with young. Each subunit was larger than the average annual home ranges of females with young.

Grizzly bear use of habitat within the Plateau BMU was examined through an analysis of historic records, including mortality data, and through a special effort to capture and instrument individual grizzly bears during 1993 and 1994. Results of the historic information from records of grizzly bear mortalities between 1959 and 1993 documented six mortalities in the Plateau BMU.⁶ Other historic information and numerous references immediately adjacent to this area would lead one to believe that grizzly bears were common inhabitants of these areas. The results of the capture and instrument study showed one grizzly bear within that BMU in 1994, plus the occurrence of other sightings and tracks in 1993 and 1994.

The technical committee recommended that the Targhee National Forest improve habitat effectiveness levels by implementing access management measures approved by the IGBC in July 1994. With improved habitat effectiveness, occupancy should be expected. Continued monitoring for evidence of reproducing females was recommended. These recommendations implied that the BMU should be kept in the recovery zone. In addition, this recommendation was brought before the YES in 1995, where it was approved that the Plateau BMU remains in the recovery zone.

Other Alternatives

Many public comments included variations on providing additional habitat protection for the grizzly bear through extension of habitat standards beyond the PCA. Some of the reasons were to address the potential future loss of major bear foods and increase the probability of habitat connectivity with other ecosystems. Some comments called for extending habitat standards either to occupied grizzly bear habitat or to inventoried roadless areas (and keep roadless areas roadless), or to all National Forest System lands in the GYA. Some commenters asked that the Merrill and Mattson (2003) map be used to identify areas likely to be occupied. These alternatives were combined and are represented by Alternative 4.

Another suggestion was termination or removal of existing oil and gas leases as one variation on Alternative 4, and to consider the use of alternative energy sources to obviate the need for oil and gas leasing and development in the GYA.

The variation will not be considered in detail because the Forest Service and BLM have limited authorities to implement this alternative. The agencies could recommend existing lease rights be

⁶ The DEIS quoted the 1994 report which stated that nine grizzly bears had been killed in the Plateau BMU on the Targhee National Forest. The 1997 Revised Forest Plan stated that six grizzly bears had been killed in the same BMU. The documented mortality records were rechecked and the correct number is six.

purchased by the government, or recommend existing lease rights be condemned. Implementing both of the above recommendations would involve legislation to prevent existing lease rights from being exercised and possibly money appropriated, or congressional action to exchange lease rights for rights of equal value elsewhere. Additionally, the Forest Service has not completed court-ordered NEPA and ESA compliance on the suspended leases on the Gallatin National Forest; therefore, our administrative duties have not been completed. The leases cannot be developed until the court-ordered work is completed. Removal of current oil and gas leases is premature.

Under a buy-back scenario, the final value of mineral rights granted under existing oil and gas leases would be negotiated and could ultimately be determined by the courts. Currently, there are approximately eight issued, but suspended, oil and gas leases on the Gallatin National Forest inside the PCA. There are approximately 50 leases on the forests in the Alternative 4 area outside the PCA; only eight of the leases are active and the rest are suspended pending an oil and gas leasing decision on the Gallatin National Forest. Special appropriation from Congress would be required to authorize the buy back of existing leases.

Condemnation proceedings could be initiated by the government to permanently enjoin leaseholders from exercising their lease rights. Condemnation requires conclusive evidence that lease activities are environmentally unacceptable. Regardless, lessees would still be compensated for their losses as described above.

The Forest Service and BLM could propose legislation, or recommend that Congress enact legislation, to prevent lease development. Legislation could be worded such that compensation would be granted for those rights lost due to condemnation. Evaluating an exchange of equal value for existing leases was also considered. Under this concept, lease rights of a value equal to those lease rights within Alternative 4 would be offered to existing lessees.

In regard to encouraging the use of alternative energy sources, the National Energy Policy (Cheney et al. 2001) encourages reliable, affordable, and environmentally sound energy for the future. Use of alternative energy sources by American citizens, although supported by the Forest Service, would be outside the scope of Forest Service decision making.

