Montana Fish, Wildlife & Parks

1400 South 19th Avenue
Bozeman, MT 59718

December 15, 2011

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Environmental Quality Council, State Capitol, Room 106, P.O. Box 201704, Helena, MT 59620-1704
Dept. of Environmental Quality, Metcalf Building, P.O. Box 200901, Helena, MT 59620-0901
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Montana Fish, Wildlife & Parks:

Director's Office	Parks Division	Lands Section	FWP Commissioners
Fisheries Division	Legal Unit	Wildlife Division	Design & Construction

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Montana Wildlife Federation, P.O. Box 1175, Helena, MT 59624
Wayne Hurst, P.O. Box 728, Libby, MT 59923
Jack Jones, 3014 Irene St., Butte, MT 59701

Ladies and Gentlemen:

The enclosed Environmental Assessment (EA) has been prepared for the proposed Adaptive Management Adjustments to the Interagency Bison Management Plan. This proposes the following adaptive management adjustments to the IBMP:

- Allow bison on habitat on FS and other lands north of the park boundary and south of Yankee Jim Canyon. Bison would not be allowed north of the hydrological divide (i.e., mountain ridge-tops) between Dome Mountain/Paradise Valley and the Gardiner Basin on the east side of the Yellowstone River, and Tom Miner basin and the Gardiner Basin on the west side of the Yellowstone River (see Map #2 on page 13).
- Trailer up to 300 female and calf bison testing negative for brucellosis from the Stephens Creek capture facility to a double-fenced quarantine facility in Corwin Springs for holding until release back into Yellowstone National Park (YNP) in spring as necessary. The quarantine facility in Corwin Springs is leased by APHIS and the State of Montana and APHIS have collaborated to complete environmental analyses for use of the facility.
- Evaluate the effects of these adjustments and modify as necessary to prevent bison from occupying lands north of the hydrological divide and minimize the risk of transmission of brucellosis to livestock.

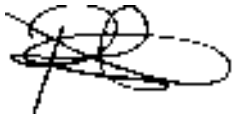
The migrating bison within the expanded tolerance area would still be moved back into YNP by May 1 of each year.

This Draft EA is available for review in Helena at FWP's Headquarters, in Bozeman at the above address, or viewed on FWP's Internet website: http://www.fwp.mt.gov .

Montana Fish, Wildlife & Parks invites you to comment on the attached proposal. The public comment period will be accepted until January 13 at 5 p.m. Comments should be sent to the following:

IBMP Adjustments
Montana Fish, Wildlife & Parks
1400 S. 19th Ave.
Bozeman, MT 59718
Or email comments to: IBMPadjustments@mt.gov

Sincerely,



Patrick J. Flowers
Region Three Supervisor

Attachment

Draft Joint Environmental Assessment

Adaptive Management Adjustments to the Interagency Bison Management Plan

December 2011

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Abbreviations

AHPA	Animal Health Protection Act
APHIS	Animal and Plant Health Inspection Service
CEIC	Census and Economic Information Center
CSKT	Confederated Salish and Kootenai Tribes
DEIS	Draft Environmental Impact Statement
DLI	Montana Department of Labor and Industry
DoL	Montana Department of Livestock
DSA	Designated Surveillance Area
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement – Bison Management Plan
FS	U.S. Forest Service
FWP	Montana Department of Fish, Wildlife & Parks
GNF	Gallatin National Forest
GYE	Greater Yellowstone Ecosystem
HD	Hunting District
IBMP	Interagency Bison Management Plan
ITBC	InterTribal Buffalo Cooperative
MCA	Montana Code Annotated
MEPA	Montana Environmental Policy Act
MNHP	Montana Natural Heritage Program
NAS	National Academy of Sciences
NEPA	National Environmental Policy Act
NPS	National Park Service
NYCWWG	Northern Yellowstone Cooperative Wildlife Working Group
ROD	Record of Decision
RTR	Royal Teton Ranch
UM&R	Uniform Methods and Rules
USDI	U.S. Department of Interior
USGS	U.S. Geological Service
YNP	Yellowstone National Park

CHAPTER 1.0: PURPOSE OF AND NEED FOR ACTION

1.1 PROPOSED ACTION

The Interagency Bison Management Plan (IBMP) was established in 2000 in order to coordinate bison management among five agencies; Montana Fish, Wildlife and Parks (FWP), Montana Department of Livestock (DoL), National Park Service (NPS), United States Forest Service (FS), and United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS). These five agencies agreed to work cooperatively within an adaptive management framework to implement the IBMP. The Confederated Salish and Kootenai Tribes, InterTribal Buffalo Cooperative, and Nez Perce Tribe became IBMP cooperating agencies in 2009; as such they also participate in any adaptive management adjustments decisions.

In keeping with the adaptive management framework set up by the IBMP, the IBMP partner agencies meet several times a year to assess the effectiveness and outcomes of the IBMP management activities and incorporate short and long-term adaptive management adjustments to the IBMP based on prevailing conditions, experience, and new data. The proposed adjustments were approved by the IBMP agencies in March and April 2011, with implementation anticipated the following winter depending upon environmental analysis process results and following preparation and adoption of measureable objectives and monitoring metrics. The federal IBMP agencies prepared and signed a NEPA sufficiency analysis for these adjustments on March 31, 2011. This analysis concluded that the proposed adjustments conformed to the federal 2000 FEIS and ROD for the IBMP, which fully covers the proposed adjustments and constitutes compliance by the federal agencies with the requirements of the NEPA. This Environmental Assessment provides environmental analysis pursuant to MEPA for FWP and DoL. The proposed adjustments do not alter the basic management direction or goals of the IBMP to maintain a wild, free-ranging population of bison and address the risk of brucellosis transmission to protect the economic interest and viability of the livestock industry in Montana.

The following adaptive management adjustments to the IBMP are proposed:

- Allow bison on habitat on FS and other lands north of the park boundary and south of Yankee Jim Canyon. Bison would not be allowed north of the hydrological divide (i.e., mountain ridge-tops) between Dome Mountain/Paradise Valley and the Gardiner Basin on the east side of the Yellowstone River, and Tom Miner basin and the Gardiner Basin on the west side of the Yellowstone River (see Map #2 on page 13).
- Trailer up to 300 female and calf bison testing negative for brucellosis from the Stephens Creek capture facility to a double-fenced quarantine facility in Corwin Springs for holding until release back into Yellowstone National Park (YNP) in spring as necessary. The quarantine facility in Corwin Springs is leased by APHIS and the State of Montana and APHIS have collaborated to complete environmental analyses for use of the facility.
- Evaluate the effects of these adjustments and modify as necessary to prevent bison from occupying lands north of the hydrological divide and minimize the risk of transmission of brucellosis to livestock.

The migrating bison within the expanded tolerance area would still be moved back into YNP by May 1 of each year. As with previous years, bison may remain in the Eagle Creek/Bear Creek area year-round.

1.2 NEED FOR ACTION

During the winter of 2010-2011, as reflected in Table #1, hundreds of bison moved out of YNP into the Gardiner Basin due to the harsh winter conditions and deep snow depths within the Park. FWP, DoL, and NPS were required to move many bison into the Stephens Creek holding facility and haze many more away from residences, traffic corridors, livestock operations, and designated bison-free areas. These actions were under the guidance of the current IBMP operating procedures.

Table #1: Summary of bison abundance in the northern management area based on aerial surveys between November 2010 and May 2011.

	Nov 1	Dec 21	Jan 26	Feb 14	Mar 23	Apr 23	May15
Number held in Stephens Creek facility	0	0	62	524	632	664	386
No. in Gardiner Basin (includes Stephens Creek amt.)	**0**	**38**	**237**	**570**	**911**	**1,065**	**637**

Source: Draft 2011 IBMP Annual Report

Bison movements outside of YNP are related to bison populations within the park, winter severity, and the number of bison removed near the park's boundary (USDA, APHIS et al., 2011a). The proposed expanded bison-tolerant area would enable bison to move outside of the park when severe winter conditions are present and bison migrate from higher elevations within YNP to lower elevations within the Gardiner Basin.

In 2008, the State of Montana acquired the grazing rights to the Royal Teton Ranch (RTR) as contemplated in the 2000 IBMP. Due primarily to severe winter conditions, Montana's first experience with bison movement from YNP to Zone 2, as described in the IBMP, occurred in the winter of 2010-11. However, the bison did not remain on the RTR and FS lands near Cutler Meadows, as contemplated under the 2000 IBMP. Rather, the bison repeatedly crossed the Yellowstone River to the east and congregated on the river bottom valley. FWP and DoL staff frequently attempted to haze the bison back to the bison tolerance zone west of the river, but the bison kept returning to the east side of the river, leading to human-bison conflicts as well as some intermingling of livestock and bison. Additionally, as experience has shown, repeated hazing led to increasingly dangerous working conditions for agency employees as bison responded more aggressively to this pressure.

The IBMP partners have proposed expanding the bison-tolerant area to include the entire Gardiner Basin in order to address the tendency of the bison to migrate east of Zone 2, as demonstrated in the harsh winter in early 2011. A necessary component of the proposal is that managers would attempt to haze bison east, away from the river corridor and highway, when needed, to acreage of public lands at low elevations that would provide suitable bison habitat.

Combined with the installation of fencing around the two year-round small cattle operations and other private property, public safety and landowner-bison conflicts would be minimized.

Separate but equally important in the decision to expand the bison-tolerant area north of YNP are the 2010 changes to federal brucellosis regulations. APHIS adopted changes to long-standing brucellosis regulations so that in the event of an outbreak: 1) a cattle producer is no longer required to depopulate an entire herd; and 2) a state would not be automatically downgraded from Brucellosis Class Free status. These changes were published in the Federal Register in December, 2010.

Both the experience of this past winter and this positive advancement in the federal brucellosis regulations support the expansion of a bison-tolerant area north of YNP, as the expansion would satisfy the IBMP's dual goals of maintaining a wild, free-ranging population of bison without jeopardizing the economic interest and viability of the livestock industry in Montana. The proposal would provide managers with an additional tool in the bison management toolbox, along with the existing tools of hazing, vaccination, shipment to slaughter, lethal removal, hunting, and others, while still remaining consistent with and enhancing the original IBMP goals.

IBMP partner agencies have previously discussed the expansion of suitable habitat for bison west of Cutler Lake and Cutler Meadow areas, south of Yankee Jim Canyon, as well as in the Maiden Basin area off Little Trail Creek on the east side of the Yellowstone River (2009 and 2010 Annual Reports). The discussions for a possible expansion of a bison-tolerant zone stemmed from learning those areas were used by a limited number of bison (17 in 2009 and 2 in 2010). In both instances, bison hazing was used as an initial management step, followed by lethal removal as necessary. Enabling bison to habituate a larger area of primarily public lands in the Gardiner Basin provides managers with additional bison management options.

Similarly, the use of the Corwin Springs facility as proposed would provide an additional tool IBMP partners could use to hold bison captive, which have tested negative for brucellosis, when the Stephens Creek facility has reached capacity. The facility at Corwin Springs has been used for FWP/APHIS's Quarantine Feasibility Study which established and tested protocols to establish brucellosis-free Yellowstone bison for conservation purposes. Use of this facility would be a year-to-year decision based on the circumstances at the Corwin Springs facility and the needs for an overflow holding area.

The IBMP partners have maintained, through past adaptive management adjustments, the methodology to implement adjustments, which is to observe/document bison behavior, evaluate effectiveness, and adjust again. This methodology would be maintained with the proposed adjustments. The proposed expansion also would provide partners greater opportunity to gain knowledge about bison movements in a larger area outside YNP and assess the potential for expanded bison hunting opportunities in the future.

1.3 OBJECTIVES OF THE ACTIONS

- To maintain a wild, free-ranging population of bison by providing an expanded bison-tolerant area north of YNP;
- To continue to reduce the risk of brucellosis transmission between bison and cattle;
- To promote public safety;
- To provide the potential for greater hunter opportunity.

1.4 RELEVANT AUTHORITIES, DOCUMENTS, AND OVERLAPPING JURISDICTIONS

1.4.1 Authorities

Montana Fish, Wildlife and Parks (FWP)
Section 87-1-201 (1), Montana Code Annotated (MCA), establishes FWP as the responsible agency for supervision of the management for all the wildlife, fish, game, furbearing animals, and game and nongame birds of the state. Furthermore, FWP has the power to spend for the protection, preservation, and propagation of the wildlife, fish, game, furbearers, waterfowl, nongame species, and endangered species of the state (§ 87-1-201 (3) MCA). FWP also has the authority to enforce all the laws of the State regarding the protection, preservation, and propagation of the wildlife, fish, game, furbearers, waterfowl, nongame species, and endangered species of the state (§ 87-1-201(2) MCA). Section 87-1-216(1) MCA identifies wild buffalo or bison as a species in need of management and YNP bison as a species requiring disease control, and directs FWP to cooperate with the DoL in the management of YNP bison.

Montana Department of Livestock (DoL)
DoL is granted broad and discretionary authority to regulate publicly-owned bison that enter Montana from a herd that is infected with a dangerous disease (YNP bison) or whenever those bison jeopardize Montana's compliance with state or federally administered livestock disease control programs, including the authority to remove, destroy, taken, capture, and hunt the bison (§ 81-2-120 (1)-(4) MCA). Additionally, administrative rule 32.3.224A describes the actions that may be taken when migratory bison exposed or infected with brucellosis enter the state.

1.4.2 Relevant Documents

Adequacy of National Environmental Policy Act Documentation (2011). This memorandum summarize that the proposed IBMP adaptive management adjustments conform to the federal 2000 FEIS and ROD for the IBMP, which fully covers the proposed adjustments and constitutes compliance by federal agencies with the requirements of NEPA. YNP, GNF, and APHIS signed this memorandum.

Bison Management Plan for Montana and Yellowstone National Park (2000). The State of Montana was a co-lead with the U.S. Departments of the Interior and Agriculture in the development of the Interagency Draft Environmental Impact Statement (DEIS) and Bison Management Plan. A federal FEIS for Bison Management for the State of Montana and YNP, which included the IBMP, was published in August 2000. In November 2000, the FEIS for the

IBMP was completed in which 8 alternatives were analyzed. The final State of Montana and federal Records of Decision (ROD) were published in December 2000 pursuant to the requirements of the Montana Environmental Policy Act (MEPA) and National Environmental Policy Act (NEPA). These documents considered the potential use of the Gardiner Basin and Gallatin National Forest (GNF), both north and west of YNP, as part of a bison-tolerant zone (Alternative 2) and the use of a quarantine facility to hold seronegative bison until they were returned to YNP. This EA is, therefore, tiered to the Bison Management Plan EIS and the following documents. All IBMP documents can be found at www.ibmp.info.

Bison Quarantine Feasibility – Phase I, Environmental Assessment (2004) and Decision Notice (2005). FWP in cooperation with APHIS prepared an environmental assessment for the proposal to implement a bison quarantine feasibility study. The study called for establishing a bison quarantine research facility under approved design, location, and operational parameters. Based on the completion of the environmental assessment and analysis of the comments, the decision was made to establish this facility near Corwin Springs, Montana, which would be used for holding excess bison from the Stephens Creek facility (http://fwp.mt.gov/news/publicNotices/environmentalAssessments/conservation/pn_0004.html).

