TABLE OF CONTENT

Chapter 1 - Proposed Action / Purpose And Need 2
Summary 2
Proposed Action / Purpose And Need 4
Reasonably Foreseeable Actions 5
Scope Of The Proposed Action.....5
Scope Of The Analysis 5
Chapter 2 - Alternatives 6
General Introduction 6
Alternative Development Process.....6
Important Issues To This Decision 7
Issues Considered But Not Studied In Detail 10
Issues Outside Of The Scope Of The Proposed Activity.....12
Alternatives Considered But Not Given Detailed Study 13
Alternatives Considered In Detail.....13
Comparison Of Alternatives 16
Chapter 3 - Affected Environment / Environmental Consequences.....18
Introduction.....18
Applicable Forest Plan Direction.....18
Effects Assessment By Issues.....18
Chapter 4 - Preparation And Consultation.....37
List Of Preparers.....37
References.....37
Appendices.....39
A. Biological Assessment 39
B. Biological Evaluation.....39

CHAPTER 1 - PROPOSED ACTION / PURPOSE AND NEED

SUMMARY

The Gallatin National Forest is proposing to issue a Special Use Permit to the Montana Department of Livestock (DOL) to install and operate a bison capture and testing facility on National Forest System lands. The facility would be located in the Horse Butte area, near West Yellowstone, Montana. Please refer to Figure I for a location map.

DOL proposes to utilize the facility to capture bison migrating from Yellowstone National Park (YNP) and test them for the disease brucellosis. Operating the capture facility is a key element in DOL's program of controlling the spread of brucellosis from migrating bison to domestic livestock. DOL proposes to construct and operate the capture facility in accordance with the *Interim Bison Management Plan (IBMP)* (USDI 1995, Appendix A) and Interim Bison Management Operating Procedures (USDI 1998, Appendix A).

Background

Bison contribute to the biological, ecological, cultural, and aesthetic purposes of Yellowstone National Park and surrounding areas. Yellowstone National Park is not a self-contained ecosystem for bison and periodic migrations into Montana are natural events. Some bison carry the disease brucellosis and may transmit it to cattle outside the Park boundaries in Montana.

As bison migrate out of YNP and into Montana, they move from one jurisdiction with a set of management objectives to another jurisdiction with different management objectives. Therefore, the cooperation of a number of Federal and State agencies is necessary to manage the herd and the risk of transmission of brucellosis from bison to Montana domestic livestock.

Involved public agencies have agreed that it is their cooperative goal to maintain a wild, free-ranging population of bison while addressing the risk of brucellosis transmission to protect the economic interest and viability of the livestock industry in Montana.

In an attempt to meet these objectives, the Montana Department of Livestock and the Montana Department of Fish, Wildlife and Parks in cooperation with the National Park Service (NPS), U.S. Forest Service (USFS) and the Veterinary Services division of the Animal and Plant Health Inspection Service (APHIS), jointly developed an *Interim Bison Management Plan (IBMP)*.

The Forest Service is signatory to the *IBMP* (USDI 1995, Appendix A). Development of the *IBMP* was accomplished through an environmental assessment prepared in accordance with the Montana Environmental Policy Act and the National Environmental Policy Act. The *IBMP* has been reviewed annually and updated as needed. The findings of the environmental assessments associated with the

current *IBMP*, are incorporated into this Environmental Assessment (EA) and are located in the Project Record, Exhibits A-4 and A-6.

Figure I - Location Map

The *IBMP* includes a number of activities designed to manage migrating bison. Components of those activities include monitoring, hazing of bison back to the Park, capturing bison outside the Park, testing for brucellosis and removing infected and at-risk individuals. Hazing is the moving of bison in a desired direction to a desired location. Depending on the situation and the presence or absence of snow, various means of transportation would be used to haze bison including: motorized vehicles, snowmobiles, motorcycles, all terrain vehicles and/or horses. These activities, which are included in the *IBMP,* are designed to maintain the brucellosis free status of Montana's livestock while minimizing the killing of bison.

PROPOSED ACTION / PURPOSE AND NEED

Issuance of Special Use Permit

The Special Use Permit would authorize the Montana DOL to occupy National Forest System lands for the specific purpose of exercising State authority to manage brucellosis diseased bison. Specifically, DOL would be authorized to install and operate a bison capture facility on National Forest System Lands in the Horse Butte area. The proposed site (Site A2) is located approximately nine miles northwest of West Yellowstone in the SW ¼ NW ¼ Section 36, T12S, R4E.

The proposed capture facility would consist of a series of metal corral-type panels configured into four holding pens, a sorting area and a separate work area. The primary facility would be approximately 100 feet by 300 feet and include wing panels protruding from the main facility to direct bison into the holding pens. The entire facility would occupy approximately one to two acres of land. For further detail on the capture facility operation see pages 2-4 of the Biological Assessment (Appendix A) and the DOL Special Use Permit Application (Project Record, Exhibit C-6).

DOL would also be permitted to use and maintain approximately 1.3 miles of Forest Road No. 610 and 0.2 miles of additional low standard forest road for access to and from the site. Approximately 1.4 miles of the Horse Butte snowmobile trail would be re-routed. Of the 1.4 miles of re-routed snowmobile trail, 0.8 miles of road may remain open year-round.

The special use permit would authorize DOL to operate the facility, and, the expected operating season is early November until late April. The special use permit would be issued for a ten year period but an approved operating plan would be required on an annual basis. In addition, permitted operations would be reviewed periodically to determine whether there may be changed circumstances or new information which may necessitate correction or revision of this EA and/or a new decision.

During preliminary evaluation of the permit request, it was determined that the requested site is located within 0.5 miles of a bald eagle nest site. The nest has been occupied by adults but no young have been produced for several years. However, the *Montana Bald Eagle Management Plan* (MTBEWG 1994) and the *Greater Yellowstone Bald Eagle Management Plan* (GYBEWG 1996) provide guidelines for management of bald eagle nesting sites. The *Gallatin National Forest Land and Resource Management Plan* adopted these bald eagle management plans as Forest-wide direction (USDA 1987, page 11-19). The Bald Eagle Management Plans recommend that developments that may increase human activity levels and use patterns should not be permitted within 0.5 miles of nest sites.

Because the proposed action is not in accordance with the bald eagle management plans guidelines, the proposed action includes a site specific amendment to the *Forest Plan* to exempt this action from the *Forest Plan* standard which adopts the bald eagle management plans (USDA 1987, pages II-19, H-9).

Also, because this proposal would authorize installation and operation of a bison capture facility on a long term basis (i.e. up to 10 years), a site-specific amendment to the *Gallatin Forest Plan* standard for visual quality would be required for Site A2. Site A2 is within an area with a visual quality objective of "partial retention", meaning that human activities may be evident but must remain subordinate to the characteristic landscape (USDA 1987, page II-16). The bison capture facility would not meet this objective. This proposed amendment of the *Forest Plan* would not change the visual quality objective for the area but would exempt the facility from having to comply with that standard.

REASONABLY FORESEEABLE ACTIONS

In accordance with the *IBMP*, the purpose of the facility would be to capture bison by baiting with weed-free hay or by hazing the bison into the holding pens with riders. The DOL would test captured bison for brucellosis. Male bison and non-pregnant female bison which test sero-negative for brucellosis would be marked for identification and released on site. Pregnant females and animals testing positive would be transported from the site for disposal.

SCOPE OF THE PROPOSED ACTION

The scope of the proposed action is limited to the issuance of a Special Use Permit to DOL for the installation and operation of the bison capture facility under Montana authorities. Issues relating to the management of migrating bison were addressed in the *IBMP* and the *Draft Environmental Impact Statement for the Interagency Bison Management Plan* for Montana and Yellowstone National Park and are outside the scope of this proposed action.

SCOPE OF THE ANALYSIS

The analysis of the environmental effects associated with this action are limited to the direct, indirect and cumulative effects related to the installation and operation of the capture facility. This EA does not address the direct and indirect effects associated with the *IBMP* including for example, the probability of brucellosis transmission from bison to cattle.

CHAPTER 2 - ALTERNATIVES

GENERAL INTRODUCTION

This chapter provides a description of the alternatives and the processes used to develop them. Included in these processes are public scoping, identification and evaluation of environmental issues, and alternatives not considered in detail. The end of the chapter provides a brief comparison of the features and effects expected to result from each of the alternatives considered in detail.

ALTERNATIVE DEVELOPMENT PROCESS

A. Introduction

Alternatives are developed to address major issues relating to the proposed action. Identification of issues is achieved through public scoping, as well as scoping conducted within and between other public agencies.

B. Description of the Public Involvement and Scoping Process

Analysis and public involvement of DOL's request for a special use permit occurred in two parts. The first involved an environmental analysis resulting in a categorical exclusion for installation and short term use of the facility from November 30, 1998 through January 31, 1999. The second part involves this Environmental Assessment (EA) covering use of the facility from February 1 through April 30, 1999, and annually for as long as the next ten years. A decision notice will be prepared based on this EA which will document the selected alternative.

The Forest Service determined that an EA was necessary to properly address the potential effects of the action on a bald eagle nesting territory located close to the proposed facility. Bald eagle nesting activity is considered to begin about February 1.

A scoping letter sent on November 6, 1998 to a mailing list of individuals, groups, and Tribal entities notified them of the environmental analysis. A legal notice was printed in the Bozeman Daily Chronicle on November 10 and a news release was issued on November 13. The scoping comment period resulting in the categorical exclusion was open for 12 days. In that time, about 502 responses were received. Some organizations posted information about the proposal on the internet which resulted in over 300 electronic responses via the internet. No public meetings were held, but the Hebgen Lake District Ranger did speak with and take comments from a number of local residents.

