

Interagency Bison Management Plan

for

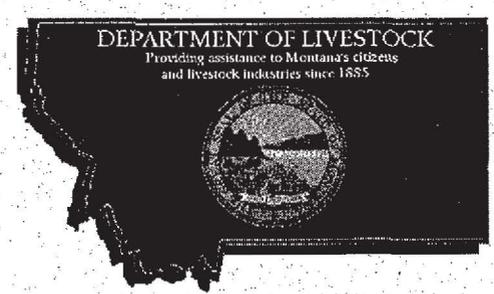
The State of Montana

and

Yellowstone National Park

Final Environmental Impact Statement

November 15, 2000



SCANNED

11/1/00

PLEASE RETURN TO:

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DEPARTMENT OF LIVESTOCK



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HELENA, MONTANA 59620-2001

November 15, 2000

Dear Interested Party:

Montana's Final Environmental Impact Statement (FEIS) for the Interagency Bison Management Plan for Montana and Yellowstone National Park has been completed. This FEIS is the culmination of a process that began with a Notice of Intent to prepare a cooperative bison management plan and environmental impact statement which was published in the July 1990 Federal Register. The process continued with a public review of a draft EIS that began on June 12, 1998 and ended on November 3, 1998. The draft EIS was jointly prepared by Yellowstone National Park, Gallatin National Forest, APHIS Veterinary Services and the State of Montana. The Montana Department of Livestock (DoL) and the Montana Department of Fish, Wildlife and Parks (FWP) developed a modified preferred alternative for analysis in this FEIS, based on the analyses contained in the draft EIS, the FEIS that was prepared by the federal agencies and released in August, 2000 and the court ordered mediation. This document satisfies DoL's and FWP's responsibility to prepared an FEIS, pursuant to the requirements of the Montana Environmental Policy Act (MEPA).

The MEPA regulations do not specify a public comment period for an FEIS (A.R.M. §12.2.439). However, DoL and FWP may not make a final decision regarding the proposed action that is evaluated in this FEIS for at least 15 days following distribution of the document.

An electronic copy of this documented has been posted on the internet and may be accessed through either DoL's or FWP's websites at www.dol.state.mt.us or www.fwp.state.mt.us. To request further information or additional copies of this FEIS, please call [406-444-7323](tel:406-444-7323) or mail requests to:

Montana Department of Livestock
PO Box 202001
Helena, MT 59620-2001

Thank you for your interest in bison management.

Sincerely,

Handwritten signature of Marcus Bridges in black ink.

Marcus Bridges
Executive Officer, Montana Department of Livestock

Handwritten signature of Patrick J. Graham in black ink.

Patrick J. Graham
Director, Montana Department of Fish, Wildlife and Parks

Introduction

Explanation of the need for Bison Management

Effective management of bison that move from Yellowstone National Park (YNP) into Montana will require cooperation among all affected state and federal agencies. When bison move between YNP and Montana, they also move between different jurisdictions with different management objectives. While in YNP, bison are managed with minimal controls. However, these bison are chronically infected with brucellosis, a livestock disease that is cooperatively regulated by state and federal animal health officials. The disease also poses a significant economic risk to Montana's livestock industry.

The State of Montana Departments of Livestock (DoL) and Fish, Wildlife and Parks (FWP) have been working with United States Department of the Interior, National Park Service (NPS), United States Department of Agriculture Forest Service (USFS) and U.S.D.A. Animal and Plant Health Inspection Service (APHIS) for more than a decade to address the management of bison through development of a long-term management plan and Environmental Impact Statement (EIS). The Notice of Intent to prepare this EIS was published in the Federal Register on 11/1/89. While that plan and EIS were being prepared, the agencies agreed to cooperate in the implementation of an Interim Bison Management Operating Plan. The Interim Plan was approved in October 1990 and was revised in 1992 and 1994. Environmental Assessments (EAs) were prepared, in cooperation with YNP, in 1990 and again in 1992.

While the first interim plans were in effect, bison regularly left YNP and, in some years, large numbers remained outside of YNP throughout the winter. In 1994, in response to the presence of brucellosis-exposed bison in Montana, APHIS questioned whether the Montana State Veterinarian had sufficient control to prevent circumstances in which transmission of brucellosis from bison to cattle might occur and threatened to down-grade Montana's brucellosis class-free status. That year several states also imposed brucellosis testing requirements on cattle shipped from Montana into their states. In response to these actions, in January 1995, the State of Montana filed a complaint against the federal government in U.S. District Court.

While resolution of the lawsuit was pending, Montana prepared an EA for an interim plan that was in effect during the 1995-96 winter. Subsequent to the court-approved settlement agreement, the state and federal agencies adopted another interim bison management plan in 1996 and resumed work on the long-term plan and EIS. The DEIS for the Interagency Bison Management Plan for the State of Montana and YNP, which was jointly prepared by Montana and the federal agencies, was released for public comment in June 1998.

While preparing the responses to public comment to the DEIS and preparing the FEIS, the state and federal agencies were unable to agree on a preferred alternative. In December 1999, the federal government advised the Governor of the State of Montana of its intentions to withdraw from the 1992 Memorandum of Understanding under which the parties were preparing the EIS for the long-term bison management plan. The notice to Montana also indicated that the federal agencies intended to proceed to complete the final EIS without Montana as a co-lead agency. This correspondence also included a description of a modified preferred alternative that would be presented in the final EIS as the

Federal proposed action. DoL and FWP evaluated the proposed modified preferred alternative and determined that this proposal may not have been sufficient to achieve Montana's interests in the purpose and need or the objectives for taking action, as disclosed in the joint DEIS.

In response to the federal agencies' notice to withdraw from the 1992 MOU and to proceed without Montana in the preparation of the FEIS for the Interagency Bison Management Plan, Montana sought relief in U.S. District Court. Under order of the court, the 1992 MOU was terminated and the dispute between Montana and the federal agencies was referred to mediation. In addition, the court ordered that the federal government could proceed with preparation and completion of the FEIS. By court order, Montana and the federal agencies participated in mediation sessions, under the supervision of U.S. Magistrate, Judge Robert M. Holter, between May and September, 2000.

The federal agencies released their final environmental impact statement (FEIS) for Bison Management for the State of Montana and YNP in August 2000. Based on the analysis contained in the joint DEIS, the federal FEIS and the court ordered mediation, Montana has developed a modified preferred alternative for bison management. The federal FEIS, Volumes 1, 2 and 3, is hereby incorporated by reference and adopted herein, pursuant to A.R.M. §§ 12.2.441 and 12.2.443. DoL and FWP have reviewed that document and determined that Montana's modified preferred alternative is similar to Alternative 8 (the federal modified preferred alternative) and within the scope of the alternatives that were analyzed in the FEIS. The analysis in the FEIS documents that implementation of the modified preferred alternative would result in no moderate or major adverse impacts, when compared with Alternative 1, the no action alternative. The FEIS disclosed the pertinent issues and adequately analyzed the impacts to the human environment that may result from implementation of the state's modified preferred alternative. The FEIS also appropriately disclosed and responded to substantive comments to the DEIS.

Limited numbers of printed copies of the federal FEIS are available from Yellowstone National Park (307-344-2159). The document also is available on CD-ROM and an executive summary of the FEIS may be found at the National Park Service's website at www.nps.gov/planning. Copies of the documents may also be viewed at either DoL's or FWP's Helena office.

Purpose and Need

YNP is not a self-contained ecological unit for large herbivores. Periodic movements of bison beyond the borders are common occurrences. The USDI National Park Service (NPS) has primary jurisdiction for the management of bison within YNP. While in YNP, bison are managed with minimal controls, according to policies that require the protection of ecological processes and native species in a relatively undisturbed setting.

When bison move from YNP into Montana, the State has primary jurisdiction for their management. The bison herd in YNP is chronically infected with brucellosis, a disease that affects cattle and is regulated in livestock, pursuant to provisions of the National Brucellosis Eradication Program, by USDA Animal and Plant Health Inspection Service Veterinary Services (APHIS) and by State Veterinarians and international animal health authorities, in accordance with their respective authorities. Bison that leave the park pose threats to human health and safety; risks of damage to private property; risk of transmission of brucellosis to domestic livestock; and, jeopardize Montana's compliance with the National Brucellosis Eradication Program and the animal health requirements of other states and

countries. These risks are unacceptable to Montana and minimal control of nomadic bison is not sufficient to prevent these risks.

Under the Interagency Bison Management Plan described in this FEIS, the State of Montana, in cooperation with the federal agencies, will manage bison that move from YNP into Montana to prevent the potential transmission of brucellosis from bison to domestic livestock; reduce the potential for damage to personal property; reduce threats to human safety; and, prescribe circumstances in which bison may remain outside the park.

Relevant statutes and regulations

The DEIS and federal FEIS disclosed the statutes and regulations that define the mandates of all of the agencies with authority to manage bison (FEIS p. 46 – 51). The Montana Legislature has designated bison that originate from YNP as a species requiring disease control. DoL is authorized to remove or destroy publicly owned bison that enter Montana from a herd that is infected with a dangerous disease or whenever those bison jeopardize Montana's compliance with state or federally administered livestock disease control programs (81-2-120 (1) M.C.A.). The Montana Legislature also has found that bison pose a significant potential for the transmission of infectious disease to persons or livestock and for damage to persons and property (87-1-216(1)(c) M.C.A.). FWP is required to cooperate with the Department of Livestock in the management of these bison.

Other MEPA/NEPA documents

This document is prepared as a companion document to and incorporates by reference the Final Environmental Impact Statement for the Interagency Bison Management Plan for the State of Montana and YNP, August 2000, that was prepared by the federal agencies. The DEIS and federal FEIS reference the environmental analyses that were previously prepared for the various interim bison management plans, including the current interim plan, that preceded the DEIS. In addition to those environmental analyses, the Gallatin National Forest completed an environmental analysis in 1999 for the special use permit for the capture facilities in the Horse Butte area.

Public Participation

The formal process to involve the public in the development of an Interagency Bison Management Plan began in July 1990, when NPS, USFS and FWP published a Notice of Intent to prepare an *environmental impact statement for an interagency bison management plan in the Federal Register*. The federal FEIS described the scoping process and public participation (p. 52 – 73), including an explanation how issues that were identified by the public were either addressed in the DEIS and FEIS or the rationale for excluding the issue from further analysis.

Montana and the federal agencies released the DEIS for public comment on June 16, 1998 and the public comment period extended until November 3, 1998. The federal FEIS includes a summary of the substantive comments that were received in response to the DEIS, responses to those comments (FEIS vol. 2), and an index to all comments and copies of selected comments (FEIS vol. 3). This FEIS incorporates the comments and the responses to the public comments to the state/federal DEIS.

Although not required by the National Environmental Policy Act, the federal agencies provided a public comment period on the FEIS, initially through October 2, 2000. The comment period was then extended until October 17, 2000.

Montana's Preferred Alternative – the Interagency Bison Management Plan

Description of the Interagency Bison Management Plan

DoL and FWP, in cooperation with NPS, the Gallatin National Forest (GNF) and APHIS, propose to manage bison that move from YNP into Montana according to the provisions of an Interagency Bison Management Plan, described herein. The modified preferred alternative reflects management actions identified in the DEIS, the federal FEIS and the mediation ordered by the U.S. District Court. This bison management plan is designed to reduce the risk of transmission of brucellosis from bison to domestic livestock; assure regulatory veterinarians in other states and countries that management of Yellowstone bison is sufficient to prevent the transmission of brucellosis from bison to domestic livestock; take steps to reduce the prevalence of brucellosis in bison; reduce the potential for damage to personal property; reduce threats to human safety; and, prescribe circumstances in which bison may remain outside the park.

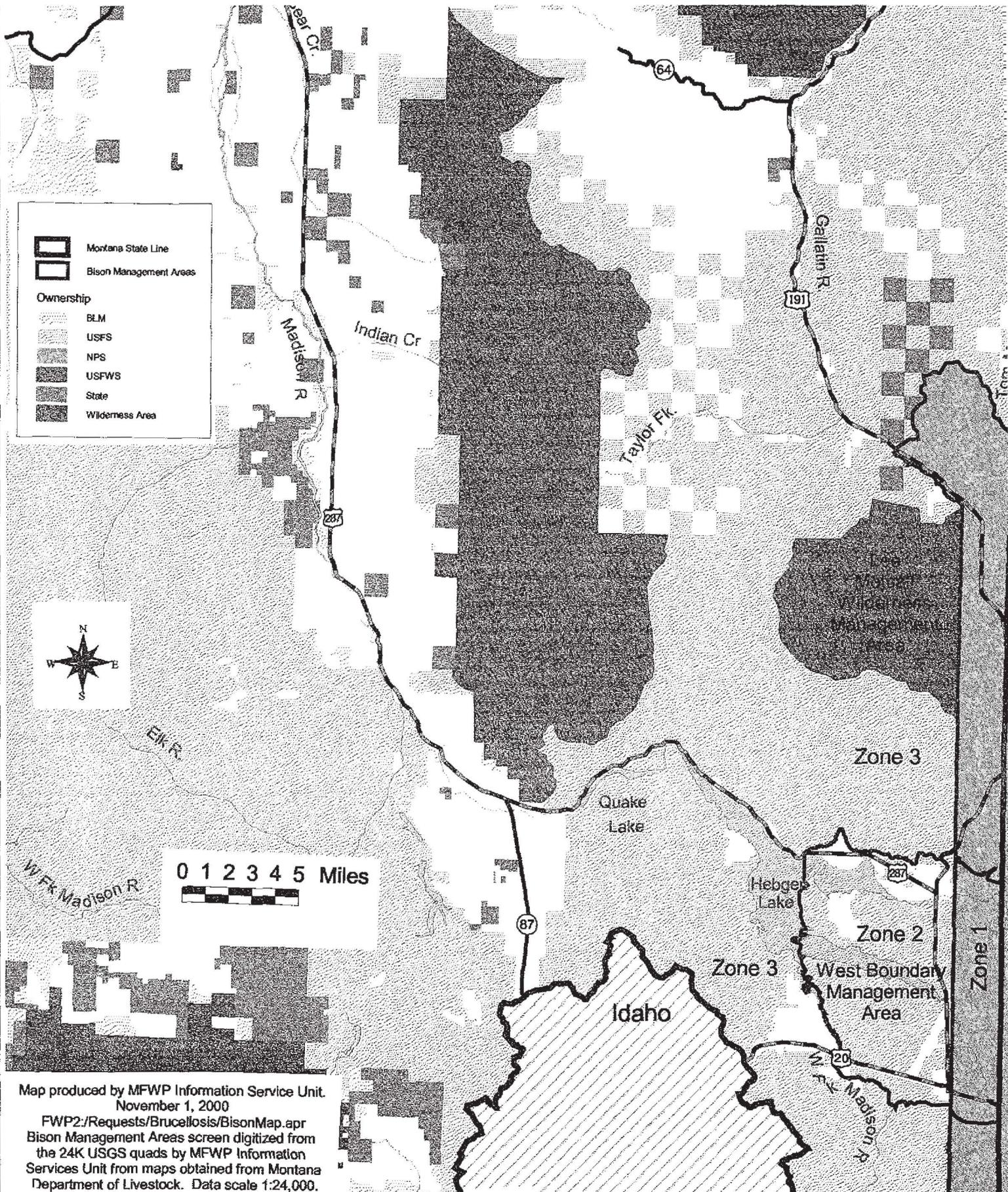
The Interagency Bison Management Plan identifies site-specific, cooperative management strategies for the Western Boundary area and the Reese Creek and Eagle Creek/Bear Creek portions of the Northern Boundary area, which are the locations from which bison traditionally move from YNP into Montana. Within each management area, several strategies will be employed to maintain temporal and spatial separation between bison and cattle. Each of the management areas is stratified into zones and, as bison move further from the park, management will become increasingly more restrictive. The plan incorporates brucellosis vaccination of bison and cattle to reduce the seroprevalence of brucellosis in bison and reduce the susceptibility of cattle to brucellosis.