Bison Quarantine Feasibility – Phase II/III, Environmental Assessment (2005) and Decision Notice (2006). Phase II/III EA of the feasibility study went to further the research and test protocols initially implemented in Phase I. (http://fwp.mt.gov/news/publicNotices/environmentalAssessments/speciesRemovalAndRelocation/pn_0018.html).

Interagency Bison Management Plan, Adaptive Management Adjustments (2008). These adjustments along with the Record of Decision for the IBMP provide the foundation for the current management of bison leaving YNP and discuss the expansion of the bison tolerance are in the Gardiner Basin. The adjustments implemented in 2008 formally incorporated adaptive changes to the IBMP by establishing short and long-term adaptive management adjustments based on the prevailing conditions with its joint Operating Procedures (http://www.ibmp.info/Library/2008%20IBMP%20Adaptive%20Management%20Plan.pdf).

Interagency Bison Management Plan, Annual Reports for 2009 and 2010. These reports include narrative summaries that address the effects and effectiveness of each management action in the IBMP Adaptive Management Plan that was agreed upon and signed by the partner agencies in December 2008 (http://www.ibmp.info/library.php). In each of these reports there were discussions for the possible expansion of bison-tolerant areas.

Interagency Bison Management Plan, Operating Procedures (2009). The purpose of the operating procedures is to implement the actions set forth in the 2000 IBMP and IBMP Adaptive Management Plan (http://www.ibmp.info/Library/2008%20IBMP%20Adaptive%20Management%20Plan.pdf).

Montana Fish, Wildlife and Parks, Royal Teton Ranch Grazing Restriction and Bison Access Agreement Environmental Assessment and Decision Notice (2008). This project sought to implement Step 2 of the IBMP in restricting cattle grazing on the ranch and to establish

a bison corridor within the ranch between YNP and FS south of Yankee Jim Canyon (http://fwp.mt.gov/news/publicNotices/decisionNotices/pn_0326.html).

1.4.3 Overlapping Jurisdictions

Along with FWP and DoL, the following partners participate in the IBMP and have proposed the bison management adjustments in this environmental analysis. Each partner retains its management prerogatives and the IBMP partners manage within that framework.

Confederated Salish and Kootenai Tribes (CSKT)
Under their 19th century treaty rights, members of the CSKT are one of four tribes/tribal groups that currently are recognized to have treaty hunting rights in the Yellowstone area.

The Flathead Indian Reservation in northwestern Montana is home to three tribes: the Bitterroot Salish, Upper Pend d'Oreille, and the Kootenai. "Confederated Salish" refers to both the Salish and Pend d'Oreille tribes.

InterTribal Buffalo Cooperative (ITBC)
ITBC has a membership of 56 tribes in 19 states with a collective herd of over 15,000 bison. ITBC is committed to re-establishing buffalo herds on Indian lands in a manner that promotes cultural enhancement, spiritual revitalization, ecological restoration, and economic development.

The role of the ITBC, as established by its membership, is to act as a facilitator in coordinating education and training programs, developing marketing strategies, coordinating the transfer of surplus buffalo from national parks to tribal lands, and providing technical assistance to its membership in developing sound management plans that will help each tribal herd become a successful and self-sufficient operation.

Nez Perce Tribe
Under their 19th century treaty rights, members of the Nez Perce are one of the other tribes that currently are recognized to have treaty hunting rights in the Yellowstone area.

Historically, the traditional homeland of the Nez Perce is North Central Idaho, Southeastern Washington, Northeastern Oregon with some travel into areas in Western Montana, and Wyoming. Today, many of the tribal members live on the Nez Perce Reservation located in North Central Idaho (Nez Perce 2011).

U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service, Veterinary Services (APHIS)
APHIS has regulatory authorities under the Animal Health Protection Act (AHPA) (7 U.S.C. 8301 et seq.). Pursuant to the AHPA, Congress authorized the Secretary of Agriculture to cooperate with state authorities to carry out the provisions of the AHPA and administer its regulations. Thus APHIS enters into cooperative agreements with individual states for a brucellosis eradication program. This program is further defined by the Code of Federal Regulations and Brucellosis Uniform Methods and Rules (UM&R). The UM&R describes minimum standard procedures for surveillance, testing, quarantine, and interstate transport. As

part of its authority, APHIS, has the federal regulatory authority to approve quarantine protocols and, as stated earlier, recently amended long-standing brucellosis regulations so that in the event of an outbreak cattle producers are no longer required to depopulate an entire herd and a state would not be automatically downgraded from Brucellosis Class Free status.

U.S. Department of Interior, National Park Service, Yellowstone National Park (YNP)
Federal law provides the Secretary of the Interior with exclusive jurisdiction within the boundaries of YNP.

USDA, Forest Service, Gallatin National Forest (GNF)
The Forest Service administers national forests for multiple purposes including providing habitat for wildlife and grazing allotments for cattle. The GNF Land and Resource Management Plan (1987) emphasizes wildlife habitat management for the geographic area of the IBMP. The Plan for the GNF is sufficient to guide proposed actions and activities in facilitating implementation of the IBMP. The principal role of the FS in implementing the IBMP is to provide habitat for bison (USDI, NPS et al. 2000b, 14).

1.5 Decision to be Made

The decision to be made is whether the proposed 2011 adaptive management adjustments to the IBMP should be implemented. This environmental assessment (EA) discloses the analysis and environmental consequences associated with implementing the proposed action or its alternative. This EA will provide information and analysis to determine whether an action results in a significant effect and would therefore require the completion of an environmental impact statement (EIS). The responsible officials for this proposal are the FWP Region 3 Supervisor and the DoL Executive Officer. If an EIS is not required, a Decision Notice will document the decision and the rationale for it.

1.6 Applicable Licenses

In 2011, FWP received a Special-Use Authorization permit from the Forest Service for a right-of-way encumbrance in NW1/4 Section 3, T8S, R7E in Park County. This location is at the south entrance to Yankee Jim Canyon. The permit allowed FWP to install a jackleg drift fence on each side of two bison guards installed, one on U.S. Highway 89 and the other on the county frontage road at the same location; three 12-foot gates to cross a highway borrow, river access road, and abandoned county road; and a round rail bison guard across County Road #14 (Old Yellowstone Trail South). In combination with the bison guard, these improvements are expected to restrict bison movements beyond Yankee Jim Canyon and north into the Paradise Valley.

CHAPTER 2.0: ALTERNATIVES

2.1 Introduction

The basis for the current bison management in Montana is the Modified Preferred Alternative as presented in the ROD (2000) and the FEIS (2000) along with any adopted and implemented adaptive management adjustments through 2008. Excerpts of the 2000 IBMP specific to the northern boundary of the Park are included in Appendix A.

2.2 Alternative A – No Action, IBMP would remain unchanged and would continue under the guidance of the 2008 Adaptive Management Adjustments to the IBMP

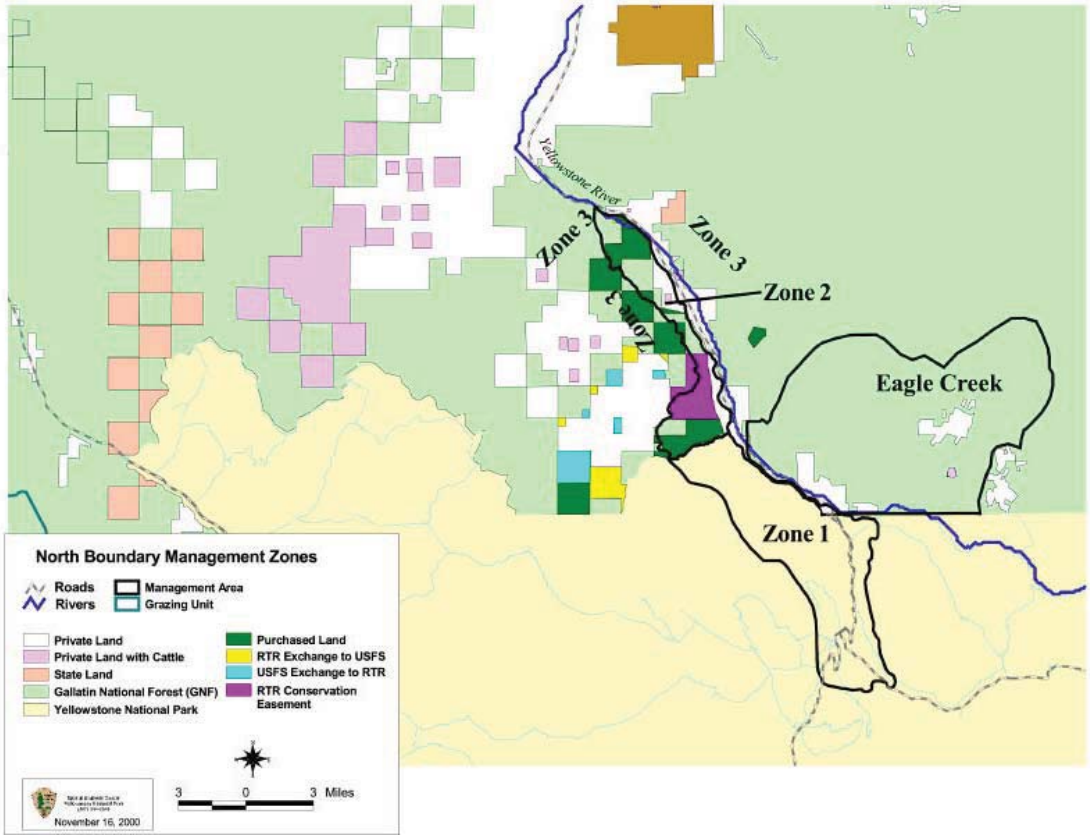
Under this alternative, the IBMP partner agencies would manage migrating bison leaving YNP under the original IBMP guidance and all subsequent adaptive management adjustments through 2008. Yankee Jim Canyon would continue to be the northern most boundary where bison would be tolerated for Zone 2, which was originally identified in the FEIS as the edge of a tolerance area.

Bison tolerance outside the Park would continue to be limited to within Zones 2 from November through April and bison would continue to be tolerated year-round within the Eagle Creek/Bear Creek area (Map #1). Bison moving beyond the tolerance areas would trigger management actions such as hazing back into the Park or into existing tolerance areas (Zone 2 or Eagle Creek/Bear Creek), increased surveillance, capture, or lethal removal at the discretion of the State Veterinarian. Bison would be able to remain within Zone 2 until May 1 when any remaining bison would be hazed back in the Park.

Bison that have moved beyond the Park boundary may be captured and moved into the Stephens Creek facility to be tested for brucellosis. No other holding facility would be used. Those bison testing seronegative for brucellosis would be held at the facility until spring then released back into YNP. Those testing seropositive for brucellosis may be slaughtered and their meat distributed to food banks and tribal groups.

The Stephens Creek facility, located within YNP's boundary, was established in 2001. The holding capacity of Stephens Creek can fluctuate through additional fencing and partitioning.

Map #1. North Boundary Management Zone (USDI, NPS et al. 2000b, 29)

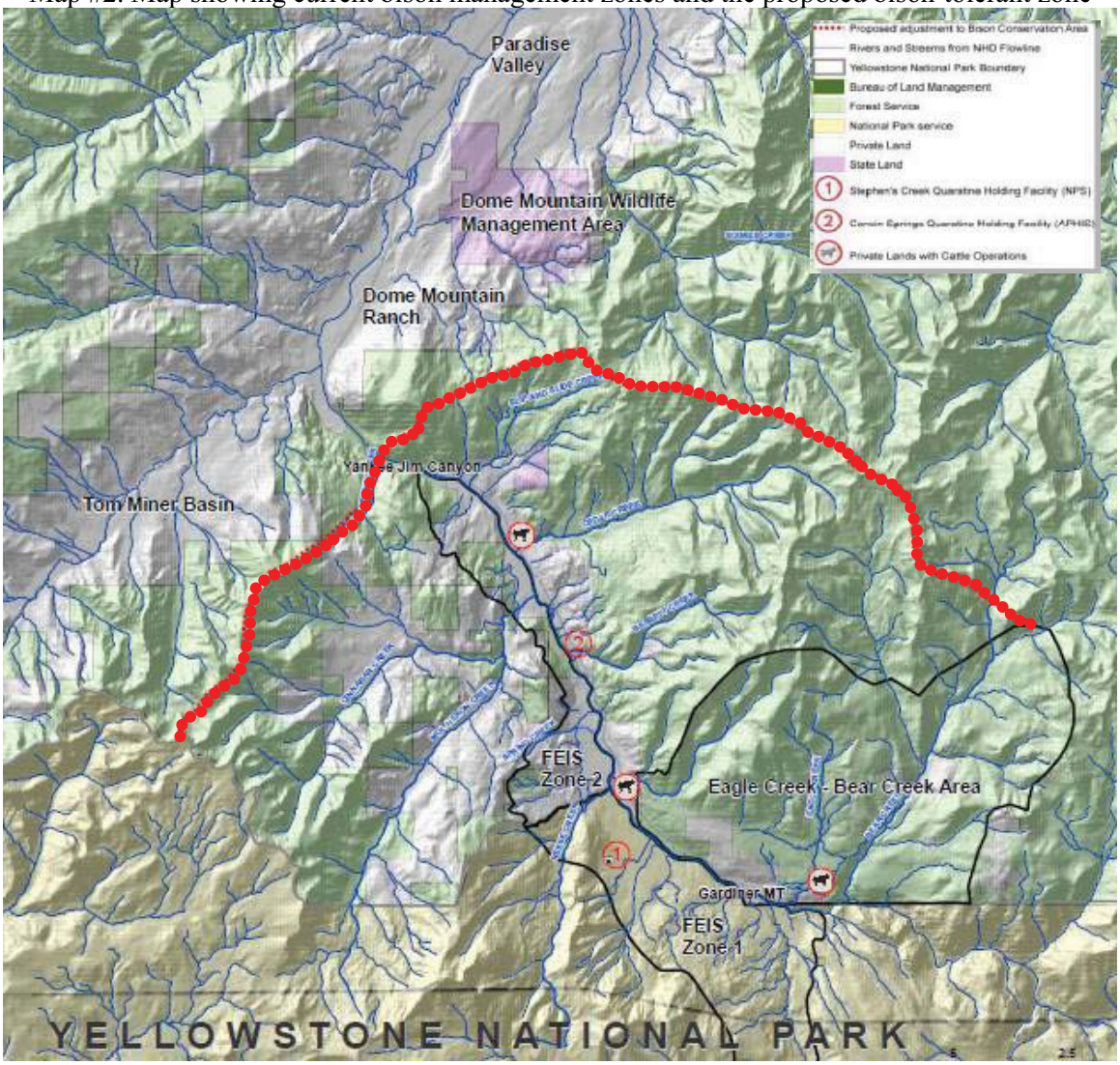


2.3 Alternative B – Preferred Alternative, IBMP partners would implement the 2011 Adaptive Management Adjustments to the IBMP

Under this alternative, the following adaptive management adjustments would be implemented to the IBMP:

- Allow bison on habitat on U.S. Forest Service and other lands north of the park boundary and south of Yankee Jim Canyon until May 1. Bison would not be allowed north of the hydrological divide (i.e., mountain ridge-tops) between Dome Mountain/Paradise Valley and the Gardiner Basin on the east side of the Yellowstone River, and Tom Miner basin and the Gardiner Basin on the west side of the Yellowstone River (see Map #2).
- Trailer up to 300 female and calf bison testing negative for brucellosis from the Stephens Creek capture facility to a double-fenced quarantine facility in Corwin Springs for holding until release back into YNP in spring as necessary.
- Evaluate the effects of these adjustments and modify as necessary to prevent bison from occupying lands north of the hydrological divide and minimize the risk of transmission of brucellosis to livestock.