The scoping comment period for this EA extended from November 6th through December 1st. All of the comments used in the categorical exclusion/Decision Memo were included with the comments used

to prepare this EA. About 630 responses for both documents were received. The majority of the comments came as e-mail.

The Decision Memo with a cover letter was sent to a mailing list of 251 groups and individuals. The cover letter informed them that an EA was being prepared for release in December. A news release regarding the decision was FAXed or mailed to 25 news organizations. The story on the short-term permit process and decision was also picked up by the *Missoulian*, *Billings Gazette*, *Bozeman Chronicle* and Missoula television and radio stations.

Since most of the comments received came electronically, the news release and Decision Memo were also posted on the Gallatin National Forest Internet web page. Those requesting a personal response received phone calls.

The analysis of comments was done with a content analysis process that utilizes a method and data base. This process allows for reviewing and coding of comments by a broad subject (i.e. wildlife, recreation, social issues, NEPA issues, etc.) and a more refined category (i.e. biological corridors, noxious weeds, Threatened and Endangered species, etc.). At least two people read every comment, checking each others' work and agreeing to the coding. Content analysis is not a "voting" process, rather a way to insure that public issues and potential alternatives have been identified for consideration in the assessment.

A total of 631 comments was received. There were 207 individual letters and 397 electronic responses. Of the electronic responses, 318 were form letters that came in seven different versions. Other responses included 13 telephone calls, 11 FAXes, 1 postcard, 1 petition with 64 names, and 1 personal visit to the Regional Office. Many people who sent e-mail or FAXes also followed up with a hard copy letter, so an effort was made to avoid duplicating comments. All those responding who provided addresses (electronic mail or postal) were entered onto a mailing list. Exceptions include those signatures on petitions, those who chose to remain anonymous, and unreadable handwritten signatures.

Comments came from all over the country, with over 37 states and the District of Columbia represented, along with one e-mail each from Australia, Malaysia and the Netherlands. However, with e-mail, it is difficult to tell which state the message is from, unless the sender also included a postal address. All the signatures on the petition were of Horse Butte residents. Besides individuals, 29 organizations responded, as did one State agency.

IMPORTANT ISSUES TO THIS DECISION

Many issues were identified through scoping and content analysis. Due to the nature of the proposal, many of the public issues raised focused on the general management of bison. As described in Chapter 1, those issues are outside the scope of the proposed action and are, therefore, not addressed in this analysis. Other public issues raised were determined not to relate to environmental effects expected from this project. Issues related to the proposed action and discussions of how the interdisciplinary team addressed those issues is provided below.

ISSUE 1: EFFECTS ON BALD EAGLES

The capture facility and related activities have the potential to affect bald eagles that are known to nest and forage in the area. The proposed capture facility is located near a bald eagle nest (within Zone II, 0.25 to 0.5 mile from the nest). Although this nest has been occupied for a number of years, it has been unproductive for the last 6 years, and reproductive success is often difficult to determine until April or May. Activities associated with the capture facility at Site A2, including hazing of bison, would increase the level of human activities occurring around the nest site.

Issue Disposition

To address this issue an alternative was developed which locates the capture facility outside the potential nesting area. For the proposed action, the EA presents an analysis of the potential effects on the bald eagle. This analysis is presented in Chapter 3 and in the Biological Assessment of the preferred alternative. Formal consultation with the U.S. Fish and Wildlife Service was conducted and a Biological Opinion will be issued by the Service prior to issuance of a decision.

Cumulative effects of hazing of bison and existing recreational snowmobiling may disturb known nesting bald eagles in the vicinity of Horse Butte (in addition to the Horse Butte nesting pair), especially in terms of altering use of foraging habitat on the Madison Arm of Hebgen Lake.

To address this issue, hazing is discussed in Chapter 3 and in the Biological Assessment for this proposed project. Hazing guidelines were developed for the Horse Butte area (see Appendix IV of the Biological Assessment).

ISSUE 2: DISPERSED RECREATION AND SCENERY

Location and operation of a bison capture facility could affect groomed snowmobile trails and the recreation experience of snowmobilers and others using the areas. Necessary vehicle access to the capture site, by the DOL, would require use of roads normally groomed for winter snowmobile use. Snowmobile trails or off trail riding may bring visitors in close proximity to operations, potentially creating a safety hazard or interfering with operations. Installation of a capture facility and vegetation and soil disturbance on up to five acres would be noticeable from roads and trails.

Issue Disposition

To address this issue, an alternative was developed that locates the capture facility in a less visible location away from the primary snowmobile route. Mitigation measures require re-routing of snowmobile trails to provide continued access to the Horse Butte snowmobile trail system. Law enforcement agencies will assure security of the operation which may require some restrictions around the facility.

ISSUE 3: SOCIAL ISSUES

The proposed capture facility is located in an area which contains several residential subdivisions and which receives recreational use. One subdivision is located within 0.5 miles of the facility and the proposed location would be adjacent to an existing snowmobile trail. Residents and recreationists are

concerned that the operations associated with the capture facility will create a public nuisance, change their recreational experiences, are contrary to their personal values and potentially be a safety concern.

Issue Disposition

To address this issue, the EA presents an alternative location for the capture facility which would be less visible and would minimize the potential effects. Effects on these resources are disclosed in Chapter 3.

ISSUE 4: IMPACTS OF INCREASED OPEN ROAD DENSITIES AND REDUCTION OF BISON CARRION ON GRIZZLY BEARS

An increase in the level of open motorized access routes has the potential to displace grizzly bears from the Horse Butte area before and after the denning season. Reduction in the number of bison due to removing all seropositive and pregnant female bison may affect an important food source of the grizzly bear by reducing the availability of bison carrion in the spring.

Issue Disposition

The effects of increased open road densities on grizzly bear are disclosed in Chapter 3 of the EA as well as in the Biological Assessment for this project.

ISSUE 5: EFFECTS ON OTHER THREATENED AND ENDANGERED SPECIES - PEREGRINE AND WOLF

The capture facility and related activities might have an impact on the peregrine falcon or gray wolf.

Issue Disposition

These species are addressed in detail in Chapter 3 of this document and in the Biological Assessment. Although not federally listed as threatened or endangered, the lynx is currently proposed for federal listing as a threatened species. This species is considered a sensitive species on the Gallatin National Forest and is discussed in the Biological Evaluation for this project.

ISSUE 6: SENSITIVE WILDLIFE AND PLANT SPECIES

There is the potential for the capture facility and activities related to bison capture to affect wildlife and plant species considered sensitive on the Gallatin National Forest. These species include black-backed woodpecker, boreal and flammulated owls, Harlequin duck, trumpeter swan, western big-eared bat, lynx, wolverine, Montana arctic grayling, westslope cutthroat trout, Yellowstone cutthroat trout, and 23 species of sensitive plants.

Issue Disposition

These species are addressed in detail in the Biological Evaluation for this project and in Chapter 3 of the EA.

ISSUE 7: MANAGEMENT INDICATOR SPECIES (MIS)

The capture facility and associated activities could affect the following management indicator species: northern goshawk, pine marten and wild trout. (The bald eagle, grizzly bear and elk are considered MIS species but effects to these species are covered under other issues addressed in the EA or Biological Assessment.)

Issue Disposition

The capture facility is proposed to be located in an area that is not habitat for wild trout, and is not habitat likely to be utilized by pine marten or goshawk. Activities associated with the capture facility could potentially occur in the forested area of Horse Butte where goshawk and pine marten are more likely to occur. Effects on MIS species are disclosed in further detail in Chapter 3 of this EA.

ISSUES CONSIDERED BUT NOT STUDIED IN DETAIL

A number of possible issues were identified during scoping and later determined that the action would not affect the resources associated with these issues. No further analysis was determined necessary.

Issue: Cultural Resources

Installation and operation of the site may disturb cultural or historic resources.

Issue Disposition

Preliminary capture site locations were inventoried to determine if any cultural or historic resources exist. The field inventory identified an area where some cultural resources were located. The final location for the proposed action was moved to avoid these cultural resources. No cultural resources were located at Site X. Because none of the alternatives will affect cultural resources, the issue is not considered further in the EA. The finding of the cultural resource inventory is documented in the project record, Exhibit D-7

Issue: Impacts, Outside of the Nesting Period, on Bald Eagles with Established Nesting Territories

Concerns were expressed that the proposed project may have effects on bald eagles with established nesting territories outside of the nesting period.

Issue Disposition

The effects on bald eagles with established nesting territories, are considered under Issue 1, Impacts to Bald Eagles with Established Nesting Territories. Because the proposed project would occur during portions of both the nesting and non-nesting periods, the effect of the proposed activity was considered for the entire period of proposed operations with emphasis on effects during the nesting period when bald eagles are the most sensitive to human disturbance. See also the Biological Assessment (BA) attached to this Environmental Assessment (Appendix A).

For an analysis of effects on bald eagles solely for the non-nesting period of November 30, 1998 - January 31, 1999, refer to the BA written to address the effects to threatened and endangered species for the proposal to install and operate a capture facility at Site A2 between November 30, 1998- January 31, 1999.