Summary of the Specific Features of the Alternatives Considered in Detail

This section provides a *summary* of the features of each alternative. Complete descriptions of the alternatives and the Application Rules are in the FEIS chapter 2.

Figure 3. Components of Alternatives 1, 2, and 2-Modified.

Alternative 1	Alternative 2	Alternative 2-Modified
No action (existing forest plans) The Guidelines apply inside the PCA.	Proposed action Direction applies inside the PCA.	Preferred alternative
Goal All forest plans have direction to provide suitable and adequate amounts of habitat for recovery of a viable grizzly bear population in the GYA as identified in the Recovery Plan.	Goal Manage grizzly bear habitat within the PCA to sustain the recovered Yellowstone grizzly bear population.	Goal Manage grizzly bear habitat within the PCA to sustain the recovered Yellowstone grizzly bear population. Outside the PCA in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, accommodate grizzly bear populations to the extent that accommodation is compatible with the goals and objectives of other uses.
Secure habitat Long-term secure habitat ⁷ maintained by existing forest plan direction. Consultation with USFWS required for all access decisions.	Standard 1—Secure habitat Inside the PCA, maintain the percent of secure habitat in BMU subunits at or above 1998 levels. Projects that change secure habitat must follow the Application Rules.	Standard 1—Secure habitat Inside the PCA, maintain the percent of secure habitat in BMU subunits at or above 1998 levels. Projects that change secure habitat must follow the Application Rules.

⁷ Long-term secure habitat *generally* includes congressionally designated wilderness, backcountry lands, research natural areas, national recreation areas, designated wild and scenic rivers, special interest areas, and other areas where some management activities may occur but natural ecological process and resulting patterns will normally predominate. Generally, new motorized access routes will not be constructed in these areas. Long-term secure habitat is more fully defined in the FEIS.

Alternative 1	Alternative 2	Alternative 2-Modified
No action (existing forest plans) The Guidelines apply inside the PCA.	Proposed action Direction applies inside the PCA.	Preferred alternative
Developed sites Consultation with USFWS using the Guidelines required for all developed site decisions.	Standard 2—Developed sites Inside the PCA, maintain the number and capacity of developed sites at or below 1998 levels, with the following exceptions: any proposed increase, expansion, or change of use of developed sites from the 1998 baseline in the PCA is analyzed and potential detrimental and positive impacts on grizzly bears are documented through biological evaluation or assessment. Projects that change the number and capacity of developed sites must follow the Application Rules.	Standard 2—Developed sites Inside the PCA, maintain the number and capacity of developed sites at or below 1998 levels, with the following exceptions: any proposed increase, expansion, or change of use of developed sites from the 1998 baseline in the PCA is analyzed and potential detrimental and positive impacts on grizzly bears are documented through biological evaluation or assessment. Projects that change the number and capacity of developed sites must follow the Application Rules.
Livestock grazing Grizzly bear/livestock conflicts in MS 1 favor the grizzly bear.	Standard 3—Livestock grazing Inside the PCA, do not create new active commercial livestock grazing allotments, do not increase permitted sheep AMs from the identified 1998 baseline, and phase out existing sheep allotments as opportunities arise with willing permittees.	Standard 3—Livestock grazing Inside the PCA, do not create new active commercial livestock grazing allotments, do not increase permitted sheep AMs from the identified 1998 baseline, and phase out existing sheep allotments as opportunities arise with willing permittees.
		Guideline 2—Livestock Grazing Inside the PCA, cattle allotments or portions of cattle allotments with recurring conflicts that cannot be resolved through modification of grazing practices may be retired as opportunities arise with willing permittees. Outside the PCA in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, livestock allotments or portions of allotments with recurring conflicts that cannot be resolved through modification of grazing practices may be retired as opportunities arise with willing permittees.