Western Boundary Area

Three management zones have been defined for the Western Boundary Area (Figure 1). Zone 1 is entirely within YNP. Zone 2 is comprised primarily of federal lands that are immediately adjacent to YNP and are cattle free during winter. Zone 3 is further from YNP and includes areas to which bison might move if they were not prevented from making more extensive movements away from YNP. Bison that enter Zone 3 would be subject to lethal removal.

During Step 1 of the plan, the agencies will haze bison from Zone 2 back into Zone 1. Capture facilities will be maintained in the Duck Creek and Horse Butte areas. After hazing is no longer effective in moving bison back into Zone 1, the agencies will attempt to capture all bison that enter Zone 2. All captured bison will be tested for brucellosis. Seropositive bison, i.e. animals that have antibodies to the organism, *Brucella abortus*, will be shipped to slaughter or used in jointly approved research. Captured calves and yearlings will be vaccinated with a safe vaccine against brucellosis. Bison that have been tested and determined to be seronegative for brucellosis will be marked and released. Released bison may include seronegative, pregnant females which have been equipped with radiotelemetry collars and vaginal transmitters. The agencies will specify a tolerance level, up to 100 bison, that may remain in Zone 2 from the time when cattle are removed until May 15. Bison that cannot be captured but are tolerated will be permitted outside YNP until May 15. Seronegative bison in excess of 100 will be shipped to a research facility or to quarantine, if an approved facility is available, or to slaughter. Bison which move beyond Zone 2 will be subject to lethal removal.

Figure 1. Management zones within the Western Boundary area.



Map produced by MFWP Information Service Unit.
 November 1, 2000
 FWP2:/Requests/Bruce/osis/BisonMap.apr
 Bison Management Areas screen digitized from
 the 24K USGS quads by MFWP Information
 Services Unit from maps obtained from Montana
 Department of Livestock. Data scale 1:24,000.

Seronegative, pregnant bison will not be permitted to leave Zone 1 until cattle have been removed from Zone 2. If cattle remain on private lands in Zone 2 during the fall or winter, a buffer zone will be maintained until cattle are removed from those lands. Seronegative, pregnant bison will be equipped with telemetry collars and vaginal transmitters. These devices will allow the agencies to monitor these animals, locate birth and abortion sites and, if *B. abortus* is present at any of those sites, ensure that the bacteria is no longer present before cattle return in the spring. Telemetered female bison that abort or calve and shed *B. abortus* will be captured to permit further testing or otherwise be removed. Initially, seronegative, pregnant bison may not remain in Zone 2 after April 1. That date may be adjusted, based on research to evaluate persistence of *B. abortus* in the environment.

In the Western Boundary area, Step 2 will begin when a safe and effective remote vaccine delivery mechanism is available. At that time, the agencies will begin vaccinating untested, vaccination-eligible bison in Zone 2. Other management practices, as described for Step 1, would continue.

In the Western Boundary area, the agencies will allow untested bison to move outside YNP during Step 3. This step will begin after the agencies have determined an adequate temporal separation period, based on studies of *B. abortus* viability and fetal disappearance, initiation of a vaccination program of vaccination-eligible bison inside YNP with an effective remote delivery system, demonstrated ability to enforce spatial separation, and the ability to control numbers of bison in Zone 2. During Step 3, the agencies will tolerate a limited number, up to 100, of untested bison in Zone 2.

During all steps, the agencies will maintain a specified time period, i.e. temporal separation, between the time bison depart or are hazed from Zone 2 into YNP, and the time cattle are moved onto lands in Zone 2. For seronegative, pregnant bison, the period of temporal separation will commence on April 1 and may be adjusted, based on research to evaluate persistence of *B. abortus* in the environment. For all other bison that are tolerated in Zone 2, temporal separation will commence on May 15 unless the agencies agree that the temporal separation period will commence at an earlier date. All bison in the Western Boundary area will be hazed back into YNP by May 15. The beginning date for hazing will be determined by the agencies, based on environmental factors. Bison that remain outside YNP after May 15 and cannot be hazed, may be captured or subject to lethal removal. The temporal separation period will dictate the turn-on date for cattle onto public grazing allotments in Zone 2. The Montana State Veterinarian will make the final determination of the duration of temporal separation. The period of temporal separation will continue until permitted cattle are removed in the fall.

During all steps, no bison will be allowed to move into Zone 3. Those which do are subject to hazing, capture or lethal removal.

Northern Boundary Area

Reese Creek Area

Three management zones also have been defined for the Reese Creek portion of the Northern Boundary management area (Figure 2.). Zone 1 includes lands within YNP in the Stephens Creek area. Zone 2 lies west of the Yellowstone River and south of Yankee Jim Canyon. This zone includes lands acquired by the federal government from Royal Teton Ranch through purchase and

conservation easements. Zone 3 lies east of the Yellowstone River, west of the Royal Teton Ranch and north of Yankee Jim Canyon.

During Step 1 of the plan, the agencies will restrict the distribution of bison to Zone 1. Bison will be hazed to discourage them from leaving the park. When hazing is no longer effective, NPS will capture all bison that attempt to leave the park in the Reese Creek area at the Stephens Creek facility. All captured bison will be tested. Seropositive bison will be shipped to slaughter. Up to 125 seronegative bison will be held in the capture facility for release back into the park the following spring. A limited number of these animals may also be used for research projects. All calves and yearlings that are captured and held will be vaccinated against brucellosis with a safe vaccine. Bison that evade capture will be subject to lethal removal. Capture of bison at the Stephens Creek facility will continue under all steps of bison management in the Reese Creek area. During Step 1 the agencies also will initiate an evaluation of potential sites for a capture facility located in Zone 2.

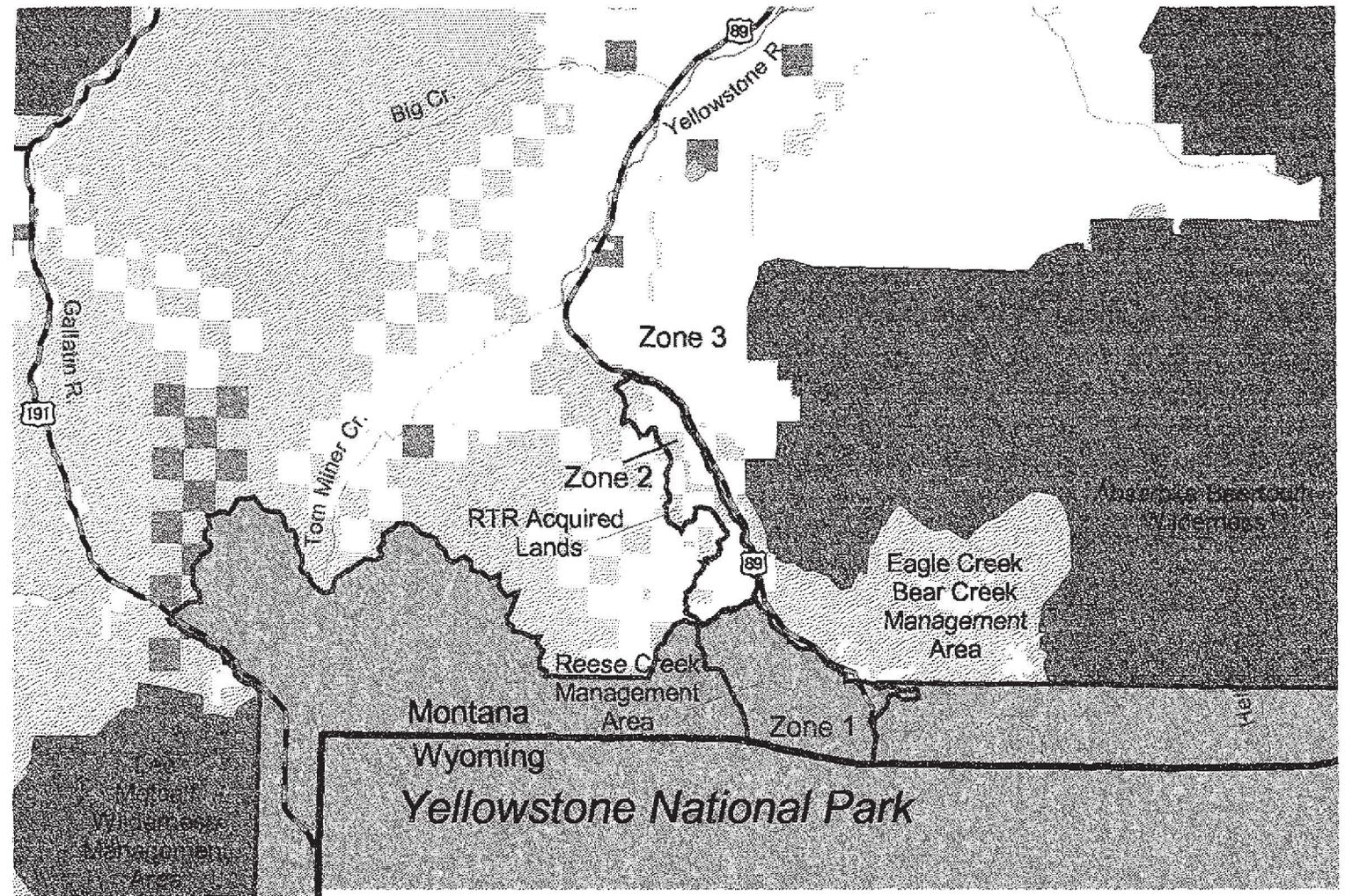
Step 2 will begin when cattle no longer graze on private lands during the winter in Zone 2. As in Step 1, NPS would continue to monitor and haze bison within YNP and capture bison that attempt to leave YNP in the Stephens Creek capture facility. Rather than holding all bison in the capture facility, during Step 2, up to 25 seronegative bison will be released into Zone 2. The number of seronegative bison that are tolerated in Zone 2 may be incrementally adjusted upward in subsequent years, to a maximum of 100 bison, depending upon the ability of the agencies to successfully prevent bison from moving into Zone 3. Seronegative pregnant bison would be equipped with telemetry collars and vaginal transmitters. Those bison would be monitored, following the same procedures described for the Western Boundary area. All bison outside YNP in Zone 2 will be hazed back into YNP no later than April 15.

After the applicable tolerance level for Zone 2 is reached, all additional bison which move north from Zone 1 and cannot be hazed, would be captured and tested at the Stephens Creek facility or subject to lethal removal. As in Step 1, seropositive bison will be shipped to slaughter. Up to 125 seronegative bison will be held in the capture facility for release back into the park the following spring. All vaccination eligible bison that are captured and either held or released will be vaccinated with a safe vaccine. Once the capacity of 125 bison has been reached, all additional captured bison would be shipped to a quarantine facility, if available, to a research facility or to slaughter.

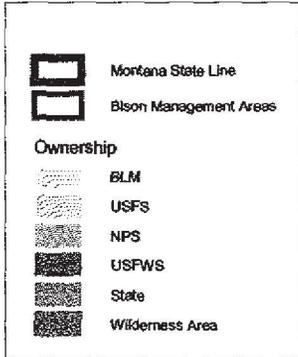
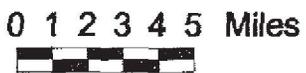
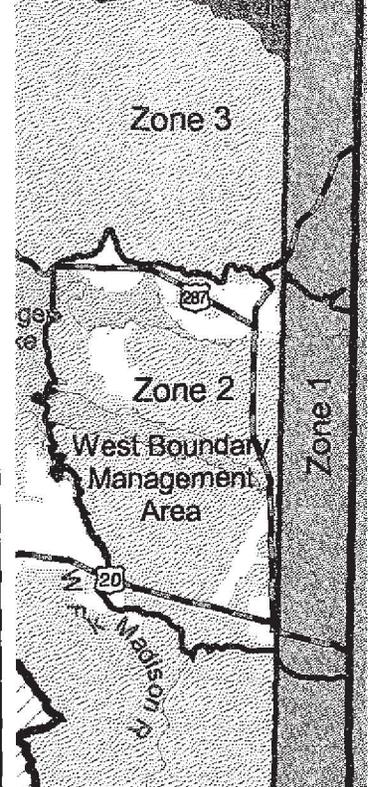
During Step 2, the agencies will evaluate the most effective means to prevent bison from moving north through Yankee Jim Canyon, including the need for, design and location of a capture facility in Zone 2. If sited, USFS would serve as the lead agency to complete any necessary NEPA analysis for the capture facility.

Step 3 will begin after the agencies have determined an adequate temporal separation period, based on studies of *B. abortus* viability and fetal disappearance, initiation of a vaccination program of vaccination-eligible bison inside YNP with an effective remote delivery system, demonstrated ability to enforce spatial separation, and the ability to control the maximum numbers of bison in Zone 2. The Montana State Veterinarian will make the final decision on the duration of temporal separation after April 15. During Step 3, untested bison, up to the specified tolerance limit, would be permitted in Zone 2. All untested, vaccination eligible bison that are tolerated in Zone 2 would be remotely vaccinated with a safe vaccine. During Step 3, the Stephens Creek capture facility would be operated primarily for the purpose of limiting the number of bison in Zone 2 to the tolerance limit.

Figure 2. Management zones within the Northern Boundary area.



Bison Management Areas in Montana



Map produced by MFWP Information Service Unit.
 November 1, 2000
 FWP2:/Requests/Bruce/osis/BisonMap.apr
 Bison Management Areas screen digitized from
 the 24K USGS quads by MFWP Information
 Services Unit from maps obtained from Montana
 Department of Livestock. Data scale 1:24,000.

When the tolerance level is reached, up to 125 seronegative bison will be held and all vaccination eligible bison will be vaccinated. All bison in Zone 2 would be returned to YNP by April 15.

During all steps, no bison will be allowed to move into Zone 3. Those which do are subject to hazing, capture or lethal removal.

Eagle Creek/Bear Creek Area

In all management steps, the agencies will allow untested bison to occupy the Eagle Creek/Bear Creek portion of the Northern Boundary area. The agencies will monitor bison in this area and maintain a boundary at the Little Trail Creek/Maiden Basin hydrographic divide by hazing. Bison that move beyond the hydrographic divide, i.e. Zone 3 of the Reese Creek portion of the Northern Boundary area, are subject to lethal removal.

Other Areas

Occasionally, bison move into the Absaroka Beartooth Wilderness, a large, remote area north of YNP without any cattle. Except on a case by case basis to protect human safety, the agencies will not manage these bison. Bison also move into the Cabin Creek Recreation and Wildlife management area, the Lee Metcalf Wilderness or the upper Gallatin River, north of the West Yellowstone area. Cattle are not present on these areas and bison may use these areas during all seasons. However, management actions may be employed to prevent bison from either moving onto private lands or from crossing the Sage Creek-Wapiti Creek divide and moving near cattle allotments in the Taylor Fork.

Brucella Viability Research

During Step 1, in both the Western Boundary and Northern Boundary areas, the agencies will conduct further research regarding the viability of *B. abortus* in the environment and will conduct research regarding the rate of fetal disappearance in the area. Beginning in Step 1 in the Western Boundary area and Step 2 in the Reese Creek portion of the Northern Boundary area, some seronegative, pregnant bison will be released after capture and testing. Each seronegative, pregnant bison that is released will be equipped with a telemetry collar and a vaginal transmitter. These devices will allow the agencies to monitor those animals; document birth and abortion sites; determine instances of sero-conversion; evaluate the persistence of abortion and birthing tissues; and, determine persistence of *B. abortus* in the environment. Within the adaptive management framework, this information will be used to evaluate risks associated with permitting pregnant bison to occupy the management areas; evaluate risks associated with permitting untested bison to occupy the management areas; determine the appropriate time separation between the return of bison to YNP and the presence of cattle in the management areas; and, determine the appropriate time and distance separation between bison and the intermingled private lands in the Western Boundary area. Implementation of Step 3 in both the Western Boundary and Reese Creek portion of the Northern Boundary management areas depends on completion of this research and the corresponding determination that the presence of untested bison in the management areas does not present a risk of brucellosis transmission from bison to cattle.

