#### <u>DRAFT</u> IBMP MANAGEMENT PLAN FOR THE WEST SIDE OF YELLOWSTONE NATIONAL PARK ...VERSION 2.0

As of October 6, 2008

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Objective 1.1: Within timing and geographical considerations, allow untested bison on the Horse Butte Penninsula (between the Madison Arm of Hebgen Lake and Grayling Creek) so as to manage the risk of brucellosis transmission from bison to livestock, and support wild bison conservation and hunting	)
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- Goal #1: Increase tolerance for bison outside of the west side of YNP with no undesirable consequences (e.g., transmission of brucellosis from bison to cattle, negative impacts on public safety).
- Objective 1.1: Within timing and geographical considerations, allow untested bison on the Horse Butte Penninsula (between the Madison Arm of Hebgen Lake and Grayling Creek) so as to manage the risk of brucellosis transmission from bison to livestock, and support wild bison conservation and hunting.

Management action 1.1.a—Defining when and where bison can be outside the western YNP boundary.

Using guidance from Tables 1 and 2, in the short term allow untested bison to migrate onto and occupy The Horse Butte peninsula 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 1.3).

Monitoring metric (short term): Weekly surveys of the number and distribution of bison on Horse Butte, the Flats, and crossing the Narrows.

 Threshold for management action: If bison in Zone 2 exceeds agreed upon timing and geography, institute management activities on the west side commensurate with Tables 1 and 2.

*Method*: Create density curve showing threshold number of bison on Horse Butte that result in the push of bison to the S. Fork Madison area. Use this work to set modify or verify the threshold limits set for bison counts at Madison Arm Resort that trigger management activities.

Monitoring (long term): Annually document monitoring results regarding the number of bison using Zone 2 and the number of management activities needed to manage bison distribution.

Monitoring metric (long term): Determine natural migration routes and timeframes (in absence of hazing) of bison migration back into the park. Use this information to evaluate the effectiveness of current thresholds for tolerance in Zone 2.

Table 1. Number and date guidelines for bison management on West Side of YNP

	# bison allowed on	# bison allowed at Madison	Short term	Long term
Sero- testing status	Horse Butte before active management instituted to move them back into YNP	Arm Resort prior to active management to keep bison from reaching private lands on south side of the S Fork of the Madison River	For all bison, required return date to within Park boundaries (potential flexibility in the ROD already)	
tested	350 400	30	4 weeks prior to cattle turn out	3 weeks prior to cattle coming
untested	300 350	30	May 15-Jun 1 4 weeks prior to cattle turn out	June 15 3 weeks prior to cattle coming
Bison bulls	e-regardless of sero-testing	g status—see Objective 1.2	May 15	Jun 15

**Comment [SB1]:** Comment made that "field staff are better equipped to answer this question than reviewer."

Table 2—Trigger metrics and resulting management actions on West Side of YNP

Date	Evaluation/Trigger	Management Action
Any time of year	Bison crossing the Narrows or being north of the Grayling Arm and west of Corey Springs	<b>N</b>
Any time of year	Bison crossing Road 291 on the Madison Arm or Zone 2 boundary on the south and west	Immediate hazing to Horse Butte, other
April 15 (calving)	Female bison beyond (west) the Madison Arm Resort	available habitat, or removal.
May 15	Female bison beyond the Madison River to the south	
May 15	Female bison north of Grayling Creek	

Each section are guidelines presented by one partner.

Date?	Document the numbers and dates that	zero tolerance in the short term with
Dates	bison cross the Narrows;	immediate hazing or removal

#### Each section are guidelines presented by one partner.

March 1 April 1 May 1	Number of times mixed/female bison cross Narrows before May 1 > 3x	Reduce number to ROD level Move crossed bison to Duck Creek capture facility for test and/or slaughter depending on total population.
March 1 April 1 May 1	Number of times mixed/female bison go beyond Madison Resort before May 1 > 3x	Move all South Arm bison to airport facility for test and/or slaughter depending on total population.  Or push all South Arm bison onto Horse Butte
April 15	No females/pairs on North side of Hebgen Lake after May 1 <sup>st</sup>	Move crossed bison to Duck Creek capture facility for test and/or slaughter depending on total population.