Alternative 1	Alternative 2	Alternative 2-Modified
No action (existing forest plans) The Guidelines apply inside the PCA.	Proposed action Direction applies inside the PCA.	Preferred alternative
The Guidelines and management situations apply.	Standard 4 The Guidelines and management situations no longer apply.	The Guidelines and management situations no longer apply; this is not included as a standard under Alternative 2-Modified.
Nuisance bears Nuisance bear management is guided by the Guidelines.	Standard 5—Nuisance bears Coordinate with state wildlife management agencies to apply Conservation Strategy nuisance bear standards.	Standard 5—Nuisance bears Coordinate with state wildlife management agencies to apply Conservation Strategy nuisance bear standards.
Motorized access Inside the PCA, all forest plans restrict motorized access to designated routes, with some exceptions. Over-the-snow use is monitored and would be mitigated around known denning sites.	Guideline 1—Winter motorized access Inside the PCA, localized area restrictions would be used to address conflicts with winter use activities where conflicts occur during denning or after bear emergence in the spring.	Guideline 1—Winter motorized Access Inside the PCA, localized area restrictions would be used to address conflicts with winter use activities where conflicts occur during denning or after bear emergence in the spring.
Oil and gas leasing Most areas inside the PCA are either not available or no surface occupancy for oil and gas leasing. Outside the PCA, oil and gas leasing varies by forest.	Oil and gas leasing Same as Alternative 1. New leases, APDs, and operating plans would meet Standards 1 and 2.	Oil and gas leasing Same as Alternative 1. New leases, APDs, and operating plans would meet Standards 1 and 2.
Recreation conflicts The Guidelines provide direction for grizzly bear/human conflicts at developed and dispersed sites.	Recreation conflicts See Standard 5.	Recreation conflicts See Standards 5 and 6 and Guideline 3.
Food sources The Guidelines provide direction for grizzly bear habitat improvement, including whitebark pine.		Guideline 4—Food sources Inside the PCA and outside the PCA in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, maintain the productivity, to the extent feasible, of the four key grizzly bear food sources as identified in the Conservation Strategy. Emphasize maintaining and restoring whitebark pine stands inside and outside the PCA.

Alternative 1	Alternative 2	Alternative 2-Modified
No action (existing forest plans) The Guidelines apply inside the PCA.	Proposed action Direction applies inside the PCA.	Preferred alternative
Bear baiting Bear baiting is not allowed inside the PCA, per state regulations. Outside the PCA, state management varies.	Bear baiting Same as Alternative 1.	Bear baiting Same as Alternative 1.
Food storage Food storage orders would remain in place in all areas inside the PCA and in some areas outside the PCA.	Food storage Same as Alternative 1.	Standard 6—Food storage Inside the PCA, minimize grizzly bear/human conflicts using food storage, information and education, and other management tools.
		Guideline 3—Food storage Outside the PCA in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, emphasize proper sanitation techniques, including food storage orders, and information and education, while working with local governments and other agencies.
Monitoring Monitoring under forest plan direction would continue.	Monitoring Item 1 Inside the PCA, annually monitor changes in secure habitat and motorized access routes and compare with the 1998 baseline.	Monitoring Item 1 Inside the PCA, annually monitor changes in secure habitat and motorized access routes and compare with the 1998 baseline. Outside the PCA in areas identified in state management plans as biologically suitable and socially acceptable for grizzly bear occupancy, monitor changes in secure habitat every two years.
	Monitoring Item 2 Inside the PCA, annually monitor number and capacity of developed sites and compare with the 1998 baseline.	Monitoring Item 2 Inside the PCA, annually monitor number and capacity of developed sites and compare with the 1998 baseline.

Alternative 1	Alternative 2	Alternative 2-Modified
No action (existing forest plans) The Guidelines apply inside the PCA.	Proposed action Direction applies inside the PCA.	Preferred alternative
	Monitoring Item 3 Inside the PCA, annually monitor the number of commercial livestock grazing allotments and the number of permitted domestic sheep AMs and compare with the 1998 baseline.	Monitoring Item 3 Inside the PCA, annually monitor the number of commercial livestock grazing allotments and the number of permitted domestic sheep AMs and compare with the 1998 baseline. Inside and outside the PCA, monitor and evaluate allotments for recurring conflicts with grizzly bears.
	Monitoring Item 4 Inside the PCA, regularly measure changes in seasonal habitat effectiveness and compare with the 1998 baseline.	Monitoring Item 4 Inside the PCA, every five years measure changes in seasonal habitat effectiveness and compare with the 1998 baseline.
		Monitoring Item 5 Monitor whitebark pine occurrence, productivity, and health inside and outside the PCA in cooperation with other agencies.