Adaptive Management Framework

As suggested by the authors of the National Academy of Sciences (NAS) report (Brucellosis in the Greater Yellowstone Area, Cheville, Norman F; Dale R. McCullough; Lee R. Paulson; Norman Grossblatt; Kathrine Iverson; and, Stephanie Parker. 1998. National Academy Press, Washington, D.C. 186 p.), the Interagency Bison Management Plan is developed on a framework of adaptive management (Adaptive Management of Renewable Resources, Walters, Carl. 1986. Macmillan Publishing Company, New York. 374 p.). Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs. Under this approach, management actions could be adjusted during later steps of the plan, based on information learned from implementation of various management actions during early steps of the plan. For a thorough discussion of adaptive management, the reader is referred to the British Columbia Forest Service's website that is dedicated to this concept. The internet address is: <http://www.for.gov.bc.ca/hfp/amhome/amhome.htm>.

The key characteristics of an adaptive management approach are:

- acknowledgement of uncertainty about what policy or practice is "best" for the particular management issue;
- thoughtful selection of the policies or practices to be applied;
- careful implementation of a plan of action designed to reveal the critical knowledge;
- monitoring of key response indicators; and,
- analysis of the outcome in consideration of the original objectives; and incorporation of the results into future decisions.

The Interagency Bison Management Plan is based on the knowledge that the bison herd in YNP is chronically infected with brucellosis; without management, transmission of brucellosis from bison to cattle could occur; and the knowledge that, without control, YNP bison threaten Montana's brucellosis class-free status and the ability to market livestock in interstate and international trade. The plan also is based on the experience the agencies have developed in controlling the distribution and movements of bison during the past 15 years.

The plan is a risk management approach that prevents brucellosis transmission with management actions that maintain appropriate temporal and spatial separation between bison and cattle. The plan also recognizes several uncertainties regarding the degree of risk of brucellosis transmission; factors that affect risk; and, effectiveness of management to maintain temporal and spatial separation. Critical uncertainties include:

- The potential for pregnant bison, that recently have tested negative for the presence of *Brucella abortus* antibodies, to subsequently develop a brucellosis infection during the current pregnancy;
- The persistence of shed *Brucella abortus* in the environment;
- The ability to achieve a significant reduction in seroprevalence through the use of a brucellosis vaccine that is administered only to calves and yearlings in the management areas;
- The availability of a brucellosis vaccine that is safe and effective for use in adult bison and the availability of a remote system for effective delivery of that vaccine;
- The ability to achieve a further reduction in seroprevalence through whole herd, adult brucellosis vaccination;

- The minimum temporal and spatial separation required to prevent brucellosis transmission from potentially infectious bison to susceptible cattle;
- The ability to limit damage to private property;
- The ability of the agencies to effectively limit the distribution of bison to YNP and the designated management areas outside YNP by hazing, live capture and lethal removal; and,
- The availability and location of research or bison quarantine facilities.

The Interagency Bison Management Plan includes specific monitoring and research strategies to acquire additional information about these uncertainties and to adjust management actions as that information is acquired. DoL and FWP anticipate that the additional information will allow the agencies to review and validate management actions and modify management actions based on that review.

The adaptive management framework is event driven. The following specific events will trigger changes in management in the Western Boundary Area:

- Initially, seronegative pregnant bison will be tolerated in the Western Boundary Area until April 1. Thereafter, the tolerance date for seronegative pregnant bison may be incrementally adjusted, up to May 1, based on the results of monitoring to determine the frequency of sero-conversion, the viability of *Brucella abortus* in the environment and the persistence of birth and aborted tissues.
- After an effective remote vaccine delivery system had been developed, the agencies will begin to vaccinate untested, vaccination eligible bison in the Western Boundary area;
- After the agencies have developed experience with the remote vaccination system and a safe and effective vaccine has been developed for use in calves and yearlings, initially, and, eventually adult bison, NPS will initiate remote vaccination of bison within YNP.
- After initiation of a vaccination program for vaccination eligible bison in YNP, determination of an adequate temporal separation period and determination that the agencies can efficiently contain up to 100 bison within Zone 2, the agencies will allow up to 100 untested bison in the Western Boundary Area.

The following specific events will trigger changes in management in the Reese Creek portion of the Northern Boundary area:

- After cattle are removed from private lands on RTR in the winter, up to 25 seronegative bison will be released from the Stephens Creek capture facility and permitted to move into and occupy Zone 2 lands.
- After determining that the agencies can efficiently contain up to 25 bison within Zone 2, the number of seronegative bison released from the Stephens Creek capture facility may be incrementally adjusted up to 100 bison.
- After bison have begun to use Zone 2 lands, the agencies will evaluate the need and purpose for an alternate/additional capture facility within Zone 2.
- Up to 100 untested bison may be permitted within Zone 2, based on the same general criteria that would allow untested bison in the Western Boundary Area.

Other Management Provisions

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, elsewhere in the Reese Creek portion of the Northern Boundary area and/or outside the Park in the Western Boundary area to reduce the population size. For example, instead of hazing bison that remain in the boundary areas back into YNP in the spring, they may be removed to quarantine or slaughter.

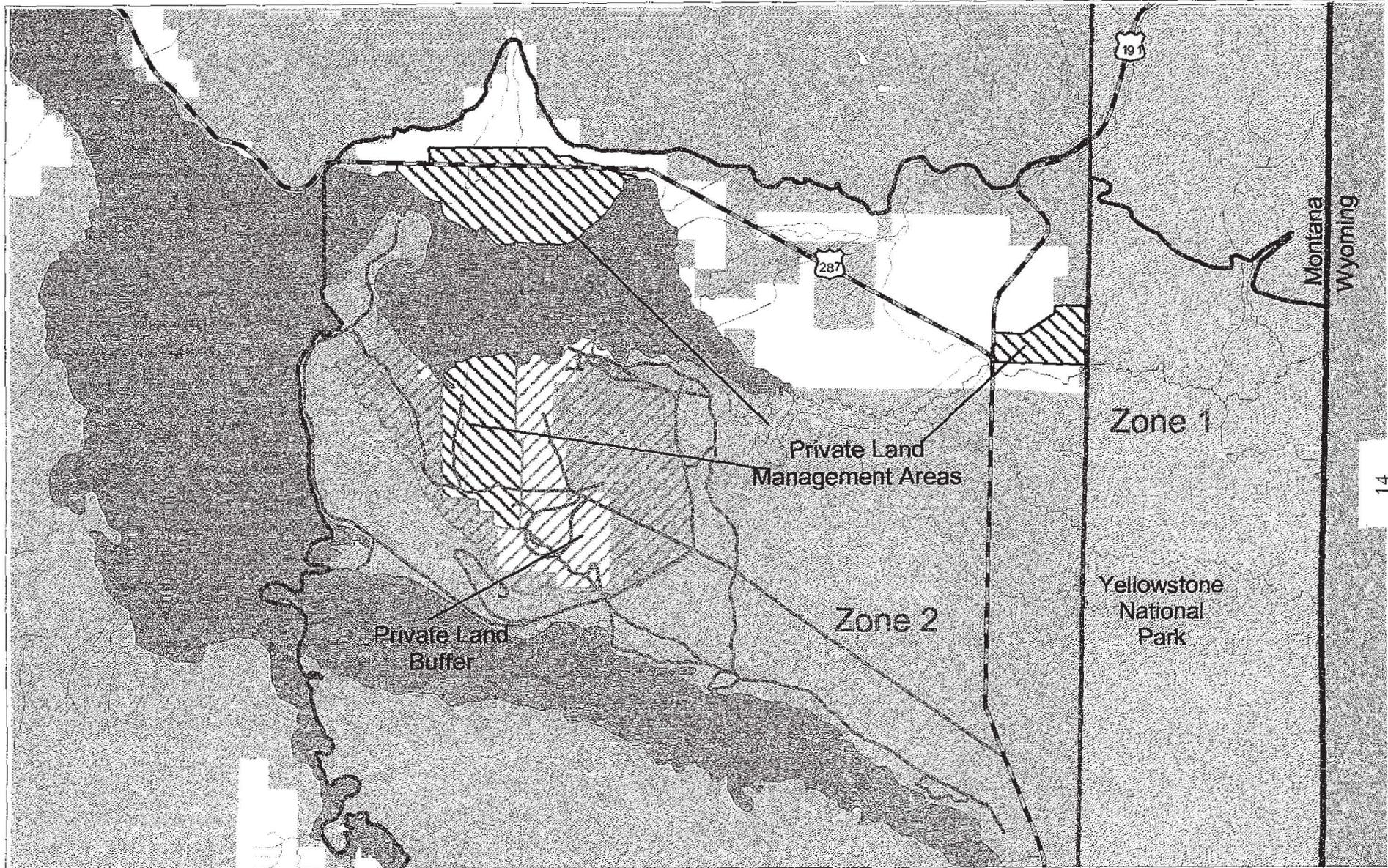
Limited numbers of bison may be transported from any of the capture facilities to appropriate facilities for use in research studies related to bison management. The federal FEIS described various research projects, related to bison management, that have been on-going since 1995 (p. 100 – 102; Appendix D).

There are private land inholdings in Zone 2 within the Western and Northern Boundary Areas where cattle may graze during spring, summer and fall. If landowners intend to graze cattle on these lands, a buffer zone of approximately one-mile radius will be established around these private lands, based on the Uniform Methods and Rules for Brucellosis Eradication (UM&R). Bison will not be permitted in these buffer zones after April 1. Consistent with the provisions of the UM&R that allow for some variance in distance from the perimeter of a brucellosis-affected herd, the boundaries of the buffer zones were adjusted to follow roads and other topographic features that are readily discernable on the ground (Figure 3.). Subsequent management steps would include greater tolerance for untested bison in Zone 2, depending upon the results of *B. abortus* viability studies; studies with telemetry equipped, pregnant females; the development of a brucellosis vaccine that is appropriate for use in adult bison; and, the development of appropriate methods for remotely vaccinating bison.

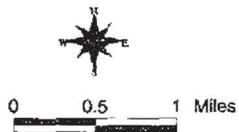
DoL will establish a cattle brucellosis vaccination and surveillance area within Zone 2 of both the Western Boundary and the Reese Creek portions of the Northern Boundary management areas. The surveillance areas may be expanded to include Zone 3 of the Western Boundary and/or the Northern Boundary management areas, in the event that bison enter either of those areas and the Montana State Veterinarian, in consultation with APHIS, determines that there is a significant risk of brucellosis transmission from bison to cattle. The Montana State Veterinarian, in consultation with APHIS, may develop brucellosis control herd plans for cattle that may seasonally graze in the surveillance areas. DoL will also encourage voluntary brucellosis vaccination of vaccination-eligible cattle in the surveillance areas. If, by the fall of 2001, 100% voluntary brucellosis vaccination of vaccination-eligible cattle in those areas has not been achieved, DoL will make such brucellosis vaccination mandatory. The federal government will reimburse the direct cost of the vaccination. APHIS and DoL will conduct additional brucellosis monitoring of cattle herds that graze in these areas. In addition, APHIS will make funding available for annual testing and to certify individual cattle herds that graze in the surveillance areas as brucellosis-free; and pay the direct costs of additional brucellosis testing of any cattle that might be necessary to assure that transmission of brucellosis from bison to cattle has not occurred. APHIS also will provide funds for voluntary annual brucellosis testing and certification for cattle that graze in Zone 3, within a 2 mile radius of Zone 2 of both the Western Boundary and Northern Boundary management areas.

During Step 1 of the management plan the agencies will begin a NEPA process to determine the design, location and operation parameters for a bison quarantine facility. The UM&R requires that the quarantine facility must be approved by state and federal animal health officials. If approved, the quarantine facility would receive seronegative bison that exceed either the number of bison that may be tolerated in the management areas or the 3,000 target for the whole herd.

Figure 3. Private land buffer zones within Zone 2.



Map produced by MFWP Information Service Unit.
November 1, 2000
FWP2:/Requests/Brucellosis/BisonMap.apr
Bison Management Areas screen digitized from
the 24K USGS quads by MFWP Information
Services Unit from maps obtained from Montana
Department of Livestock. Data scale 1:24,000.



-  Montana State Line
-  Bison Management Areas
- Private Land Bison Management Areas**
-  Buffer of Private Land Management Area
-  Private Land Management Area

Operation of the quarantine facilities would follow the quarantine protocol described in the federal FEIS (Appendix B, p. 701 – 705).

The Interagency Bison Management Plan includes provisions for the humane treatment of bison. This issue is described in the federal FEIS (p. 87-88). The federal FEIS also describes the bison management techniques and how those techniques can be used as humanely as possible (FEIS Appendix F, p. 762 - 766).

The agencies may agree to modify elements of the bison management 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 or procedural agreements developed by the agencies.

Management actions outside YNP will be jointly supported operations, conducted by personnel assigned by the cooperating agencies. Vaccination of bison within YNP will be implemented by personnel from NPS. The agencies 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 in the plan. The agencies also will prepare any necessary memorandum of agreement for the funding of all management actions.

The agencies intend to have as little bison management on Royal Teton Ranch lands as possible. Nevertheless, the agencies may be required to take management actions on Royal Teton Ranch lands as authorized under Montana or Federal law and the provisions of the Interagency Bison Management Plan. In Step 1, the agencies will cooperate with the Royal Teton Ranch to develop a bison management plan specific to those lands that also is consistent with the Interagency Bison Management Plan. Before the Royal Teton Ranch plan can be implemented, it must be approved by the state and federal agencies.

Contingencies

Transmission

Upon disclosure of either a brucellosis-affected cattle herd in a management area or a brucellosis-affected herd outside the management areas for which the source is traced back to a management area, the agencies will implement modified management measures. Disclosure of a brucellosis-affected herd means that APHIS has determined that an animal that is part of the herd is infected with field strain *B. abortus*. The modified management measures will apply, pending the completion of an epidemiological 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 transmission. During the post-disclosure investigation, the cattle surveillance area will be expanded to a 5-mile radius around Zone 2 of the Western Boundary and Northern Boundary management areas.

During the post-disclosure investigation, the agencies will allow only seronegative, nonpregnant bison outside YNP. The agencies will employ nonlethal measures to remove any seronegative pregnant bison outside YNP during the post-disclosure investigation, if possible. The agencies may haze untested bison back into YNP during the post disclosure investigation. Upon the initiation of

the investigation period, the agencies will determine whether to apply the modified management measures to both the Western boundary and Northern Boundary management areas, or only to the area associated with the brucellosis-affected herd. As warranted by information from the investigation, the agencies can change the area to which the modified management measures are applied. The final decision on the areas to which the modified management measures will be applied will be made by Montana, in consultation with APHIS. The agencies may agree that more or less conservative measures are necessary based on the knowledge and experience gained through the adaptive management framework, including but not limited to *Brucella* viability, spatial and temporal separation and seroconversion rates.

Post investigation bison management will depend on the results of the investigation. 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 management plan, as described. If the investigation finds that YNP bison were the source of the *B. abortus* infection or eliminates cattle as a likely source but the source cannot be definitively determined, the agencies will allow only seronegative, nonpregnant bison outside YNP 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 through the adaptive management framework, including but not limited to *Brucella* viability, spatial and temporal separation and seroconversion rates.

If the agencies 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 Interagency Bison Management Plan will terminate.

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:

1. Montana, in conjunction with APHIS, will consult with animal health authorities of those jurisdictions and seek removal of any sanctions;
2. 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 entering interstate and international commerce; and,
3. If Montana implements those management actions, the federal agencies retain the discretion to cease endorsing and participating in activities leading to lethal control measures or other joint actions outside YNP.

