

## **Yellowstone National Park's Recommended Adjustment to the Adaptive Management Plan for the Interagency Bison Management Plan (IBMP)**

**November 12, 2012**

Remove management zone labels (i.e., Zones 1, 2, and 3) from the adaptive management plan and annual report for the IBMP, and replace this terminology with geographical boundaries where necessary. Recommended alterations to adaptive management plan are attached.

### **Background**

The management zone concept was included in the final environmental impact statement and records of decision for the IBMP to describe how (1) management actions would differ within Yellowstone National Park and adjacent areas of Montana, and (2) adaptive management procedures would proceed to systematically provide for greater tolerance of bison outside the park over time. Zone 1 encompassed a limited area of the park where intensive management actions like hazing and capture of bison would be implemented to accomplish interagency goals. Zone 2 encompassed an intensive management area outside the park in Montana where bison managers would learn more about implementation of risk management actions to prevent brucellosis infections in cattle. Zone 3 defined areas outside the park where substantial conflicts with livestock were recognized.

### **Rationale for Adjustment**

The zone management concept is less relevant now than when the IBMP was established in 2000 because the conservation area for bison has been expanded in Montana north and west of Yellowstone National Park and there is an increased emphasis on providing hunting opportunities to tribal and recreational hunters in Montana. Also, managers have more experience at preventing bison commingling with livestock, and there are fewer cattle herds within the bison conservation area than during 2000. Additionally, the Gallatin National Forest has indicated that they will not restrict where bison can occupy National Forest lands, except when necessary to resolve human safety or property damage conflicts.

**Goal #1: Increase tolerance for bison ~~in Zone 2~~ outside the north and west boundaries of Yellowstone National Park (YNP) with no unacceptable consequences (e.g., transmission of brucellosis from bison to cattle, unacceptable impacts on public safety and private property).**

**Objective 1.1: Within timing and geographical considerations, allow bison within ~~Zone 2~~ of the Hebgen and Gardiner basins ~~to while manage-managing~~ the risk of brucellosis transmission from bison to livestock and ~~enhance-enhancing~~ wild bison conservation and hunting.**

*Specific guidance regarding the management of bachelor groups of bull bison is provided in Objective 1.2.*

**Management action 1.1.a**—Consistent with the management responses outlined below, allow untested female bison (or mixed groups of males and females) to migrate onto and occupy the Horse Butte peninsula (between the Madison Arm of Hebgen Lake and Grayling Creek) and the Flats (the area east of South Fork Madison River, south of the Madison Arm, and west of Highway 191) each winter and spring ~~in Zone 2~~ (subject to end-of-winter hazing described in Objective 3.2.c).

Monitoring metrics:

- Weekly surveys of the number and distribution of bison on Horse Butte, the Flats, crossing the Narrows, and going beyond the Madison Resort (Lead = Montana Department of Livestock (MDOL)).
- Annually document the number of bison ~~using Zone 2 in Montana west of YNP~~ and the number and type of management activities needed to manage bison distribution (Lead = MDOL).
- Create a density curve of the threshold number of bison on Horse Butte that results in movements of bison to the South Fork Madison area. Use this information to modify or verify the limits set for bison counts at Madison Arm Resort that trigger management responses (Lead = MDOL).
- Determine natural routes and timeframes (in the absence of hazing) for bison migration back into the park (Lead = National Park Service (NPS)). Use this information to evaluate the effectiveness of management responses for bison tolerance ~~in Zone 2~~ (Lead = MDOL).

Management responses:

- Groups ( $\geq 1$  animal) of female/mixed bison will not be allowed in the following areas at any time of year: north of the Narrows; west of Corey Springs; or south and west of ~~the Zone 2 boundary, the south fork of the Madison River~~. Bison attempting to enter these areas will be hazed to the Horse Butte peninsula, other available habitat, captured, or if necessary, lethally removed.
- During the period from November 15 through April 15, up to 30 female bison (or a mixed group of 30 males and females) will be allowed ~~in Zone 2~~ on the Madison Arm. After April 15, up to 30 female/mixed group bison will be allowed east of the Madison Arm Resort. After May 15, no female/mixed group bison will be allowed on the Madison Arm.
  - If female/mixed group bison exceed 30 animals or ~~move west of the south fork of the Madison River breach the Zone 2 perimeter on the South Fork~~ two or more times before April 15, then this will trigger management actions to reduce risk that may include hazing, capture, testing, or lethal removal at the discretion of the State Veterinarian.
  - If female/mixed group bison exceed 30 animals or breach the Madison Arm Resort two or more times between April 15 and May 15, then this will trigger management actions to reduce risk that may include hazing, capture, testing, or lethal removal at the discretion of the State Veterinarian.
- Allow up to 40 female bison (or a mixed group of 40 males and females) north of Duck Creek and east of Corey Springs during November 15 through May 15 before management actions are instituted. The number of bison tolerated in this area may be adjusted at the discretion of the State Veterinarian based on bison behavior, environmental conditions, and other considerations.
  - If female/mixed group bison breach the perimeter described above two or more times before May 15, then this will trigger management actions to reduce risk that may include hazing, testing, or lethal removal at the discretion of the State Veterinarian.
- If female/mixed group bison cross the Narrows two or more times before May 1, then this will trigger management actions to reduce risk that may include hazing, testing, or lethal removal at

the discretion of the State Veterinarian. After May 1, any crossing may trigger management action.

**Management action 1.1.b**—Consistent with the management responses outlined below, use adaptive management to gain management experience regarding how bison use ~~Zone 2 in~~ the Gardiner basin, and provide space/habitat for bison in cattle-free areas.

Monitoring metrics:

- Weekly survey of the number and distribution of bison in the Eagle Creek/Bear Creek area and the Gardiner basin (Lead inside YNP = NPS; Lead outside YNP = MDOL with Montana Fish, Wildlife, and Parks (MFWP)).
- Annually document the numbers and dates that bison attempt to ~~exit Zone 2 by passing through Yankee Jim Canyon, west up Mol Heron Creek canyon, or to the east side of the Yellowstone River and north of Little Trail Creek or cross the hydrographic divide into the Tom Miner basin or Paradise Valley~~ (Lead = MDOL/MFWP).
- Annually document the number of bison ~~using Zone 2 in Montana north of YNP~~ and the number of management activities needed to manage bison distribution (Lead = MDOL/MFWP).
- Annually collect data to update the relationships between bison management at the Stephens Creek facility and the interaction between bison density and snow pack in the central and northern herds (Lead = NPS).
- Annually collect data to determine natural migration routes and timeframes (in the absence of hazing) for bison migration out of and back into the park (Lead inside YNP = NPS; Lead outside YNP = MDOL/MFWP).

Management responses

- ~~Use the Stephens Creek facility to provide 25 bison for adaptive management use of Zone 2, including adult females testing negative for brucellosis exposure and fitted with telemetry devices, as well as associated calves and young bulls.~~—The number of bison tolerated in ~~this zone-Montana~~ may be adjusted at the discretion of the State Veterinarian based on bison behavior and group composition, environmental conditions, and other considerations.
- ~~Other ff~~Female/mixed groups of bison that migrate outside YNP ~~and west of the Yellowstone River will may~~ trigger management actions to reduce risk ~~that may include such as~~ hazing to ~~other~~ available habitat ~~inside the park or in the Eagle Creek/Bear Creek area~~, capture, testing, or lethal removal at the discretion of the State Veterinarian.
- Bison will not be allowed ~~in Zone 3 to pass through Yankee Jim Canyon or cross the hydrographic divide into the Tom Miner basin or Paradise Valley at~~ any time of year. Bison ~~entering Zone 3 attempting to enter these areas~~ will trigger management actions to reduce risk that may include hazing to available habitat ~~within Zone 2, the Eagle Creek/Bear Creek area, or the park~~, increased monitoring, capture, or removal at the discretion of the State Veterinarian.
- Regardless of testing status, bison will be allowed year-round in the Eagle Creek/Bear Creek area.
- Adaptive adjustments to monitoring metrics and management responses will be made prior to subsequent winters based on new information obtained through surveillance, the effects of management actions on the conservation of bison, and the effectiveness of management actions at maintaining spatial and temporal separation of cattle and bison and retaining bison within ~~Zone 2~~ the agreed-upon conservation area.