Map #2. Map showing current bison management zones and the proposed bison-tolerant zone



Hazing of bison from the expanded tolerance area back into YNP would still occur on May 1. Bison would be found in the Eagle Creek/Bear Creek area year-round as per the IBMP. Since many acres within the expanded tolerance area do not have any established roads, hazing could be completed with the use of all-terrain vehicles, on horseback, or on foot which are typically used in hazing efforts and as allowed by private landowners and land management agencies.

The facility at Corwin Springs has been used for the Quarantine Feasibility Study which established and tested protocols to establish brucellosis-free Yellowstone bison for conservation purposes. During the Feasibility Study, the Corwin Springs facility consisted of two separate areas, one that was leased by APHIS, referred to as the Brogan facility, and the other leased by FWP, referred to as the Slip n' Slide pasture. Under this alternative, only the Brogan portion would be used to hold bison from the Stephens Creek facility.

Chapter 3 describes the analyses of the potential impacts of the first two elements of the adaptive management adjustments. The third element is not specifically analyzed since it is a

reaffirmation of the current management adjustment methodology that the IBMP partners employ. The IBMP partners would use the knowledge gained from observations of Yellowstone bison movements into a new bison-tolerant area to ensure bison do not move north of the hydrological divide between the Gardiner Basin, Paradise Valley, and Tom Miner Basin to maintain spatial and temporal separation between bison and livestock and address public safety issues.

The IBMP partners believe there is some limited chance that the bison would cross the hydrological divide that is the northern boundary for the expanded bison-tolerant zone. This is because the hydrological divide is the ridge line of mountains over 7,000 feet in elevation. At these elevations, there would be no forage for bison and the snow depth would be too difficult for bison to move through. If a bison did cross this boundary, they would be lethally removed.

CHAPTER 3.0: AFFECTED RESOURCES AND PREDICTED ENVIRONMENTAL CONSEQUENCES

3.1 Project Setting

Description of lands within the existing bison- tolerant areas within the boundaries of Zone 2 in the Gardiner Basin and Eagle Creek/Bear Creek Area

The landscape of the existing bison-tolerant areas north of YNP is characterized by steep mountain ranges, with grassland and sagebrush meadows in the lower elevations. The area is a mixture of private and National Forest System lands. The Gallatin and Absaroka mountain ranges dominate the north-central portion of the area on the west and east sides of the Yellowstone River valley, respectively. Portions of Zone 2 are along the west side of the Yellowstone River north of Reese/Stephens Creek. Eagle and Bear Creek drainages are east of the community of Gardiner north of YNP.

The climate of the area features long, cold winters, and short, cool summers. Mean monthly temperatures average 28.7 F during the winter months (November - March). Measureable snowfall often begins in November and begins to diminish by April. Average snowfall in the community of Gardiner ranges from 11 to 20 inches during the winter (NOAA 2011).

Yankee Jim Canyon (the most northern boundary of Zone 2) is a narrow, natural constriction point for bison movement that permits the agencies to halt bison movement north. The steep rocky terrain that impinges immediately on the Yellowstone River at this point provides a pincer point for bison movement. Bison restriction is further enhanced through installation of the two roadway bison guards immediately south of the canyon and fencing running up the hillsides from the roads installed in response to the 2010-2011 bison migration. The Yellowstone River, steep terrain, snow depth, and other features would also help prevent bison movement to the north.

Zone 2 encompasses approximately 5,800 acres. Elevation ranges within it ranges from 5,100 to 5,200 feet. Annual precipitation averages from 8 to 12 inches. Vegetation is best described as bunchgrass steppe or shrub steppe communities. Grasses in these areas include Idaho fescue, junegrass, and occasionally bluebunch wheatgrass.

Zone 2 also includes the RTR Ranch. The IBMP called for the purchase of the Ranch's grazing rights in Step 2 as a precursor for potential bison movement through the property to public lands. In 2008, FWP purchased the lease for those grazing rights and under the terms of the lease, bison are able to move through the ranch to FS lands south of Yankee Jim Canyon.

The Eagle Creek/Bear Creek area is approximately 29,000 acres in size and is located within the GNF, primarily on the benches about a half mile north and east of Gardiner, Montana. A network of roads and trails crisscross the area, but the major access is via Park County Road 15 (known locally as the Jardine Road) which goes to the town of Jardine.

There are significant elevational differences found across the breadth of the Eagle Creek/Bear Creek area as well as the presence of several drainages. The elevation is 5,200 feet at the valley floor and 10,500 feet at the crest of the hydrographic divide. This area is bordered on the

southwest by the Yellowstone River and the northwest by the Little Trail Creek/Maiden Basin hydrographic divide. It is traversed by Bear Creek and Eagle Creek and their respective tributaries.

The Eagle Creek/Bear Creek area's precipitation is about 10 to 12 inches a year. Vegetation is a mosaic of dry sagebrush shrublands and dry grasslands such as bluebunch wheatgrass and Idaho fescue. As the elevation increases, the average annual precipitation increases as well. The additional moisture allows for the presence of forests.

Human presence within the existing bison-tolerant areas

In 2010, the population of Park County, Montana, was nearly 16,000 people (CEIC 2010). The estimated population of residents within Zone 2 is 65 and in the Bear Creek/Eagle Creek 772 which area includes the community of Gardiner. There is one year-round livestock operator in the Bear Creek/Eagle Creek area (though this operator has not maintained livestock on the property for the last few years). Additionally, there are two active grazing allotments within the proposed expanded tolerance area, one on each side of the Yellowstone River near Yankee Jim Canyon: Slip n' Slide on the east side and Green Lake on the west side that are used during the summer when bison are not present.

Description of lands within the proposed expanded bison-tolerant area

The proposed expanded area encompasses approximately 70,000 acres and includes the western portion of the GNF and the western portion of the Absaroka-Beartooth Wilderness, as well as some private property (approximately 14,000 acres). The proposed expanded tolerance area on the east side of Yellowstone River includes both wilderness and non-wilderness areas whereas the west side of the river of the expanded tolerance area is not designated wilderness.

The GNF managed Absaroka-Beartooth Wilderness in the expanded tolerance area is characterized by a series of deep, parallel drainages. The elevation ranges on the eastern portion of the proposed expanded bison-tolerant zone from 6,200 - 9,234 feet with the highest peak being Sliding Mountain. Vegetation present includes Idaho fescue, bluebunch wheatgrass, big sagebrush, and blue grass at lower elevations and quaking aspen, bluegrass, Douglas-fir, and pine grass in higher elevations.

The portion of the proposed bison-tolerant zone west of the Yellowstone River has elevations ranging from 5,100 feet in the Cinnabar Basin to 9,820 feet of an unnamed peak. Vegetation is similar to the species mentioned for the east side of the river with the addition of mountain brome, timothy, lodgepole pine, grouse whortleberry, and whitebark pine.

Several large wetlands and riparian areas are found along Cinnabar and Mol Heron Creeks on the west side of the river with smaller riparian areas following Cedar, Slip n' Slide, and Bassett Creeks on the east side. At wider parts of the valleys, sage/grasslands are prevalent. High ridges with whitebark pine forests, exposed bedrock, and alpine meadows separate the drainages.

Human presence within the proposed expanded zone

There are approximately 363 residents within the expanded bison-tolerant area (See Appendix B for a Census Block Population Map). Private properties in the Gardiner Valley, between the

YNP boundary and Yankee Jim Canyon, occupy a total area of about 17,000 acres. There are two landowners who have cattle grazing operations in the proposed expanded tolerance area during the time of migration.

Description of the Brogan facility at Corwin Springs

The Brogan facility encloses 55 acres of grassland and steep rocky slopes. The facility includes several lower sorting pens and a large upper pasture (FWP 2004). The lower pastures are irrigated grassland. A large upper pasture is composed of grass benches in rough broken terrain. An 8-foot game-proof fence surrounds the perimeter, and in some instances the outer boundary fence is double fenced. A series of small two-track roads transect the area, so ATV or 4-wheel vehicle access is available to all pastures. Bison moved to this location from Stephens Creek would be provided food, water, and care through the winter until their release back into YNP in the spring.

3.2 Bison

Extensive information is available regarding the bison behavior, habitats, historic migrations, and breeding in the Bison Management Plan FEIS (2000) and this EA incorporates that information as it was originally presented.

Over the past four years, the population of Yellowstone Park's bison has ranged between 3,000 in 2008 and 3,900 during summer 2011 (NPS 2009). There were an estimated 2,300 bison in the northern breeding herd and 1,400 in the central breeding herd during summer 2011 (NPS 2011). The peak population estimate of 5,000 bison was recorded in summer 2005 (NPS 2011). Bison may appear docile but they remain wild animals with unpredictable behaviors.

Migration routes out of the park included two primary routes into the Gardiner Basin: 1) across the Blacktail Deer Plateau and down the Lava Creek drainage along the creek or the road corridor; and 2) down the Yellowstone River trail to Eagle Creek or Shooting Range Flats. The primary exit routes out of the park were across Reese Creek west of the Yellowstone River, along the Highway 89 corridor, or through Eagle Creek to Little Trail Creek (USDA, APHIS et al. 2011a).

The federal FEIS (2000) described the factors that impact bison population and that analysis is still relevant today. The following paragraphs are from the FEIS.

> The bison population is affected by a number of factors including severe weather, forage production, and predation as well as human actions not part of this management plan. Periodic severe winter weather can cause varying (sometimes significant) levels of natural winterkill (USDI, NPS et al. 2000a, 389).
>
> Regression analyses of the relationship between winter severity and the overall estimated bison population size on the number of bison moving out of YNP were described by the National Academy of Sciences (Cheville 1998). These results suggest that for an overall population greater than 3,000, the number of bison

> moving out of the park increases rapidly with increasing winter severity. While on average large numbers of bison move out of the park when snow conditions (e.g., depth, ice crusting) are severe, this average fails to capture the fact that, historically, some winters have passed without bison movement outside the park despite population sizes larger than 3,000. During other winters, bison movement outside the park occurred when the population was well below 1,000 (USDI, NPS et al. 2000a, 278-288).

NPS staff published a scientific article (Geremia et al. 2011) summarizing analyses of the relationships between bison population size, winter severity, and the number of bison removed near the boundary of YNP. Accumulating snow pack interacts with bison herd sizes to increase the numbers of bison migrating to lower elevation ranges near the boundary of YNP. There is a high probability that fewer than 10 percent of the population will exit the park with moderate herd sizes (1,000-2,000), snow pack less than 60% of average, and average forage production on the summer ranges in YNP. At higher values, however, the number of bison migrating to boundary ranges during winter and spring rapidly increases. Under severe snow pack conditions, there is a significant chance that the majority of bison could migrate to the lower elevation ranges where snow pack is lower and new vegetation growth begins earlier in spring than on the higher elevation summer ranges in the park (Thein et al. 2009) (USDA, APHIS et al. 2011a).

The occurrence of bison near Yankee Jim Canyon depends largely on factors mentioned above and the management actions/efforts of the IBMP partner agencies. Sedges, and to a lesser extent grasses, constitute the preferred diet of Yellowstone bison. In winter, 99% of their diet is grasses and sedges with browse being the remaining 1% (Meagher 1973).

Portions of the GNF included in the proposed expanded tolerance area contain areas of grassland and sagebrush meadows in the lower elevations with aspen and conifer forests in higher elevations.

In winter 1989, bison were tolerated in Gardiner Basin and moved as far north as Yankee Jim Canyon and beyond. However, larger groups of bison closer to the YNP boundary near Stephens Creek are more typical unless severe winter conditions within YNP serve as an incentive for a larger migration outside the Park. Such was the case during the winter of 2010-2011(see table #1). Movements in both these years demonstrate that while YNP has a larger amount of habitat for bison it doesn't provide sufficient habitat for the population. During some winters deep snows limits access to forage at higher elevations, as a result, some bison migrate to lower elevation habitat outside of the Park in search of forage during winter and spring, similar to deer elk and pronghorn. Bison have been herded back inside the park or captured for the last 11 years based on the IBMP guidelines. See section 3.3 Recreation for information regarding bison hunting and section 3.5 for socioeconomic information related to bison.

No Action Alternative:

Under this scenario, there would be no changes to the current boundaries of the bison-tolerant areas, Zone 2 and Eagle Creek/Bear Creek, north of YNP. Bison would be hazed when necessary to prevent them from entering no-tolerance areas. When hazing is no longer effective, NPS would capture all bison attempting to leave the park at the Stephens Creek facility up to its

holding capacity. Captured bison would continue to be tested and those testing seropositive for brucellosis may be hauled to slaughter. If the facility were filled to capacity, managers (FWP, DoL, and NPS) would have to address the overflow within existing management parameters.

Current hazing activities and other bison management techniques would still be used to ensure public safety and separation of bison and cattle located within Zone 2 and Eagle Creek/Bear Creek areas, and bison would be hazed back from Zone 2 into YNP on May 1. No adjustments to the current IBMP would be implemented at this time.

When episodic bison migration occurs because of factors discussed above, under this No Action alternative, no additional areas would be available for bison to use during the winter. Experience from the winter of 2010 - 2011 showed that hazing bison moving out of Zone 3 back to Zone 2 was difficult if not impossible. IBMP partners would be limited to existing tools such as continuing hazing efforts, shipment to slaughter, or through other means of lethal removal. Managers would continue to give priority to those cases involving public safety and private property and situations where transmission of brucellosis is highly probable.

IBMP partners would continue to monitor bison and record data on their movements as follows (USDA, APHIS 2010):

- Survey the number and distribution of bison in the Gardiner Basin on a weekly basis
- Annually document the numbers and dates that bison attempt to exit Zone 2
- Annually document the number of bison using Zone 2 and the number of management activities needed to manage bison distribution
- Annually collect data to update the relationships between bison management at the Stephens Creek facility and the interaction between bison density and snow pack in the central and northern herds
- Annually collect data to determine natural migration routes and timeframes in the absence of hazing for bison migration out of and back into the park

Proposed Action:

An expansion of a bison-tolerant area north of Gardiner encompassing both sides of the Yellowstone River would work toward the goal of providing public land for wild, free-roaming bison to use when conditions inside YNP motivate them to migrate outside of the park. It would also allow for successful implementation of the management plan north of YNP contemplated by the 2000 IBMP, which anticipated use of the RTR by migratory bison, by recognizing that bison on the RTR may move across the Yellowstone River to the east and allowing further hazing eastward to public lands. The use of the Corwin Springs facility would allow additional bison to be tested, vaccinated, and held outside of the park until they were returned to Yellowstone on May 1, and would avoid overcrowding at the Stephens Creek facility. Use of this facility would be a year-to-year decision based on the circumstances at the Corwin Springs facility and the needs for an overflow holding area. These two new management tools would be added to the bison management toolbox, while remaining consistent with the original dual IBMP objectives, to maintain a wild, free-ranging population of bison and address the risk of brucellosis transmission.