Issue: Impacts to Grizzly Bear During the Denning Period

There is concern that the capture facility would affect the grizzly bear between the end of November through the beginning of April (denning period). Refer to Issue 4, Impacts of Increased Open Road Densities and Reduction of Bison Carrion on Grizzly Bears for impacts to the grizzly bear outside of the denning period

Issue Disposition

Grizzly bears in the contiguous United States generally enter dens between mid-October and mid-November and emerge between late March and early May (Chapman and Feldhamer 1982, pages 521-522, 1147). Two studies of Yellowstone grizzly bears indicate that denning begins between the first and last week of November and emergence is during the first two weeks of April (IGBC 1987, page 116). Denning habitat is usually characterized by steep slopes where wind and topography cause an accumulation of deep snow. Elevation varies geographically, but dens most often occur at higher elevations and away from human activities and/or developments. Denning habitat is not present in the proposed project area.

The capture facility would be operational between November 1 and April 30 at a time when most bears are denning. Since denning habitat is not present in the Horse Butte Area, there will be no effect to grizzly bears during the denning period at either Site A2 or at Site X. The No Action alternative would likely involve monitoring, hazing and shooting activities in the Horse Butte area during the denning period and would not effect denning grizzly bears. There are no known cumulative effects on grizzly bear that would occur during the denning period. This issue was eliminated from further consideration because there would be no known effects to grizzly bear during this period.

Issue: Effect of "Baiting" Bison on Elk

Wintering elk may be attracted to the facility by hay used to bait bison into the facility. Supplemental feeding of elk is a violation of Montana State Law.

Issue Disposition

If elk were attracted to the capture facility, DOL would coordinate elk management with Montana Department of Fish, Wildlife and Parks (MTFWP) in accordance with applicable State laws.

Issue: Effects of Hazing by Helicopter on Nesting Sandhill Cranes

There is a concern that hazing by helicopters will disturb sandhill cranes that may be nesting in the Horse Butte area.

Issue Disposition

The vegetation in the capture facility area near Horse Butte is comprised largely of sagebrush, bitterbrush, bunchgrasses and some lodgepole pine. Horse Butte itself contains some forested areas comprised of Douglas fir, lodgepole pine and aspen. Sandhill cranes usually nest near water around shallow wetlands, the edges of marshes, and freshwater margins (Ehrlich et al. 1988, page 49). While the chick(s) are being raised, sandhill cranes may utilize sagebrush/bunchgrass habitat for foraging areas. Sandhill cranes are typically present in the vicinity of the Madison Arm and Horse Butte from June to October.
This EA assesses installation and activities associated with the capture facility between November 1 through April 30. No helicopter hazing activity would occur in association with operation of the capture facility. Sandhill cranes do not utilize the area near the proposed capture facility until June due to timing of snowmelt, and depart generally in October. This issue was eliminated from further study because nesting sandhill cranes will not be affected by helicopter activities associated with the operation of the capture facility between November 1 and April 30.

Issue: Vegetation and Soils

Operation of the capture facility may affect the vegetation and soils in the area.

Issue Disposition

Operation of a capture facility will disturb up to five acres of vegetation and soil in the area where the capture facility is located. Trampling of the sagebrush/grassland vegetation, exposure of bare soil due to hoof action, and compaction of soil is likely. Introduction of noxious weeds on disturbed sites is a concern. The capture facility would be located on flat ground so soil erosion is not a major concern. The soil type generally has high water-holding capacity, and potential for surface run-off is low.

Potential adverse effects on soil resources will be reduced or eliminated by employing specific management practices. These practices are described in Features Common to all Action Alternatives.

Issue: Effects on Water Quality

Concentrated bison waste associated with the proposed facility may affect the water resources in the area.

Issue Disposition

The capture facility located at Site A2 or at Site X would not be located in a floodplain, wetland or municipal watershed. Erosion and sediment delivery to the lake or river would not occur from the installation and operation of the capture facility due to the types of soils in this area. Both of the proposed capture facility sites are also far enough away from either the lake or the river that flooding events would not result in these sites being flooded and contributing sediment to the lake or river.

ISSUES OUTSIDE OF THE SCOPE OF THE PROPOSED ACTIVITY

Issue: Interim Bison Management Procedures and Impacts to the Yellowstone Bison Population

Numerous comments were received concerning the actual management of bison. However, these issues are outside the scope of the proposed action to issue a special use permit to the DOL for the installation and operation of the capture facility. Issues related to the overall management of bison have been addressed in the environmental assessment prepared for the *Interim Bison Management Plan (IBMP)* and in the *Draft Environmental Impact Statement (EIS) for the Interagency Bison Management Plan* for the State of Montana and Yellowstone National Park. Many of these issues will be further addressed in the *Final EIS for the Interagency Bison Management Plan* for the State of Montana and Yellowstone National Park. Issues relating to the overall management of bison are not addressed in this EA.

ALTERNATIVES CONSIDERED BUT NOT GIVEN DETAILED STUDY

1. No Trapping or Implementation of the Interim Bison Management Procedures and other non-lethal alternatives.

Numerous commentors suggested that no trapping be allowed anywhere and that the *Interim Bison Management Plan (IBMP)* not be implemented. In addition, commentors also offered a variety of alternatives ways of managing bison outside the provisions of the *IBMP*. These included such non-lethal alternatives as capturing and relocating bison to tribal or non-federal ownerships.

Implementation of the *IBMP* lies within the administrative authorities of the Montana DOL and the National Park Service. The environmental effects of implementing those procedures were assessed in accordance with the Montana Environmental Policy Act as well as the National Environmental Policy Act. A Decision Notice was signed by the DOL and a Finding of No Significant Impact prepared by the National Park Service (August 5, 1996. Project Record, Exhibit A-4). Therefore, none of these alternatives were considered in detail by the Forest Service.

2. Capture Site Locations On Non-Federal Lands

A number of commentors suggested that the capture facility be located on non-Federal lands. The Forest Service has no discretion to locate the facility on private lands.

ALTERNATIVES CONSIDERED IN DETAIL

A. Overview

Three alternatives were considered in detail, including two action alternatives and a no action alternative.

B. Features Common To All Alternatives

The *IBMP* provides direction to DOL to manage bison migrating outside YNP. Implementation of the Interagency Bison Management Plan is a reasonably foreseeable action and it is incorporated by reference. (December 9, 1997. Project Record, Exhibit A-6).

C. Features Common To All Action Alternatives and Mitigation

The following actions are designed to reduce or eliminate adverse effects associated with implementation of the action alternatives.

1. Restrictions on Hazing

In conjunction with the location of the capture facility, and the Interim Bison Management Procedures, the DOL and the Forest Service have agreed to a set of requirements designed to reduce the adverse effects of hazing on bald eagles and other resources. Among other provisions, the requirements prohibit the use of helicopters for hazing. The requirements are contained in Appendix IV of the Biological Assessment.

2. Closure of the Area.

Law enforcement agencies will assure security of the operation which may require some restrictions around the facility.

3. Soil And Vegetation Protection And Rehabilitation

To protect soil and vegetation resources in and around the facility, the following practices will be employed:

- Only certified weed free hay, straw or feed will be authorized.
- Soil reclamation will be conducted following completion of capture facility operations and is the responsibility of DOL. Reclamation efforts may include deep plowing and seeding of native grasses in areas of compacted bare soil. Temporary fencing may be necessary to provide for revegetation within an active livestock allotment.
- DOL will be responsible for treating noxious weeds in areas disturbed during operation of the facility.

D. Alternative Descriptions

Alternative 1 - Preferred Alternative - Site A2

The Gallatin National Forest would issue a special use permit to the Montana DOL for the installation and operation of a bison capture facility at Site A2 (Figure II). This site is considered by DOL to be the most effective for capturing bison.

Approximately 1.3 miles of Forest Service Road No. 610 and approximately 0.2 miles of non-system road would be plowed by DOL to provide access to the site. Plowed sections of road would be closed to public use to provide for public safety. Approximately 1.4 miles of snowmobile trail would be re-routed to maintain snowmobile recreational opportunities while avoiding potential safety conflicts.

The location of the proposed capture facility is within 0.5 miles of a bald eagle nesting site. Siting of a capture facility within this distance is not in accordance with the guidelines specified in the *Montana Bald Eagle Management Plan* (MTBEWG 1994) or the *Greater Yellowstone Bald Eagle Management Plan* (GYBEWG 1996). These guidelines have been adopted as management direction for the *Gallatin Land and Resource Management Plan (Forest Plan)*. A decision to implement Alternative 1 would therefore include a site-specific amendment of the *Forest Plan* to exempt this action from the *Forest Plan* standard which adopts the bald eagle management plans (USDA 1987, page II-19 and H-9). The amendment would be limited solely to this proposed site and proposed action and would not affect the application of the guidelines to other areas of the Forest.

Figure II - Alternatives Map

Also, because this proposal would authorize installation and operation of a bison capture facility on a long term basis (i.e. up to 10 years), a site-specific amendment to the *Gallatin Forest Plan* standard for visual quality would be required for Site A2. Site A2 is within an area with a visual quality objective of "partial retention", meaning that human activities may be evident but must remain subordinate to the characteristic landscape (USDA 1987, page II-16). The bison capture facility would not meet this objective. This proposed amendment of the *Forest Plan* would not change the visual quality objective for the area but would exempt the facility from having to comply with that standard.

Alternative 2 - Site X

The Gallatin National Forest would issue a special use permit to Montana DOL for the installation and operation of a bison capture facility at Site X (Figure II). This alternative was considered primarily to address issues relating to adverse effects on bald eagle and the social issues of adjacent landowners. This site is considered by DOL to be less effective in capturing bison than Site A2.

Site X is located approximately 0.75 miles east of Site A2 and outside the 0.5 mile radius (i.e. outside of Zone II) of the bald eagle nest site. Although the capture facility is within direct-line-of site of the Horse Butte nest, trees near the facility would screen some of the activities occurring at the capture facility. The access route to Site X would be more than 0.5 miles away from the bald eagle nest.