**Objective 1.2: Manage bull bison to reflect their lower risk of transmission of brucellosis to cattle.**

**Management Action 1.2.a**—Allow bachelor groups of bull bison to occupy suitable habitat areas outside the west boundary of YNP ~~within the portion of Zone 2 south of Duck Creek agreed-upon conservation area each year and~~ within the parameters of conflict management.

Monitoring metrics:

- Weekly counts and locations of bull bison in ~~Zone 2~~ Montana (Lead = MDOL/MFWP).
- Document threats to human safety and property damage (Lead = MFWP/MDOL).

Management responses:

- Avoid hazing or removing bull bison unless they are breaching the agreed-upon perimeter or pose an imminent threat to livestock co-mingling, human safety, or property damage.

- If there is a threat of livestock co-mingling, human safety, or property damage, or a group ( $\geq 1$  animal) of bull bison attempt to travel beyond the perimeter of ~~Zone 2~~the conservation area, then the bull bison will initially be hazed from area of conflict.
- If bull bison actually co-mingle with cattle, then they ~~will~~may be lethally removed and additional management actions may be taken by the State Veterinarian to reduce the risk of further commingling by other bull bison, including capture, hazing, or lethal removal.

**Management Action 1.2.b**—Allow bachelor groups of bull bison to occupy suitable habitat areas ~~in~~ ~~Zone 2~~outside the north boundary of YNP within the following parameters of conflict management.

Monitoring metrics:

- Weekly counts and locations of bull bison in ~~Zone 2~~Montana (Lead = MDOL/MFWP).
- Document threats to human safety and property damage (Lead = MFWP/MDOL).
- Annually document the numbers and dates that bull bison attempt to exit ~~Zone 2~~the agreed-upon conservation area by passing through Yankee Jim Canyon, ~~west up Mol Heron Creek canyon, or to the east side of the Yellowstone River and north of Little Trail Creek or crossing the hydrographic divide into the Tom Miner basin or Paradise Valley~~ (Lead = MDOL/MFWP).

Management responses:

- Avoid hazing or removing bull bison from ~~Zone 2~~Montana during November through April each year unless they are breaching the agreed-upon perimeter or pose an imminent threat to livestock co-mingling, human safety, or property damage.
- Regardless of testing status, bull bison will be allowed year-round in the Eagle Creek/Bear Creek area.
- Bull bison will not be allowed ~~in Zone 3 to pass through Yankee Jim Canyon or cross the hydrographic divide into the Tom Miner basin or Paradise Valley at~~ any time of year. Bull bison ~~attempting to enter these areas entering Zone 3~~will trigger management actions to reduce risk that may include hazing to available habitat ~~within Zone 2, the Eagle Creek/Bear Creek area, or the park~~, increased monitoring, or removal at the discretion of the State Veterinarian.
  - If a group of bull bison progresses beyond Yankee Jim Canyon, then they may be lethally removed at the discretion of the State Veterinarian.
  - If groups of bull bison progress beyond Yankee Jim Canyon two or more times, then additional management actions may be taken by the State Veterinarian to reduce the risk of future incidents by other bull bison, including capture, hazing, or lethal removal.
  - ~~If a group of bull bison crosses the Yellowstone River to the east side into Zone 3, then they may be lethally removed at the discretion of the State Veterinarian.~~
  - ~~If groups of bull bison cross the Yellowstone River to the east side into Zone 3 two or more times, then additional management actions may be taken by the State Veterinarian to reduce the risk of future incidents by other bull bison, including capture, hazing, or lethal removal.~~
- If bull bison actually co-mingle with cattle, then they ~~will~~may be lethally removed and additional management actions may be taken by the State Veterinarian to reduce the risk of further commingling by other bull bison, including capture, hazing, or lethal removal.
- Adaptive adjustments to monitoring metrics and management responses will be made prior to subsequent winters based on new information obtained through surveillance, the effects of management actions on the conservation of bison, and the effectiveness of management actions at maintaining spatial and temporal separation of cattle and bison and retaining bull bison within the agreed-upon ~~perimeter of Zone 2~~conservation area.