Similar to the No Action alternative, hazing activities and other bison management techniques would still be used to ensure public safety and separation of bison and cattle within the Gardiner Basin targeted to the preferences of affected landowners. DoL has already installed fencing on the two cattle operations to prevent the commingling of bison and cattle in the expanded tolerance area, and FWP is working on a fencing plan to minimize unwanted human interactions with bison, where desired by local residents. Sections of fencing have already been installed by FWP around private property at the request of the landowner. Additionally, bison would be hazed into areas away from residences and traffic corridors as needed. All Yellowstone bison within the expanded tolerance area would be subject to hazing back into the Park on May 1. Those bison resistant to hazing may be lethally removed by IBMP agency staff.

Experience shows that when an episodic bison migration occurs because of the factors discussed above, bison do not stay in Zone 2, but cross the Yellowstone River and congregate along the river corridor. Under this alternative, IBMP partners would attempt to move bison, as needed, to suitable habitat to avoid safety and property issues. During these episodic migrations, bison would be hazed into the expanded bison-tolerant areas away from private property and cattle to avoid commingling. Bison are expected to remain in these areas because they are at lower elevations and contain available forage for the bison. IBMP partners expect the hazing would be less than under the No Action alternative, thereby reducing the risks to bison herders and handlers. These new management tools also are likely to reduce the use of lethal removal of bison.

The IBMP partners believe there is a remote chance that the bison would attempt to cross the hydrological divide that is the northern boundary for the expanded bison-tolerant zone. This is because the hydrological divide is the ridge line of mountains over 7,000 feet in elevation. At these elevations, there would be no forage for bison and the snow depth would generally be too difficult for bison to move through. If a bison did cross this boundary, they would be lethally removed. The installation of the bison guards and fencing just south of Yankee Jim Canyon aids in restraining bison to the Gardiner Basin.

Agencies would continue to monitor implementation of the proposed adaptive management adjustments to ensure conformity with the goals of expanding bison tolerance, protecting against brucellosis transmission from bison to cattle, and ensuring public safety.

3.3 Recreation

GNF encompasses 1.8 million acres, which includes portions of the 920,365-acre Absaroka-Beartooth Wilderness and the 254,635-acre Lee Metcalf Wilderness. The majority of the 70,000 acres of the proposed expanded tolerance area is within the GNF.

The entire GNF provided a total of 2,002,000 recreation visitor site visits in 2009 of which 34,000 are Absaroka-Beartooth Wilderness visits (USDA, FS 2010). In 2009, recreational use in developed sites accounted for 22% of the total recreation visitor days in the national forest. Hunting accounted for 3% of the visitors' main activity and 51% of visitors stated hiking/walking use was their primary activity. The remaining use included camping, downhill

and cross country skiing, snowmobiling, wildlife viewing, OHV use, and bicycling (USDA, FS 2010). Eagle Creek campground has 16 units, and Bear Creek and Timber Camp allow dispersed camping only. Eagle Creek is open year-round while Timber Camp and Bear Creek campgrounds are open June 15 through October 31.

There are areas in Bear Creek and upper Eagle Creek where NFS lands are open to over-snow vehicles. There are also marked trails in Bear Creek which are managed as both ski trails and snowmobile access routes. There are no snowmobile trails within the expanded tolerance area (USDA, FS 2011).

Big-Game Hunting

The proposed expanded bison-tolerant zone is within hunting district (HD) 313. That HD includes the existing boundaries of Zone 2 and Bear Creek/Eagle Creek areas, as well as a bison-free area northwest of Yankee Jim Canyon. Big game hunting seasons occur during the fall and early winter in Montana. The elk general rifle season occurs from the fourth week of October to the fourth week of November for a five-week season. An archery season occurs from the first week of September to mid-October allowing one either-sex elk per hunter. Bison are most often not present with the Gardiner Basin during hunting season.

The trailhead at Little Trail Creek also receives heavy use during both the fall and winter hunts. The Bear Creek and Palmer Mountain trailheads are also located in this district and they also receive heavy use, especially by outfitters and others during the backcountry hunting season (September 15 - November).

Within HD 313 from 2004-2010, there has been an average of 730 deer hunters annually and 4,226 deer-hunter days. In this same time period, there has been an average of 1,425 elk hunters and 7,596 elk hunter days annually. Harvest of deer has ranged 275-587 with an average of 360 deer harvested annually. Elk harvest has ranged from 144-521 with an average of 331 elk harvested annually.

The bighorn sheep districts that overlap the Gardiner Basin are HD303 which includes the east side of the river from the park boundary north to Dome Mountain and HD305 which includes the west side of the river from the park boundary to Sphinx Creek. General rifle season for 2011 was from September 9th through November 27th. Based on data from 2005-2010 for HD303 there were on average 21 hunters, 195 hunter days, and 2 bighorn sheep harvested annually. In HD305, there was consistently 1 hunter, and in all but one year 1 sheep was harvested with an average of 11 hunter days.

There is no antelope hunting season in the Gardiner Basin. After the 1988 fires in Yellowstone, moose populations in the Basin decreased and have yet to recover thus there is no moose hunting in the area.

Bison Hunting

There has been licensed bison hunting in the areas north and west of YNP since 2005. HD385 encompasses all of existing Zone 2 and the proposed expanded bison-tolerated area north and

west of Gardiner. This hunting district also extends north of YNP through the drainages of Hellroaring Creek and Slough Creek.

Bison hunting season is from November 15 - February 15. Montana's bison license quota could change but this year is 44 either sex licenses (18 in HD385 and 26 in HD395) with 100 additional cow/calf licenses issued incrementally (54 in HD385 and 46 in HD395) if conditions warrant. Of the 44 either sex licenses, 16 are allocated to Montana's Native American tribes. Bison hunting success rates have ranged from 2% in 2009 to 77% in 2007 for the FWP allocated licenses. Twenty-two bison were killed by hunters in 2010.

In addition to the bison hunting licenses issued by FWP, four tribes retain treaty rights to hunt Yellowstone bison on any open and unclaimed federal lands, such as those owned by the FS or Bureau of Land Management. Those tribes are Shoshone-Bannock Tribes, Nez Perce, Confederated Salish and Kootenai Tribes, and Confederated Tribes of the Umatilla Reservation. There is no defined limit on the number of bison the treaty tribes may harvest.

Wolf Hunting

In Montana, wolves are managed in thirteen wolf management units of which some have subunits. Harvest quotas for each unit and subunit are assigned annually and have ranged from 20 to 4 wolves. The 2011 hunting seasons are September 3rd through October 6th for archery and October 22nd through December 31st for rifle. The proposed expanded tolerance area is within wolf unit 390, subunit 313/316. The 2011 quota for unit 390 was 18 wolves with subunit 313/316 harvest quota set at 3 wolves.

Access

Access within the proposed expansion of the bison-tolerant zone is very limited for motorized vehicles. Forest Service road #617 north of Corwin Springs provides ¼ mile year-round access into the GNF and Yankee Jim Canyon recreation road that includes roads to trailheads, river access, picnic areas, and campgrounds (USDA, FS 2006). There are also unimproved roads that are adjacent to Cedar Creek (Creek 8 Road) on the east side on Yellowstone River and unimproved roads adjacent to Mol Heron and Cinnabar Creeks on the west side of the river. Motorized vehicle use is prohibited on all other FS trails throughout the expanded tolerance area.

No Action Alternative:

There would be no impacts to existing recreational opportunities if the current IBMP strategies were continued to be implemented.

Proposed Action:

If this alternative were selected, during severe winters within YNP bison could be relatively common in the Gardiner Basin between December and April, although bison would be hazed away, as needed, from the river and traffic corridors to minimize human-bison conflicts. As bison spread in to the expanded tolerance area, they might attract more visitors to the area and lead to a minor to moderate positive impact on overall bison viewing. Bison held at the Corwin Springs facility would continue to be visible from U.S. Highway 89.

Simulations of migrations over the next decade suggest that a strategy of sliding tolerance, where more bison are permitted beyond park boundaries during severe climate conditions, may increase hunting opportunities that could in turn decrease episodic, large-scale reductions to the Yellowstone bison population in the foreseeable future (USDA, APHIS 2010). Current state hunter density levels are managed at 25 hunters in field per period by geographic unit which ensures the safety of all hunters (FWP 2004). Any addition of either a new bison hunting district or an expansion of bison HD385 would need approval of the FWP Commission.

The potential for additional bison on the landscape would provide tribal treaty hunters additional hunting opportunities, such as in the GNF south of Yankee Jim Canyon.

No impacts are anticipated to other recreational opportunities if the bison-tolerant zone was expanded. Use of the existing Corwin Springs facility would have no impact on recreation since there would be no changes in land use or public access to the surrounding area.

3.4 Livestock Operations

The livestock industry in the Gardiner Basin during times bison would be tolerated in the expanded zone consists of a limited number of small cow-calf operations, totaling approximately 50 head of cattle. Currently there are two private land holdings with cattle near Gardiner. Privately owned land and leased public land grazing allotments provide summer pastures for some local cattle. After the first snowfall or at the end of the allotment period in the fall, most cattle are returned to their home base on private lands usually elsewhere in Montana where snow depths are more shallow and hay sources are more accessible. Near YNP in the winter, the snow is too deep and the winters are too cold for cattle to graze, and extra feed is required to maintain their body heat (USDI, NPS et al. 2000a, 304).

DoL official order 10-01-D and administrative rule 32.3.434 have established testing and vaccination requirements for cattle producers within a Designated Surveillance Areas (DSA) consisting of the southern portions of Beaverhead, Gallatin, Madison, and Park Counties, to provide assurance to trading partners as to the marketability of Montana livestock and to meet the requirements of recent APHIS regulations. The vaccination requirement consists of an official calfhood vaccination for brucellosis (bangs vaccination) and traceability requirements (individual identification) for animals within the DSA. Testing requirements for brucellosis are necessary for 12-month or older, sexually intact cattle.

During times of bison migration, in the bison-tolerant Bear Creek/ Eagle Creek area there is currently one livestock owner who uses a grazing allotment in the expanded area and in the proposed expanded tolerance area, there are two additional livestock operations. These two livestock operations within the expanded tolerance area have had fencing installed by DoL to maintain spatial separation between cattle and bison.

There are two active grazing allotments within the GNF in the proposed expanded bison-tolerant zone, one on each side of the Yellowstone River near Yankee Jim Canyon. Both the Slip n' Slide (east side) and Green Lake (west side) allotments are used from early June until mid-October,

and each allotment is grazed by 47 and 46 cow/calf pairs respectively. Bison are not expected to migrate north of the park until, at earliest, December, likely January, and would be hazed back into YNP by May 1 so there is no opportunity of commingling. All other FS allotments that were acknowledged in the FEIS, Lion Creek, Mill Creek, Section 22, Sentinel Butte, and Park, are all currently vacant. Cattle are not present on these FS allotments in winter, and the FS can modify conditions of grazing permits in any case to change livestock class and timing of allotment use to address any potential conflicts with bison.

No Action Alternative:

There would be no adjustments to the existing bison management procedures. Spatial and temporal separation between bison and livestock would continue to be a priority. DoL, with the assistance of FWP, would continue to assess and mitigate risk if bison movements are too close to established livestock operations. During the 2010 management season, one fence associated with private property at the boundary between Zone 3 and the Eagle Creek tolerance area has been constructed by DoL in the hazing corridor of the northern management area to separate bison from livestock. Bison resistant to hazing would be subject to possible capture or could be lethally removed if necessary.

Proposed Action:

When an expanded bison-tolerant area was originally analyzed in the 2000 DEIS as Alternative 2, the status of the State's Class Free designation would have been jeopardized if brucellosis was found in cattle anywhere in the state. The threat of brucellosis to cattle was considered a risk to the Montana's entire livestock economy. In 2010, APHIS changed the regulations of state brucellosis status classification, and therefore, Montana's brucellosis-free status would not be threatened if cattle within the DSA tested positive for brucellosis. APHIS's interim rule removes the provision for automatic reclassification of any Class Free State or area to a lower status if two or more herds are found to have brucellosis within a 2-year period or if a single brucellosis-affected herd is not depopulated within 60 days. Under this new protocol, detection of brucellosis in domestic livestock within the DSA is dealt with on a case-by-case basis. As long as the outbreaks are investigated and contained, then state status does not change. In fact, brucellosis was detected in several domestic bison and cattle herds in Idaho, Montana, and Wyoming during 2009 to 2011 without a change in state status. The negative economic impacts of any transmission of *Brucella* from bison to cattle therefore would be less than described in the FEIS for the IBMP (USDA, APHIS et al. 2011b, 7).

Under the proposed action, the risk of brucellosis transmission from bison to cattle grazing in the northern portion of the Gardiner Basin on GNF allotments is expected to be negligible since cattle are removed from the allotments by mid-October which is typically before bison migrate outside the park. Cattle would not be returning to those allotments until after bison are hazed back into YNP on May 1. The risk of brucellosis transmission to cattle within the two livestock operations in the expanded tolerance area is expected to be minimal, since DoL installed fencing on those operations to maintain spatial separation.

FWP and DoL would continue to follow the IBMP's guidance as would the other partners. The following are examples of activities designed to ensure that bison management reduces the risk of transmission: actions that maintain temporal and spatial separation of bison and cattle

(fencing); actions that reduce the incidence of infection (test and removal, vaccination); and actions that reduce the numbers of bison (shooting, hunting, shipment to quarantine, and shipment to slaughter) (USDA, APHIS et al. 2000, 455).

As previously noted, one fence associated with private property at the boundary between the current Zone 3 and the Eagle Creek tolerance area has been constructed by DoL in the hazing corridor of the northern management area to separate bison from livestock. Additional boundary fencing may be constructed in additional locations in the future if necessary. Such actions would be monitored for effectiveness per management action 3.2B, which focuses on the evaluation of strategically placed fencing as outlined in the 2009 and 2010 IBMP annual reports.

Another existing management action seeks to ensure conflict-free habitat is available for livestock and bison grazing on public lands as per the management objectives of the IBMP. IBMP partners annually track the status (e.g. number of acres, location, etc.) of active and inactive cattle grazing allotments on public lands to find opportunities to increase spatial and temporal habitat for bison on forest lands. The proposed action is consistent with this goal and, if implemented, the monitoring would continue. Additionally, the FS can modify conditions of grazing permits in any case to change livestock class and timing of allotment use to address any potential conflicts with wildlife, including bison.

The continuing implementation and documentation of use and movements within the Gardiner Basin would provide data to support current management actions and data needed for future management adjustment if necessary. This would be consistent with the implementation of the third component of the proposed IBMP adaptive management adjustments.

3.5 Socioeconomics

Employment

The diversification of the economy in the Greater Yellowstone Area and the growth in the total number of jobs has helped keep unemployment in Park Counties at 6.8% in 2011 (DLI 2011).