Should Montana be required to implement bison management actions to remove sanctions by other animal health authorities, it is anticipated that such actions would be similar to those outlined in the 1996 Interim Bison Management Plan because implementation of this Interim Plan did not result in any sanctions. The 1996 Interim Bison Management Plan was described as Alternative 1, the no action alternative, and analyzed in the federal FEIS.

Explanation for selection of the Interagency Bison Management Plan

DoL and FWP selected the Interagency Bison Management Plan as the preferred alternative because, of the various management strategies that were evaluated in the DEIS and FEIS, it is the only alternative that accomplishes the purpose and need for bison management and that the five agencies are willing to cooperatively implement. Cooperation among the responsible agencies is essential to long-term bison management.

The Interagency Bison Management Plan is responsive to the purpose and need for bison management and defines a reasonable balance among the various pertinent issues. Given the current risk, the temporal and spatial separation provisions of the plan should prevent transmission of brucellosis from bison to cattle. Moreover, the provisions for vaccination of both bison and cattle should reduce the level of risk of brucellosis transmission from bison to cattle over time.

Any management action that is sufficient to prevent brucellosis transmission through temporal and spatial separation of bison and cattle will result in the removal of some bison. Under the provisions of the Interagency Bison Management Plan, substantial numbers of bison may be removed in occasional years. However, the analysis in this FEIS and the federal FEIS indicates that these removals will not compromise the long-term ecological integrity of the bison herd in YNP.

The authors of the NAS report noted that, under the current natural regulation policy, bison numbers tend to persistently increase and, at least during harsh winters, will be forced out of YNP. They suggested that public lands adjacent to the park could be managed as management zones to facilitate transition between the contrasting management objectives of YNP and those of the surrounding private lands. The Interagency Bison Management Plan is consistent with that suggestion.

DoL and FWP agree that relocation of live bison that are certified as brucellosis-free is a sound approach for removing bison that cannot be accommodated within the Yellowstone system. However, DoL and FWP also understand that additional work must be completed to determine the feasibility of incorporating quarantine into the long-term bison management strategy. The Interagency Bison Management Plan defines a logical approach for further evaluation of the quarantine option and, if feasible, siting the quarantine facilities.

DoL and FWP acknowledge the uncertainties associated with bison management. DoL and FWP believe that they have a greater responsibility for timely implementation of a long-term bison management strategy than to postpone management until all uncertainties are completely resolved. The Montana preferred alternative includes adaptive management and contingency strategies that will account for the effects of uncertainty.

Upon issuance of the Records of Decision, Montana may request the Montana Legislature to authorize the Montana Fish, Wildlife and Parks Commission (Commission) to establish regulations for the public hunting of bison. If approved, regulated public hunting would be administered to accomplish the bison controls outlined in the modified preferred alternative, and provide recreation on public lands. In addition to controlling bison numbers, hunting may also be used to help maintain the distribution of bison within Zone 2 in the Western Boundary area and to prevent movements of bison from public land to private lands or beyond the boundaries of Zone 2.

If authorized, regulated hunting strategies would be developed by FWP staff and approved by the Commission, in consultation with DoL and the Montana State Veterinarian. Strategies would be based upon bison population numbers, winter distribution on public and private lands, distribution of bison within specific management zones, winter habitat condition and coordination with other bison control and management operations. A Memorandum of Agreement between DoL and FWP would be developed to coordinate agency management actions and to ensure that hunting strategies support other management actions described in the modified preferred alternative. If approved, public hunting could begin no earlier than 2003 and may require additional MEPA analysis, tiered to this FEIS.

Evaluation of each of the alternatives proposed by people who commented on the DEIS

The DEIS (p. 38 ff.) disclosed several bison management strategies that had been suggested by the public during the scoping process; indicated that these suggestions would be precluded from further analysis; and, briefly explained the rationale for that decision. The DEIS (p. 112) also explained why it would not be possible to manage bison without the use of lethal controls. During the public comment period for the DEIS, several people suggested these ideas again and some were submitted as additional alternatives for analysis. A synopsis of these alternatives, including a brief explanation of their limitations, follows.

The Citizens' Plan

The Citizen's Plan was developed and promoted by several environmental organizations including the Greater Yellowstone Coalition, Defenders of Wildlife, the National Parks and Conservation Association, the National Wildlife Federation, the Natural Resources Defense Council, the Wilderness Society and the Intertribal Bison Cooperative. The major elements of this alternative included conservation easements and land acquisitions of key winter range through public purchase from willing sellers to establish larger special management areas; establishing ecologically based bison populations for the park and special management areas; making wildlife rather than livestock professionals responsible for bison management; if bison numbers exceed population objectives, relocate surplus bison to tribal lands or public lands or use regulated harvest; capture and quarantine bison that move onto private lands, relocating disease-free animals to tribal lands; mandatory vaccination of cattle within a defined brucellosis management area and vaccination of bison when a safe and effective vaccine for bison is developed; work to compensate private landowners for damage to private property; provide incentives to ranchers who modify livestock operations to reduce contact between bison and cattle or provide winter forage for bison; postpone turn-on dates on federal allotments until after bison have calved and returned to the park; and, evaluate current winter road management in the park to determine if current use facilitates bison migration and, if so, identify viable options for winter visitor use.

Most of the elements in this alternative were evaluated in one or more of the alternatives or were identified in the DEIS but precluded from further analysis because they were not consistent with the purpose and need or were outside the scope of the DEIS. The private lands required to implement this alternative may not be available from willing sellers and, based on costs for the recent purchase and easements on portions of the Royal Teton Ranch, the costs to implement this portion of the citizen's alternative could be prohibitive. The Citizens' Plan lacked specifics about funding strategies

and levels for the landowner incentives program and there is no assurance that incentives would be sufficient to encourage voluntary landowner participation. If the agencies were unable to acquire private land and landowners were not willing to accommodate migrant bison, the Citizen's Plan in practice would be similar to Alternative 4.

The Citizen's Plan also was analyzed in the federal FEIS. Please refer to Volume 2, pages 33 – 42.

USAHA Alternative

The United States Animal Health Association submitted an alternative that included several modifications to Alternative 6. Those modifications included a more aggressive strategy for bison vaccination; more aggressive capture of bison in the park; elimination of the West Boundary SMA; elimination of the Reese Creek SMA; bison hunting in the Eagle Creek SMA; establishment of quarantine facilities in close proximity to the park for test-negative animals capture either at Stephens Creek or in the park; management for a maximum of 1,800 bison in the park until scientifically valid research demonstrates that the park can support a larger bison herd; mitigate the effects on trumpeter swans to allow for the establishment of capture facilities near Seven Mile Bridge; and, mitigate effects on grizzly bears by distribution of carcasses of seropositive animals from the capture facilities.

Most of the elements in this alternative were evaluated in one or more of the alternatives or were identified in the DEIS but precluded from further analysis because they were not consistent with the purpose and need or were outside the scope of the DEIS. Many of the proposed modifications to Alternative 6 would occur within YNP. DoL and FWP have no authority to implement those management actions.

This alternative also was analyzed in the federal FEIS. Please refer to Volume 2, page 22.

Plan B for Bison

This alternative was submitted by the Montana Ecology Center/Alliance for the Wild Rockies. The elements of this alternative include allowing bison to roam freely within the Yellowstone ecosystem; manage bison within an ecologically determined carrying capacity through tribal hunting seasons; give bison preference over livestock on public lands and remove livestock that conflict with wildlife; establish a fund, administered by environmental groups, to compensate landowners for damage to private property; vaccinate bison when a safe and effective vaccine is available; minimize the risk of brucellosis transmission by relocating or canceling grazing permits or restriction permits to steers only, requiring vaccination of cattle, offering ranchers incentives to not raise cattle on private land, fence or haze bison from private lands on which the landowners will not accept compensation, annual testing of cattle and adoption of the federal definition of "low risk" bison.

This alternative includes some elements that were identified in the DEIS but precluded from further analysis because they were not consistent with the purpose and need or were outside the scope of the DEIS. Assuming that management would be sufficient to restrict bison to that area, Alternative 2 represented the largest possible area that bison could occupy and still limit the distribution of bison to primarily public lands. A broader distribution would not be consistent with the purpose and need of the DEIS because, beyond that limit, bison would occur primarily on private land. The scope of Plan B was the entire greater Yellowstone area, an area considerably larger than the area

within the boundaries of Alternative 2. Assuming that affected landowners would cooperate, the costs to provide the incentives necessary to implement this alternative would be prohibitive. This alternative also might compromise the constitutional rights of landowners who may not agree with its provisions.

Vaccination of bison was evaluated in the context of several of the alternatives in the DEIS. Plan B assumes that vaccination would eliminate brucellosis in bison in about 15 to 20 years. The analyses in the DEIS and FEIS indicate that vaccination might greatly reduce infection rates but not eliminate brucellosis.

This alternative also was analyzed in the federal FEIS. Please refer to Volume 2, pages 4 – 7.

Bison Alternative

This alternative was submitted by the Fund for Animals. The features of this alternative include immediately closing YNP to snowmobile use and trail grooming; prohibit cattle grazing and permit bison to freely graze all public lands adjacent to the western and northern boundaries of the park; compensate landowners to change grazing practices on private land or acquire these lands, if available; and, require landowners to increase tolerance for free-ranging bison. This alternative also would have prohibited vaccination of bison, capturing bison, quarantine and public hunting.

As noted for Plan B, this alternative includes elements that are inconsistent with the purpose and need or outside the scope of the DEIS.

This alternative also was analyzed in the federal FEIS. Please refer to Volume 2, pages 30 – 32.

Alternative 8

Although identified by the same number, this alternative differs from Alternative 8, the modified preferred alternative that was analyzed in the FEIS. The Fort Belknap Indian Community Tribal Government submitted comments that they identified as Alternative 8. They asserted that buffalo that are under the control and management of agencies of the United States Government are a trust asset of the Indian tribes in accordance with the treaties and subsequent Acts of Congress and Executive Orders. Buffalo have a special spiritual, economic, and social place in the hearts, minds, body and soul of the various Indian Nations. Elements of this alternative included management of bison as free ranging wildlife wherever they occur, under the jurisdiction of the U.S. Fish and Wildlife Service, with concurrent jurisdiction of the National Park Service and with meaningful consultation with Indian Tribal Governments; allow bison to use broadly defined public land SMAs outside the park and give them precedence over livestock when the two are in conflict; establish bison population objectives for bison based on science; acquire additional lands from willing sellers; provide incentives to private landowners; vaccinate all cattle within the SMAs; implement a live removal program in cooperative with Tribal governments and the Intertribal Bison Cooperative; animals not eligible for live removal shall be confined in a holding facility and offered to Tribal Governments first or the Intertribal Bison Cooperative; and, where possible, use seropositive bison for brucellosis research.

This alternative is similar to the Citizens' Plan, except for differences in the recommended provisions for quarantine, live removal and distribution of animals that are not suitable for live

removal. The issue of Tribal trust responsibilities is a matter between the various Tribal Governments and the United States Government. The State of Montana has legal authority to enter into cooperative agreements with tribal organizations and, assuming that quarantine facilities are sited, DoL may transfer certified brucellosis-free bison to qualified tribal entities.

The FEIS did not evaluate Alternative 8 as a separate alternative. However, the FEIS did summarize the history of Native American consultation (FEIS, Appendix I, p. 772 - 795). In addition to the analysis of the Citizen's Alternative, the federal FEIS responded to individual elements of Alternative 8 at various places in the response to comments.

Affected Environment

History of bison and bison management

The need for a long-term bison management plan is best understood within the context of the history of this herd and the various related events that have occurred since the establishment of YNP (c.f. DEIS p. 12 – 15; 145 – 147; FEIS p. 277 – 284; and, Appendix B)

Bison are native to the Greater Yellowstone Area. Archaeological evidence indicates that indigenous people hunted bison in this area. During the settlement era, travelers observed bison before and after the establishment of YNP in 1872. However, within 10 years of the establishment of the park, bison were gone from the great plains and only a remnant wild herd remained in the area that now is the park. Improved policing of the park by the U.S. Army and increased legal protection prevented complete extermination of the park bison herd (Meagher 1973). The earliest population estimates were 600 bison in 1880 (Schullery and Whittlesey 1992) and 300 bison in 1892.

Bison were extirpated from the great plains as a consequence of westward expansion, including wide-spread commercial hunting, unregulated sport hunting, poaching and conversion of lands for a variety of development purposes. Except for the protection of remnant herds in national parks and wildlife refuges or the private ranching of bison, there are few places within their historic distribution where bison are compatible with current land use.

Throughout the history of YNP, the distribution of bison has been controlled. Control was first accomplished by maintaining the “Buffalo Ranch” in the Lamar Valley. This herd was established by importing bison from captive herds in Montana and Texas. Intensive management of bison, including periodic herd reductions, continued in the park until 1967. Initially, control measures were used to maintain bison numbers below the level of an estimated forage-based carrying capacity. In 1967, when bison population controls in the park ceased, only 397 bison were counted. Except for an occasional animal, few bison attempted to leave the park until 1984. At that time, 2,114 bison were counted in the park. From 1967 until the present time, a series of federal, state and joint federal/state management plans have been in place. Although the control methods have varied, the purposes for these plans have consistently included the prevention of bison movement from YNP into Montana for the purpose of preventing the transmission of brucellosis from bison to cattle.

During the past century, several thousand bison have been removed through active management (FEIS Table 17, p. 285). Prior to 1967, substantial removals occurred inside the park during periods of large bison populations. Thereafter, substantial removals occurred during winters when large numbers of bison left the park. In spite of these removals, this herd has a natural tendency for population increase and has quickly recovered following every major herd reduction. During the 1996-97 winter, 1,084 bison were removed through various federal and state management actions and the herd was reduced to approximately 2,000 animals. An aerial survey was completed on October 24, 2000. A total of 2,949 bison was counted during that survey.

Bison population dynamics

The description and analysis of bison population dynamics in the DEIS assumed the lack of a discernible correlation between bison population size and annual variation in the tendency for bison

to move beyond the boundaries of YNP. This assumption was based on the analysis of bison population dynamics that was used to estimate the availability of prey for wolves, as presented in the EIS for the reintroduction of wolves in the park. The DEIS also presumed that the maximum number of bison that could be supported within YNP varied between 1,700 and 3,500, depending upon the effect of various stochastic events, especially those ecological factors that affect forage production and availability. Subsequent analysis of bison population data has provided additional insight concerning these relationships.

The NAS report was in progress at the time the DEIS was released for public review and comment. In re-evaluating population data, the authors concluded that there was a significant relationship between population size and the number of bison migrating out of the park. Above a population of 3,000, bison show the greatest probability of leaving the park. They also noted that, while a relationship between weather and emigration is not apparent at population levels below 3,000, at greater population levels, there seems to be a strong relationship between emigration and weather severity.

The authors of the NAS report also suggested that this bison herd seems to follow a “cliff-edge” model of population dynamic. They noted that bison seem to exceed the spatial limits of the park before they exceed the park’s carrying capacity. Considering this dynamic and the reductions that have occurred when large numbers of bison left the park, they concluded that the population trend for this herd is rather predictable. Following the last reduction, bison numbers would again increase to a level beyond the spatial limits of the park at which time large movements, resulting in population reductions, would be inevitable. Then, the cycle of population increase and out migration would repeat itself again.

Preliminary results from current research and further re-evaluation of population trends suggests that there is some potential for bison emigration at any population level, a high probability of emigration at population levels above 2,000 and a 100% probability of emigration at levels above 3,000 (Yellowstone Bison and Brucellosis: Does Population Size Really Matter? Keith Aune, United States Animal Health Association Newsletter. Vol. 27, No. 3, October, 2000. p. 6-8).

The FEIS revised the description of the bison population to include the analysis that was developed for the NAS report (FEIS p. 278) and the sex and age structure of the herd (FEIS p. 279 – 281). The FEIS also includes additional information regarding genetics as it relates to determination of a minimum viable bison population (FEIS p. 286 – 288).