Locating a capture facility at this location would be consistent with guidelines specified in the *Montana Bald Eagle Management Plan* (MTBEWG 1994) and the *Greater Yellowstone Bald Eagle Management Plan* (GYBEWG 1996). No amendment of the *Forest Plan* would be required to implement this alternative.

Alternative 3 - No Action Alternative

The No Action alternative would constitute a decision not to issue a special use permit to DOL for the installation or operation of a bison capture facility in the Horse Butte Area.

The *IBMP* provides authority to DOL to utilize a variety of methods to control bison migrating from outside YNP. These methods include hazing and shooting when determined necessary. Implementation of the No Action alternative increases the likelihood that DOL will utilize shooting to manage bison.

COMPARISON OF ALTERNATIVES

A. Introduction

This section provides a brief comparison of how well each of the alternatives achieves the Purpose and Need described in Chapter I as well a comparative summary of environmental effects.

B. Alternative Comparison

1. The Degree to which the Alternatives meet the Purpose and Need

Alternative 1 - The location of the capture facility under Alternative 1 at Site A2 is judged to be the most efficient in capturing migrating bison. Because of the location of the capture facility at Site A2, this alternative is expected to minimize hazing and shooting of bison and is expected to result in the lowest overall mortality of bison.

Alternative 2 - Alternative 2 would locate the capture facility at Site X. Because the Site X location would not be as efficient and effective in capturing bison as Site A2, some increase from Alternative 1 in hazing, shooting and overall bison mortality is expected. The amount of increase in mortality and hazing is dependent on unpredictable factors such as weather and bison movements. For this reason, quantitative comparisons are not possible.

Alternative 3 - The No Action alternative would not meet the identified purpose and need. Based on Operating Procedures (USDI 1998, Appendix A) for the *IBMP*, more shooting of bison would be expected without capture and testing operations than through implementation of either of the action alternatives. Because bison would not be tested for brucellosis, no animals would be released for free ranging as provided for in the *IBMP*.

2. Comparison of Effects (Summary)

Issue	Alternative 1 Site A-2	Alternative 2 Site X	Alternative 3 No Action
Bald Eagle	moderate to major effect	minor to moderate effect	minor to moderate effect
Grizzly Bear	minor to moderate effect	minor to moderate effect	minor effect
Peregrine Falcon	no effect	no effect	no effect
Gray Wolf	no effect to minor effect	no effect to minor effect	no effect to minor effect
Lynx	minor effect	minor effect	no effect to minor effect
Sensitive Species	no effect to minor effect	no effect to minor effect	no effect
MIS Species	no effect to minor effect	no effect to minor effect	no effect
Recreation	low	low	low
Local Residents	low	moderate	moderate

CHAPTER 3 - AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

Chapter 3 provides a description of the existing condition of the resources likely to be affected by implementation as well as a description of the effects on the human environment likely to result.

To reduce redundancy and paperwork, effects disclosed in other required documents such as the Biological Assessment are not repeated in this chapter but are incorporated by reference. All such materials are included as appendices to the EA.

APPLICABLE FOREST PLAN DIRECTION

The location of the proposed capture facility, under both Alternatives 1 and 2, lies within *Gallatin Forest Plan* Management Area (MA 15). These lands consist of open grasslands or a mosaic of grasslands and steep rocky slopes interspersed with timber which are located in occupied grizzly bear habitat. Management goals are to provide for grizzly bear recovery, dispersed recreation and livestock use (USDA 1987, pages III-47 to III-49).

The *Forest Plan* is silent in regard to management of migrating bison. Forest-wide direction which is most applicable to this proposal includes:

Forest-wide Goal No. 21. "Coordinate with the land and resource management and planning efforts of other Federal, State, local agencies, and private landowners. Strengthen this coordination within the entire Greater Yellowstone Area" (USDA 1987, page II-2).

Forest Plan Standard No. 12c. "Special use applications will be evaluated on a case-by-case basis" (USDA 1987, page II-27).

Other applicable *Forest Plan* standards and guidelines are discussed throughout the remainder of this chapter.

EFFECTS ASSESSMENT BY ISSUES

The affected environment and environmental effects are disclosed for those issues identified through scoping and displayed in Chapter 2.

ISSUE 1: EFFECTS ON BALD EAGLE WITH ESTABLISHED NESTING TERRITORIES

A. Affected Environment

A general description of bald eagle habitat and behavior is provided in the Biological Assessment (Appendix A, pages 13-14).

There are three bald eagle nests along Hebgen Lake in the vicinity of Horse Butte. All of these nest sites have been active during recent years. Although the Horse Butte eagle nest has been active, young have not been produced in this nest since 1992 and the nesting pair of bald eagles has the lowest reproductive rate of all of the bald eagle pairs on the Hebgen Lake Ranger District. The nest lies adjacent to a private residential subdivision, near a lookout tower and in the vicinity of a high-use snowmobile trail. Based on visual observations from 1977-1996, bald eagle perches identified in the Horse Butte/flats area are primarily located along the Madison Arm and by the mouth of the Madison River at Hebgen Lake. During winter, open water along the east end of the Madison Arm provides foraging habitat for bald eagles. Nesting or foraging habitat would not be physically altered under any of the alternatives. A detailed discussion of bald eagle nesting territories, perches and foraging areas is presented in the BA (Appendix A, pages 14-17).

B. Direct/Indirect and Cumulative Effects

1. Alternative 1 - Proposed Action (Site A2)

There are a number of factors that may affect the pair of bald eagles that occupies the Horse Butte nest during the time when the bison capture facility would be in operation. These factors include various types and intensities of noise and visual movements of human activities. These noises and activities would be associated with travel to and from the capture facility, operation of the facility, and hazing of bison. Bald eagles nesting at the Horse Butte nest site would be disturbed by noise and movements associated with vehicle travel on the access road (which passes within 0.25 miles of the Horse Butte nest at one point), noise and movements associated with capture and testing of bison (within 0.5 miles of the nest) and hazing activities conducted from snowmobiles. Use of perches near the capture facility and along the Madison Arm of Hebgen Lake may be reduced due to activities associated with the facility and hazing. As a result, effective foraging in this area may be reduced for bald eagles. Refer to the BA (Appendix A, pages 17-18, 24) for details of the analysis for this alternative.

2. Alternative 2 (Site X)

a. Horse Butte Nest Site

Activities at the capture facility would be the same at Site X and Site A2. Because Site X is about 0.25 miles farther away from the nest than Site A2, the intensity of noise from the facility would be somewhat less and not all noise heard from Site A2 would necessarily be heard from Site X.

It is not feasible to quantitatively compare effects of activities associated with access to the capture facility at Site A2 and Site X because there are no good data describing the influences of motorized vehicles on bald eagles and there are different responses between individual birds (i.e. some birds are more tolerant of motorized vehicle disturbance than others). Qualitatively, the types and the level of

traffic would be the same as in Alternative 1. However, the access road to Site X is more than 0.5 miles from the Horse Butte nest. Access to Site X would be an additional 0.25 miles from the nest than access to and from Site A2. Because of the increased distance from the nest to Site X, it would be less of an impact to the Horse Butte nest than traffic using the access road to Site A2. In addition, the access road to Site X is somewhat shielded by trees, therefore motor vehicle noise may also be muffled to some extent.

The designated snowmobile trail would not need to be re-routed along Forest Service Road No. 610 south of the bald eagle nest, and therefore would not significantly change the existing pattern of snowmobile use along the designated trail. If snowmobilers concentrate around the capture facility to view the capture activities, this source of noise and activity would be farther away from the nest than at Site A2 and would have less effect on the Horse Butte nest.

Hazing activities from November 1 through April 30 are not likely to displace breeding bald eagles from directly around the Horse Butte nest site since bison do not generally congregate under or around this nest (same effect as in Alternative 1). Because Site X is located about 0.25 miles farther away from the Horse Butte nest, it would have less impact on eagles using perches immediately adjacent to the nest than activities at Site A2. However, if more hazing occurs around the other bald eagle nest sites on Horse Butte (due to a less effective capture facility location), the increased noise and human activities may have a negative affect on those nesting bald eagles.

b. Perches and Foraging Habitat

Perches, especially along the north side of the Madison Arm of Hebgen Lake, are probably used for loafing and foraging by all nesting bald eagles in the vicinity of Horse Butte. Once the ice melts along the Madison Arm of Hebgen Lake (about April or May) and the "perches" on the ice are no longer available, tree perches along the edge of the lake may be more important to bald eagles than during the winter. As lake ice melts, water south of Site X would open before water south of Site A2. However, the capture facility at Site X has fewer perch trees adjacent to it than Site A2, and the potential to displace bald eagles from perches is probably less at Site X than at Site A2.

Survey and hazing activities that occur along the north rim of the Madison Arm of Hebgen would have the same effects on bald eagle as those described for Alternative 1.