Table #2. Employment by economic sector for Park County

Industry	Average Annual Employment
Accommodations & Food Services	1156
Administrative & Waste Services	74
Agriculture, Forestry, Fishing & Hunting	160
Arts, Entertainment & Recreation	229
Construction	326
Educational Services	94
Finance & Insurance	165
Government	734
Health Care and Social Assistance	627
Information	83
Manufacturing	426
Mining	3
Other Services	358

Professional & Technical Services	173
Real Estate & Rental and Leasing	44
Retail	687
Transportation & Warehousing	39
Wholesale	36

Source: MT Department of Labor and Industry, Quarterly Census of Employment and Wages Program

Income

Average annual wages per job within Park County is $28,142 (DLI 2010).

Hunting

Big-game hunting is a major activity in Montana including the greater Yellowstone area, and elk and deer are the primary species hunted during the season. Resident elk hunters spent an average of $81.00 per day while resident deer hunters spent $63.00 a day. Average nonresident hunter expenditures associated with elk and deer hunting is $384.00 and $176.00 per day, respectively (FWP 2008). From 2004-2010, there has been an average of 730 deer hunters annually hunting within HD 313.

Bison hunting produce fees for licenses ($125 for in-state and $750 for out-of-state hunters, MCA 87-2-113 and 87-2-730) and some local economic benefits when hunters purchase food, fuel, lodging, guiding services, and supplies. Specific expenditures by bison hunters have yet to be researched and quantified.

No Action Alternative:

The No Action alternative would have no impact to socioeconomics within Park County. Any conflicts that may arise from bison movements and cattle operations would be mitigated by the steps described in section 3.4.

Proposed Action:

The implementation of the adaptive management adjustments to the IBMP would likely have none or minor impact to the local economy and no impact to the economy of Park County at large.

There is the potential for additional hunting and bison viewing opportunities in the future depending upon bison movements into the expanded area. Hunters and sightseers purchasing food, fuel, lodging, guiding services, and supplies in Gardiner may provide a positive impact to those businesses by providing additional sources of revenue.

3.6 Wildlife & Fisheries

The mid- to low-elevation areas of the Gardiner Basin provide important winter habitat and migration routes for elk, mule deer, bighorn sheep, pronghorn antelope, and bison. White-tailed deer and moose occur in scattered areas within the basin, but neither is found in significant numbers within the tolerance area. In addition to the ungulate populations, Gardiner Basin

contains a full component of predators, scavengers, furbearers, small mammals, game birds, waterfowl, raptors, nongame birds, amphibians, and reptiles occurring in suitable habitats.

Threatened Species

Grizzly Bear

As of September 2009 grizzly bears in the Yellowstone region are again listed as threatened under the ESA. Grizzly bears use a wide variety of habitats and have a highly diverse diet including various plants and animals. Riparian areas, snow chutes, meadows, subalpine forests, alpine tundra, boulder fields, mixed shrub fields, seeps, grasslands, timbered side hill parks, and burns are used for feeding and resting. Dense timbered habitats are often used for denning and daytime bed sites. In summary, moist open-land habitats in combination with timbered areas are essential for optimum grizzly bear habitat. The 2010 grizzly bear population was estimated at 602 bears for the Greater Yellowstone Ecosystem that includes the Gardiner Basin and the expanded tolerance area. During the period in which bison would be present in the expanded tolernace area, grizzly bears would most likely be hibernating in the higher elevations.

Bears are omnivores that have relatively unspecialized digestive systems similar to those of carnivores. The primary difference is that bears have an elongated digestive tract, an adaptation that allows bears more efficient digestion of vegetation than other carnivores (Herrero 1985). Unlike ruminants, bears do not have a cecum and can only poorly digest the structural components of plants (Mealey 1975). To compensate for inefficient digestion of cellulose, bears maximize the quality of vegetal food items ingested, typically only foraging for plants in the phenological stages that are highly nutritious and digestible (Herrero 1985). From March through May, ungulates, mostly elk and bison carrion, are the most important food in the grizzly bear's diet (Mattson et al. 1991).

Lynx

Lynx have been sighted in the GNF. Search of the Montana Natural Heritage Program (MNHP) database reported two historic observations of lynx in the Gardiner Basin over the past forty years.

Prey availability, especially snowshoe hares, appears to be a primary limiting factor for lynx in the Northern Rockies. A 2007 Forest Service survey reported the main cause of lynx mortality is starvation. Lynx habitat conservation measures are therefore currently focused on maintaining adequate quantities of winter snowshoe hare habitat (Tyers 2008a). Primary forest types that support snowshoe hare are subalpine fir, Engelmann spruce, and lodgepole pine (Ruediger et al. 2000). Secondary foraging habitat includes aspen, willow, and moist, cool, Douglas fir stands (Ruediger et al. 2000).

Lynx would not prey on bison but may consume bison as carrion. This is expected to happen only rarely as lynx, to the extent they are present, normally consume snowshoe hares and occupy lodgepole pine forests in the winter where bison are not typically found.

Sensitive Species

Sensitive species do not receive the same degree of protection as endangered or threatened species although decreasing numbers or loss of habitat makes them of concern to federal and state land management agencies.

Table #3. Sensitive species in the expanded tolerance area

Wildlife Species	Occurrences and Habitat Comments
Bald Eagle*	There are two bald eagle nests within a mile of Slip n' Slide Ranch adjacent to the Yellowstone River which have been active in recent years. Birds use the area for foraging year-around
Black-backed Woodpecker	High quality habitat created by recent fires is not present at the site, but it is in the Gardiner Basin.
Peregrine Falcon	Nesting activity has not been documented in or near Corwin Springs although peregrines nest and forage in the Gardiner Basin.
Townsend's Big-eared Bat	Snags, bridges and buildings provide roosting habitat and wetlands provide feeding habitat.
Wolverine	See following analysis.
Trumpeter Swan	Wintering and nesting habitat is not found in the vicinity of Corwin Springs.
Boreal Toad	This species is relatively common on the Forest. Breeding habitat is found in lakes, ponds, slow streams, and ditches.
Northern Leopard Frog	This species is very rare in Western Montana. No reports of occurrence in or near the Corwin Springs area have been made, although it may have been found in the area historically.

Source: Tyers, USFS Biological Assessment for Terrestrial Wildlife Species: Gardiner Basin Bison Fence Construction. 2008b
*Source: NYCWWG aerial surveys, March-May 2011

Wolverine

Wolverines are considered rare or scarce in the proposed expanded bison-tolerant area. Wolverines inhabit mid or lower elevations in winter. Wolverines tend to avoid large open areas which are typically preferred by bison. The wolverine is an opportunistic carnivore and will eat whatever is available (Hash 1989). This species may occasionally use a bison carcass, but bison would not be a major food for the wolverine. Wolverines den at high elevations and are very susceptible to human disturbance.

No denning habitat is associated within the expanded tolerance area. Although it is unlikely, individual animals may travel through the area moving between higher quality habitats.

FISHERIES

Fisheries species located in the Yellowstone River include Yellowstone cutthroat, rainbow and brown trout, mountain whitefish, white and longnose sucker, and mottled sculpin. The Yellowstone cutthroat trout is designated a species of concern in Montana due to hybridization and decreasing distribution range. Pure, unhybridized populations are limited to some headwaters streams and YNP.

FWP staff conducted trout abundance surveys in the Yellowstone River in 2010. In the Corwin Springs section of the river which is within the proposed expanded tolerance area, the Yellowstone cutthroat trout abundance was estimated at 296 fish per mile. The reproduction and recruitment of larger fish (4-9 inches in length) was attributed to good water conditions during 2009. Since good water conditions continue in 2010, reproduction and recruitment of the species is expected to continue through 2011 (Opitz 2011).

The proposed expanded tolerance area also includes the drainages of Mol Heron and Cinnabar Creeks on the west side of Yellowstone River and the drainages of Bassett, Cedar, and Slip n' Slide Creeks, as well as the headwaters of Bear Creek on the east side of the river. With the exception of Slip n' Slide Creek, all the others creeks merge into the Yellowstone River and support populations of Yellowstone cutthroat trout, rainbow, trout, brown trout, and in headwaters areas, brook trout. Slip n' Slide Creek does not reach the Yellowstone River because of agricultural diversions.

GAME SPECIES

Elk

Resident elk inhabit the upper elevations of Slip n' Slide Creek, Cedar Creek, and Joe Brown Creek throughout the summer and fall. During this time of year, there is very limited elk use at lower elevations in the Slip n' Slide pasture area. Resident elk are joined by larger numbers of migratory elk from YNP in late fall and early winter. Since 2002, annual winter elk counts in this unit have ranged from 11 - 127 with an average of 48 elk counted in this area each winter. In 2011, 30 elk were counted in this area (FWP 2011a). Thousands of elk use this area as a migratory corridor between summer ranges in and adjacent to YNP and winter range in the Dome Mountain area of Paradise Valley. This migration corridor has been documented during Northern Yellowstone Cooperative Wildlife Working Group (NYCWWG) aerial surveys as well as radio telemetry research conducted by FWP (Hamlin et al. 2009). Elk migration begins in late November with the majority of migrant elk moving north through the area in December and January. Migrant elk remain on their winter ranges until late April or early May, then migrate south through the Slip n' Slide drainage as they return to summer range inside YNP.

Pronghorn Antelope

There is a small, migratory population of antelope that use the Gardiner Basin, which are largely restricted to the west side of the Yellowstone River. The Yellowstone antelope population is a genetically distinct remnant of a population that numbered in the thousands in the 1800's. The NYCWWG began surveying this population in 1989. The population declined from a high count of 596 in the 1990's, and the population has remained low in spite of protection from harvest with an average count of 229 during 1995-2011. There have been indications of population recovery in recent years, including recent dispersal from this population to the southern Paradise Valley where 81 pronghorn were counted during 2011. Pronghorn were observed travelling through the Royal Teton Ranch and Yankee Jim Canyon along the Old River Road on their spring migration, and some animals may have used the Slip n' Slide drainage as a travel corridor.

Mule Deer

The Gardiner Basin is important winter range for a large migratory mule deer population that occupies the Basin from late November/December to early May. Based on radio-telemetry

research sponsored by the NYCWWG, mule deer move from a large area including the Absaroka/Beartooth Wilderness, Cooke City, Mill Creek, Big Sky, and Yellowstone Lake, to winter in Gardiner Basin.

Based on spring helicopter surveys since 1986, 989-1620 mule deer have been counted on the east side of the Yellowstone River within the Gardiner Basin (FWP 2011c). In 2011, 235 deer were counted within the Slip n' Slide drainage representing 13% of the total 1,840 mule deer counted in the entire survey area. During the winter, the high mule deer use areas occur in the sagebrush-covered foothills adjacent to the Slip n' Slide pastures. With the beginning of green-up in April, large numbers of mule deer concentrate on the low elevation flats and agricultural fields. Over the years, mule deer use of the Gardiner Basin has been tolerated, and this habitat is very important to the health of the mule deer population.

White-tailed Deer

Whitetails have been observed in small numbers in the Slip n' Slide drainage often associated with thicker "habitat edge vegetation" in riparian areas or along field edges. Compared to the hundreds of mule deer counted, FWP typically observes only 10-20 whitetails during spring aerial deer surveys. White-tailed deer are a very minor wildlife component in the Gardiner Basin.

Bighorn Sheep

A small migratory population of bighorn sheep occurs seasonally on and adjacent to Slip n' Slide Ranch just south of Yankee Jim Canyon. These bighorn sheep typically summer at the higher elevations until mid to late October, then move down into the area between Slip n' Slide Creek and Yankee Jim Canyon and remain until early May. In recent years from 2002-2011, aerial survey counts in this area have ranged from 2-14 bighorns (FWP 2011b). Bighorns use the low elevation areas during the winter and are often seen along U.S highway 89.

Gray Wolf

A minimum of 566 wolves in 108 verified packs existed in the Montana portion of the federal Greater Yellowstone wolf recovery area at the end of 2010 (Sime et al. 2011). There are two known wolf packs within the expanded tolerance area; the Quadrant pack on the western side of Yellowstone River and the Slip n' Slide pack on the east side of the river. The Quadrant pack is known as a border pack because it moves in and out of YNP.

The wolf population within YNP is a source of dispersing wolves which move north and west into the State of Montana and the Paradise Valley. The Slip n' Slide drainage is an important corridor for migratory elk, the primary prey for wolves in the Yellowstone ecosystem. Thus, wolves are likely to use this area to forage on elk and to travel to and from elk wintering grounds in Paradise Valley. Resident wolf packs and transient, dispersing individual wolves will continue to exist in the Gardiner Basin with the Slip n' Slide drainage likely part of a resident wolf territory or used as a travel corridor.

NONGAME SPECIES

The Gardiner Basin ecosystem provides appropriate habitat for an abundance of nongame wildlife species. The following is a representative list of common nongame species that are

likely to occur in the Gardiner Basin. This is not meant to be a complete list of nongame species that inhabit the area:

Mammals: Coyote, badger, long-tailed weasel, mountain cottontail rabbit, white-tailed jack rabbit, Richardson's ground squirrel, deer mouse, meadow vole, montane vole, long-tailed vole, and little brown myotis.

Birds: Western meadowlark, Brewer's blackbird, American robin, vesper sparrow, mountain bluebird, black-billed magpie, raven, American kestrel, red-tailed hawk, golden eagle, and osprey.

Reptiles: Gopher snake, terrestrial garter snake, common-garter snake, and western rattlesnake.

No Action Alternative:

The continuation of hazing activities in the Gardiner Basin is likely to displace some wildlife species in the short term. No impacts are anticipated to wildlife habitat or overall movements and use of the Basin. Although bison periodically cross the Yellowstone River, they do not disturb fisheries habitat or fish populations.

If additional fencing is required to mitigate and decrease landowner or livestock owner concerns, new fencing would be built in consideration of wildlife and landowner needs. The fencing constructed on the GNF right-of-way is a jackleg fence with a top and split rail removed in two spots to allow for wildlife crossing. The fence installed at the boundary between Zone 3 and the Eagle Creek tolerance area was a 5-foot wood rail and smooth wire configuration built so small wildlife could move below the wire and ungulates could jump over the top rail.

Proposed Action:

Identical to the No Action alternative, continuation of hazing activities in the Gardiner Basin is likely to displace some wildlife species in the short term. No impacts are anticipated to wildlife habitat or overall movements and use of the Basin. Although bison periodically cross the Yellowstone River, they do not disturb fisheries habitat or impact fish populations.

Hazing and bison management activities within the expanded tolerance area are not expected to impact grizzly bears or wolves. Wolves using the area may avoid areas when hazing is occurring, but displacement impacts are negligible. The expansion of the area over which bison are found could increase distribution of a possible food source for grizzlies and wolves, which would have a moderately positive impact for those species.

Although elk and bison share habitat and eat similar foods, these species do not have to compete for either in the analysis area (Singer et al. 1994). Therefore, increases or decreases in bison population numbers would not be expected to affect elk through competition for food or habitat (USDI, NPS et al. 2000a, 590).

Yellowstone bison and pronghorn are separated by habitat selection, food habits, snow tolerance, and seasonal distribution. Therefore, increases or decreases in the number of bison would not be

expected to affect pronghorn through competition for food or habitat (USDI, NPS et al. 2000a, 591).