Comment [SB2]: Proposed Revision to Table 1 and/or addition of new table.

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May 1	Ascertain grazing put on dates and	Adjust return dates of bison to Park w/i 3-4
iviay i	type of cattle to be grazed	weeks of dates
Mov1	Mixed/females cross the Madison after	Reduce number to ROD level (100 tested)
May1	May 1 more than 1x	Clean off South Arm

#### Management Action 1.1.b—Complete persistence research to inform adaptive management...

Complete peer-reviewed scientific publication of research findings on bison birth synchrony, and fetal and shed *Brucella abortus* field viability and persistence.

*Method:* Utilize research findings to guide temporal and spatial separation guidelines during spring and summer.

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

## Management Action 1.2.a— Allow bull bison to occupy suitable habitat areas in Zone 2 each winter and spring or year round within the parameters of conflict management.

Avoid hazing or removing bull bison from the West Yellowstone basin unless they are testing the agreed perimeter and/or are an imminent threat to livestock co-mingling, human safety, or causing property damage.

*Monitoring:* Weekly count and location of bull bison in Zone 2 of the west boundary area and documentation of threats to human safety and property damage.

o Threshold for management action: If there is a threat of livestock co-mingling, human safety, or property damage, then the bull bison will initially be hazed from area of conflict. FWP takes lead with DOL's support for public safety and property damage issues. Thereafter, the need to lethally remove the bull bison will be determined on case-by-case basis, accounting for the time it takes the bison to return to the location of conflict and the risk to human safety and property. Specifics parameters for taking action are shown in Table 2.

Table 3. Threshold for taking management action against bull bison.

Dates	Monitoring evaluation results that trigger action	Management action (if any) taken
Ongoing: Feb 15-Nov 15	Travel beyond perimeter > 2x	Lethal removal; reevaluate perimeter
Ongoing: Feb 15-Nov Rachelor groups push perimeter > 2v		<ul> <li>Move group capture facility for test and/or slaughter depending on total population</li> <li>Lethal removal</li> <li>Reevaluate group size tolerated</li> <li>Reevaluate perimeter</li> </ul>
Ongoing: Jun 15-Nov 1	Bull(s) enter same pasture as cattle	Lethal removal
Ongoing: Jun 15-Nov 1	Bull(s) enter same pasture as cattle > 2x	Reduce tolerance

**Comment [SB3]:** Need to revise to match whatever decision is made for Table 3.

**Comment [SB4]:** Possibly this is reversed with the one just above?

# Objective 1.3: Utilize hazing to achieve spatial and temporal separation based on prevailing conditions in spring.

Management Action 1.3.a—Haze bison back into YNP with a target date of May 15, the actual beginning date based on weather (e.g., green-up, snow pack), cattle turn-out dates, and consideration of the bison's natural migration back into the park.

By May 15th the agencies will have assessed these prevailing environmental conditions and reached consensus on a step-wise, integrated plan for the end-of-winter return of bison into Yellowstone National Park from Zone 2. The return operations will utilize non-motorized and limited motorized techniques (ATVs and snowmobiles) to the extent possible, based on herd dispersal and snow-pack conditions. Helicopter movement will only be used in specific circumstances as defined by the IBMP Partners and included in the Operating Procedures.

*Method:* Utilize step-wise coordinated interagency hazing as needed to minimize repeated hazing into situations where snow or other variables will prevent bison occupancy.

*Monitoring:* Annually review and apply persistence information, private land cattle turn-on dates, and applicable research results to determine the effects of haze-to-habitat actions on bison and effectiveness of preventing the commingling of bison and cattle.