3. Alternative 3 - No Action

Under the Interim Bison Management Plan (USDI 1995, Appendix A) and Adjustments to Interim Bison Management Operating Procedures (USDI 1998, page 330), bison management activities including monitoring, hazing and shooting of bison would occur in the West Yellowstone and Horse Butte areas.

a. Horse Butte Nest Site

Hazing, shooting, and associated noise would occur over a dispersed area and would not provide the point source of human activity that a capture facility at Site A2 or Site X would produce near the Horse Butte nest area. Access along plowed roads to a capture facility would not be necessary under this alternative resulting in no effect to bald eagles due to the presence of a plowed access road and motor vehicle traffic. Under this alternative, more hazing from snowmobiles would likely occur in the Horse Butte area than under Alternatives 1 and 2. Noise from snowmobiles and other hazing activities

(possibly rifle shots, cracker shells, human voices) would be similar to that described for Alternative 1. It is difficult to determine how often snowmobile activities and loud noises would occur near the nest. However, considering that bison do not normally congregate beneath this nest, it is unlikely that more disturbance would occur to the Horse Butte nest from hazing activities than would occur in Alternatives 1 and 2, although more shooting of bison may occur. Overall, this alternative would be less impactive to the Horse Butte nest than Alternatives 1 and 2.

b. Perches and Foraging Habitat

If bison are not being surveyed and or hazed toward a capture facility along the north rim of the Madison Arm of Hebgen Lake, there would be less disturbance to bald eagles perching and foraging in this area than would occur under Alternatives 1 and 2.

C. Cumulative Effects

Implementation of any of the alternatives in conjunction with existing activities on Horse Butte may contribute to a continued lack of productivity at the bald eagle nest site. Considering all existing human activities, Alternative 1 is more likely to result in cumulative effects that would lead to abandonment of the nest than Alternative 2 or 3. Because Alternative 3 does not have a point source of activity or an access road and because it is less impactive to perches and foraging habitat, it is less likely to cause disturbance to the nesting bald eagles when considering existing human activities than Alternative 2.

D. Forest Plan Direction and Compliance/Consistency

The *Gallatin National Forest Plan* (USDA 1987, pages II-19 and H-9) states that general management direction for bald eagle habitat is provided in a *Bald Eagle Management Plan for the Greater Yellowstone Ecosystem* and the *Montana Bald Eagle Management Plan.* The guidelines in these bald eagle management plans were established to maintain and protect bald eagles and their habitat.

Guidelines are established for nest site areas (Zone I), primary use areas (Zone II) and home range (all potential foraging habitat within a 2.5 mile radius of the nest) (GYBEWG 1996, pages 24-25).

Zone I includes the area within a 400 meters (0.25 mile) radius of an active nest and of all known alternate nests. Zone I guidelines recommend that:

- Human activity should not exceed minimal levels during the period from first occupancy of the nest site until two weeks following fledging (approximately February 1 - 15 August). Light human activity levels should not be exceeded during the rest of the year.
- Habitat alterations should be restricted to projects specifically designed for maintaining or enhancing bald eagle habitat and conducted only during September through January.
- Human activity restrictions for Zone I may be relaxed during years when a nest is not occupied. However, light human activity levels should not be exceeded and land use patterns should not preclude a return to minimal activity levels.

Zone II includes the area within 800 meters (0.5 mile) radius of an active nest and of all known alternate nests. Zone II guidelines recommend that:

- Light human activity levels should not be exceeded during the nesting season. Moderate levels should not be exceeded during other times of the year;

- Habitat alterations should be carefully designed and regulated to insure that preferred nesting and foraging habitat are not degraded;
- Developments that may increase human activity levels and use patterns should not be allowed;
- Structures that have the potential for increasing mortality due to collision should not be constructed.

The proposed capture facilities and associated activities do not comply with the above bald eagle guidelines and may affect the bald eagle. These predicted impacts to the bald eagle nest site will require a site-specific amendment to the *Gallatin Forest Plan*.

ISSUE 2: DISPERSED RECREATION AND VISUAL RESOURCES

A. The Affected Environment

The Horse Butte area of the Hebgen Lake Ranger District is popular for recreation on a year-round basis with peak use occurring in the summer and winter months. Popular recreation activities include camping, fishing, driving for pleasure, snowmobiling, hunting, and hiking. During the spring, summer and fall, the Horse Butte area is designated as a day use area. Overnight camping is restricted to the developed campground at Rainbow Point. Two recreation residences are located near Rainbow Point. These residences are occupied throughout the summer season with some incidental use on weekends and holidays in the fall and winter.

Gallatin National Forest Plan (USDA 1987, pages III-47 to III-49) direction for recreation in this area (Management Area 15) is to provide for dispersed recreation opportunities consistent with grizzly bear mortality reduction goals as established by the Interagency Grizzly Bear Committee. The visual quality objective for the area of the proposed capture sites is partial retention. The goal for partial retention in the *Gallatin Forest Plan* is that human activity may be evident but must remain subordinate to the natural landscape.

The town of West Yellowstone, Montana, located at the west entrance to the Park, has been touted as the "snowmobile capital of the world". The West Yellowstone area, a vacation destination for snowmobilers from across the country, is the primary gateway to 200 miles of groomed snowmobile trails inside Yellowstone National Park and 400 miles of groomed trails outside the Park in the West Yellowstone area. Winter recreation use is growing, both inside Yellowstone National Park, and in areas surrounding the Park. Within Yellowstone National Park, winter use has nearly doubled in the decade between 1984 and 1994 to 140,000 snowmobile counts in the 1994-95 season (USDI 1998, pages 153-154). Snowmobile use on the Hebgen Lake Ranger District continues to grow. Snowmobile counts have increased from 47,552 in 1984-86 to 107,713 in 1995-96. (USDI 1998, pages 153-154). After a day or two of touring Yellowstone National Park, snowmobilers often seek out the less restrictive environs of the surrounding National Forests.

A 1994 report on snowmobiling in Montana found that nonresidents spend approximately $40 million annually in the state and three-fourths of those nonresidents spent time in or near West Yellowstone (Sylvester and Nesary, 1994).

During the winter season, the major recreational activity in the Horse Butte area is snowmobiling. Average daily use ranges from 100 to 150 snowmobiles per day (Coffin, pers. comm. 11/19/98). The typical season begins around December 1 and runs through March 30. The groomed trail system and is identified in Figure III. Approximately 30 miles of trail, known as the Horse Butte loop trail, are

groomed and maintained under a cooperative agreement with the West Yellowstone Chamber of Commerce and the Montana Department of Fish, Wildlife, and Parks. Key attractions of this area include a panoramic view from Horse Butte, ice fishing on the Madison Arm of Hebgen Lake, wildlife viewing opportunities, diverse scenery, and snowmobile play areas. The majority of play areas are located on the Horse Butte peninsula. Approximately 75 acres on the south side of Horse Butte are closed to snowmobiles to protect wildlife. Outside of this closure area, snowmobiles are permitted to travel off groomed trails. Travel off groomed trails is dependent upon snow conditions.

Figure III - Location of roads and snowmobile trails

Minor amounts of cross-country skiing occur in the area, primarily on Horse Butte itself. There is also a dog sled outfitter and guide special use permit for this area.

B. Direct, Indirect and Cumulative Effects

In evaluating impacts on recreation, three areas of potential impact were analyzed:

- Impact on groomed snowmobile trails;
- Impact on recreation experience and use;
- Impact on visual quality of area.

1. Alternative 1 - Proposed Action

a. Impact to Groomed Snowmobile Trails

Impacts will vary depending upon what road access option the State uses. Impacts are based on the following two access routes, which are identified in Figure III.

Option 1 - Access via Rainbow Point Road 6954

Approximately 1.3 miles of Horse Butte/Forest Service Road No. 610, ordinarily groomed as a snowmobile route, would be plowed from the junction with Rainbow Point/Forest Service Road No. 6954 to the capture facility. Plowing is necessary to provide administrative vehicle access to the capture site. Vehicle access on the Horse Butte Road No. 610 would be restricted to administrative traffic necessary to operate the facility. Other vehicles would be restricted by signing or with a gate.

To provide for continued snowmobile access to the Horse Butte area and to reduce mixed snowmobile and vehicle traffic, approximately 1.4 miles of new trail will be groomed to bypass the plowed road. The re-routed trail will either be on existing roads and trails, or parallel to existing roads. Approximately 0.8 miles of a road that was physically closed with slash and debris several years ago would be re-opened for the duration of this permit. An additional 0.6 miles of re-routed trail would occur from the junction of Horse Butte Road No. 610 and Pine Avenue to the west and parallel to Road No. 610.

Re-routing of the trail would provide for continued snowmobile use of the Horse Butte area with minimal inconvenience to users. Re-routing would require one additional crossing of the Horse Butte road which is open to administrative traffic. Appropriate safety signing would be installed where groomed snowmobile trails cross roads that are open to vehicle use.

Option 2 - Access via Pine Avenue

This option requires less re-routing of the existing Horse Butte Snowmobile Trail. Approximately 0.6 miles of the trail would be re-routed parallel to Horse Butte/Forest Service Road No. 6697 from the Pine Avenue intersection with Horse Butte Road to the capture site.

b. Impact on Recreation Experience and Use

The proposed capture site, located between the snowmobile trail and Madison Arm of Hebgen Lake, would be clearly visible and would be located about 200 feet south of the snowmobile trail on Horse Butte Road No. 610. Activity at the capture site is expected to be intermittent and limited to dealing with 10-12 bison at one time. The majority of snowmobilers are not anticipated to view any activities at this site. However, on-going activities would be readily visible, and there is some risk that hazing could result in bison mixing with snowmobilers who stop to observe activities. Snowmobilers in the area could also either willingly or unwillingly interfere with operations. Law enforcement agencies will assure security of the operation which may require some restrictions around the facility. Restrictions will not preclude snowmobile use on the groomed trail system beyond the capture facility on Horse Butte Peninsula.

There are no plans to kill bison at these sites. Rather, seropositive bison and pregnant females would be shipped to processing plants. However, some incidental injuries or mortality could occur as a result of handling and some dead or injured animals may be visible to the public.