Brucellosis in bison

Brucellosis was first diagnosed in YNP bison in 1917 and the disease is endemic in this herd. Although brucellosis has had little adverse effect on the bison population, there consistently has been concern for the potential for transmission from bison to domestic livestock.

The DEIS referenced “Brucellosis in the Greater Yellowstone Area” (p. 16), a summary of information about brucellosis, related to the management of bison and elk, that had been developed by the Greater Yellowstone Interagency Brucellosis Committee (GYIBC). The GYIBC had concluded that this summary represented factual information for which there was general agreement among the technical experts from the GYIBC member agencies.

The DEIS (p. 20) also noted that there was considerable disagreement about the significance of brucellosis in bison and that there is no definitive information by which to resolve this issue. Accordingly, the DEIS also presented a summary of ideas that had been discussed in the development of "Brucellosis in the Greater Yellowstone Area", about which the technical experts could not agree on the factual basis (DEIS p. 20).

Sections in the DEIS that discussed brucellosis were revised in the FEIS to include additional information. Please refer to FEIS p. 16 – 22; 26 – 28; and, 288 – 292.

Research on the epidemiology of brucellosis in this bison herd has been on-going since 1995. Preliminary results of this research support the DEIS assumption that, for management purposes, the epidemiology of brucellosis in bison is similar to that in cattle. There have been no results that support any of the alternative interpretations that lead to the conclusion that the risk of transmission from bison to cattle is negligible. *Brucella abortus* causes the same pathology in bison as it does in cattle and should, therefore, be considered as the same disease. Moreover, the mechanisms for transmission from bison to bison and, presumably, from bison to cattle, are similar, if not identical, to those for transmission from cattle to cattle. The authors of the NAS report also concluded that, for management purposes, seropositive bison should be presumed to be carrying live *B. abortus*. For these reasons, DoL and FWP have concluded that, for purposes of the Interagency Bison Management Plan, maintenance of temporal and spatial separation between bison and cattle is essential to prevent transmission of brucellosis from bison to cattle.

Bison Vaccination

Considerable progress in the development of a brucellosis vaccine that is suitable for use in bison has occurred since the release of the DEIS for public comment. Correspondingly, the discussion of vaccination in the federal FEIS was expanded to include criteria for the evaluation of vaccination protocols; definitions of safety and efficacy of vaccines for use in calves and adults; definition of safety for non-target species; and, summaries of recent research (p. 91 – 100). As noted in the federal FEIS, the GYIBC developed a protocol for evaluating safety and efficacy of a wildlife vaccine against brucellosis in the greater Yellowstone area (p. 93-94). DoL and FWP have concluded that a safe dosage of RB 51 will be available for use via hand injection in calf and yearling bison by the winter of 2000 - 2001. Efficacy of RB51 in calves and yearlings may not be known until 2002-2003.

Royal Teton Ranch

The federal agencies and the Rocky Mountain Elk Foundation teamed to purchase lands and conservation easements on portions of the Royal Teton Ranch, north of the Reese Creek boundary of YNP (FEIS p. 33). The Gallatin National Forest will administer the conservation easements and will manage the purchased lands for multiple use, including wildlife. The implications to bison management that result from this change in land use are referenced extensively in the federal FEIS.

Public Opinion

Bison management has been a controversial issue since the mid-1980's, when removals in response to emigrations of large numbers of brucellosis-exposed bison began. Public controversy, rather than

effects on the physical and biological environment, is probably the most significant impact that results from bison management. During 1999, NPS surveyed park visitors and citizens from both the region (Montana, Idaho and Wyoming) and the entire United States on issues related to bison management. Results of the survey demonstrate a strong division among people who agree and disagree with the survey statement, "It is appropriate to kill bison at park boundaries, as necessary, to protect domestic livestock" (FEIS p. 480).

Much of the controversy is related to the fact that bison management also is an emotional issue. People seem to come to this issue from perspectives that are strongly influenced by deep-seated morals and ethics. For many people, the bison is a tangible indicator of the intangible values. While the symbol is the same, the values are very different. Among the people who have corresponded with DoL and FWP during the past decade regarding the bison issue, at least 6 distinctly different perspectives have been apparent.

One perspective is based in the conservation heritage of Montana's hunting tradition. Hunters have long advocated for wildlife restoration and there are many wildlife restoration successes. Hunters, through license fees and federal excise taxes, provide substantial funding support for wildlife conservation. Hunting is compatible with wildlife conservation, a legitimate use of a natural resource and a legitimate tool for wildlife management. Among other concerns, these people would prefer that fair chase hunting be included as one strategy within a comprehensive bison management plan.

Montana also has a strong ranching heritage. Ranchers also are proud of their commitment to natural resource conservation. Their tradition of conservation emphasizes use of resource, while ensuring the long-term health of the resource to support future use. Ranchers also are strong advocates for private property rights. Bison infringe on private property rights directly through property damage and forage competition on private rangelands and, indirectly, through the economic consequences associated with the potential for brucellosis transmission for bison to cattle. From this perspective, they believe that it is unfair to expect one segment of society, landowners, to incur the economic consequences for bison management strategies that would primarily benefit other segments of society.

A third perspective is concerned for the ecological integrity of YNP. The park is not a complete ecosystem. Some people express strong concerns for the integrity of the larger whole, of which the park is the central part, with an emphasis on the management of other public lands adjacent to YNP. Bison and other wildlife are essential to the whole ecosystem and the system is incomplete without more accommodation for bison on those public lands. From this perspective, there is acknowledgement that brucellosis is a legitimate concern. However, given the perceived level of risk, some people believe that a wildlife-friendly approach for disease management would be more appropriate.

An animal rights perspective, while concerned about ecological integrity, seems to be motivated more by a concern for individual bison and bison as thinking, feeling, sentient beings. From this perspective, some people believe that it is immoral for people to interfere with nature and it is inappropriate to restrict the free will of any animal for the economic benefit of people.

The humanitarian perspective is similar to the animal rights perspective. The distinction between the two is that this perspective accepts and may even advocate for the use of contraception, vaccination

and quarantine as principle bison management strategies.

The sixth perspective is that expressed by Indian People. They are concerned about the rights of Tribes as sovereign nations. Some of the Tribes claim treaty hunting rights in and adjacent to YNP. They also have a spiritual affiliation with bison. From this perspective, bison management must be respectful of the bison's spirit and should promote the restoration of both and bison culture on Tribal lands.

This document was prepared with an understanding that values are correct for the person who holds them and that each interested person, regardless of perspective, has a legitimate stake in this issue. However, the question of which values are correct is not at issue in this analysis. DoL and FWP understand that bison management may conflict with some of these values. At the same time, state agencies do not have the option to defer to public opinion and ignore mandates that are defined by the *Montana Constitution* and state and federal statutes and regulations.

Analysis of Impacts

In general, the Interagency Bison Management Plan is similar to Alternative 8, the modified preferred alternative, as described in the federal FEIS. The impacts that might result from implementation of the Interagency Bison Management Plan also would be similar to those disclosed for alternative 8 in the federal FEIS. The primary differences between the two alternatives are the following:

- The Interagency Bison Management Plan clarifies that management actions outside the Park will be jointly supported operations conducted by personnel assigned by all cooperating agencies;
- The Interagency Bison Management Plan clarifies that either a total bison population of more than 3,000 animals or numbers of bison that exceed specified levels for a designated management areas will independently trigger management action;
- The Interagency Bison Management Plan clarifies the criteria for determining transition from one step to the next in the adaptive management framework;
- The Interagency Bison Management Plan specifies contingency plans in the event that management is not adequate to prevent brucellosis transmission from bison to cattle or is insufficient to prevent individual jurisdictions from taking independent actions to impose animal health sanctions on cattle originating from Montana;
- The Interagency Bison Management Plan specifies incremental increases in the number of bison, from 25 up to 100, that may be tolerated in the Reese Creek portion of the Northern Boundary management area during Step 2 of the adaptive management framework;
- The Interagency Bison Management Plan clarifies procedures for determining whether an additional capture facility would be required in the Reese Creek portion of the Northern Boundary management area and, if so, procedures for siting that facility; and,
- The Interagency Bison Management Plan includes procedures for coordinating bison management with the Royal Teton Ranch, if or when bison are tolerated outside YNP or private lands within the Royal Teton Ranch.

Impacts on bison numbers and distribution

The federal FEIS includes an expanded analysis of impacts on the bison population (FEIS p. 376 – 440). This analysis includes references to the analysis in the NAS report. In addition, NPS developed a model to evaluate the influences of random events on bison movements, bison management, bison population dynamics and brucellosis seroprevalence. Important conclusions from this analysis are that increasing numbers of bison are likely to occur under all of the alternatives evaluated and that the cumulative effects of other mortality factors on the bison population size likely will be inconsequential. Therefore, none of the alternatives, including the Interagency Bison Management Plan, will compromise the long-term integrity or the genetic viability of the bison herd within YNP.

The Interagency Bison Management Plan will limit the distribution of bison to YNP and the designated management areas in the Western Boundary and the Eagle Creek/Bear Creek and Reese Creek portions of the Northern Boundary management areas. Limits on bison distribution will prevent expansion of the herd into areas that have not been occupied by bison for more than a century. However, bison will

continue to occupy all of the areas available to bison since the establishment of YNP. Specific circumstances that will result in the removal of bison include:

- Bison move beyond the boundaries of the designated management areas;
- Seropositive bison move into the Reese Creek portion of the Northern Boundary or Western Boundary areas during Step 1 and Step 2 of the management plan;
- Numbers of bison in the Reese Creek portion of the Northern Boundary or the Western Boundary areas exceed specified tolerance limits;
- Bison remain in the Reese Creek portion of the Northern Boundary or Western Boundary areas beyond temporal separation dates specified for each of those areas; or,
- The total population exceeds 3,000 bison and bison move into either the Reese Creek portion of the Northern Boundary or Western Boundary area

DoL and FWP anticipate that numbers of bison removed each year will vary considerably, depending upon bison population levels and weather severity. When the population level is below 2,000 bison, few bison will leave YNP and removals will be unlikely. When the population level is greater than 2,000 but fewer than 3,000 bison, there is a high probability that some bison will move from YNP into Montana. However, at that population level, it is unlikely that removals will exceed 100 bison per year. Bison movements from YNP into Montana are likely to occur every winter that the population level exceeds 3,000 bison and removals in excess of 200 bison likely will occur during those winters (Aune ob. cit.).

DoL and FWP anticipate that large removals will occur only periodically and invariably would be associated with populations that exceed 3,000 bison and severe winter weather. Should they occur, large removals will not have long-term effects on the population. Based on the 1996-97 winter experience and the history of this bison population (FEIS p. 285), it is reasonable to conclude that as many as 1,100 bison may be removed under the most extreme situations. However, it is unlikely that management actions will ever reduce the herd to a level below 2,000 bison. Should that occur, it is likely that the herd would quickly recover because, at lower population levels, few bison would leave YNP for several successive winters.

The federal FEIS indicated that the modified preferred alternative would result in an increasing bison population and, assuming that management actions would limit the total spring population to about 3,000 bison, estimated that the long term early winter population would be approximately 3,246 bison (FEIS p 430). The federal FEIS also indicated that none of the alternatives is expected to compromise the genetic variability of the YNP bison population (FEIS p. 82-83, 388-389). Similar outcomes are anticipated for the Interagency Bison Management Plan.

The Interagency Bison Management Plan establishes a tolerance limit of 100 bison in Zone 2 the Western boundary area beginning during Step 1 and a tolerance limit of 25, possibly increasing to 100, in Zone 2 of the Reese Creek portion of the Northern Boundary area beginning during Step 2. These limits appear to be well within the existing carrying capacity of these areas and fairly conservative estimate of the number of bison that could probably be supported along with other ungulate species by these areas (FEIS, Vol. 2, p. 223 – 226). However, the tolerance limits were not established on the basis of carrying capacity. The tolerance limit for the Western Boundary area is based on several years of management experience and represents the number of bison that can be contained within Zone 2. At higher levels, unmanageable numbers of bison likely would move into Zone 3. The

agencies do not have comparable experience managing bison in Zone 2 of the Reese Creek portion of the Northern Boundary area. The tolerance limit there was established within the framework of adaptive management and may be adjusted as the agencies gain experience with methods to contain bison within Zone 2.

Impacts on individual bison

DoL and FWP acknowledge that bison management actions may be stressful on individual bison. The federal FEIS (Appendix F) describes the effects of various management actions on individual bison, including suggestions for reducing stress associated with some of the actions.

Research may require the confinement of individual bison for extended periods. Field research, especially the use of vaginal implants in pregnant bison, may involve invasive procedures. However, research will involve relatively few animals and the results from the various research projects are integral to the adaptive management framework.

Impacts related to compliance with the National Brucellosis Program

The FEIS described the factors that affect the risk of brucellosis transmission (cf. FEIS p. 26 – 28). The Interagency Bison Management Plan is designed to reduce the risk of brucellosis transmission from bison to cattle by maintaining temporal and spatial separation between bison and cattle on both private and public lands; reducing numbers of infectious bison through selective removal of brucellosis seropositive animals and brucellosis vaccination; reducing the susceptibility of cattle to brucellosis through vaccination; and, research on the viability of the *Brucella* organism in the management area to validate the temporal separation period.

APHIS and DoL will conduct additional monitoring of cattle herds that graze in areas that bison may occupy during the winter. These additional surveillance measures will help to either ensure that these cattle remain brucellosis-free or, in the unlikely event that transmission occurs, to provide for early detection.

The Interagency Bison Management Plan also includes contingency measures that will be implemented in the event that either an infected cattle herd is detected in the area or that other animal health authorities impose sanctions against the importation of Montana cattle in response to the State of Montana's decision to cooperatively implement the plan.

Economic implications of loss of status

The FEIS includes a detailed discussion of the potential consequences for Montana livestock producers that would result from either the loss of Montana's brucellosis class-free status or the imposition of sanctions by other states or countries (FEIS p. 501 – 513; vol. 2 p. 338 – 347). For the industry, as a whole, the impacts are difficult to predict and could vary between moderate to major. Regardless of the effect on the overall industry, the impacts would be large enough to put many individual producers out of business. The Interagency Bison Management Plan is designed to avoid these impacts.

The FEIS estimated that the testing costs associated with the loss of status or sanctions could cost Montana producers between \$5.1 and \$16.3 million per year. In addition, the potential price impacts could decrease annual income to Montana producers by \$4.7 to \$22.5 million. This analysis included consideration for 2,622 cattle that were marketed to Canada. A recent trade agreement has significantly expanded the potential for Montana producers to sell cattle into Canadian markets. During the period from the fall of 1999 and the spring of 2000, Montana producers sold 139,000 untested cattle to Canadian feedlots. The loss of Montana's brucellosis class-free status would close these markets to Montana producers. Based on recent sales, the impact could be a potential \$12 million per year loss. The potential loss could be even greater because this market is expected to expand to 200,000 cattle or more.

Costs and Benefits

The federal FEIS (Table 10, p. 195) disclosed estimated costs to implement the modified preferred alternative and estimates to implement the Interagency Bison Management Plan would be similar. Annual operations costs will vary, depending upon the number of bison that move from YNP into Montana and the length of time that bison remain outside YNP. Likewise, the annual revenue from the sale of meat, heads and hides will vary depending upon the number of bison that are removed, the number of bison that are transported to either research or quarantine facilities and the number of bison carcasses that are donated.

The federal FEIS (pp. 499 – 552) also disclosed an analysis of benefits and costs. This analysis was included, in part, in response to a report that had been prepared by the General Accounting Office (*Wildlife Management: Negotiations on a Long-term Plan for Managing Yellowstone Bison Still On-going*, GAO 1999). This analysis concluded that none of the alternatives is justified on a benefit-cost basis (FEIS p. 551, Table 73). However, this analysis included considerable uncertainty in the estimate of the risk of brucellosis transmission from bison to cattle and corresponding uncertainty in the estimate of the present net value of preventing transmission.