Figure 4. Components of Alternatives 1, 3, and 4.

Alternative 1	Alternative 3	Alternative 4
No action (existing forest plans) The Guidelines apply inside the PCA.	Direction applies inside the PCA.	Direction applies inside the PCA and to additional areas outside the PCA.
Goal All forest plans have direction to provide suitable and adequate amounts of habitat for recovery of a viable grizzly bear population in the GYA as identified in the Recovery Plan.	Goal Manage grizzly bear habitat within the PCA to sustain the recovered Yellowstone grizzly bear population.	Goal Manage grizzly bear habitat within the area defined for Alternative 4 to sustain the recovered Yellowstone grizzly bear population.
Secure habitat Long-term secure habitat maintained by existing forest plan direction. Consultation with USFWS required for all access decisions.	Standard 1—Secure habitat Maintain secure habitat in BMU subunits at or above 1998 levels. Where secure habitat is below 70 percent, increase to 70 percent where feasible. Maintain inventoried roadless areas in a roadless condition, and remove any existing motorized routes in inventoried roadless areas.	Standard 1—Secure habitat Maintain secure habitat in BMU subunits at or above 1998 levels inside the PCA and at or above 2003 levels outside the PCA. Where secure habitat is below 70 percent, increase to 70 percent where feasible. Maintain inventoried roadless areas in a roadless condition, and remove any existing motorized routes in inventoried roadless areas.
Developed sites Consultation with USFWS using the Guidelines required for all developed site decisions.	Standard 2—Developed sites Maintain the number and capacity of developed sites at or below 1998 levels.	Standard 2—Developed sites Maintain the number and capacity of developed sites at or below 1998 levels inside the PCA and at or below 2003 levels outside the PCA.
Livestock grazing Grizzly bear/livestock conflicts in MS 1 favor the grizzly bear.	Standard 3—Livestock grazing Do not create new active commercial livestock grazing allotments and close all sheep allotments within three years, starting with those allotments with recurring conflicts with grizzly bears. Close those portions of cattle allotments that have a trend of recurring conflicts with grizzly bears.	Standard 3—Livestock grazing Do not create new active commercial livestock grazing allotments and close all sheep allotments within three years, starting with those allotments with recurring conflicts with grizzly bears. Close those portions of cattle allotments that have a trend of recurring conflicts with grizzly bears.
The Guidelines and management situations apply.	Standard 4 The Guidelines and management situations no longer apply.	Standard 4 The Guidelines and management situations no longer apply.