## Objective 2.2: Minimize bison slaughter by employing alternative management techniques.

**Management action 2.2.b**—In ~~Zone 2~~lands adjacent to YNP, emphasize management of bison as wildlife and increase the use of state and treaty hunts to manage bison numbers and demographic rates, limit the risk of brucellosis transmission to cattle, and protect human safety and property.

Monitoring metric:

- Weekly and annual summaries of bison harvested by state and treaty hunters (Lead = MFWP).

Management response:

- Consistent with the management responses in 2.1.a, develop a hunting strategy annually by May that includes combined harvest thresholds with state and tribal hunters that manage bison

abundance, especially in areas of high brucellosis transmission risk to cattle, while ensuring the conservation of population demographics and genetic integrity. That strategy might include, for example, a goal of increasing the hunt as a percent of overall yearly bison mortality.

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**Objective 3.1: Reduce the risk of disease transmission through vaccination.**

**Management Action 3.1.c**—Test and vaccinate cattle.

*Monitoring metric:*

- By May 1, determine and document the vaccination status of all cattle in or coming into the Hebgen and Gardiner basins (Lead = MDOL/APHIS).

*Management responses:*

- Vaccinate all calves, with booster vaccination of adults as deemed appropriate by the Montana State Veterinarian.
- Use existing regulations and provide incentives to ensure 100% of adult cattle in the Hebgen and Gardiner basins are calf hood and booster vaccinated.
- ~~For Zone 2, vaccination is mandatory.~~ If the vaccination status of adult cattle is not 100% within the agreed-upon bison conservation area, then undertake vaccination or other to-be-determined actions to achieve 100% status as determined by the Montana State Veterinarian.

**Objective 3.2: Prevent cattle/bison interactions, with an emphasis on the likely bison birthing and abortion period each year.**

**Management Action 3.2.c**—Haze bison from the Hebgen basin into YNP with a target date of May 15.

*Monitoring metrics:*

- Consistent with management action 1.1.a, assess the prevailing environmental conditions and reach consensus by May 13 on a step-wise, integrated plan for the end-of-winter return of bison into YNP from ~~Zone 2~~ Montana (Lead = MDOL/NPS).
- Annually document the timing of the end-of-winter return of bison into YNP, the number of bison returned, prevailing environmental conditions, and success or lack thereof of hazing bison and getting them to remain in the park (Lead = MDOL/NPS)
- Annually review and apply *Brucella abortus* persistence information, private land cattle turn-on dates, and applicable research results to determine the effects of haze-to-habitat actions on bison and their effectiveness at preventing the commingling of bison and cattle (Lead = MDOL).

*Management responses:*

- The actual beginning date for hazing bison will be consistent with the management responses in 1.1.a and based on weather (e.g., green-up, snow pack), cattle turn-out dates, and consideration of the natural migration by bison back into the park.
- Step-wise, coordinated, interagency hazing will be used, as needed, to minimize repeated hazing into situations where snow or other variables will prevent bison occupancy.

**Management Action 3.2.d**—Haze bison from the Gardiner basin into YNP with a target date of May 1.

*Monitoring metrics:*

- Consistent with management action 1.1.b, assess the prevailing environmental conditions and reach consensus by April 15 on a step-wise, integrated plan for the end-of-winter return of bison into YNP from ~~Zone 2~~ Montana (Lead = MDOL/NPS).
- Annually document the timing of the end-of-winter return of bison into YNP, the number of bison returned, prevailing environmental conditions, and success or lack thereof of hazing bison and getting them to remain in the park (Lead = MDOL/NPS)
- Annually review and apply *Brucella abortus* persistence information, private land cattle turn-on dates, and applicable research results to determine the effects of haze-to-habitat actions on bison and their effectiveness at preventing the commingling of bison and cattle (Lead = MDOL).

*Management responses:*

- The actual beginning date for hazing bison will be consistent with the management responses in 1.1.b and based on weather (e.g., green-up, snow pack), cattle turn-out dates, and consideration of the natural migration by bison back into the park.
- Step-wise, coordinated, interagency hazing will be used, as needed, to minimize repeated hazing into situations where snow or other variables will prevent bison occupancy.