Vaccination

Each of the alternatives that were considered for detailed analysis proposed brucellosis vaccination of bison. The Interagency Bison Management Plan includes the vaccination of calves and yearlings that are handled in the capture facilities during Step 1 and Step 2 of the plan and when capture facilities are used during Step 3. Vaccination of untested vaccination-eligible bison will begin during Step 2 in the Western Boundary area, when a remote delivery system is available. During Step 3, after a safe and effective vaccine for adult bison has been developed, whole herd vaccination is expected. Step 3 will include vaccination of vaccination eligible bison with a remote delivery system within YNP.

The federal FEIS described the predictive models that were used to evaluate impacts of the alternatives on bison populations (FEIS p. 376 – 384). The models also were used to estimate changes in seroprevalence in response to vaccination and the removal of seropositive bison. The analysis of the federal modified preferred alternative suggested that the seroprevalence would be reduced to 25% and 11%, based on the deterministic and stochastic models, respectively (FEIS p. 433, 434). Similar results would be expected for an analysis of the Interagency Bison Management Plan.

The FEIS contains a detailed discussion of the criteria and procedures that the agencies will follow to ensure that vaccination will be safe and effective (FEIS p. 91 – 100). With these protocols in place, vaccination will have negligible impacts to bison and to non-target species. While vaccination should result in substantial reduction in the number of bison that are brucellosis seropositive, it is unlikely that it will lead to the eradication of brucellosis from this bison herd during the first 15 years of this plan (FEIS p. 433, 434).

Research on the vaccination of bison with RB51 has been in progress for several years. Based on results to date (Olsen, S. 1997. Biosafety and clearance of *Brucella abortus* strain RB51 as a calfhood vaccine in bison. J. of Wildlife Diseases 33:146-151; Olsen, S. 1998. Biosafety, clearance and efficacy of *B. abortus* strain RB51 as a calfhood vaccine in bison. American Journal of Veterinary Research 59:410-415; and Olsen, S., personal communication), DoL and FWP have concluded that hand injection of bison calves and yearlings with RB51 at the capture facilities will not increase the morbidity or the mortality of the vaccinated animals and that vaccinated females will have increased protection against brucellosis infection during pregnancy and against infection resulting from exposure to aborted fetuses and infected calves. GYIBC, at its November 2, 2000 meeting, also determined that RB51 is safe in bison calves and yearlings.

DoL and FWP also have concluded that vaccination of calves and yearlings with RB51 will not significantly affect non-target species. This conclusion is based on the preliminary results of RB51 in non-target species; the observation that vaccinates generally clear RB51 in a period of 20-weeks; and, the limited number of calves and yearlings that will be vaccinated. The federal FEIS (p. 94) included references to several studies that demonstrate the lack of adverse affects of RB51 to non-target species. Additional studies have been published since then that also confirm the lack of adverse affects to non-target species (Elzer, P. 2000. Safety of Brucella Vaccines in Pronghorn Antelope. Proceedings of the 104th Annual Meeting of the United States Animal Health Association; Davis, D. 2000. Safety of Brucella Vaccines in Coyotes. Proceedings of the 104th Annual Meeting of the United States Animal Health Association.)

When the agencies have concluded that a safe and effective brucellosis vaccine and an appropriate remote delivery system have yet been developed for use in adult bison, implementation of the second phase of bison vaccination will begin. Additional NEPA/MEPA analysis, tiered to this FEIS and the federal FEIS, may be required prior to implementation of the second phase of bison vaccination.

Threatened, Endangered and Sensitive Species

Impacts to threatened, endangered and sensitive species were thoroughly discussed in the FEIS (p. 558 to 588). NPS submitted a biological assessment to the U.S. Fish and Wildlife Service who concurred in the determination that the federal modified preferred alternative was not likely to adversely affect the bald eagle, Canada lynx, grizzly bear, or gray wolf (FEIS p. 797 – 798).

There are three active bald eagle nests in the Western Boundary area. Capture operations, hazing and shooting of bison could disturb or displace eagles associated with those nests. USFS issued DoL a special use permit for bison operations in the Western Boundary area. The permit specifies management zones around the nest sites, activity restrictions within those zones and interagency

coordination requirements. These mitigation requirements apply regardless of whether the nest sites are either occupied or producing.

Bison management is expected to have negligible impacts on Canada lynx because the bison management areas are not important lynx habitat.

Bison management could have minor negative impacts on grizzly bears by altering the distribution of bison carcasses. Some people have expressed concern that major movements of bison outside YNP could result in the lack of bison carrion in the park interior. As noted above, it is unlikely that management would reduce the bison population to a level below 2,000. Therefore, the availability of bison carcasses, in the long term, would not significantly change from historic levels. The agencies could employ measures to mitigate short-term effects on carcass availability that might occur during winters when unusually large numbers of bison are removed. Within the Reese Creek portion of the Northern Boundary and Western Boundary management areas, the agencies will remove bison viscera and bison carcasses after March 1 to reduce the potential for grizzly-human conflicts.

Bison management is unlikely to affect wolves because wolf activity in the Reese Creek portion of the Northern Boundary and Western Boundary management areas is limited. Removals of bison are also expected to have negligible effects on the availability of wolf prey.

Public controversy

When they prepared the EA for the 1995 state interim bison management plan, DoL and FWP acknowledged that bison management has a long history of public misunderstanding and controversy. They also noted that most of the controversy had been related to five specific issues.

Some people question whether the transmission of brucellosis from YNP bison to domestic livestock is possible. These people refer to the lack of documented cases and the lack of controlled field studies that are specific to YNP bison. It is correct that transmission from YNP bison to cattle has not been documented. It also is correct that YNP bison have been actively managed to prevent free association with cattle. This bison herd is infected with brucellosis. The mechanisms of brucellosis transmission in infected domestic bison herds are similar to that observed in infected cattle herds. Consistently, from 35% to 50% of those bison that have been sampled, test positive for the presence of *Brucella* antibodies. Therefore, DoL and FWP have concluded that brucellosis is being maintained in this herd through frequent transmission from bison to bison; that transmission of brucellosis from bison to cattle is possible; and, that compliance with the National Brucellosis Program and corresponding state statutes and regulations requires management that maintains temporal and spatial separation between bison and cattle.

Some people believe that Montana should permit free-ranging bison to leave YNP because there are public lands adjacent to YNP. Certain public lands adjacent to YNP are allocated to land uses that preclude permitted livestock grazing, occur along traditional movement corridors and include topographic features that are barriers to further migration. These areas have been identified and the agencies generally will not remove bison that use these public lands. However, there are public lands adjacent to YNP that periodically are used by permitted livestock. There also is considerable potential for unrestricted bison to occupy and damage private land. DoL is required by law to protect Montana's

livestock from diseases that affect the livestock industry, including management of YNP bison. FWP is required by law to reduce the potential for bison damage to private property.

Some people believe that public hunting should be the primary method for controlling bison numbers and distribution. Compliance with the National Brucellosis Program and the prevention of wildlife damage to private property preclude the ability to regulate bison using traditional recreational hunting. However, there may be opportunities for limited public hunting within the broader framework of the Interagency Bison Management Plan.

Some people believe that it is inappropriate to restrict the free will of any species, including bison, for the economic benefit of people because animals are thinking, feeling, sentient beings. DoL and FWP acknowledge the right of people to aspire to this value. While individual bison will be treated as humanely as possible, it is not possible to manage for compliance with the National Brucellosis Program and prevention of damage to private property without restricting the free will of bison.

Some people believe that it is inappropriate to donate bison carcasses to Native American tribes. They have characterized this action as discriminatory, unacceptable welfare, etc. Distribution of bison carcasses to Native Americans has not occurred through donation. Rather, it has occurred according to provisions described by cooperative agreements and in accordance with state statutes. Tribal governments receive bison carcasses for distribution through their established system of social services in exchange for providing labor and the operational costs to salvage bison carcasses. Similar agreements with other social services organizations also are possible. In reviewing comments to the DEIS, it is apparent that these and other issues are still of concern to people who have an interest in bison management.

The FEIS includes Volume 2, Responses to Substantive Comments on the Draft Environmental Impact Statement, and Volume 3, Comments on the Draft Environmental Impact Statement. DoL and FWP assisted with the initial drafts of the responses to comments and generally concur with the federal agencies' responses. This FEIS incorporates the response to the DEIS contained in Volume 2 and the response contained in Volume 3.

The following are summaries of selected substantive comments to the DEIS that are most relevant to Montana's participation in bison management plan. Each comment summary is followed by an explanation of how the comment relates to the Interagency Bison Management Plan.

Authority to Manage Bison

- Some people questioned whether the Montana Board of Livestock should have the authority to implement the bison management plan, including the determination of whether bison should freely roam outside the park, the definition of low risk bison and the determination of which animals to ship to slaughter.

Fundamental to the Interagency Bison Management Plan is the recognition that the authority for the management of the Yellowstone bison herd is not restricted to one jurisdiction. Each of the cooperating agencies has some authority for certain aspects of bison management. None has absolute authority and none of the agencies may relinquish any of its authority to any of the other agencies.

The State of Montana was a joint-lead in the development of the DEIS (cf. DEIS, Appendix C) and will cooperate in the Interagency Bison Management Plan. The Montana Board of Livestock has authority under state law and duties delegated pursuant to Montana's general police power to protect the health, safety and welfare of its citizens and their property. This includes authority to manage bison that enter Montana from YNP because those bison are diseased or disease-exposed. The Department of Livestock is authorized by Montana statute to regulate animal health, including specific responsibilities related to the management of bison that move from YNP into Montana. The authorities of the Board and Department of Livestock were described in Appendix E of the DEIS. The Records of Decision for bison management must be consistent with these authorities, duties and obligations.

- Some people suggested that the Department of Livestock and APHIS played too large a role in the EIS because they have no interest in preserving wild bison.

All of the cooperating agencies that participated in preparation of the DEIS have authorities relevant to the management of bison that move from YNP into Montana. The Interagency Bison Management Plan is a cooperative approach in which each agency would support the purpose of the bison management plan 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 of Montana.

- Some people suggested that the Department of Livestock has no authority to eradicate wildlife.

The DEIS did not propose to eradicate any species of wildlife, including bison and the Interagency Bison Management Plan will not eradicate bison. However, it will prevent the reestablishment of a free-ranging bison herd in places where bison have been absent for more than a century, where bison are no longer compatible with current land use and land ownership and where bison pose a risk of brucellosis transmission to domestic livestock.

- Some people questioned whether the Board of Livestock should have the authority to implement the bison management plan because its members are ranchers. They have a vested interest and their participation in bison management is a conflict of interest.

The authorities of the Montana Board of Livestock are defined by Montana law (cf. DEIS, Appendix E, page 361, ff.). The composition of the Board of Livestock also is governed by state law (M.C.A. §2-15-3102) and the Board is the head of the Department of Livestock (M.C.A. §2-15-3101). By state law, each member of the Montana Board of Livestock must be a resident of the state and be an active livestock producer. By statute (M.C.A. §2-15-3102), the Board of Livestock is appointed by the Governor of Montana and their appointments are confirmed by the Montana Senate. The Governor designates the Board's presiding officer.

- Some people suggested that wildlife, generally, and bison, specifically, should have precedence over cattle grazing on public lands adjacent to YNP. Cattle should be kept away from bison. The Montana Department of Livestock should not make decisions that affect these public lands.

The Board of Livestock has no authority over the management of public lands adjacent to YNP. However, the Montana Legislature has, through statute, assigned specific responsibilities to the Board and DoL for the management of bison that move from YNP into Montana, irrespective of the land on which those bison occur, for the purpose of disease control.

- Some people suggested that bison should be free to roam on public lands adjacent to the park because most of the land adjacent to the park is Gallatin National Forest and private land owners have a relatively minor stake in the GYA.

Although most of the land adjacent to YNP is federal land, the amount of suitable bison habitat on public lands adjacent to the park is comparatively small. The majority of quality bison habitat outside the park occurs on private land. Most of these lands are beyond the boundaries of the management areas and, therefore, were not included in the analysis of impacts that was disclosed in the FEIS.

- Some people suggested that Montana arbitrarily and capriciously transferred jurisdiction over bison from to officials whose professional focus is livestock.

The revision of the authorities of the DoL and FWP was accomplished by the 1995 Montana Legislature, following the same procedures, including hearings, by which all Montana laws are adopted.

- Some people questioned whether all alternatives were legally implementable because they did not require the removal of bison that were infected or exposed to brucellosis. They suggested that current laws and regulations prohibit the Montana State Veterinarian from allowing brucellosis infected and exposed bison unrestricted access to the SMAs within the state. They suggested that the Montana State Veterinarian should be responsible to determine which bison may be tolerated and when bison should be removed or returned to the park because SMAs would increase the risk of brucellosis transmission from bison to cattle. They noted that the Department of Livestock would have to amend its regulations to implement alternative 2 because this alternative would allow untested bison to occupy large areas beyond the park boundary. They also noted that the Department of Livestock would have to amend its regulations to adopt the new definition of "low risk" bison proposed in the DEIS and to permit those animals to enter the state.

Neither the DEIS nor the Interagency Bison Management Plan require DoL to relinquish its authority to manage and regulate YNP bison. DoL is required to take action when bison move from YNP into Montana (A.R.M. §32.3.224). The Interagency Bison Management Plan will not allow brucellosis infected and exposed bison unrestricted access within the state. It defines specific circumstances in which bison may occupy lands in Montana and the specific management actions necessary to control those bison to ensure that the risk of brucellosis transmission from bison to cattle is minimized.

- In commenting on the DEIS, the United States Environmental Protection Agency suggested that the establishment of SMAs should be determined by the state and federal decision makers rather than at the discretion of the Montana Board of Livestock. They also questioned the

discretionary authority of the State Veterinarian to determine the length of time between 30 and 60 days prior to the return of cattle to the Western Boundary area that bison must be hazed back into the park or shot. They suggested that NPS should play a substantive role in this decision.

Both state and federal law recognize that, once bison leave YNP and enter Montana, they are under the management jurisdiction of the state. As envisioned in the DEIS, establishment of areas outside YNP where bison are tolerated would have required approval of the state and federal decision makers and entities with responsibility for bison management under both state and federal law. The DEIS described the intent to establish an SMA in the northern boundary area during the second phase of some alternatives. This SMA anticipated certain land transactions that had not been initiated at the time the DEIS was prepared and the agencies presumed that the transactions may not yet have been completed by the time the Records of Decision was issued. The Board of Livestock's approval of any SMAs that could have been implemented at the time the Records of Decision was issued would have been included in that decision. However, if implementation of an SMA occurred during a subsequent phase, additional NEPA/MEPA review, tiered to the previous EIS, would have been required and the Board of Livestock's decision to approve the SMA would be dependent upon that review.

The Interagency Bison Management Plan does not designate SMAs, as described in the DEIS. Instead, management actions are specified for each of the management areas and zones within those areas. Changes to on-going management will be accomplished within an adaptive management framework.

- The United States Environmental Protection Agency suggested that the National Park Service should be involved in decisions as to when bison should be culled using lethal force on public lands outside of YNP and indicated that the preferred alternative leaves this decision, the management of a unique federal natural resource of national significance, to the discretion of the Montana State Veterinarian.

EPA's understanding of the preferred alternative in the DEIS was not correct. The Interagency Bison Management Plan will establish a management framework and that framework will have been approved by all of the cooperating agencies, including the National Park Service. The framework specifies the criteria by which animals will be selected for culling and the appropriate means for removing those animals.

- Some people noted statements throughout the DEIS that the creation of a special management area would require approval of the State of Montana as specified by Montana law. They requested clarification of that statement. They acknowledge that the Department of Livestock has authority to protect Montana's livestock interests, but they question the State's authority for additional approvals beyond the State's approval of a Records of Decision.

