

**Summary of and Responses to the Comments Received on
the Environmental Assessment Prepared for the Proposed Study of
Shedding and Venereal Transmission of *Brucella abortus* by Bison Bulls
in the Greater Yellowstone Area**

Issue: *APHIS has given inadequate public notification on release of its environmental assessment to study wild buffalo bulls, and the period for public comment is insufficient to review its study in full, which lacks critical information.*

Response: In accordance with NEPA requirements for announcing the availability of environmental documents, APHIS announced publicly the availability of the environmental assessment through a Legal Notice in two local Montana newspapers of general circulation—the *Billings Gazette* on February 21 and 22, 2010, and the *Bozeman Daily Chronicle* on February 22 and 23, 2010. The legal notice provided two Internet Web site addresses where the environmental assessment was made available and also provided an APHIS, VS Area Office telephone number and address from which a paper copy of the environmental assessment could be obtained. APHIS also established an e-mail address for receiving comments on the environmental assessment. Through publications of the Legal Notice, APHIS provided for a 30-day public comment period, which ended on March 23, 2010. Although the comment period ended, APHIS continued to receive and accept comments for consideration through March 26, 2010. APHIS received 159 comments through March 26, 2010. Comments received after that time have been accepted and noted as late comments for the record; no new issues have been raised in those comments.

Also, during Interagency Bison Management Plan (IBMP) public meetings in August and November 2009, an APHIS, VS representative spoke about APHIS' intention to conduct the proposed study. During a February 2010 IBMP public meeting, the APHIS, VS representative briefly reviewed the study and stated that an environmental assessment on the study was nearing completion and would be available for public comment in the near future.

Issue: *APHIS does not identify the geographical range of its activities and the numbers, groups, and ages of bull bison for each breeding group or subpopulation in the population required for study during phase 1.*

Response: As described in the EA, "Phase 1 would be conducted on USFS public lands in the IBMP Zone 2 area on the west side of the YNP, where IBMP bison management activities routinely occur each spring, and in the Eagle Creek/Bear Creek Special Management Area on the north side of the YNP, where bison are allowed year-round¹." The footnote in the EA references a Web site where maps of these areas can be found. The EA also describes that, "The location for Phase 2 of the proposed study has yet to be determined. Details of Phase 2 of the proposed study would be finalized based on the successful completion of Phase 1 of the proposed study." The EA for the proposed study indicates that, "Once a location is determined for Phase 2 of the proposed study, this EA would be supplemented to reflect a NEPA review of applicable issues."

As described in the EA, “A statistical analysis determined that samples from 50 individual bison bulls would be needed for each Phase of the proposed study.” Bison bulls from a wide array of ages will be included in Phase 1 of the study. The proposed study objectives include selection of bulls that are 2 years of age or older, with a final goal of 75% of bulls being over 3 years of age. Since it is unknown what the age distribution or availability of bison bulls would be in the Zone 2 locations, the bison bulls would be sampled as they become available in either location in an effort to obtain samples representative of the bison bull population.

Issue: *APHIS, VS’ study impacts public access to recreational areas and decisions on closure require agency permits.*

Response: No closures for public access to U.S. Forest Service (USFS) lands will result from the bison study activities. However, closures do currently occur for IBMP activities that typically take place within Zone 2 of USFS land (in accordance with the IBMP) at the same time of year. The bison study activities will not interfere with or add to those IBMP-related closures nor will the bison study activities impede public access to recreational areas on USFS land.

As the lead agency on the study, APHIS has acquired the necessary permit through partnering with the Montana Fish, Wildlife and Parks (MFWP) for assistance on the study. MFWP has jurisdiction to capture wildlife on USFS lands in Montana where the study would be conducted. APHIS specifically inquired of USFS early in the planning of the study about the need for permits related to the bison study described in the EA. USFS informed APHIS that no other permit requirements beyond the MFWP permit would be required.