Although bison and mule deer experience some degree of overlap in habitat use, there appears to be little or no competition between these two species because of differing diet preferences (Singer et al. 1994). Competition may also be precluded by seasonal distribution differences and by the limited ability of deer to deal with deep snow. Bison and white-tailed deer also appear to avoid competition through food choices. Therefore, no impacts on deer from increases or decreases in bison population sizes would be expected (USDI, NPS et al. 2000a, 591).

While there has been some increase in habitat overlap between bighorn sheep and bison in recent years (Singer et al. 1994), the two species are separated ecologically by differences in distribution, diet, and tolerance of snow. Bison increasingly select habitats with characteristics important to bighorn sheep during spring, but there does not appear to be appreciable overlap or competition for the use of those areas from bison. Increases or decreases in the bison population size therefore would not be expected to affect bighorn sheep through competition for food or habitat (USDI, NPS et al. 2000a, 591-592).

Increased distribution of bison outside YNP might result in increased distribution of carcasses providing food for scavengers in areas where this food source was not previously available. This would have the potential to create both positive and negative impacts on certain scavenger species. The additional food source would be beneficial but could be offset by bringing those scavengers, particularly bears and coyotes, into conflict with humans. Measures requiring removal of gut piles or carcasses from areas near human habitation might mitigate these effects (USDI, NPS et al. 2000, 596).

3.7 Public Safety

During the course of the fall, winter, and spring of 2010 and 2011 when the highest numbers of bison were present in the Gardiner Basin, FWP and DoL staff, along with YNP staff, responded to public safety and property owner concerns throughout the Basin. Property owners were concerned include those regarding safety and personal property. On-site agency personnel responses were either immediate or generally within twelve hours, depending on staffing, when the call was received, and travel time to the site.

The proposed expanded bison-tolerant zone would encompass areas on both sides of U.S. Highway 89, the only north-south route between Livingston and YNP. In 2009, average daily traffic was 2,200, of which 110 were commercial or large vehicles (personal communication C. Abernathy, Montana Department of Transportation 11/7/11). Department of Transportation documented 37 wild animal collisions along Highway 89 between Gardiner and Jim Yankee Canyon from July 2001 through June 2011, of which two involved bison, one of which was in an existing bison tolerance area (MT Dept. of Transportation).

Brucellosis in bison is caused by a bacterium that can cause also infect humans. In humans, brucellosis is called undulant fever. The bacterium is concentrated in the lymph nodes,

reproductive organs, and udder. Cooking destroys the bacteria that may be present in the meat. To minimize risk of any disease transmission to humans, FWP recommends that bison hunters follow these general precautions: 1) always were protective gloves when dressing carcasses, 2) minimize contact with animal fluids and brain and spiral tissue, 3) avoid contact with milk or material from the reproductive tract, and 4) wash hands and instruments thoroughly after field dressing or processing (FWP 2011d).

No Action Alternative:

IBMP partners including FWP would continue to respond to public safety and property owner concerns. Priority will continue to be given to complaints involving public safety issues. FWP and DoL would continue to document bison-human conflicts per the IBMP management action 1.3b outlined in the 2009 and 2010 IBMP annual reports. This action item focuses on efforts to work with landowners who have human safety and property owner concerns to provide a conflict-free habitat in the Gardiner Basin.

During periods of episodic bison migration such was the case during the winter of 2010-2011, additional patience was required by those reporting bison-related incidents because there would likely be a longer response time by IBMP agency staff to those complaints. Priority would continue to be given to those cases where the public's safety is in jeopardy.

The movements and presence of bison along the highway corridor would continue to be a minor traffic hazard to motorists.

Proposed Action:

Identical to the No Action alternative, IBMP partners including FWP and DoL would continue to respond to public safety and property damage concerns. Response to bison incidents would be on a first-come, first-served basis and prioritized to dangers presented.

Hazing activities would be implemented along the highway corridor to move bison to suitable habitat in unpopulated tolerance areas. FWP and DoL believe there would be a minimal risk of vehicle-bison collisions even when large numbers of bison are present this because there were only two vehicle-bison collision over the last 10-year period. Hazing and capture/testing activities described under the No Action alternative would also continue, as would the movement of bison back into YNP on May 1.

The expanded opportunities for bison hunting for treaty tribes and the potential for expanded bison hunting for FWP licensees increases the exposure of all hunters to brucellosis. However, if hunters implement FWP's the field dressing recommendations for bison, exposure risks are minimized.

The following paragraph is from the 2000 FEIS and its acknowledgment of potential public safety risks is still relevant for this EA.

> Bison hunting would be allowed on public land. Hunting has the potential to disturb and displace grizzly bears and the gray wolves. Although most of the hunting season (November 15 to February 15) would occur when grizzly bears were denning, bears might still be out in the fall when hunting begins. During this

> period, grizzly bears and armed persons might come in contact with one another with a potential result of increased bear mortality risk. However compared with the regular season elk hunt (which runs from late October to late November), the risk would be fairly low of bison hunters and grizzly bears coming in contact. This would happen because many more elk permits would be issued than the proposed number of permits to hunt bison, elk more typically use habitats used by grizzly bears, and hunter techniques would be different for hunting elk versus hunting bison making elk hunters more subject to contact with grizzly bears. Hunter education on species identification for grizzly bears and wolves should be conducted as a mitigating measure to ensure hunters did not kill these species while hunting bison. The impacts on either grizzly bears or wolves as a result of human interactions during bison hunting would be negligible (USDI, NPS et al. 2000a, 571).

FWP would continue to participate in the Gardiner Basin outreach program that focuses on building an understanding of the level to which landowners are willing to permit bison on their property or implement additional measures to keep bison off their property. FWP has led efforts to install fencing in response to landowner concerns about safety and private property damage. Knowledge gained by this effort could assist in future IBMP adaptive changes.

Other mitigations to reduce public safety issues arising from the expansion of the bison-tolerant zone, especially in the highway corridor, includes hazing bison off the road and away from the vehicle corridor and having additional wildlife crossing/movement signs installed along the highway between Yankee Jim Canyon and Gardiner to educate motorists.

Additionally, IBMP partners would continue to work with landowners who have human safety and property owner concerns as well as those who favor increased tolerance for bison to provide conflict-free habitat. The partners would continue the effectiveness of the proposed adaptive management adjustments by document the numbers, timing, and types of reported incidents for human safety and property incidents related to bison.

3.8 Cultural Resources

Prehistoric man, Native American tribes (Shoshone and Nez Perce), explorers and miners, and early visitors to YNP used the Yellowstone River corridor from Gardiner north to Yankee Jim Canyon. Remnants of those travelers and residents have been found through numerous cultural resource surveys completed over the past two decades.

In the 1860s, placer mining for gold began to affect the corridor and with it miners and settlers began to reside along the river. In 1871, James George (AKA Yankee Jim) built a cabin and road at a narrow canyon along the Yellowstone River and began charging a toll to travelers headed for the towns of Cinnabar, Gardiner, or areas further south. When the Northern Pacific Railroad reached the area in 1883, the railroad purchased the right-of-way from Yankee Jim to expand their lines south to Cinnabar and then to Gardiner in 1902.

By 1903, when President Roosevelt visited the area for the cornerstone-laying ceremony for the entrance of YNP, Gardiner's population had grown from 200 in 1883 to over 400 in 1922. The nudge for expansion into the area occurred in 1915 when the Yellowstone Trail Road was completed from Livingston and YNP was opened to automobile traffic. The population of the area has expanded and contracted over the years following mining efforts.

Some relics are still visible within Zone 2 near the RTR Ranch such as the brick coke ovens from 19th century gold and coal mines. Other remnants from prehistoric and historic occupants including lithic scatter, fire hearths, building foundations, railroad beds, stage routes, and antique trash dumps have been located through cultural resource inventory reports completed by Fredlund (1987) and Deaver (1989).

There are over 900 recorded historical and archaeological sites within the GNF (USDA, FS 2006), however only a small percentage of the national forest has been archeologically surveyed. Within the proposed expanded bison-tolerant area there are no recorded historic sites, only prehistoric (M. Pablo, GNF personal communication 12/1/11).

No Action Alternative:

Little to no impacts to cultural or historic areas may continue to occur where existing sensitive sites are exposed to bison using existing bison-tolerant areas (Zone 2 and Bear Creek/Eagle Creek). Archeological resources can be at risk from development, natural occurrences, and human activity (USDI, NPS et al. 2000, 621).

Proposed Action:

Bison should have no impact on cultural resources because most of soil surface would be covered by snow or frozen when bison are present and the forage methods employed by the bison do not require any groundbreaking or ground disturbing activities.

With the implementation of this alternative, at certain times of the year bison could inhabit a larger portion of their historic range outside YNP within the expanded bison-tolerant area than has been inhabited since 2000. This would ensure the presence of bison on historically occupied range and would promote a greater understanding of the historic Great Plains and seasonal movement of bison in and around the northern Yellowstone area range, a minor to major positive impact to tribes who view free ranging bison as culturally important. (USDI, NPS et al. 2000, 622)

3.9 Visual Resources

Visual resources consist of landform (topography and hydrology) and land cover (vegetation, buildings, roads, etc.).

National forest land use is managed to maintain specific visual quality objectives or a level of scenic quality and diversity of natural features based on physical and sociological characteristics of an area. The expanded tolerance area contains national forest lands with visual quality

objectives ranging from preservation to maximum modification. The following relevant paragraphs are taken from the 2000 FEIS.

> "Preservation" allows only ecological changes; "retention" means that human activities are not evident to the casual visitor; "partial retention" allows evidence of human activity if it is subordinate to the characteristic landscape; "modification" means that human activity may dominate the land but should appear as a natural occurrence, and "maximum modification" allows human activity to dominate, yet it should appear natural when viewed as background. In the Gardiner area, forest lands are managed for recreation, livestock, big game winter habitat, timber harvest, and wilderness within which the visual quality objectives are primarily focused on preservation, partial retention, and modification. (USDI, NPS et al. 2000, 369)
>
> Various hazing activities affect visual resources and quality for residents and visitors in the Yellowstone area. Hazing is visible from roads and lands near areas where bison leave the park and enter other public or private lands. Most hazing activities occur outside the park as needed. Capture and test facilities are visible from the county road in the Stephens Creek area and from a few residences in the West Yellowstone area. (USDI, NPS et al. 2000, 371)

Currently, bison testing seronegative for brucellosis at the Stephens Creek facility are marked with a backtag for easy identification by staff handling the bison until they are released back into YNP.

Special Concern Plant Species

Three special concern plants have been identified by the Montana Natural Heritage Program to occur within the expanded tolerance area: thick-leaf whitlow grass, five-leaf clinquefoil, and Letterman's needlegrass. The thick-leaf whitlow grass is scattered across southwest Montana where it has been located on cool, shady alpine slopes in several mountain ranges. However, its overall abundance and distribution is poorly known (MNHP 2011). Five-leaf cinquefoil is sparsely distributed in Montana on dry, gravelly soil of exposed ridges and slopes in the montane to alpine zones (MNHP 2011). Letterman's needlegrass can be found in limestone talus and dry fescue grassland in the valley and foothill zones (MNHP 2011).

No Action Alternative:

The existing capture facilities at Stephens Creek would continue to be part of the viewshed with a minor to moderate negative impact (USDI, NPS et al. 2000, 654). Hazing and other bison management activities per the existing IBMP procedures would still occur and continue to have a negative impact on those who are offended by this management action. No impacts are expected on the viewshed if the No Action alternative was chosen because no new facilities would be built and no changes to the viewshed would occur.

Hazing activities would continue as previously discussed on horseback, all-terrain vehicle, and foot as necessary and where allowed to move bison out of non-tolerant areas. Those activities would be visible to the public and could have a negative impact on those who are offended by

this management action. Such activities hazing activities may be required on a daily basis, as was the case during the 2010-2011 winter.

No impacts to sensitive plant species are anticipated because they would be dormant and likely under snow cover when bison are present.

Proposed Action:
Bison would be permitted to occupy the expanded tolerance area as needed.

Furthermore, if additional tolerance area was available and the Corwin Springs facility were used to hold tested bison from the Stephens Creek facility until they were moved back into YNP, it is likely there would be less hauling, less slaughter, and less lethal removal of bison within the Gardiner Basin. This is expected to be a beneficial impact on visual resources for those who prefer bison on the landscape. Use of this facility would be a year-to-year decision based on the circumstances at the Corwin Springs facility and the needs for an overflow holding area.

No impacts to sensitive plant species are anticipated because they would be dormant and likely under snow cover when bison are present.

Since FWP and DoL have the ability to mitigate some landowner and livestock operator concerns by installing new fencing when needed, the impacts from new fencing are expected to be negligible with limited and localized disturbance to vegetation. No other changes to visual resources are anticipated with the implementation of the proposed adaptive management adjustments.

3.10 Cumulative Effects

No Action Alternative:
If the No Action alternative is chosen, there would be no opportunity for IBMP partners to gather multi-year analysis of bison migration and the cumulative effect would be a negative impact for the loss of data gathering and loss of research opportunities. Current observation and documentation of bison would continue within the confines of the existing bison-tolerant zone boundaries.

As previously noted, severe winter conditions, snow pack depth, and the population levels with YNP contribute to the likelihood of bison migrating to lower elevation ranges outside of YNP. If an episodic migration should happen, bison movements would be limited to within the existing Zone 2 and Eagle Creek/Bear Creek boundaries. Based on experiences from the 2010-11 winter, under those circumstances, hazing bison that cross the Yellowstone River would present challenges and bison-human conflict would likely be similar to that experienced in 2010-11. Alternatively, managers could increase bison removal actions, such as through summary destruction or shipment to slaughter.

Proposed Action Alternative:
The implementation of the proposed adaptive management adjustments provide IBMP partners additional options for the management of bison within the Gardiner Basin, with the potential for

beneficial cumulative impacts to migrating bison, and still relatively little risk of brucellosis transmission than currently exists. If bison chose to use newly available public lands instead of the more populous areas near Gardiner and the river corridor, future hazing activities, lethal removal, and shipment of bison to slaughter not associated with population control measures by YNP is expected to decline.

Current fencing and hazing activities would address landowner and livestock operator concerns and minimize impacts to private property and cattle.

Use of the Corwin Springs facility is not expected to have any cumulative impacts to resources. Use of the facility would provide NPS additional holding capacity to their Stephens Creek facility for tested bison to alleviate conditions of crowding when the Stephens Creek facility is at capacity or not desired by IBMP partners. Use of this facility would be a year-to-year decision based on the circumstances at the Corwin Springs facility and the needs for an overflow holding area. No cumulative impacts are anticipated to cultural, socioeconomic, wildlife and fisheries, recreation, public safety, and visual resources if the Corwin Spring facility was used to hold seronegative bison until their release back into the park.

Changing the distribution of bison to a broader landscape would be moderately beneficial to grizzly bears and would have a minor benefit for wolves. If grizzly bears and wolves were drawn outside the park to feed on bison carcasses due to increased distribution and numbers of bison, they might be subjected to a slightly higher human-caused mortality rate. This should have a negligible effect on these species and could partially offset the benefit of the potential increased distribution of bison (USDI, NPS et al. 2000, 570).