Installation and operation of a capture facility is not expected to affect overall snowmobile use of this area or of the greater West Yellowstone area. The recreation-based winter economy would not likely be affected. Interest groups opposed to the capture facility and removal of bison may suggest "boycotts" of the West Yellowstone area. Predicting the effects of such actions is difficult and beyond the scope of this analysis.

c. Impact on Visual Quality

The capture facility and anticipated concentrated animal use of area will create a visual impact during the life of the operation. The proposed capture facility would consist of a series of metal corral-type panels configured into four holding pens , a sorting area, and a separate work area. The primary facility would be approximately 100 feet by 300 feet and include wing panels protruding from the main facility. Vegetation will be trampled in the holding pen area and possibly in the areas immediately surrounding the site. Visual impacts will be more noticeable at this site in comparison to Alternative 2 due to the proximity to the Horse Butte road and snowmobile trail, and because of the open nature of the terrain. The partial retention visual quality objective states that human activities may be evident but must be subordinate to the characteristic landscape. The bison capture facility would not meet this objective. The visual impact would occur for as long as the facility is in place, up to 10 years. Mitigation measures will lead to restoration of the site upon completion of activities

2. Alternative 2 - Site X

a. Impact to Groomed Snowmobile Trails

Impacts will vary depending upon what road access option the State uses. Impacts are based on the following two access routes, which are identified in Figure III.

Option 1 - Access via Rainbow Point Road 6954

This alternative also affects the Horse Butte Snowmobile trail but to a lesser extent than Alternative 1. Approximately 0.7 miles of Horse Butte/Forest Service Road No. 610, ordinarily groomed as a snowmobile route, would be plowed from the junction with Rainbow Point/Forest Service Road No. 6954 to the junction with the Pine Avenue. From this junction, 0.5 miles of a non-system road would be

plowed to the capture facility. The southern loop of the Horse Butte snowmobile trail (Forest Service Road No. 6697) would require minor re-routing (less than 0.2 miles) to cross and avoid the plowed non-system road. Plowing is necessary to provide administrative vehicle access to the capture site. Vehicle access on the Horse Butte Road No. 610 would be restricted to administrative traffic necessary to operate the facility. Other vehicles would be restricted by signing or with a gate.

To provide for continued snowmobile access to the Horse Butte trail system, and to reduce mixed snowmobile and vehicle traffic, approximately 0.8 miles of new trail will be groomed to bypass the plowed road. The re-routed trail will be on existing roads and trails. With this alternative, snowmobiles could return to the original Horse Butte groomed trail past the junction of Pine Avenue on Forest Road No. 610.

Re-routing of the trail will provide for continued snowmobile use of the Horse Butte area with minimal inconvenience to users. Re-routing will require one additional crossing of the facility access road which is open to administrative traffic. Appropriate signing will be installed where groomed snowmobile trails cross roads that are open to vehicle use.

Option 2 - Access via Pine Avenue

This option requires minimal re-routing of the existing Horse Butte Snowmobile Trail. The primary access road would cross the groomed trail at the Horse Butte Road No. 610 and Pine Avenue junction. The south loop of the Horse Butte trail along Madison Arm would require minor re-routing to avoid the 0.5 mile access road from the junction to the capture site.

b. Impact on Recreation Experience and Use

The location for the capture facility is less likely to affect snowmobiler's recreation experience due to greater separation between the trail and the capture site. Snowmobilers are less likely to observe operations from the trail but could travel off trail to this site. The capture site, located about 0.25 mile south of the snowmobile trail, is less visible from the trail due to vegetation. Snowmobilers could still venture to this site but it would require off-trail riding. In general , the facility and operations would be less noticeable to the public at this site. Activity at the capture site is expected to be intermittent and limited to dealing with 10-12 bison at one time. The majority of snowmobilers are not anticipated to view any activities at this site. However, on-going activities could be visible, and there is some risk that hazing could result in bison mixing with snowmobilers who stop to observe activities. Snowmobilers in the area could also either willingly or unwillingly interfere with operations. Law enforcement agencies will assure security of the operation which may require some restrictions around the facility. Restrictions will not preclude snowmobile use beyond the capture facility on Horse Butte Peninsula.

There are no plans to kill bison at these sites. Rather, seropositive bison and pregnant females would be shipped to processing plants. However, some incidental injuries or mortality could occur as a result of handling. Such activity may be visible to the public.

Installation and operation of a capture facility is not expected to affect overall snowmobile use of this area or of the greater West Yellowstone area. The recreation-based winter economy would not likely be affected.

c. Impact on Visual Quality

The capture facility and anticipated concentrated animal use of area will create a visual impact during the life of the operation. The appearance of the capture facility would be similar to the description above in Alternative 1. Visual impacts will be less noticeable at this site in comparison to Alternative 1 due to physical separation from the snowmobile trial and Horse Butte road, and because of additional vegetative screening. The partial retention visual quality objective states that human activities may be evident but must be subordinate to the characteristic landscape. Due to vegetative screening and distance from the primary trail/access road, the facility at this site will meet partial retention visual quality objectives. The visual impact would occur for as long as the facility is in place, up to 10 years. Mitigation measures will lead to restoration of the site upon completion of activities.

3. Alternative 3 - No Action

a. Impact to Groomed Snowmobile Trails

Existing Horse Butte groomed snowmobile route would not be re-located due to snow plowing and road access associated with operation of a capture facility.

b. Impact on Recreation Experience and Use

No capture facility would be adjacent to or near snowmobile trails. Implementation of the Interim Bison Management Plan by the State of Montana could potentially affect snowmobile and cross country skiing experiences. Under the Interim Plan (USDI 1995, Appendix A) and the 1997 Operating Procedures (USDI 1998, Appendix A) bison outside the Park could be shot and removed from the area. Observing the killing of bison, or the aftermath in terms of entrails and blood, could be disturbing to some recreationists.

c. Impact on Visual Quality

No effect on visual quality.

C. Forest Plan Direction and Compliance/Consistency

Because this proposal would authorize installation and operation of a bison capture facility on a long term basis (i.e. up to 10 years) a site-specific amendment to the *Gallatin Forest Plan* standard for visual quality would be required for Alternatives 1 (USDA 1987, page II-16). This site is within an area with a visual quality objective of "partial retention" meaning that human activities may be evident, but must remain subordinate to the characteristic landscape." The bison capture facility would not meet this objective. This proposed amendment of the *Forest Plan* would not change the visual quality objective for the area but would exempt the facility from having to comply with that standard.

Alternatives 1 and 2 are otherwise in compliance with *Forest Plan* direction for recreation. Recreation trail systems and access roads will remain available for public use and no major impacts on recreation use are anticipated.

ISSUE 3: SOCIAL ISSUES

The location of the proposed facility and the management of bison at the facility may have an impact on personal values of visitors and adjacent landowners who will see the capturing and testing of bison.

A. The Affected Environment

The facility and activities related to the facility would be most likely viewed by residents of the nearby subdivisions and snowmobilers playing in the general area. Some of these individuals may have strong opinions and emotions related to the overall bison management issue and could be offended or upset by seeing the facility and related activities.

B. Direct, Indirect and Cumulative Effects

Under Alternative 1, locating the facility south of Horse Butte, the effects of actually seeing the facility would be most impactive. The facility would be adjacent to the snowmobile trail and would be visible by snowmobilers as they go by, and as they view the area from on top of Horse Butte (a favorite snowmobile destination). The facility itself would not be directly visible from the subdivision, but residents would be exposed to related vehicle and/or snowmobile activities on the Horse Butte County Road, Forest Road No. 610, and possibly on Pine Avenue.

Locating the proposed facility at Site X, as identified in Alternative 2, would have fewer visuals effects on snowmobilers. The snowmobile trail does not go by this location. Although visible from the top of Horse Butte, it is far enough away that snowmobilers would not be able to see actual activities at the facility. The nearby residents would be exposed to related vehicle and/or snowmobile activities on the Horse Butte County Road, Forest Road No. 610, and possibly on Pine Avenue.

ISSUE 4: IMPACTS OF INCREASED OPEN ROAD DENSITIES AND REDUCTION OF BISON CARRION ON GRIZZLY BEARS

A. Affected Environment

The Biological Assessment (pages 8-10) provides background information about grizzly bears including status and trend information, recovery area and management situation, habitat and behavior, denning habitat, human/bear conflict and mortality risk, and core area. The Horse Butte area lies within Management Situation 2 grizzly bear habitat, which is an area containing some grizzly bear habitat components, and bears may be present occasionally. The area does not contain key grizzly bear habitat and lies within a developed and roaded area. Most of the activities associated with the capture facility would occur during the grizzly bear denning season, but some activity may occur pre and/or post denning in any given year. Denning habitat is not present in the proposed project area.

Road Density

The roads and snowmobile trails existing in the Horse Butte area are shown in Figure III. Forest Road 6954 and the Pine Avenue road are open to motorized traffic year round. Forest Road No. 610 is open to motorized vehicles from April 1 to November 30 annually. From December 1 to March 31, Forest Road No. 610 is a groomed snowmobile trail and is not open to other motor vehicle travel. Pine Avenue Road intersects the county road and has been plowed for the past few winters. In the last year

(calendar year 1998), 4.8 miles of road have been obliterated in this Bear Management Subunit (Madison 2).

Bison Carrion

A discussion of grizzly bear food habits and the use of bison carrion by grizzly bears is found in the Biological Assessment (pages 7-9).

B. Direct and Indirect Effects

1. Alternative 1 - Proposed Action

Road Density

The greatest level of human activity at the capture facility would occur during the winter when bears are denning. However, operation of the capture facility may occur in November and/or April when bears are active. During years of early or late winter snowpack, a temporary increase in over-snow road and trail densities would occur pre- and post-denning when bears are active and the capture facility is operational. Human activities and a year-round increase of 0.8 miles of road related to the capture facility may increase the existing potential for bear displacement from the area. For further discussion of effects on grizzly bear due to road densities associated with a proposed capture facility at Site A2, refer to the Biological Assessment (pages 10-12).