Issue: *APHIS lacks the participation and permits from Yellowstone National Park that are needed to fully complete both phases of its study as proposed and outlined in the EA.*

Response: Phase 1 of the proposed study would not be conducted in Yellowstone National Park (YNP); therefore a permit from YNP is not needed for the Phase 1 activities. As cited in the EA, Phase 1 would be conducted on USFS public lands in the IBMP Zone 2 area on the west side of the YNP, where IBMP bison management activities routinely occur each spring, and in the Eagle Creek/Bear Creek Special Management Area on the north side of the YNP, where bison are allowed year-round. MFWP has the jurisdiction to capture wildlife on the Forest Service (USFS) lands in Montana where Phase 1 of the proposed study would be conducted. Phase 1 of the proposed study would be conducted under a Montana Fish, Wildlife and Parks (MFWP) *Research and Technical Services Animal Care and Use Committee* permit with MFWP assistance. The FWP permit number 2010-020 was issued February 15, 2010.

The location for Phase 2 of the proposed study has yet to be determined. If the proposed study progresses to Phase 2, APHIS will explore all possible locations. Necessary permits for the location of Phase 2 of the proposed study would be addressed when appropriate.

Issue: *Lack of cited evidence by APHIS, VS to support the purpose for its study. Some comments interpreted “one of the stated purposes of the study is to assess the possible role bull bison may play in venereal transmission of brucellosis to domestic cattle.”*

Response: Understanding the routes of transmission of brucellosis and the potential for transmission to occur via various routes is an integral part of developing effective and appropriate disease management, disease risk-mitigation, and disease elimination strategies. Flagg (1983) reported on transmission of brucellosis from bison to cattle. The risk of brucellosis transmission from bison to cattle and the consequences that might result, in the event that such transmission were to occur, were analyzed and disclosed in the Federal final environmental impact statement for the IBMP.

While it is known that bison bulls shed *Brucella* in their semen, the potential for transmission of brucellosis to bison cows via the venereal route is not known. The proposed study will help assess the potential role of bison bulls in venereal transmission of brucellosis to bison cows. If venereal transmission by bison bulls contributes to the spread of brucellosis within the YNP bison population and subsequently to cattle outside the YNP, further development and implementation of mitigation strategies that include bison bulls may be warranted. Conversely, if venereal transmission by bison bulls does not contribute to the spread of brucellosis, then resources and activities focused on limiting bison bull activities may not be warranted or could be modified to maximize risk mitigation strategies.

The proposed study is an opportunity to acquire needed information to better understand the potential of transmission of brucellosis by bison bulls and apply this knowledge in making more scientific and epidemiologically sound decisions regarding bison management activities and future adaptive management strategies. In previous environmental assessments, commenters have advised APHIS that, “first priority should be tolerance of bison outside the YNP. Efforts to restore bison populations to appropriate North American landscapes should proceed concurrently with efforts to secure conflict-free habitat for bison and expand their range beyond the boundaries of YNP.” In addition, commenters have recommended that APHIS activities should address “the establishment of a free-ranging bison population and the risk of brucellosis transmission by reducing real or perceived spatial and temporal conflicts between bison and cattle in Zone 2 and provide sufficient habitat for bison near the north and west boundaries of YNP.” APHIS, VS recognizes the potential for the proposed study to contribute scientific information that is applicable to comments received on previous environmental assessments prepared for other studies to acquire information related to brucellosis transmission.

Issue: *Undisclosed information concerning the chemical to be used for immobilization and reversal.*

Response: Bison bulls selected as study subjects will be chemically immobilized using a A3080/metatomidine or A3080/xylazine as the induction agents. After all samples are collected and appropriate identification applied, naltrexone/atipamizol or naltrexone/tolazoline will be used as reversal agents and the bison bulls will be recovered.

The advantages, disadvantages, recommendations, and precautions on the use of these classes of drugs for immobilizing and reversing immobilization in wildlife have been considered (*Handbook of Wildlife Chemical Immobilization, Third Edition*, Terry J. Kreeger and Jon M. Arnemo, 2007). APHIS, VS has a long record of using these classes of drugs in bison and has found them to be effective and safe for use in bison.