Bison have been known to travel on or alongside the highway especially when there is heavy snow pack. Bison-vehicle collisions may increase depending upon actual bison presence and driver awareness levels. Since both these variables are difficult to predict, accidents attributed to bison use of the expanded area is also difficult to predict, although there have been only two bison-related accidents over the past ten years in the Northern Management area. The mitigations proposed by the IBMP partners for hazing bison away from the highway minimize potential impacts to minor.

Knowledge and experience gained by enabling bison to range into an expanded bison-tolerant zone would assist IBMP partners in future decisions regarding bison management within the Greater Yellowstone Area and provide additional opportunity for research and data gathering. Observations on bison behavior will help determine how many bison can reasonably managed in the expanded area under this alternative.

CHAPTER 4.0: ENVIRONMENTAL IMPACT STATEMENT DETERMINIATION

An EIS is not warranted for the proposed adaptive management adjustment to the IBMP because predicted impacts to the physical and human environment are either minor or negligible with the described mitigation measures.

Beyond analyses presented in this EA, similar analysis had been completed through the NEPA and MEPA processes for the Bison Management FEIS and the ROD for the IBMP. In the FEIS, alternative 2 (minimal management) included a special management area that closely resembled the proposed boundary for adaptive management adjustment #1. Impacts for the use of that expanded area were discussed in the FEIS on pages 396-400 (bison population), 445-446 (recreation-bison viewing/hunting), 471-475 (livestock operations), 482-486 (socioeconomics), and 360-361,613-617 (human health).

Use of a quarantine facility, such as the one at Corwin Springs, to hold seronegative bison for release back into YNP in spring was described in the ROD. The impacts of adjustment #2 were discussed in the FEIS on pages 429-438 (bison population), 445-446 and 451-452 (recreation-bison viewing/hunting), 453-455 and 463-465 (livestock operations), 477-478 and 497-498 (socioeconomics), and 360-361 and 613-617 (human health).

CHAPTER 5.0: PUBLIC PARTICIPATION AND COLLABORATION

5.1 Public Involvement

The public will be notified in the following manners to comment on this EA, the proposed action and alternatives:

- Two public notices in each of these papers: *Helena Independent Record, Livingston Enterprise,* and *The Bozeman Chronicle;*
- One statewide press release;
- Direct mailing to adjacent landowners and interested parties in Montana;
- Public notice on the Fish, Wildlife & Parks web page: *http://fwp.mt.gov:* and
- Copies will be available for public review at FWP Region 3 Headquarters and Helena Headquarters.

A public meeting was held on April 14, 2011 in Gardiner where the public was allowed opportunity to provide input specific to the proposed adaptive management adjustments.

The public comment period will extend for (30) thirty days. Written comments will be accepted until 5:00 p.m., January 13, 2012 and can be mailed to the address below:

IBMP Adjustments
Montana Fish, Wildlife & Parks
1400 S. 19th Ave
Bozeman, MT 59718
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5.2 Collaborators - Other Agencies/Offices that Contributed to the EA

Gallatin National Forest, Bozeman MT
Gallatin National Forest – Gardiner Ranger District Office, Gardiner MT
Montana Department of Livestock, Helena MT
Montana Fish, Wildlife and Parks, Helena MT
- Education Section
- Enforcement Bureau
- Fisheries and Wildlife Division
- Legal Bureau

Montana Department of Transportation, Helena MT

6.0 ANTICIPATED TIMELINE OF EVENTS

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7.0 EA PREPARER

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APPENDIX A

Excerpts of the IBMP from the Record of Decision (2000)

Maintaining the Northern Boundary - Reese Creek to Yankee Jim Canyon
15. In Step 1 (expected winter 2000/2001 through winter 2001/2002), while cattle graze Royal Teton Ranch (RTR) lands under a private grazing lease, NPS would continue to monitor bison from approximately November 1 to April 30 within YNP and use hazing within YNP to prevent bison movement north onto private and public lands in the Reese Creek area. If hazing is unsuccessful, the NPS will operate the Stephens Creek capture facility and capture all bison attempting to exit the Park in the area. The agencies will test all captured bison, send seropositives to slaughter, and temporarily hold up to 125 seronegative bison at the Stephens Creek capture facility. Vaccination eligible bison that are captured would be vaccinated with a safe vaccine. Once the capacity of the capture facility is reached, all additional bison attempting to exit YNP would be removed at the Stephens Creek facility (seropositive bison would be sent to slaughter and seronegative bison may be sent to a quarantine facility, if available, and, if not available may be sent to slaughter or be removed for jointly approved research. The seronegative bison held at the facility will not be retested and will be released to the Park in the spring. Bison outside the Park that cannot be hazed back into the Park and evade capture would be subject to lethal removal. Every effort will be made to avoid conducting necessary lethal management actions on RTR ranch lands. The agencies, with the Forest Service as the lead agency, will initiate an evaluation of potential sites for a capture facility in Zone 2. (See Paragraph 19.)

16. During Step 1, the agencies will conduct further research regarding the viability of *Brucella abortus* bacteria in the environment and will conduct research regarding the rate of fetal disappearance in the area, under the principles of adaptive management. The research will allow the agencies to further refine their ability to adjust the temporal separation between cattle and bison, given prevailing climatic conditions outside the park during the spring. The agencies anticipate that this research will last one to two years. The agencies will jointly determine when there is enough data to apply the findings of such research to management.

17. Step 2 begins (expected winter 2002/2003) when cattle no longer graze private lands outside YNP on portions of lands known as the RTR in Zone 2 during the winter.

a. In Step 2, as in Step 1, NPS would continue to monitor bison within YNP. Bison attempting to exit the Park in the Reese Creek area would be captured and tested at the Stephen's Creek capture facility. Seropositive bison would be sent to slaughter and a limited number of seronegative bison, including seronegative pregnant bison (see paragraph 18), will be released. Vaccination eligible bison that are captured would be vaccinated with a safe vaccine. In Step 2, all released bison must remain in Zone 2 west of the Yellowstone River and South of Yankee Jim Canyon on lands controlled by the USFS and RTR.

b. In Step 2, during the first year that bison move to the Reese Creek area, the number of seronegatives that will be released and will be allowed in Zone 2 will not exceed 25 bison. After gaining sufficient experience in successfully managing approximately 25 bison outside the Park in Zone 2, the agencies will tolerate up to 50 bison. Successfully

managing the bison outside the Park means that the agencies are able to enforce spatial and temporal separation including near the northern end of Zone 2 at Yankee Jim Canyon as set forth in the attached map. See Map, Northern Boundary Management Zones, Figure 4. After gaining sufficient experience successfully managing approximately 50 bison outside the Park in Zone 2, the agencies will tolerate up to 100 bison. The numbers of bison outside the Park, enumerated in this paragraph, will be the maximum in Montana at any given time on the Northern boundary area. The agencies may adjust these numbers based on the experience gained during Step 2.

c. After the applicable tolerance limit of Zone 2 is reached during Step 2, NPS will attempt to prevent further movement of bison north of YNP. If hazing becomes ineffective, the NPS will operate the Stephens Creek capture facility and capture all additional bison attempting to exit the Park in the Reese Creek area. Bison attempting to exit the Park that cannot be hazed or captured would be subject to lethal removal. The agencies will test all captured bison, send seropositives to slaughter, and temporarily hold up to 125 seronegative bison at the Stephens Creek capture facility. Vaccination eligible bison that are captured would be vaccinated with a safe vaccine. Once the capacity of the capture facility is reached, all additional bison exiting YNP would be removed at the Stephens Creek facility (seropositive bison would be sent to slaughter and seronegative bison may be sent to a quarantine facility, if available, and, if not available, may be sent to slaughter or be removed for jointly approved research). The seronegative bison held at the facility will not be retested and will be released to the Park in the spring.

d. All bison outside YNP in Zone 2 would be hazed back into YNP no later than April 15. Those bison that cannot be hazed will be subject to lethal removal.

18. During Step 2, the following procedures will be followed for seronegative pregnant bison outside the Park in the Reese Creek area:

a. Each seronegative pregnant bison moving out of the park after cattle are removed in the fall, will receive a radiotelemetry collar or similar device and vaginal radio telemetry implant during handling at the Stephens Creek capture facility and released to allow agencies to monitor bison locations and recapture if needed;

b. If a telemetered seronegative bison either aborts or gives birth outside the Park, the site of the abortion or birth will be located. If the abortion / birth site contains the *B. abortus* bacteria, the site will be monitored for research purposes and/or actions will be taken to ensure all *B. abortus* bacteria are gone by the time cattle return to the area in late spring/early summer;

c. Telemetered female bison that aborted or calved and had shed the *B. abortus* bacteria will be captured to permit further testing or otherwise removed. If it is unclear whether a telemetered female bison that aborted or calved had shed the *B. abortus* bacteria, then the bison may be captured to permit further testing or otherwise be removed as determined by the Montana State Veterinarian in consultation with APHIS.

19. During Step 2, the agencies will evaluate the most effective means to enforce the northern boundary between Zone 2 and Zone 3 at Yankee Jim Canyon, including considering the need, design, and location of a capture facility within Zone 2, most likely on Forest Service lands. The agencies will consult with RTR on the location of the capture facility. The purpose of such a facility in Zone 2 would be to enforce spatial separation between Zone 2 and Zone 3 when

hazing or other management practices become ineffective or to capture bison over the tolerance limit (initially 25 and eventually presumed to be 100). Captured bison could be moved to Stephens Creek for holding, sent to slaughter, or to a quarantine facility, if available, or removed for jointly approved research. The agencies, with the Forest Service as the lead agency, will complete any necessary NEPA analysis for the capture facility.

20. Step 3 (expected 2005/2006), allowing untested bison outside YNP in the northern boundary area in Zone 2 would begin when the agencies have collected enough information on bison movements and behavior in Zone 2, as well as the agencies ability to monitor and manage bison in the Reese Creek area of the northern boundary area. Step 3 will begin when the following criteria are met.

a. Bacterial viability and fetal disappearance research described in ¶ 17 is sufficient to allow agencies to determine an adequate temporal separation. Based upon the research, the Agencies will recommend the period of temporal separation. The final decision on the duration of temporal separation after April 15 will be made by the Montana State Veterinarian;

b. Initiation of a vaccination program of vaccination-eligible bison outside the park and inside the park with an effective remote delivery system;

c. Demonstrated ability to enforce spatial separation;

d. Demonstrated ability to control the maximum number of bison in Zone 2, which maximum number will be determined pursuant to paragraph 17.b above.

21. In Step 3, NPS would continue to monitor bison within YNP. Limited hazing may be conducted to limit the total number of bison north of YNP. Up to 100 untested bison will be allowed to move into Zone 2 of the Reese Creek area. Vaccination eligible untested bison that exit the Park will be remotely vaccinated with a safe vaccine unless otherwise determined by the agencies. NPS will capture all bison that attempt to leave YNP at the Stephens Creek facility when the tolerance limit of Zone 2 is reached. The agencies will test all captured bison, send seropositives to slaughter, and temporarily hold up to 125 seronegative bison at the Stephens Creek capture facility. Vaccination eligible bison that are captured will be vaccinated with a safe vaccine. Once the capacity of the capture facility is reached, all additional bison exiting YNP in excess of the Zone 2 tolerance limit would be removed at the Stephens Creek facility (seropositive bison would be sent to slaughter and seronegative bison may be sent to a quarantine facility, if available, and, if not available, may be sent to slaughter or be removed for jointly approved research. The seronegative bison held at the Stephens Creek facility will not be retested and will be released to the Park in the spring.

22. In Step 3, all bison outside YNP would be returned to YNP by April 15. All bison in Step 3 must remain in Zone 2 west of the Yellowstone River and South of Yankee Jim Canyon. All bison, which cross the river to the east, or reach the constriction point of Yankee Jim Canyon will be subject to hazing, capture or lethal removal.

23. In the northern boundary area three zones are designated for bison management. See Map, Northern Boundary
Management Zones, Figure 4. The zones and actions in each are described below:

a. Zone 1 – YNP winter habitat in the Reese Creek vicinity that bison normally occupy. During Step 1, bison attempting to exit the Park may be subject to hazing, capture, testing and vaccination, or lethal removal. During Step 2, bison attempting to exit the Park may be subject to hazing, capture, testing and vaccination, or lethal removal after the number of seronegative bison released to occupy Zone 2 specified in paragraph*s* 17 above is reached. During Step 3, bison attempting to exit the Park may be subject to hazing, capture, testing and vaccination, or lethal removal after the number of untested bison in Zone 2 specified in paragraph 21 above is reached.

b. Zone 2 – Area north of park boundary in the Reese Creek area, West of Yellowstone River, and south of Yankee Jim Canyon where bison will be managed for: i) spatial and temporal separation; ii) lethal removal for private property concerns; iii) bison tolerance limits (up to 100); and, iv) bison park population size (3,000). Each of these triggers for management actions is independent (e.g., removing bison to maintain the 100 bison tolerance limit does not depend on the overall bison population size). Management actions within Zone 2 could include tolerating, hazing, capturing and testing, vaccinating, removing bison to quarantine, removing for use in jointly approved research and lethally removing bison as set forth in this plan. During steps 2 and 3 as bison approach Cinnabar Mountain/Corwin Springs bridge area their behavior and movements will be monitored by the agencies to assure all bison remain west of the Yellowstone River at all times. During Steps 2 and 3 as bison approach the Cutler Lake/Cutler Meadows area they will be increasingly monitored to assure all bison remain west of the Yellowstone River and south of Yankee Jim Canyon. As bison move towards Yankee Jim Canyon they may be hazed or captured to reduce the threat of movement beyond Yankee Jim Canyon. Hazing and capture may include moving bison away from the Yankee Jim Canyon area to reduce the potential for bison to leave Zone 2. See paragraph 24 for further discussion regarding RTR lands within Zone 2.

c. Zone 3 is the area where bison that leave Zone 2 would be subject to lethal removal.

24. RTR Lands: When bison will be allowed to be on RTR lands as set forth herein, it is agreed that active bison management including vaccination shall not routinely take place thereon. When exigencies require management actions, the agencies shall notify RTR of the contemplated action, and seek RTR approval therefore, which shall not be unreasonably withheld. Exigencies include actions to:

(a) Protect life or property;

(b) Address migrations of bison inconsistent with paragraphs 15, 17-20, and 25 outside the Park in the northern
boundary area.

(c) Haze bison back into the Park in the spring of each year;

(d) Enforce spatial and temporal separation where necessary.

Lethal removal will not be routinely accomplished on RTR lands and shall require the same permissive procedures as set forth above. The agencies intend to have as little bison management on RTR lands as possible. Nevertheless, the agencies may be required to take management actions on RTR lands as authorized under Montana or Federal law and the provisions of this plan. In Step 1, the agencies will cooperate with RTR to develop a Bison Management Plan for the Royal Teton Ranch that is consistent with the provisions of this Joint Bison Management Plan. Should the Joint Bison Management Plan be

altered, the agencies will cooperate with RTR to adjust the RTR Plan so that the RTR Plan will remain consistent with the Joint Bison Management Plan. Before the RTR Plan can be implemented, the state and federal agencies must approve the RTR Plan.