Bison Carrion

Although there would likely be some reduction of bison carrion available to bears due to the operation of a bison capture facility, the effects on grizzly bears are expected to be negligible. For further discussion of effects on grizzly bear due to a possible reduction or change in distribution of bison carrion, refer to the Biological Assessment (page 12).

2. Alternative 2 - Site X

Road Density

The access route to Site X would not be entirely the same as the access route to Site A2 but would require re-routing of the same 0.8 miles of snowmobile trail on a previously obliterated road as proposed for Alternative 1. The 0.8 miles of increased road is a currently obliterated road spur that would be cleared of slash to facilitate access to the capture facility during the winter by snowmobile and would remain clear of slash, essentially opening it to use during other seasons by motorized vehicles. When the capture facility is no longer under permit, the 0.8 miles of road would once again be obliterated.

There would be an increase in human activity at the capture site and along the access route to the capture site for up to six months annually for up to 10 years. Human activity levels would depend on weather and bison migration patterns. Bison movements out of Yellowstone National Park are generally related to winter weather conditions (i.e. harsh winter conditions result in increased bison migration). The greatest level of human activity at the capture facility would occur during the winter when bears are denning. However, operation of the capture facility may occur in November and/or April when bears are active. During years of early or late winter snowpack, a temporary increase in over-snow road and trail densities would occur pre and post-denning when bears are active and the capture facility is operational. The impacts to grizzly bears in terms of an increase in open road densities and increased human activity would be the same as impacts to grizzly bears resulting from a proposed capture facility at Site A2 (Biological Assessment, pages 10-12).

Bison Carrion

Some reduction in the number of bison carcasses available to grizzly bears would occur if all seropositive and pregnant female bison are removed from the area via operation of the Horse Butte capture facility. It is estimated that approximately 16% of the Mary Mountain/Pelican Valley bison may migrate to the West Yellowstone area under severe winter conditions (USDI 1998, page 340). Assuming 16% actually did migrate out of the Park under severe weather conditions and assuming 100% of those bison would be captured, it is estimated that approximately 42% of the captured bison would be removed because they are seropositive or pregnant females (USDI 1998, page 340). Under this scenario, approximately 7% of the bison from the Mary Mountain/Pelican Valley area might be removed from the population and would not be available as a source of winterkill for grizzly bears inside or outside of YNP. It is expected that the percentage of bison removed from the Mary Mountain/Pelican Valley herds would be lower during mild or average winters.

A change in distribution of bison carcasses in spring due to the remaining 9% of the Mary Mountain/Pelican Valley bison (being seronegative and being allowed to remain on Horse Butte) could also occur. This would change the availability, location, timing and to some extent the abundance of winterkill bison carrion for grizzly bears. During the spring, more bison carrion could be available to bears outside of the Park and less bison carrion available to bears inside of the Park than if all bison were confined to Park boundaries. This change in distribution of carcasses would have the potential to slightly reduce bison carrion available to grizzly bears within the Park during post-denning periods following severe winters. The reduction in bison numbers following normal or mild winters would be less than during severe winters. Although there would likely be some reduction of bison carrion available to grizzly bears inside of the Park due to operation of the capture facility at West Yellowstone, it is likely that the effects to grizzly bears would be negligible.

The proposed bison capture facility would not be located in primary elk winter range and elk carcasses are not abundant on Horse Butte or along the Madison Arm. Bison may winter on Horse Butte and winter kill bison carcasses may be an available spring food source for grizzly bears.

At Site X, the capture facility is located in an area where fewer bison may be captured (Special Use Permit Application, Section 10b and Addendum No. 7). More hazing may be necessary for successful capture of all bison exiting the Park at Site X than at Site A2. The number of bison removed from the area may be slightly greater than the number of bison removed under Alternative 1, but the Yellowstone bison population would likely remain within the range of 1,700 - 3,500 animals (USDI 1998, pages 202-205). Bison mortality could be slightly higher at Site X than at Site A2 if more bison are removed

(due to less efficient capture location). Bison mortality would be less if a bison capture facility is installed and operated at Site X than if no capture facility is permitted.

3. Alternative 3 - No Action

Road Density

Under this alternative, a permanent capture facility would not be allowed, there would be no increase in road density in the area and therefore no effects to grizzly bear due to a change in road densities. Activities associated with monitoring, hazing and/or shooting may have some effect on grizzly bears during pre-and post denning but those effects would no likely cause displacement of grizzly bears from the area unless considered with existing human activities (see cumulative effects).

Bison Carrion

Under the No Action alternative, with no capture and testing of bison, it is likely that whatever bison entered the state of Montana would be harvested and carcasses removed from the area (USDI 1998, Appendix A). It is estimated that approximately 16% of the Mary Mountain/Pelican Valley bison migrates to the West Yellowstone area under severe winter conditions (USDI 1998, page 340). Assuming 16% actually did migrate out of the Park under severe weather conditions, it is assumed that most, if not all, of these animals would be harvested. A few might die of natural causes and their carcasses might remain in the area between the Park and Horse Butte. Under this scenario, approximately 16% of the bison from the Mary Mountain/Pelican Valley area might be removed from the population and would not be available as a source of winterkill for grizzly bears inside or outside of YNP. It is expected that the percentage of bison removed from the Mary Mountain/Pelican Valley herds would be lower during mild or average winters. A series of bad winters coming one after another would have the potential to affect the Mary Mountain/Pelican Valley bison herd more than a single bad winter.

C. Cumulative Effects

Road Density

An increase in open motorized route densities by 0.8 miles for Alternative 1 and 2 would increase the potential for bears to avoid this area of Horse Butte, however, a negative impact to grizzly bears within the entire the Madison 2 Subunit would not be expected because an overall increase in road densities in the subunit would not occur (Biological Assessment, pages 23-24). There would be "no net increase in the open motorized route density by subunit" in accordance with the amended Biological Opinion on the *Gallatin National Forest Plan* (USDI 1995) for any of the alternatives.

Bison Carrion

Weather related bison mortality and mortality related to bison testing and removal associated with this capture facility have the potential to occur in the Horse Butte area. Other effects on bear food sources are occurring in the Greater Yellowstone Area that are not directly human caused (e.g. white pine blister rust affecting whitebark pine, lake trout introduction affecting native trout). Bears are omnivores that feed on a wide variety of foods which vary seasonally and also between years. Bears shift their feeding habits depending upon abundance of a particular food or foods in a season. In the unusual scenario of widespread, major food failures in the same year (e.g. whitebark pine seed crop failure, drought

affecting vegetation, lack of winter killed ungulates, etc.) the lack of bison carrion available to grizzly bears could negatively impact grizzly bears. Cumulative effects of Alternative 1, 2 or 3 and existing human activities would likely be minor, except for unusual years as described above when cumulative effects may be moderate.

D. Forest Plan Direction and Compliance/Consistency

The *Gallatin Forest Plan* (USDA 1987) provides direction for T&E species management on the Gallatin National Forest in accordance with the ESA. The *Forest Plan* also states that biological assessments and consultation with the USFWS be conducted on activities that have the potential to affect a threatened or endangered species (USDA 1987, page II-19). *Forest Plan* (USDA 1987) goals (page II-1) include to provide sufficient habitat for recovered populations of T&E species, strive to prevent human-caused grizzly bear losses, and maintain or improve forage resources.

Forest-wide standards specific to grizzly bears require that grizzly bear standards and guidelines in Appendix G be followed.

The proposed project activity area is designated as Management Area (MA) 15 in the *Gallatin Forest Plan* (USDA 1987, pages III-47 to III-49). MA 15 areas consists of open grasslands or a mosaic of grasslands and steep rocky slopes interspersed with timber which are located in occupied grizzly bear habitat and provides for dispersed recreation and livestock use. Specific goals, standards and guidelines can be found in the *Gallatin Forest Plan* (USDA 1987) and the Biological Assessment for this project (pages 5-6).

The *Gallatin Forest Plan* was amended (Amendment 19) in 1995 related to road density in the Recovery Zone and in accordance with the USFWS amended Biological Opinion (USDI 1995) on the *Forest Plan*. This Amendment stated that open or total road density would not be increased in Bear Management Subunits. All alternatives would be consistent with this *Forest Plan* Amendment.

ISSUE 5: EFFECTS ON OTHER THREATENED AND ENDANGERED SPECIES - PEREGRINE AND WOLF

A. Affected Environment

Further information about status and habitat use of the peregrine falcon and gray wolf may be found in the Biological Assessment (pages 19-21).

Peregrine Falcon

Peregrine falcons do not nest on or very near Horse Butte due to lack of suitable habitat. They may forage along the lake shore during spring and fall, but only occasionally.

Gray Wolf

The Chief Joseph pack may infrequently range into the Horse Butte area, however, there is not an established wolf pack inhabiting the area. No dens or rendezvous sites have been documented to occur in this area.

B. Direct and Indirect Effects

1. Alternatives 1 and 2

Peregrine Falcon

Most peregrine falcon life history studies have focused on the nesting period. Effects to nesting and non-nesting birds can only be surmised. No active or historic nest sites occur in the project area. Suitable nesting habitat is not present due to the lack of rock outcrops and cliffs in the vicinity of the proposed project area. Although potential foraging habitat along Hebgen Lake may be present where waterfowl congregate along the shores of the Madison Arm of Hebgen Lake during the fall and spring (some birds are also present in this area in relatively small numbers during the winter), this area does not present exceptional foraging opportunities. Peregrine falcons are wide-ranging and may obtain prey from various locations. There are no expected direct or indirect impacts to the peregrine falcon and/or potential nesting and foraging habitat due to implementation of either of these alternatives.