The Board of Livestock intended to approve SMAs in accordance with its responsibility and authority for the control of disease, and protection of the livestock industry from disease (M.C.A. §§ 81-2-102 and 81-2-103); authority to appoint the State Veterinarian (M.C.A. §81-1-301); authority to manage wild bison for disease control (M.C.A. §81-2-120); and, the Department's regulatory authority for the administration of the control of bison which emigrate from YNP (A.R.M. §32.3.224). The DEIS was both programmatic and site-specific in the analysis of various

components in the alternatives. The preferred alternative defined a two phase approach to bison management. At the time the agencies prepared the DEIS, all of the elements in phase 1 could be implemented upon issuance of the Records of Decision. However, implementation of some elements in the second phase were dependent upon the completion of events, the outcome of which could not have been determined at that time the DEIS was written. These elements included uncertainty about whether additional lands would be acquired, the location of those lands and bison management activities specific to those lands. Decisions to approve SMAs that could have been implemented upon issuance of the Records of Decision would have been documented in the Records of Decision. Decisions to approve SMAs that could not have been implemented at that time would have required additional NEPA/MEPA analysis, tiered to the EIS, and would have been implemented upon issuance of subsequent Records of Decision.

Now, this issue is not relevant because the land transactions have been completed and the Interagency Bison Management Plan assumes that the agencies will agree upon a management framework for those lands.

- Some people suggested that professional wildlife managers, rather than the Board of Livestock, should be in charge of bison management. Because bison are wildlife, they should be managed as such, by the appropriate state and federal wildlife management agencies. FWP should have jurisdiction for bison that leave the park.

Primary authority for the management of bison that have moved from YNP into Montana rests with the State of Montana. The Montana Legislature has the responsibility to determine the appropriate roles of the Montana state agencies and, through statute, has assigned respective roles for the management of bison to DoL and FWP. The Montana Legislature has determined that significant potential exists for the spread of contagious disease from these bison to persons or livestock in Montana and for damage to persons and property by bison. Accordingly, the Legislature has assigned primary responsibility to DoL. The Montana Legislature also has directed that FWP shall cooperate with the Department of Livestock, in accordance with a bison management plan approved by the Governor. Further, both agencies were encouraged by statute to enter into an agreement with the National Park Service for the long-term management of bison.

- Some people suggested that FWP should not have to pay to remove bison from their land.

Montana statutes (M.C.A. §87-1-216) direct FWP to cooperate in the management of bison that move from YNP into the State of Montana. Except for a portion of the Gallatin Wildlife Management area, there are no Wildlife Management Areas, administered by FWP, within the specified distribution of bison for any of the alternatives that were analyzed in the DEIS or the FEIS. A portion of the Gallatin Wildlife Management area that lies just northwest of the Park lies within the analysis area. There would be no potential for conflict with livestock and bison on these lands if bison moved into this area. However, it should be noted that bison have not used this area in the past.

- Some people asked by what authority the Montana Governor ordered the bison slaughter.

The Montana Governor did not order the bison slaughter. The recent administrative history of bison management is summarized on page 27 in the DEIS. Since 1990, bison management has followed a series of interim plans that have been approved and implemented by the cooperating agencies. The most recent interim plan was implemented in 1996, pursuant to the court approved settlement agreement that preliminarily resolved Montana's complaint against the federal government. The settlement agreement was signed by the Secretaries of Interior and Agriculture and the Governor of Montana.

- Some people indicated that any final decision to allow bison on public lands outside Yellowstone, as verified by the Governor's signature, should not be over ruled or vetoed by the Montana State Veterinarian.

The preferred alternative in the DEIS would not have authorized the Montana State Veterinarian to veto the final decision. Bison management by FWP and DoL will proceed according to The Interagency Bison Management Plan, as approved in the Record of Decision. Any revisions to the plan, except specific changes anticipated within the adaptive management framework and the existing environmental analyses, may require new decisions, supported with any required MEPA analysis.

- Some people indicated that the Montana Governor does not represent the citizens of Montana nor the United States. A federally developed plan should benefit the bison and the nation rather than the cattle industry.

Montana participated in preparation of the DEIS because any acceptable solution to the purpose and need for the EIS must be completed under the authorities of the cooperating agencies and respect the legitimate interests of the people who will be affected by the decision.

- Some people noted that Montana is a trustee of wildlife and has a fiduciary responsibility to protect wildlife species for the citizens of the state. They question how this responsibility coincides with the slaughter of bison.

On behalf of the people of Montana, the Montana Legislature is the appropriate entity to define the state's fiduciary responsibility for bison. In that capacity, the Montana Legislature has assigned specific responsibilities for the management of bison to DoL and FWP. Those authorities were described in the DEIS (p. 361 – 364) and the federal FEIS (p. 756 – 761).

- Some people noted that the State of Montana has the same management authority and responsibility for bison as it does for elk.

DoL and FWP agree that the State of Montana has jurisdiction for wildlife, including bison and elk, that are resident within the state. They agree that the Montana Legislature is the entity with the authority to assign specific responsibilities for the management of resident wildlife to agencies of Montana State government. DoL and FWP also recognize that bison and elk are different species;

that the purpose and need for bison management is different from the purpose and need for elk management; and, correspondingly, the management objectives for each species are different.

- Some people opposed provisions of the plan that turns any part of bison management over to the State of Montana. Some people suggested that YNP and Yellowstone bison belong to all of the citizens of the United States and that Montana has no authority over bison on public land or over bison that are shared by all citizens of the US. However, others indicated that states own and have the right to control wildlife within their boundaries. Once bison leave YNP, they belong to the people of Montana and are managed by the state.

Under current federal and state statutes (cf. DEIS, Appendix E, p. 358 ff.), the National Park Service has management authority for bison within YNP. The State of Montana has management authority for bison in Montana. The DEIS and this FEIS were developed on the basis of cooperation among all of the agencies with relevant authority.

- Some people suggested that the DEIS violates the Public Trust Doctrine because it addresses only private, not public interests. Certain public resources are enjoyed by everyone and these resources are subject to demands which necessitate that the state act as trustee to prevent their abuse

The DEIS was prepared for the purpose of maintaining 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 the state of Montana, within the framework of a cooperative federal and state management plan. These purposes and the objectives and constraints associated with these purposes are within the collective authority of the cooperating, public agencies. Therefore, DoL and FWP presume that it is within the public interest to achieve the purposes of the DEIS.

- Some people suggested that Montana must make commitments of its own, including allowing a minimum number of low risk bison on public lands.

The Interagency Bison Management Plan defines a management framework for bison, including permissible circumstances and the numbers and categories of bison that may occur in each of the management areas. The State of Montana is committed to cooperate in the management of bison, consistent with the provisions this plan, and any subsequent Record of Decision issued by the state.

- Some people suggested that the State of Montana is making outrageous and irresponsible demands on the management of these wild herds.

The State of Montana acknowledges that some people may not understand or agree with its bison management policies. People are encouraged to consider the controversy associated recent events in the broader context of the history of the Yellowstone bison herd. The definition of a “wild, free-ranging” bison population, as used in this analysis (DEIS p. 27), was developed with an understanding that the distribution of this herd has been restricted throughout its administrative history. YNP was established during a period in the nation’s history when bison were being extirpated from the Great Plains. Federal and state policies initially focused on protecting the remnant herd, then focused on controlling bison numbers within the park and, most recently,

focused on preventing the transmission of brucellosis from bison to cattle. These various policies have defined the park boundary as the acceptable limits for bison distribution. The DEIS and the Interagency Bison Management Plan were developed with the understanding that uncontrolled migration of disease-exposed bison from YNP into Montana would not be consistent with the purpose and need for a long term, cooperative bison management plan (DEIS p. 28 ff; p. 41).

Bison management has been a public controversy since the early 1980's, when expanded bison populations began regular nomadic movements from YNP into Montana. Throughout the controversy, Montana has responded in a manner that is consistent with state law. Since 1995, bison management also has been consistent with a federal court ordered settlement agreement that was signed by the United States Secretaries of Interior and Agriculture, as well as the Governor of Montana. Since 1995, bison management by Montana and the federal agencies has been upheld in several decisions of the federal courts.

- Some people questioned how the State of Montana could sign a Record of Decision that contained recommendations that would require additional state approval. Either the recommendations which call for additional state approval do not meet state law or the EIS does not satisfy the requirements of NEPA.

Montana understood that approval of an alternative that includes public hunting would commit the agencies to petition the Montana Legislature to authorize public hunting. Regulations to implement the bison hunting season would be promulgated pursuant to that authority. That rulemaking would require a MEPA analysis, tiered to this EIS. In the event that the Montana Legislature decided to not authorize a bison hunting season, the agencies would make corresponding revisions to the bison management plan. Those revisions also would have required additional NEPA/MEPA analysis, tiered to the EIS.

The Montana Board of Livestock has no authority to approve an SMA that had been proposed only in concept. Approval of an alternative that contemplates establishment of an SMA on property that is not owned or controlled by one of the cooperating agencies would have committed the agencies to seek to acquire an interest in that property, propose specific management strategies for the property and then make a decision to manage the property as an SMA. That decision would have required additional NEPA/MEPA analysis, tiered to the EIS. If the agencies were unable to establish the SMA, the agencies would make corresponding revisions to the bison management plan. Those revisions also would have required additional NEPA/MEPA analysis, tiered to the EIS.

It should also be noted that these concerns are not relevant to the Interagency Bison Management Plan because it does not designate SMAs, as described in the DEIS, nor does it establish hunting as a management action. Management actions are specified for each of the management areas and changes to on-going management will be accomplished within an adaptive management framework. Public hunting was included in Alternatives 3, 4 and 7 and analyzed in the DEIS and federal FEIS. If authorized by the Montana Legislature, any decision to implement hunting may require MEPA analysis, tiered to this FEIS.

- Some people requested that all state decisions made subsequent to the final EIS be open and include opportunity for public comment.

This FEIS and the subsequent Record of Decision will have satisfied the notice and comment requirements for all operational decisions that will be made pursuant to that decision. Future decisions that may require additional MEPA analysis will include corresponding public notice and opportunity for public comment.

- Some people suggested that Montana is violating the laws that have been passed by Montana, other states and Congress for the protection of bison. Others suggested that slaughtering bison violates Montana's Constitution.

Montana is not aware of any documentation that would support these comments.

- Some people suggested that we lose checks and balances in our government when we allow the State of Montana to terminate property that belongs to the United States of America.

Under current federal and state statutes (cf. DEIS, Appendix E, p. 358 ff) the National Park Service has jurisdiction while bison reside within YNP. The State of Montana has jurisdiction over bison after they enter Montana.

- Some people suggested that Yellowstone is important to Montana and the State of Montana should acknowledge that importance and meet the National Park Service halfway.

The intent of the DEIS and the Interagency Bison Management Plan was to develop a bison management plan that complies with the authorities of each of the responsible agencies. Of the various alternatives considered, the Interagency Bison Management Plan represents the only alternative that all of the agencies are able to cooperatively implement. The State of Montana recognizes the authorities of the federal agencies and intends to participate in a cooperative spirit. At the same time, neither DoL nor FWP may ignore obligations assigned to the agencies by state statute.

- Some people suggested that the Montana Legislature should address the protection of migratory ungulates, with recommendations from USFS and BLM.

Montana has the authority for the management of all wildlife that is resident within the state, including bison that have moved from YNP onto national forest lands in the state. The Montana Legislature has assigned specific management responsibilities for these bison to DoL and FWP. As a matter of public policy, Montana regularly consults and coordinates with the appropriate federal agencies in matters related to wildlife management on public lands.

- Some people suggested that the Governors and the Legislatures of Wyoming, Idaho and Montana should authorize bison as non-game wildlife and permit uncensored NEPA comments on public land use issues.

The Montana Legislature assigned specific responsibilities to DoL and FWP. The States of Wyoming and Idaho were not party to the EIS and would not have been bound by the

corresponding Records of Decision. DoL and FWP are not aware of documentation to support the suggestion that comments by Montana state agency officials on public land issues are censored.

Tribal Issues

- Some people suggested that the State of Montana should embrace cooperative management with the Tribes, just as it is cooperating with the federal agencies.

Montana acknowledges that the Intertribal Bison Cooperative and some Indian Tribes from Montana, Wyoming and Idaho requested status as cooperating agencies in the management of bison that move from YNP. The DEIS was based on the determination that cooperation among the agencies is essential to a successful bison management plan because each of the cooperating agencies has some authority, but none has absolute authority, for bison management. Cooperator status was not appropriate for the Intertribal Bison Cooperative or any Indian Tribe because they have no authority for the decisions that will be made in the Records of Decision for the EIS.

However, Montana is interested in continued Tribal participation in the issue of bison management. Montana also is interested in the possibility of substantial Tribal involvement in the operation of quarantine facilities and the distribution of live, disease-free bison. However, decisions related to quarantine and subsequent distribution of disease-free bison will not be made until APHIS has approved regulations that would permit operation of a bison quarantine facility in a state that is classified brucellosis-free. Then, a suitable location must be identified and a management framework, including possible agreements with cooperating Tribal governments, for a quarantine facility at that location must be developed. These decisions would require additional MEPA analysis before DoL and FWP could issue decisions for approval of the quarantine facility and the distribution of live, disease-free bison.

- Some people suggested that healthy, excess bison should be moved to Indian reservations or that bison should be restored to tribal lands.

Montana is interested in the possibility of substantial Tribal involvement in the operation of quarantine facilities and the distribution of live, disease-free bison, pursuant to current statutes that authorize cooperative agreements for that purpose.

- Some people indicated that bison are sacred to many Indian people and Indian people have been insulted and betrayed enough.

Montana acknowledges the spiritual affiliation between bison and Indian people. Montana also understands that some people, including Indian people, are offended by the use of lethal methods to control bison numbers and distribution. It should be noted, however, that the Interagency Bison Management Plan will not prevent bison from using any habitats that have been occupied by bison since the establishment of YNP.

- The Montana Tribal Fish and Wildlife Commission advised the cooperating agencies that its purpose includes the protection and preservation of fish and wildlife resources as well as maintenance of reserved hunting and fishing rights outside the exterior boundaries of

reservations. Members of the Commission include the Blackfeet, Crow, Sioux, Chippewa-Cree, Kootenai, Gros Ventre, Assiniboine, Northern Cheyenne and Salish Nations.

DoL and FWP acknowledge the Montana Tribal Fish and Wildlife Commission, its membership and its purpose.

- Some people suggested that the standing and authority of the federally recognized Tribes is equal to that of the State of Montana for the management of bison.

DoL and FWP are not aware of any Tribal authority specific to the management of bison that move from YNP into Montana.

- Some people suggested that Montana is required to comply with Section 106 and consult with the Indian Tribes on a government to government basis because it has received federal funds for bison management.

Section 106 of the National Historic Preservation Act applies to federal agencies. It does not apply to state agencies that receive federal funds. Moreover, NHPA is specific to historical properties and cultural properties. For purposes of the act, bison that move from YNP into Montana are neither.

- Some people suggested that Montana is required to recognize the distinct and unique cultural heritage of the American Indians, pursuant to **Article IX, Section 4 and Article X, Section 1** of the Montana Constitution.

The full text of Article IX, Section 4 of the Montana Constitution follows:

Section 4. Cultural resources. The legislature shall provide for the identification, acquisition, restoration, enhancement, preservation, and administration of scenic, historic, archeologic, scientific, cultural, and recreational areas, sites, records and objects, and for their use and enjoyment by the people.

The full text of Article X, Section 1 of the Montana Constitution follows:

Section 1. Educational goals and duties. (1) It is the goal of the people to establish a system of education which will develop the full educational potential of each person. Equality of educational opportunity is guaranteed to each person of the state.