Alternative 1	Alternative 3	Alternative 4
No action (existing forest plans) The Guidelines apply inside the PCA.	Direction applies inside the PCA.	Direction applies inside the PCA and to additional areas outside the PCA.
Nuisance bears Nuisance bear management is guided by the Guidelines.	Standard 5—Nuisance bears Coordinate with state wildlife management agencies to apply Conservation Strategy nuisance bear standards.	Standard 5—Nuisance bears Coordinate with state wildlife management agencies to apply Conservation Strategy nuisance bear standards.
Motorized access Inside the PCA, all forest plans restrict motorized access to designated routes. Over-the-snow use is monitored and would be mitigated around known denning sites.	Standard 7—Motorized access Restrict motorized access (except over-the-snow use) to designated routes. In denning areas, eliminate over-the-snow use during the denning period.	Standard 7—Motorized access Restrict motorized access (except over-the-snow use) to designated routes. In denning areas, eliminate over-the-snow use during the denning period.
Oil and gas leasing Most areas inside the PCA are either not available or no surface occupancy for oil and gas leasing. Outside the PCA, oil and gas leasing varies by forest.	Standard 8—Oil and gas leasing No new oil and gas leases.	Standard 8—Oil and gas leasing No new oil and gas leases.
Recreation conflicts The Guidelines provide direction for grizzly bear/human conflicts at developed and dispersed sites.	Standard 9—Recreation conflicts Eliminate developed sites or dispersed camping, including outfitter camps, with recurring grizzly bear/human conflicts. Limit human use of backcountry trails in high bear-use areas.	Standard 9—Recreation conflicts Eliminate developed sites or dispersed camping, including outfitter camps, with recurring grizzly bear/human conflicts. Limit human use of backcountry trails in high bear-use areas.
Food sources The Guidelines provide direction for grizzly bear habitat improvement, including whitebark pine.	Standard 10—Food sources Where needed, maintain and restore critical food sources. Use area closures to provide adequate security to ensure areas are available to bears.	Standard 10—Food sources Where needed, maintain and restore critical food sources. Use area closures to provide adequate security to ensure areas are available to bears.
Bear baiting Bear baiting is not allowed inside the PCA, per state regulations. Outside the PCA, state management varies.	Bear baiting Same as Alternative 1.	Bear baiting Inside the PCA, same as Alternative 1. Outside the PCA, Guideline 1. As necessary, coordinate with states in closing black bear baiting where grizzly bear conflicts occur.
Food storage Food storage orders would remain in place in all areas inside the PCA and in some areas outside the PCA.	Food storage Same as Alternative 1.	Objective 1 - Food storage Within one year, implement a uniform food storage order forestwide, where not currently in place.

Alternative 1	Alternative 3	Alternative 4
No action (existing forest plans) The Guidelines apply inside the PCA.	Direction applies inside the PCA.	Direction applies inside the PCA and to additional areas outside the PCA.
Monitoring Monitoring under forest plan direction would continue.	Monitoring Item 1 Annually monitor changes in secure habitat and motorized access routes and compare with the 1998 baseline.	Monitoring Item 1 Annually monitor changes in secure habitat and motorized access routes and compare with the 1998 inside the PCA and the 2003 baseline outside the PCA.
	Monitoring Item 2 Inside the PCA, annually monitor number and capacity of developed sites and compare with the 1998 baseline.	Monitoring Item 2 Annually monitor number and capacity of developed sites and compare with the 1998 baseline inside the PCA and the 2003 baseline outside the PCA.
	Monitoring Item 3 Annually monitor the number of commercial livestock grazing allotments and the number of permitted domestic sheep AMs and compare with the 1998 baseline.	Monitoring Item 3 Annually monitor the number of commercial livestock grazing allotments and the number of permitted domestic sheep AMs and compare with the 1998 baseline inside the PCA and the 2003 baseline outside the PCA.
	Monitoring Item 4 Inside the PCA, regularly measure changes in seasonal habitat effectiveness and compare with the 1998 baseline.	Monitoring Item 4 Regularly measure changes in seasonal habitat effectiveness and compare with the 1998 baseline inside the PCA and the 2003 baseline outside the PCA.

Summary of the Comparison of the Effects of the Alternatives

Figure 5 provides a *summary* of the effects of each alternative. Analysis in detail is presented in chapter 3 of the FEIS.

Figure 5. Comparison of the effects of the alternatives.

	Alternative 1	Alternative 2	Alternative 2-Modified	Alternative 3	Alternative 4
Grizzly Bears					
Acres of long-term secure habitat ⁸ within the PCA	2.5 million	2.8 million	2.8 million	3.0 million	3.0 million
Acres of long-term secure habitat outside the PCA	3.1 million	3.1 million	3.1 million	3.1 million	5.1 million
Acres of denning habitat closed to snow machine use	3.9 million	3.9 million	3.9 million	4.7 million	6.3 million
Potential for conflicts at developed sites inside the PCA	Low	Low	Low	Very low	Very low
Potential for conflicts at developed sites outside the PCA	Moderate	Moderate	Low	Moderate	Very low
Potential for conflicts with sheep inside the PCA	Low	Low	Low	Very low	Very low
Potential for conflicts with sheep outside the PCA	Moderate - high	High	Moderate	High	Very low
Potential for conflicts with cattle inside the PCA	Moderate	Moderate - high	Moderate	Low	Low
Potential for conflicts with cattle outside the PCA	Moderate - high	High	Moderate	High	Very low
Potential for temporary area closures to provide adequate security for major foods	Low	Low	Low - moderate	Moderate - high	High