Management of the Northern Boundary Area - Eagle Creek / Bear Creek

25. In all steps of this joint plan, agencies would allow untested bison into the Eagle Creek/Bear Creek region of the northern boundary area. Bison in the Eagle Creek/Bear Creek area would be monitored twice per week during the winter. If they approach the Little Trail Creek/Maiden Basin hydrographic divide, they would be monitored daily. The agencies will maintain a boundary at the Little Trail Creek/Maiden Basin hydrographic divide by hazing. Bison crossing the hydrographic divide will be subject to lethal removal.

Livestock Management Provisions

26. In addition to bison vaccination, the State of Montana will encourage voluntary vaccination of vaccination eligible cattle that may graze in areas outside the Park that bison may occupy in the winter. If by the fall of 2001, 100% voluntary vaccination of vaccination-eligible cattle in areas outside the Park that may be occupied by bison was not achieved, the State will make such vaccination mandatory. The federal government will reimburse the direct cost of the vaccination. The areas subject to the provisions of this paragraph are depicted as Zone 2 in both the north and western boundary areas as shown in Figures 2 and 4. Cattle on lands within two miles of Zone 2 in both the north and western boundary areas may be subject to mandatory vaccination if required by the State veterinarian in consultation with APHIS. APHIS will also provide funds for voluntary vaccination of cattle within two miles of Zone 2 in the north and western boundary areas.

27. Beyond these steps, APHIS and Montana will conduct additional monitoring of cattle herds that graze in areas that bison may occupy during the winter, which may include regular testing of test-eligible cattle and possible adult vaccination of these cattle herds. APHIS will also do the following: a. make funding available to certify individual cattle herds that graze in areas that bison may occupy in winter, as brucellosis-free; and b. pay the direct costs of any additional testing of any cattle that might be recommended by APHIS and the State Veterinarian pursuant to this Plan. Test eligible cattle within Zone 2 in both the north and western boundary areas as shown in Figures 2 and 4 will be subject to testing. Test eligible cattle on lands within two miles of Zone 2 in both the northern and western boundary areas, or on lands in Zone 3 if bison have been present (despite the provisions of this Plan precluding bison from occupying such areas), may be subject to mandatory testing if required by the State veterinarian in consultation with APHIS. APHIS will also provide funds for voluntary testing of cattle within two miles of Zone 2 in the north and western boundary areas.

Other Management Provisions

28. The population target for the whole herd is 3,000 bison. If the late- winter/early-spring bison population is above the 3,000 target, specific management actions may be undertaken at the Stephens Creek capture facility or outside the Park in the western boundary area to reduce its size. For example, instead of hazing bison remaining in boundary areas back into the park in the spring, they may be removed to quarantine or slaughter.

29. The agencies may agree to modify elements of this plan based on research and/or adaptive management findings. Implementation of management actions by the agencies will be conducted in accordance with this Plan and any memorandum of understanding and/or procedure agreements developed by the agencies, which may provide agency personnel with flexibility to achieve the objectives of the actions set forth in this plan.

30. Absaroka Beartooth Wilderness: Untested bison would be allowed to roam freely into the Absaroka-Beartooth Wilderness north of the park, including the upper portions of Hellroaring and Slough Creek. This is a large area with no cattle, and bison would not be monitored or managed in any way. An exception may include human safety concerns, which would be dealt with on a case by case basis. Because of the high elevation and rugged topography, no more than a few (usually solitary male) bison are expected to occupy these areas. Cabin Creek/Lee Metcalf/Upper Gallatin : Occasionally bison move north out of the West Yellowstone Basin into the Cabin Creek Recreation and Wildlife management area, the Monument Mountain Unit of the Lee Metcalf Wilderness or into the Upper Gallatin River above the mouth of Taylor Fork. Cattle are not present on these portions of the Gallatin National Forest. There is a cattle grazing allotment in the area of the upper Taylor Fork. Bison would not be allowed on these cattle allotments within the upper Taylor Fork area and would be prevented from crossing the Sage Creek-Wapiti Creek divide. Bison movements would be periodically monitored, and bison crossing outside these areas or entering private lands could be hazed or shot. Bison may attempt to winter in these areas but are expected to return to the park in the spring. Bison may use these areas during all seasons provided they are not approaching the Taylor Fork cattle allotment when cattle are present or causing property damage.

31. Management actions outside the Park will be jointly supported operations conducted by personnel assigned by Montana DOL and MFWP, USFS, APHIS, and NPS. The in-Park vaccination program will be implemented by personnel from NPS. The agencies, and RTR ranch where appropriate, will enter into the appropriate memorandum of understanding to describe specific commitments of personnel to all management actions, delineate operation details for implementation of the plan, and describe reporting requirements for the elements described in the Plan, including those for the implementation of the vaccination program. In addition the agencies will prepare any necessary memorandum of agreement for the funding of all management actions.

Contingency Measures

32. Transmission: Upon disclosure of (1) a brucellosis-affected cattle herd in a management area or (2) a brucellosis-affected cattle herd outside the management areas but for which APHIS and the Montana State Veterinarian concur that the source is traced back to a management area, the agencies will implement modified management measures pending the completion of an investigation expected to last 60 days or less, during which Montana and APHIS animal health authorities will conduct an epidemiological investigation to determine the source of infection. Disclosure of a brucellosis-affected herd means that an APHIS-approved Designated Brucellosis Epidemiologist has determined that an animal that is part of the herd is infected with field-strain *B. abortus.* The Management Areas for purposes of this provision is defined as Zone 2 plus 5 miles within Montana depending on terrain.

a. Modified Management Measures During Investigation: During the post-disclosure period only seronegative non-pregnant bison will be allowed in Zone 2 up to the prevailing tolerance limit. The agencies will employ non-lethal measures whenever possible to ensure that only seronegative, non-pregnant bison remain outside the Park during the post-disclosure investigation. Upon the initiation of the post-disclosure investigation period, the agencies will determine whether to apply the modified management measures described above in both the western boundary and Reese Creek northern management areas, or only to the area associated with the brucellosis-affected herd. As warranted by information from the investigation, the agencies can adjust the area(s) outside the park to which the modified management measures are applied. The final decision on the areas outside the park to which the modified management measures will be applied will be made by the Montana State Veterinarian, in consultation with APHIS. The agencies may agree that more or less conservative measures are necessary based on the knowledge and experience gained to date through the adaptive management framework, including but not limited to *Brucella* viability, spatial and temporal separation, and seroconversion rate(s).

b. Investigation results: Post-investigation bison management will depend on the results of the investigation.

i. If the investigation finds that either cattle or elk were the source of infection or that bison were not the source of infection, the agencies will continue with the Joint Bison Management Plan.

ii. If the investigation finds that the (1) Yellowstone bison were the source of the *Brucella abortus* infection or (2) eliminates cattle as a likely source but the source cannot be definitively determined (e.g. source unknown), the agencies will allow only seronegative, non-pregnant bison outside the Park in both the west and north boundary areas. The agencies may agree that the modified management measures are required only in the western boundary area or in the Reese Creek portion of the northern boundary area. They may also agree that more or less conservative measures are required based on the knowledge and experience gained to date through the adaptive management framework, including but not limited to *Brucella* viability, spatial and temporal separation, and seroconversion rate(s).

c. Continuation of Joint Bison Management: If the parties have not agreed to replace the interim modified management measures with a modified joint bison management plan based on risk management within two years of the disclosure, the Joint Bison Management Plan will terminate.

33. Animal Health Authority Sanctions: In the event other jurisdictions impose sanctions on livestock from Montana as a result of the implementation of this plan the following will occur:

a. Montana in conjunction with APHIS will consult with animal health authorities of those jurisdictions and seek removal of any sanctions;

b. If those jurisdictions refuse to remove the sanctions imposed on the movement of livestock, Montana may, in Montana's sole discretion, implement bison management actions necessary to allow for the free marketability of livestock transported from the state;

c. The federal agencies retain the discretion to cease endorsing and participating in activities leading to lethal control measures or other joint actions outside the Park should Montana exercise its rights under paragraph 33.b.

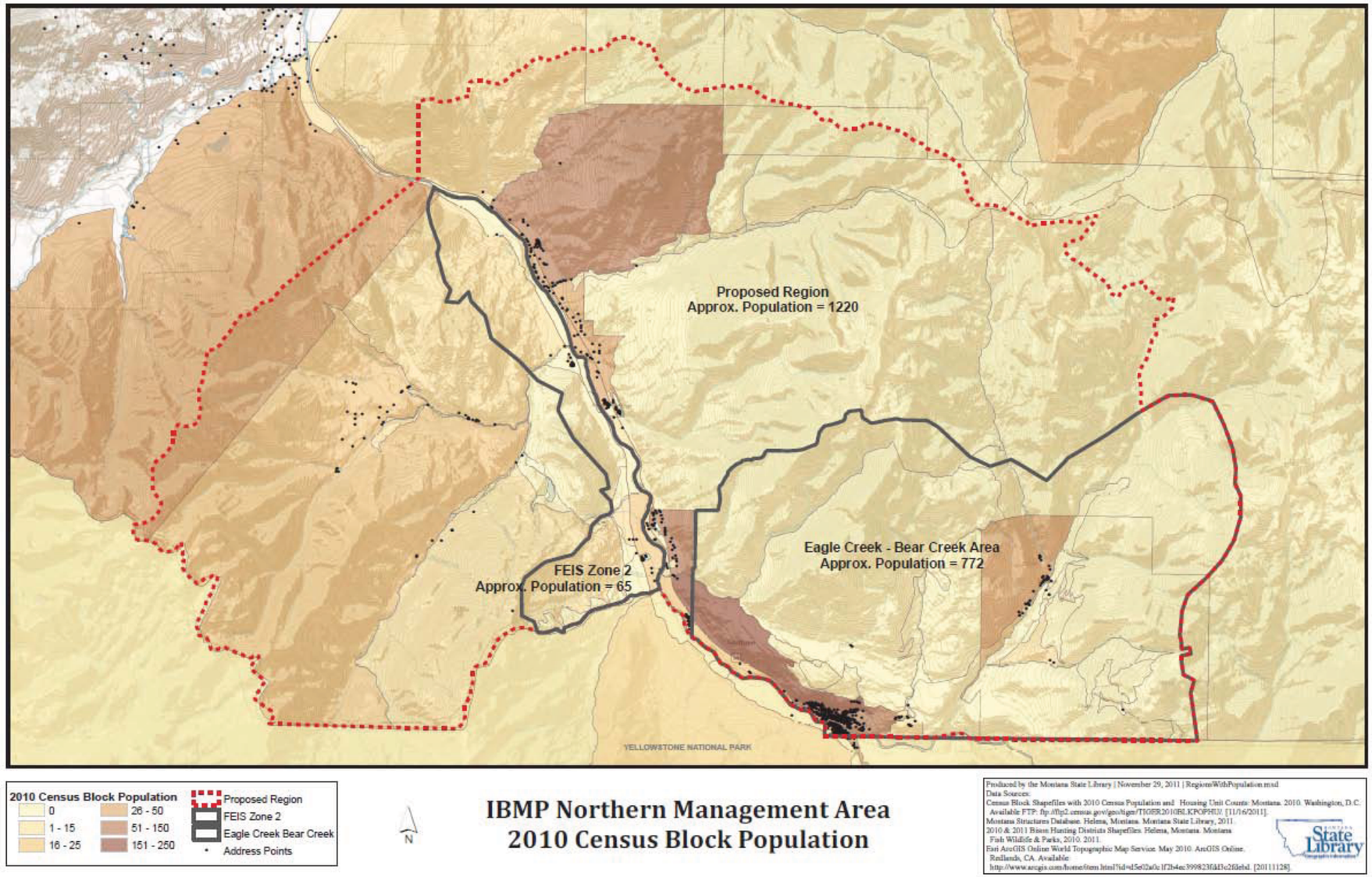
34. If Montana is not tolerating untested bison outside the Park in Zone 2 of the west boundary area by the winter of 2003-04 or by the initiation of a vaccination program of vaccination-eligible bison inside the park, whichever is later, the federal agencies will cease endorsing and participating in activities leading to lethal control measures and may withdraw from other joint management actions outside the Park, until Montana is tolerating untested bison outside the Park. If Montana is not tolerating untested bison outside the Park in Zone 2 of the northern boundary area when the conditions for moving to Step 3 in the northern boundary are met, the federal agencies will cease endorsing and participating in activities leading to lethal control measures and may withdraw from other joint management actions outside the Park, until Montana is tolerating untested bison outside the Park. If, after the in-Park vaccination program has been initiated, it is terminated or if implementation is deemed inadequate by Montana, Montana will cease tolerating untested bison outside the Park and may withdraw from other joint management actions. Should either the Federal agencies or Montana invoke the provisions of this paragraph bison outside of YNP will be managed by Montana.

35. Should the federal agencies invoke their discretion under paragraph 33.c or 34, the federal agencies will continue to recognize in their issuance of permits or continuation of permits or other agreements that bison management actions outside the Park are under Montana's jurisdiction.

36. a. The agencies may agree to temporarily modify elements of this plan to mitigate total removal of bison due to exigent circumstances arising from severe winter conditions. Based on data from 1996-97, winterkill during severe winters is assumed to be approximately 10% of the early winter bison population and would be in addition to management removals described below. When the bison population declines to 2300 within a single winter, the agencies will meet to evaluate modifications to the prevailing management prescriptions that could reduce the total management removal of bison from the population. When the bison population declines below 2300 within a single winter, the agencies may, on a temporary basis for that winter, increase implementation of non lethal management measures to provide management flexibility and reduce the total management removal of bison from the population. When the bison population declines below 2100 within a single winter, the agencies will, on a temporary basis for that winter, increase implementation of non-lethal management measures. To determine if the thresholds of 2300 bison and 2100 bison are reached, the following equation will be used: estimated early winter bison population less 10% of early winter bison population less management removals.

b. If modifications to prevailing management prescriptions are implemented within a single winter according to circumstances described in 36.a., the agencies will consider all credible information about the herd status and extent of population decline to determine whether management prescriptions and mitigation measures described above in 36.a. should be continued for the subsequent year(s).

APPENDIX B


Proposed Region
Approx. Population = 1220
Eagle Creek - Bear Creek Area
Approx. Population = 772
FEIS Zone 2
Approx. Population = 65
YELLOWSTONE NATIONAL PARK
2010 Census Block Population
0
1 - 15
16 - 25
26 - 50
51 - 150
151 - 250
Proposed Region
FEIS Zone 2
Eagle Creek Bear Creek
Address Points
N
IBMP Northern Management Area
2010 Census Block Population
Produced by the Montana State Library | November 29, 2011 | RegionWithPopulation.mxd
Data Sources:
Census Block Shapefiles with 2010 Census Population and Housing Unit Counts: Montana. 2010. Washington, D.C. Available FTP: ftp://ftp2.census.gov/geo/tiger/TIGER2010BL/KP/SFU/ [11/16/2011].
Montana Structures Database. Helena, Montana. Montana State Library, 2011.
2010 & 2011 Bison Hunting Districts Shapefiles. Helena, Montana. Montana Fish Wildlife & Parks, 2010. 2011.
Esri ArcGIS Online World Topographic Map Service. May 2010. ArcGIS Online. Redlands, CA. Available
http://www.arcgis.com/home/item.html?id=d5e02a0c1f2b4ec399823f8d3c2f8ebd. [20111128].
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