Issue: *No discussion for contingency plans concerning possible problems with chemical immobilization and reversal of wild bull bison.*

Response: APHIS, VS will make every effort to prevent and minimize any problems that might occur. All animals will be treated humanely and handling of all animals will be conducted as quickly and efficiently as possible and in a manner to avoid undue stress, injury or other unnecessary discomfort. Chemical immobilization and reversal drugs will be administered in accordance with recommended doses for wildlife. A veterinarian will be present at all times and will use all reasonable precautions.

The immobilization protocol used by the study group includes options for the administration of an additional dose of sedative if required. Reversal agents will be administered according to recommended doses, the animal recovered and monitored for up to 30 minutes post reversal.

The health status of the bison bull will be monitored throughout the sample collection procedure. The bison bulls will be reversed immediately if any abnormalities in health status are observed.

Bison will be immobilized in locations that are safe for both bison and study group personnel. One person will be responsible for monitoring of other nearby bison or unexpected predators should they enter the area in which the study group is working. Field crews will be alert for bears in the area and will carry bear spray at all times. If samples and data cannot be collected from the statistically determined number of bison bulls needed for this proposed study by the end of spring 2011, APHIS, VS will need to re-evaluate the study plans to determine an appropriate course of action.

Issue: *Using bison bulls that are a part of the bison quarantine feasibility study as an alternative source for the bison bull semen study.*

Response: The bison bulls that are a part of the bison quarantine feasibility study are test negative for brucellosis indicating a non-infected disease status. Non-infected animals would not be shedding the *Brucella* organism. The proposed study will be evaluating semen from bison bulls for the presence of the *Brucella* organism.

Issue: *The EA states that APHIS would confer with the USFS to ensure that study activities do not interfere with bald eagles in the proposed study areas, but it does not state the actions that would be taken.*

Response: APHIS is aware that bald eagle nests historically have occurred within Zone 2; that eagles would be potentially nesting during the time that study activities would occur in Zone 2; and that protective measures must be followed in carrying out activities around protected species. National Bald Eagle Management Guidelines are available from the U.S. Fish and Wildlife Service (FWS) and, as mentioned in the EA, the Guidelines include recommendations on how to avoid or minimize impacts on bald eagles. In order to avoid disturbance to nesting bald eagles, the Guidelines recommend keeping a distance between the activity (distance buffers) and the nest, which is 330 feet for many types of activities, as mentioned in the EA. USFS biologists are knowledgeable about the wildlife inhabiting the lands that they manage and where eagle nests occur, which is why APHIS would confer with USFS. APHIS has communicated with USFS personnel of Gallatin National Forest on bald eagle nesting issues in the study area and will continue communication with them on these issues during the study period. Having this information, APHIS will be in a position to apply the distance buffer recommendation and any other recommendations needed in order to avoid disturbance to nesting eagles while conducting study activities.

Issue: *The likelihood that grizzly bears would be found in open rangeland where bison immobilization would occur, particularly for Phase 2 activities.*

Response: While grizzly bear habitat is considerably varied, they are known to prefer to travel in areas where adequate cover provides them free movement without detection by humans (http://www.extension.org/pages/Grizzly_and_Brown_Bears#Range). Bears are naturally shy and avoid humans, travel in early morning and late evening, and typically sleep during the day in dense, dark timber (information available at http://www.fws.gov/mountain-prairie/species/mammals/grizzly/elk_hunters.pdf and http://www.fws.gov/mountain-prairie/species/mammals/grizzly/close_encounters.pdf). Study activities would occur during daytime hours. The study group consists of experienced field wildlife biologists and veterinarians who are trained in grizzly bear avoidance and will apply their training. APHIS has communicated with USFS personnel of Gallatin National Forest on local bear issues in the study area and will continue communication with them about bear danger issues during the study period. If grizzly bears are frequenting a portion of the study area, that area will be avoided to reduce conflicts. MFWP will also provide input and expertise on grizzly bear activity as APHIS' research partner. If the proposed study progresses to Phase 2, APHIS will revisit and reconsider the potential for impacts on endangered and protected species.