⁸ Long-term secure habitat *generally* includes congressionally designated wilderness, backcountry lands, research natural areas, national recreation areas, designated wild and scenic rivers, special interest areas, and other areas where some management activities may occur but natural ecological process and resulting patterns will normally predominate. Generally, new motorized access routes will not be constructed in these areas. Long-term secure habitat is more fully defined in the FEIS.

	Alternative 1	Alternative 2	Alternative 2-Modified	Alternative 3	Alternative 4
Potential for major food source enhancement inside the PCA	Low -moderate	Low	Moderate	High	High
Potential for major food source enhancement outside the PCA	Low	Low	Moderate	Low	High
Potential for sustaining the recovered grizzly bear population	High	High	High - very high	High	Very high
Vegetation					
Potential change from existing level of timber management	None	Potential limit to size and number of individual projects	Potential limit to size and number of individual projects	10% decrease	33% decrease
Potential change from existing level for whitebark pine enhancement	None	Some reduction; no specific direction	Increased emphasis inside and outside PCA	Most emphasis in PCA, no specific direction outside	Most emphasis inside and outside PCA
Fire and Fuels					
Effects to access for fire suppression	No change from existing	Low	Low	Moderate	High
Reduction in flexibility for fire treatments	No change from existing	Low	Low	Moderate	High
Ability to treat fuels in the wildland urban interface	No change from existing	Potential limit to size and number of individual projects requiring new motorized access inside PCA	Potential limit to size and number of individual projects requiring new motorized access inside PCA	Precludes projects requiring new motorized access inside PCA	Precludes projects requiring new motorized access inside and outside PCA
Grazing					
Number of domestic sheep allotments closed inside the PCA ⁹	2 (phase out)	4 (phase out)	4 (phase out)	4 (close)	4 (close)

⁹ Two of the four sheep allotments under all action alternatives inside the PCA are planned for closure by the Gallatin National Forest in 2006.

	Alternative 1	Alternative 2	Alternative 2-Modified	Alternative 3	Alternative 4
Number of domestic sheep allotments closed outside the PCA	0	0	0	0	75
Estimated number of cattle allotments closed inside the PCA	0	0	0	3	3
Estimated number of cattle allotments closed outside the PCA	0	0	0	0	2
Amount of change from existing level of sheep AMs	3,590 (phase out)	7,130 (phase out)	7,130 (phase out)	7,130 (close)	232,260 (close)
Minerals					
Potential change to oil and gas leasing decisions or proposed operations inside the PCA	Operations could be allowed in accordance with Guidelines and consultation with USFWS.	Operations could be allowed. Time delays and costs could increase due to increased mitigations.	Operations could be allowed. Time delays and costs could increase due to increased mitigations.	Approximately 0.7 million additional acres not available for oil and gas leasing/exploration.	Approximately 0.7 million additional acres not available for oil and gas leasing/exploration.
Potential change to oil and gas leasing decisions or proposed operations outside the PCA	Operations could be allowed following existing forest plan direction and consultation with USFWS.	Operations could be allowed following existing forest plan direction.	Operations could be allowed following existing forest plan direction.	Operations could be allowed following existing forest plan direction.	Approximately 3.3 million additional acres not available for oil and gas leasing/exploration.
Effects on hardrock mineral development	No change	Operations allowed in the PCA. Time delays and costs could increase due to increased mitigations.	Operations allowed in the PCA. Time delays and costs could increase due to increased mitigations.	Operations allowed in the PCA. Time delays and costs could increase due to increased mitigations.	Operations allowed in the PCA. Time delays and costs could increase due to increased mitigations.