(2) The state recognizes the distinct and unique cultural heritage of the American Indians and is committed in its educational goals to the preservation of their cultural integrity.

(3) The legislature shall provide a basic system of free quality public elementary and secondary schools. The legislature may provide such other educational institutions, public libraries, and educational programs as it deems desirable. It shall fund and distribute in an equitable manner to the school districts the state's share of the cost of the basic elementary and secondary school system.

DoL and FWP do not agree that these sections of the Montana Constitution apply to the management of bison that move from YNP into Montana in the manner suggested by the comments.

Risk of Brucellosis Transmission

- Some people suggested that, through the application of substantive, scientifically sound management strategies, rather than political influence, the conflict in Montana could be settled with benefits to both livestock producers and wildlife.

The DEIS and FEIS provide the basis for a substantive, scientifically sound bison management strategy. However, DoL and FWP acknowledge that there is considerable disagreement among people who are interested in and affected by bison management regarding definition of the term “substantive, scientifically sound management strategies”.

The agencies approached the preparation of the DEIS from a perspective that the best application of science is an objective determination of the range of reasonable management options; the means to develop and apply specific management strategies; and, the determination of the consequences of each management option. However, the determination of the most appropriate management strategy also includes consideration for issues other than science.

The DEIS disclosed that, within the scientific community and among the people who are interested in bison management, there are differing opinions about the appropriateness or necessity of a management emphasis on the control or elimination of *B. abortus*, the environmental consequences of actions necessary to control or eradicate the disease, and the consequences of not controlling or eradicating brucellosis from this bison herd (DEIS p. 16). The DEIS also disclosed the understanding of the science of brucellosis as it relates to the management of bison that move from YNP into Montana (p. 16 ff.). This understanding was an application of “Brucellosis in the Greater Yellowstone Area”, an analysis that was developed by the Greater Yellowstone Interagency Brucellosis Committee. Public comments reaffirmed that there is considerable controversy on this issue because there are uncertainties and opinions differ. However, none of the comments identified scientific information about bison and brucellosis that had not been considered by the agencies in the preparation of the DEIS.

The FEIS included additional information about brucellosis. It also disclosed the framework for on-going research. The Interagency Bison Management Plan is based on a framework of adaptive management. This framework will allow for adjustments as new information is obtained.

- Some people suggested that the preferred alternative ignored sound bison management plans put forth by conservation groups.

The various alternatives proposed by conservation groups contained elements that were evaluated in one or more of the alternatives or elements that were considered and not evaluated further in the DEIS. The rationale for excluding those issues from further analysis also was disclosed in the DEIS. A more complete discussion of the various alternatives submitted by commentators to the DEIS is discussed elsewhere in this document and in the FEIS.

- Some people questioned Montana’s “zero-tolerance” policy and requested that Montana endorse the APHIS definition of “low-risk” bison. They also suggested that Montana’s insistence on a

zero-risk policy threatens the livestock industry because it draws attention to brucellosis-infected wildlife. Montana should adopt a policy of risk management.

Montana does not have a "zero-tolerance" policy for bison. Recent bison management has followed the Interim Bison Management Plan which allows certain categories of bison to enter Montana under specified conditions. Each of the other alternatives that was analyzed in the DEIS, except Alternative 5, also specified provisions for tolerance of bison beyond the park boundary. Moreover, the Interagency Bison Management Plan defines circumstances, consistent with the purpose and need of the EIS, in which bison from YNP may occupy lands in Montana.

The APHIS definition of "low-risk" bison is not sufficient to protect the economic interest and viability of the livestock industry in the state of Montana, one of the purposes for the DEIS. That definition could allow circumstances in which brucellosis transmission from potentially infectious bison to domestic livestock could occur. For that reason, the definition is not acceptable to other state veterinarians who also are cooperators in the administration of the National Brucellosis Program.

Animal health officials in other states already are aware of brucellosis-infected wildlife because, with significant progress toward eradication of brucellosis from the nation's livestock industry, wildlife in the GYA are quickly becoming the last reservoir of the disease in this country. Montana's policies are a response to their awareness.

- Some people indicated that all states, except Montana, have accepted the federal government's definition of "low-risk" bison.

Neither the United States Animal Health Association nor any other state has endorsed the referenced definition of "low-risk" bison.

- Some people suggested that Montana can seek remedies against other states that take action against Montana cattle under the Interstate Commerce clause of the Constitution.

Montana understands that other states have under their police powers the authority to protect the health, safety and welfare of their citizens. Brucellosis is a known disease of domestic livestock. Brucellosis is the subject of a cooperative state-federal national eradication program and state laws that authorize state animal health officials to regulate the importation of livestock for the purpose of disease control.

- Some people requested that the appendix include the September 27, 1997 and November 13, 1997 letters from the federal agencies to Montana regarding changes in the 1996-97 interim plan and a low-risk policy.

Appendix G in the DEIS includes Memoranda from APHIS and from the Montana State Veterinarian that describe the federal and state perspectives on changes to the definition of "low-risk" bison in the interim plan.

- Some people suggested that the statement on page 196 that APHIS mandates do not permit bison to freely roam in Montana is not correct.

The phrase, "APHIS mandates do not permit bison to freely roam in Montana" does not occur on page 196, or elsewhere in the document. The paragraph in question primarily references the Montana Department of Livestock's authority for management of brucellosis exposed and infected bison. The National Brucellosis Eradication Program is implemented jointly by APHIS and the states. The reference to APHIS' authority, as it relates to the Department's authority for bison management, is correct in the context of the full paragraph.

- Some people indicated that the federal courts have determined that APHIS' Uniform Methods and Rules of Brucellosis Eradication apply only to domestic livestock and cannot be extended to cover wildlife.

Neither the DEIS nor the Interagency Bison Management Plan propose to apply the UM&R to bison. However, as the commentors noted, the UM&R does apply to livestock, including livestock that may associate with bison that originate from a brucellosis infected bison herd. Implementation of the Interagency Bison Management Plan would require the participation and endorsement of the plan by APHIS.

- Some people indicated that brucellosis infected wildlife occur throughout the GYA, not just the northern portion of YNP. Other states should be involved to control brucellosis throughout the greater Yellowstone area.

The scope of the EIS (cf. DEIS, p. 46) was limited specifically to the cooperative management of bison that move from YNP into Montana. DoL and FWP agree that the issue of brucellosis in wildlife in the GYA is broader than this scope. The involvement of other state and federal agencies in the management of brucellosis-affected wildlife in the greater Yellowstone area is the focus of the Greater Yellowstone Interagency Brucellosis Committee (GYIBC).

- Some people indicated that the role of other states in the management of Yellowstone bison was not adequately evaluated or disclosed. The agreements that other states have made with APHIS regarding the National Brucellosis Eradication Program should preclude those states from imposing sanctions against Montana's cattle, if APHIS has not changed Montana's brucellosis-free status. The presence of bison, even if exposed or infected, should not be used to justify sanctions on Montana cattle imposed by other states.

The Cooperative State-Federal Brucellosis Program began in July 1934, under an amendment to the Jones-Connelly bill (Public Law 142). In 1947, the United States Livestock Sanitary Association (now the U.S. Animal Health Association) recognized that brucellosis should be under a national program and recommended adoption of the first Uniform Methods and Rules (UM&R) for eradication of the disease on a herd, area, state, and national basis. In 1956, Congress authorized the Secretary of Agriculture to enter into cooperative agreements with individual states for a brucellosis eradication program based on the Recommended Brucellosis Eradication Uniform Methods and Rules. The UM&R describes standard procedures for surveillance, testing of suspect exposed or affected domestic cattle and bison herds, quarantine of exposed or affected herds, and restrictions on

interstate shipment of cattle and bison originating in states with affected herds. Routine compliance with the UM&R is enforced pursuant to the respective authorities of the individual state animal health agencies. The potential for other states to impose sanctions is a reality and the cooperating agencies have no authority to amend the authorities and responsibilities of animal health officials in other states.

Vaccination

- Some people requested clarification of the Department of Livestock's current authority or what new authorities would be necessary to require vaccination of cattle on lands around the park. They noted that the Department may not have the authority to require vaccination of animals that remain on the owner's premises, but that would not preclude the Department from requiring vaccination of bison that graze public lands. Others suggested that the State of Montana should require cattle vaccination in the GYA because vaccination is the most workable method of reducing the risk of brucellosis transmission from bison to cattle.

As noted in the DEIS (p. 58 ff.), all alternatives include the suggested vaccination of female cattle calves in the higher risk areas. It also is noted that vaccination of cattle does not provide 100% immunity and vaccination alone will not prevent transmission of the disease. Vaccination of cattle against brucellosis is a common practice in Montana. It was also noted in the DEIS that cattle producers in the analysis area, including those who graze on public lands, already voluntarily vaccinate their eligible cattle. Therefore, mandatory cattle vaccination would not achieve any additional reduction in the risk of brucellosis transmission from bison to cattle.

The Interagency Bison Management Plan includes provisions to encourage voluntary vaccination of test-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 test-eligible cattle those areas not achieved, the State will make such vaccination mandatory.

Effects on Bison

- Some people suggested that bison should be allowed to recover to a scientifically determined number that will be self-sustaining over the long-term, and provide an adequate base for future recolonization of suitable public lands surrounding the parks.

DoL and FWP believe that the trends in bison numbers clearly demonstrate that the bison herd has recovered to the maximum number that can be sustained within the park over the long-term. The DEIS considered management of bison without the use of lethal controls, an alternative that would have permitted bison to recolonize suitable habitats outside the park. This alternative was rejected because it would not have resolved the purpose and need for a bison management plan; it would have contributed to an increased potential for the transmission of brucellosis from bison to cattle; and, it would have jeopardized Montana's brucellosis class-free status. Moreover, it would have resulted in considerable property damage because most of the suitable habitats outside the park occur on private, not public, lands.

- Some people suggested that the plan places too much emphasis on the management of bison and not enough emphasis on the management of livestock grazing.

The scope of the DEIS was specific to the management of bison which periodically move from YNP into Montana. When bison leave the park, they move onto private and public lands where cattle may be legally permitted to graze.

- Some people suggested that ranchers who choose to live and ranch at the boundary of a protected park implies an understanding of the special consideration to be given to the interests of that park. Deferring to the interests of those who choose to live nearby and engage in economic activities which are incompatible with the existence of the park sets a very dangerous precedent.

DoL and FWP do not agree that private property owners who live in the vicinity of YNP have a greater obligation to protect the interests of the park than other citizens of the United States. None of the agencies that participated in the DEIS and responsible to implement the Interagency Bison Management Plan have authority to impose such obligations on private citizens. Moreover, as noted in the DEIS (page 234) there are potential economic consequences to the cattle industry throughout Montana, not merely the private property owners adjacent to the park.

- Some people suggested that private landowners in the greater Yellowstone area should agree to construct bison-proof fences, modify their livestock operations or agree to accept fair market value for their herds until the government agencies can negotiate conservation easements or land purchases with them.

The agencies which prepared the DEIS have no authority to impose these requirements on private citizens nor do they have the authority to make decisions that assume successful implementation because private citizens will voluntarily comply with these requirements.

- Some people indicated that private landowners would have to be willing to sell their lands in order to implement some of the alternatives.

DoL and FWP agree with this comment. The agencies have no authority to impose specific requirements on private landowners to facilitate implementation of a bison management plan. All land acquisitions would be on a willing buyer/willing seller basis. Changes in cattle operations on private land also would occur on a voluntary basis. The Interagency Bison Management Plan recognizes the rights of private landowners in the area. Nothing in the plan requires the use of private property without the landowners approval.

- Some people suggested that methods should be developed to compensate landowners for damage caused by migrating bison.

DoL and FWP have no authority to require private property owners to tolerate bison damage to their property in exchange for compensation.

- Some people suggested that bison should be designated as an endangered species.

The DEIS addressed this issue (cf. page 46).

Disposition of Bison

- Some people noted that it allowed for the sale of meat, heads and hides from slaughtered bison and that funds would be retained by the Montana Department of Livestock and may constitute a profit. They questioned the legality of this practice.

As specified by Montana statute, funds derived from the sale of bison meat, heads and hides may be used to offset agencies costs for bison management. The amount of revenue generated from the sale of meat, heads and hides varies annually, depending upon the number of bison that move from YNP into Montana, the number of bison that are removed and the number of bison carcasses that are donated to organizations who assist with the processing of bison carcasses. During the winter of 1996-97, when 1,084 bison were removed through management actions, the total revenue from the sale of bison meat, heads and hides was \$154,506. DoL's operating costs for bison management that winter were \$282,215.

- Some people suggested that there is a difference between providing live, excess bison to other government entities, including Tribal governments, and providing or selling publicly owned bison to individuals and businesses for a commercial purposes. Privatization and selling of bison was amended into the Department of Livestock's authority by the 1997 legislature without public notice or hearing.

The distribution of live bison will follow procedures that are consistent with state law.

Public Hunting

- Some people questioned whether it was ethical or sporting to re-establish a bison hunt because it is not possible to conduct a fair chase hunt for animals that have no fear of people.

The Interagency Bison Management Plan does not propose bison hunting. However, limited hunting of bison in certain circumstances may be provided in the future, under the adaptive management approach. Implementation of a bison hunting season would require legislative authorization and may require additional MEPA analysis tiered to this FEIS.

- Some people noted that some alternatives are not legally implementable because Montana law does not allow for the sport hunting of bison.

Approval of a bison management plan that includes public hunting would commit the agencies to petition the Montana Legislature to authorize public hunting. Pursuant to that authority, the Montana Fish, Wildlife and Parks Commission would promulgate regulations to implement the bison hunting season. In the scope of the Interagency Bison Management Plan also would require participation by DoL. That rulemaking would require a MEPA analysis, tiered to this EIS.

However, it should be noted that, at this time, the Interagency Bison Management Plan does not include provisions for public hunting of bison.

- Some people suggested that FWP does not intend to ask the Montana Legislature to authorize public hunting of bison because the Department did not request this authority from the 1999 Montana Legislature. The State's refusal to introduce a bill is irresponsible and contrary to promises made in the DEIS

As noted in the DEIS (p. 110), upon issuance of the records of decisions, the agencies would request the Montana Legislature to authorize Montana to establish regulations for the public hunting of bison. At the beginning of the 1999 session, the records of decision had not been issued and the agencies were uncertain when that would occur. Therefore, a request for public hunting authority was not appropriate during that session.

- Some people suggested that, if hunting seasons are established, Tribal members should have preference in the opportunity to hunt.

Preference, if any, for Tribal members to participate in bison hunting seasons would be consistent with treaty rights for off-reservation hunting. However, Montana does not recognize claims for off-reservation hunting rights on public lands within the area that was analyzed in the EIS.

Impacts From Contingency Strategies

The agencies will implement short term contingency strategies, similar to the 1996 Interim Bison Management Plan, if either a brucellosis-affected cattle herd is disclosed and the source of infection is traced to the management area or other jurisdictions impose animal health sanctions on livestock from Montana as a result of the implementation of this plan. Montana will implement its own bison management plan, without the cooperation of the federal agencies, if the federal agencies decide to withdraw from the Interagency Bison Management Plan.

The impacts that result from implementation of contingency strategies would be similar to those described for Alternative 1 in the DEIS and federal FEIS. Contingency strategies would limit the distribution of bison to YNP and likely would result in the removal of more bison than that described for the Interagency Bison Management Plan but less than that described for Alternatives 5 and 6 in the federal FEIS. As described in the federal FEIS, Alternatives 5 and 6 would cause significant short-term declines in bison numbers and recover to current populations levels within 15 years. Therefore, DoL and FWP have concluded that contingency strategies would not affect the long-term viability of the bison herd in YNP.

In the event that Montana implements a state bison management plan, without the cooperation of the federal agencies, and the management actions differ significantly from those described for the 1996 Interim Bison Management Plan, additional analysis, pursuant to the Montana Environmental Policy Act, may be required.

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