Gray Wolf

Activities at the capture facility would be the same at Site X and Site A2 and would affect less than 5 acres of open sage brush/grasslands in either location. Human-related disturbances including the groomed snowmobile trail and the proposed action could temporarily displace wolves from this area. However, the total acreage occupied by the facility is small compared to habitat available for wolves. Human activity related to the bison capture facility would have no direct or indirect effects on denning activities.

Although the Horse Butte area is not regarded as winter range for elk, elk may be present especially during the early spring. The presence of the capture facility would add to the level of human activity during the winter/early spring period and may cause a temporary change in distribution of elk in the area. However, elk observed on Horse Butte appear to occupy habitat with more cover (trees). If elk are attracted to the capture facility due to the presence of hay (used to bait bison), wolves may initiate use of the area.

For a discussion on availability of bison carcasses in the Horse Butte area to wolves, refer to Grizzly Bear (Habitat and Behavior and Potential Indirect and Direct Effects in the Biological Assessment). Because the Horse Butte area is only used sporadically by wolves (usually in the summer), they do not rely on this area for winterkill bison carcasses. However, if wolves were to be present in the Horse Butte during winter/spring and bison winterkill were available, wolves would likely take advantage of the foraging opportunity. A potential change in distribution of bison carcasses from Yellowstone National Park to the West Yellowstone area due to the proposed capture facility, would not be expected to negatively affect the wolf. The action alternatives pose only minor and indirect impacts on wolves.

2. Alternative 3 - No Action

The No Action Alternative would be expected to have less impact to the habitat than the action alternatives, and therefore would have no effect on the peregrine falcon and would not jeopardize the continued existence of the gray wolf.

C. Cumulative Effects

Details on other activities occurring in the Horse Butte area are found in the Biological Assessment (pages 21-23). The BA concludes (page 23) that "Bison and wolves have been observed in and around private lands and home and do not appear to be displaced by existing human activities associated with these areas."

There are no known activities that would increase cumulative effects to peregrine falcons or wolves in the area.

D. Forest Plan Direction and Compliance/Consistency

Further information on *Gallatin Forest Plan* standards in relation to threatened and endangered species are available in the Biological Assessment (page 5). The key *Forest Plan* goal related to peregrine falcons and wolves is that the Forest will provide sufficient habitat for recovered populations of T&E species (USDA 1987, page II-1). All the alternatives are in compliance with the *Forest Plan* direction for peregrine falcon and gray wolf.

ISSUE 6: SENSITIVE WILDLIFE AND PLANT SPECIES

A. Affected Environment

Refer to the Biological Evaluation (BE) for this analysis for a description of the affected environment for the sensitive wildlife and plant species listed for the Gallatin National Forest. Sensitive species are those identified by the Regional Forester for which there is concern for viability but are not federally listed. There are 8 terrestrial wildlife species, 3 fish and 23 sensitive plant species. In most cases, suitable habitat is not present for these species in the project area.

B. Direct and Indirect Effects

1. Alternative 1 - Proposed Action

Because the proposal does not affect aquatic habitat and good habitat for few other sensitive species is present, this project will not impact any sensitive species of wildlife or fish. This project could potentially impact two sensitive plant species, but one of them is being delisted due to its abundance, and the other has not been observed in the area although suitable habitat may exist. For further information, refer to the Biological Evaluation (BE) for the analysis of effects on the sensitive wildlife and plant species listed for the Gallatin National Forest.

2. Alternative 2 - Site X

The proposed capture facility at Site X is approximately 0.5 - 0.75 miles from proposed Site A2, in the same type of habitat, with the same activities occurring. The majority of effects to sensitive species at Site X would be very similar or the same as the effects of a capture facility located at Site A2 for all sensitive wildlife species. Activities associated with the proposed capture facility alone would not likely affect any of the sensitive wildlife species (Refer to the Biological Evaluation).

The majority of sensitive plant species do not occur in this area and would not be affected by the proposed capture facility at Site X. The use of a bison capture facility may adversely affect potential habitat of white paintbrush (*Castilleja longspica*) and large leaved balsamroot (*Balsamorhiza macrophylla*). If individuals of these sensitive species were present, seeds of white paintbrush plants and large-leaved balsamroot could be trampled by bison, people and vehicles. Because the area would be covered with snow, trampling and compaction of soil would have the greatest impact on plant habitat within the capture facility and adjacent impacted area. Seeds typically have a more difficult time sprouting in compacted soil.

Because white paintbrush is well distributed on the Hebgen Lake Ranger District and proposed to be removed from the Region 1 USFS sensitive species list due to its abundance and distribution, this species would not be significantly impacted by the capture facility and related activities. Large-leaved balsamroot has been documented to occur on the Hebgen Lake Ranger District in other areas of different habitat types and elevations. The proposed capture facility and related activities would not have any direct impacts on populations of these two sensitive plant species.

Proposed activities would not have any direct, indirect or cumulative impact on other sensitive plant populations and would not modify significant areas of sagebrush/grass habitat.

3. Alternative 3 - No Action

Under the *Interim Bison Management Plan*, bison management activities including monitoring, hazing and shooting would continue to occur in the West Yellowstone and Horse Butte areas between November 1 and April 30. These activities would also occur under Alternatives 1 and 2 (see Appendix B). There would be no concentrated trampling effects to due to the lack of a capture facility. It is unlikely that any of the sensitive plant species would be affected under this alternative.

C. Cumulative effects

Cumulative effects are past, present, and future (reasonable and foreseeable) actions of federal, state and private entities that may impact sensitive species. Human developments, especially on Horse Butte, continue to increase. Numerous recreational activities take place in and around the Butte, including hiking, biking, snowmobile riding, etc. (see activities description on page 21-23 of the Biological Assessment). Human activities would occur adjacent to a developed area and in areas that receive high recreation use during the winter. No timber sale activities are planned to occur in the area. A small wildfire burned in the area in 1987. Most sensitive animal species would not occur in this area during the winter and habitat would be maintained for those species present. Habitat for some species could be affected by private land development. Cumulative effects of this proposed project together with existing human activities will not impact sensitive wildlife species.

Cumulative activities occurring during the winter would not affect most sensitive plants since habitat is not present for most species or plants have not been observed in this area. However, the cumulative impacts of human activities on Horse Butte may affect individuals of white paintbrush and/or large leaved balsamroot. Impacts to individuals of these species is not expected to affect local populations.

D. Forest Plan Direction and Compliance/Consistency

Forest-wide standards for the *Gallatin Forest Plan* (page II-18) state that habitat essential for sensitive species will be managed to maintain these species. The addition of the capture facility activities will not affect sensitive wildlife species or the majority of sensitive plant species. Individual plants of two plant species may be affected by cumulative activities occurring in the area, but would not be expected to affect local populations.

ISSUE 7: MANAGEMENT INDICATOR SPECIES

A. Affected Environment

Habitat for fish species is not affected by any of the action alternatives (see Biological Evaluation and Issue - Effects on Water). Pine marten are typically found in forested habitats and are known to occur in the lodgepole pine forest on the Hebgen Lake Ranger District. Pine marten also use Douglas fir habitats. Marten do occasionally cross open, sagebrush/grass habitats. The capture facility is proposed to be located in a sagebrush-bunchgrass habitat, which is not a habitat preferred by pine marten. Pine marten are largely arboreal, and when they are on the ground, especially in the winter, they are associated with dead and down woody debris subnivean habitats.

The northern goshawk is typically associated with coniferous forested habitats in Montana. The northern goshawk is not known to nest on Horse Butte although goshawks have been observed in the area on several occasions in July and August. Goshawks will winter in Montana where the prey base is sufficient. Goshawks are not known to winter on Horse Butte, but they could potentially winter in the conifers in this area.

B. Direct and Indirect Effects Common to all Alternatives (1, 2, and 3)

Trout species in Hebgen Lake would not be affected by any of the alternatives.

Activities occurring in forested areas of Horse Butte related to the capture facility could occur in pine marten habitat. Bison capture related activities that may occur in forested habitat where pine marten may be found are likely to be of relatively short duration each day and are not expected to have any significant effect on pine marten that utilize the area.

The facility will not be operated during the goshawk nesting season. It is possible that the goshawk would be present on Horse Butte during the time that the capture facility is being operated. If wintering on Horse Butte, a goshawk might be subject to displacement from disturbance. Some of the conservation measures applied for the bald eagle should be of similar benefit to the goshawk (see Biological Assessment).

C. Cumulative Effects

Because the alternatives have no significant effects on the three Management Indicator Species (or groups) discussed, there are no cumulative effects of these actions when considered with existing human activities occurring in the area.

D. Forest Plan Direction and Compliance/Consistency

Under provisions of the *Gallatin Forest Plan*, management indicator species (a group of species whose habitat is most likely to be affected by forest management activities) will be monitored on the Forest to determine population changes. Management indicator species include: grizzly bear, bald eagle, elk, northern goshawk, pine marten and wild trout. Although the Forest does not monitor MIS Forest-wide, some monitoring of MIS has occurred at different locations on the Forest. The alternatives are all consistent with the *Gallatin Forest Plan*.

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Personal Communications

Coffin, personal communication to Larry Timchak, 11/19/98

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APPENDICES

A. Biological Assessment

B. Biological Evaluation