	Alternative 1	Alternative 2	Alternative 2-Modified	Alternative 3	Alternative 4
Effects on salable and mineral materials operations	No change	Operations could be allowed in the PCA. Time delays and costs could increase due to increased mitigations.	Operations could be allowed in the PCA. Time delays and costs could increase due to increased mitigations.	Mineral material sites classified as developed sites could be precluded. Approximately 50% of future large sites might not be possible.	Mineral material sites classified as developed sites could be precluded. Approximately 80% of future large sites might not be possible.
Recreation					
Effects to developed recreation—number of sites where capacity is held to 1998 or 2003 levels	0	267 sites Mitigation allowed	267 sites Mitigation allowed	267 sites No mitigation	721 sites No mitigation
Effects to motorized summer recreation—miles of motorized access routes to be decommissioned	0	0	0	487	1,850
Effects to developed and dispersed summer recreation—closures where conflicts occur inside the PCA	Closure in MS1, as identified. 1986 nuisance Guidelines apply.	No closures. CS ¹⁰ nuisance bear standards apply.	No closures. CS nuisance bear standards apply. Increased emphasis on minimizing conflicts.	Closure where recurring conflicts. CS nuisance bear standards apply	Closure where recurring conflicts. CS nuisance bear standards apply.
Effects to developed and dispersed summer recreation—closures where conflicts occur outside the PCA	No closures	No closures. State nuisance bear standards apply.	No closures. State nuisance bear standards apply. Increased emphasis on minimizing conflicts.	No closures. State nuisance bear standards apply.	Closure where recurring conflicts. State nuisance bear standards apply.
Effects to motorized winter recreation—acres closed to snow machine use	Temporary closures as conflicts identified in denning areas inside PCA.	Temporary closures as conflicts identified in denning areas inside PCA.	Temporary closures as conflicts identified in denning areas inside PCA.	0.6 million acres inside PCA	1.6 million acres inside and outside the PCA

¹⁰ CS = Conservation Strategy

	Alternative 1	Alternative 2	Alternative 2-Modified	Alternative 3	Alternative 4
Transportation					
Miles of road to be decommissioned	0	0	0	487	1,850
Social and economic					
Community infrastructure ¹¹ /developed sites affected	No plan direction	15 Mitigation allowed	15 Mitigation allowed	15 No mitigation	16 No mitigation
Acres of land area with restrictions and mitigation allowed or not allowed	2.0 million acres in MS 1. Current forest plan direction.	3.4 million acres Mitigation allowed	3.4 million acres Mitigation allowed	3.4 million acres with more strict standards than Alternative 2. No mitigation allowed.	9.4 million acres with more strict standards than Alternative 2. No mitigation allowed.
Effects on ranching lifestyles— number of active sheep allotments inside the PCA and number of sheep allotments affected inside the PCA ¹²	4 (2 phase out)	4 (4 phase out)	4 (4 phase out)	4 (4 close)	4 (4 close)
Effects on ranching lifestyles— number of active sheep allotments outside the PCA and number of sheep allotments affected outside the PCA	73 none	73 none	73 (allotments with recurring conflicts phased out on willing permittee basis)	73 none	73 (73 allotments to be closed)
Effects on ranching lifestyles— number of active cattle allotments inside the PCA and number of cattle allotments affected inside the PCA	70 Some reduction in MS 1	70 No change	70 (allotments with recurring conflicts retired on willing permittee basis)	70 (allotments with recurring conflicts would be closed)	70 (allotments with recurring conflicts would be closed)

¹¹ Infrastructure includes water treatment sites, power sub-stations, landfills, city/county/state facilities, dams, etc. on National Forest System lands.

¹² Two of the four sheep allotments are planned for closure by the Gallatin National Forest in 2006.

	Alternative 1	Alternative 2	Alternative 2-Modified	Alternative 3	Alternative 4
Effects on ranching lifestyles— number of active cattle allotments outside the PCA and number of cattle allotments affected outside PCA	280 No change	280 No change	280 (allotments with recurring conflicts retired on willing permittee basis)	280 No change	280 (allotments with recurring conflicts would be closed)
Timber-related employment and income	No change	No change	No change	Some decrease	Most decrease