 Associated threshold for action: Apply the results of this research to plan following year's haze back to habitat timeline.

Monitoring (long-term): Determine natural migration routes and timeframes (in absence of hazing) back into the Park. Use this information to inform threshold values and dates in adaptive management activities.

# Objective 1.4: Reduce conflict between landowners and bison outside YNP via improved relations, education, and incentives.

Management Action 1.4.a—Work with livestock producers and lessees to provide conflict free habitat in the Hebgen Basin.

Work with landowners and NGOs to provide more conflict-free habitat for bison in the Hebgen Basin, while protecting human safety and property. Along with 1.4.b, explore both short- and long-term options with land owners to prevent commingling of bison and livestock, including conservation easements, stocking less-brucellosis susceptible cattle (e.g., steers), and assisting with livestock brucellosis risk management plans, brucellosis testing, and wildlife-proof fencing for livestock.

Method: Pursue agreement with all landowners who graze on private lands in Hebgen Basin to delay turnouts of domestic livestock until July 1. Provide financial incentives (working with government and non-government partners) for altering the timing of cattle operations.

*Monitoring Metric:* Annually document all livestock grazing operations in the Hebgen Basin,, including the timing, quantities, and types of livestock.

Monitoring: Create an annual record (see also 3.1c, 3.2b) of 1) number of acres made available to bison from conservation easements; 2) number and type of cattle grazed in Hebgen Basin; 3) locations, numbers, types, turn-on/off dates, brucellosis vaccination and testing of cattle grazed in Hebgen Basin; 4) extent of wildlife proof fencing being employed to separate bison from cattle.

Comment [SB5]: Request o remove Objective 1.3 completely as it is covered in 1.1 and 1.2 above

Management Action 1.4.b—Work with landowners who have human safety and property
damage concern, as well as those who want increased tolerance for bison, to provide
conflict free habitat in the Hebgen Basin.

**Comment [SB6]:** No supporting text—this Management Action added at Oct 2,3 meetings.

Comment [SB7]: Was 1.4b. Note that GNF has action item for Oct 15/16 meetings to rewrite this Management Action.

#### Management Action 1.4.c—Decrease grazing in the Hebgen Basin.

When possible, decrease livestock grazing in the Hebgen Basin by retiring public (USFS) allotments in West Yellowstone basin, voluntary acquisition of private grazing rights, and potential change of permit allocations and timing.

Method 1: Annually review and modify zone boundaries as land management and ownership changes.

*Method 2:* Annually, the GNF will ensure that cattle grazing is not a barrier to implementing bison habitat expansion as per management objectives of the IBMP partners.

Method 3: Evaluate a) new easements available, b) reduced brucellosis prevalence in bison, 3) funding raised for maintaining separation. Based on this analysis, adjust tolerance as appropriate.

*Monitoring:* Annually track status (e.g., number of acres) under active or in-active grazing allotements, both public and private.

#### Goal #2: Conserve a wild, free-ranging bison population.

Objective 2.1: Manage the Yellowstone bison population to ensure the ecological function and role of bison in the Yellowstone area and to maintain genetic diversity for future adaptation.

Management action 2.1.a—Maintain a stable bison population range and abundance within best management practice, seeking especially to reduce sharp increases and declines in bison population.

Manage the bison population within a range of 2,300-4,500 individuals.

*Monitoring:* Conduct aerial and ground surveys to estimate the annual abundance of Yellowstone bison each summer. Continue to obtain estimates of population abundance throughout the remainder of the year based on surveys, knowledge of management removals, and survival probabilities.

o Associated threshold for management actions (Table 4):

o TABLE 4. Management actions to be taken based on total YNP bison population.

Population	Management actions to be taken	
< 2500	Cease lethal brucellosis risk management and hunting of bison and shift to non-	
< 2300	lethal brucellosis risk management actions to maintain spatial and temporal	
bison	separation between bison and cattle.	
>= 3000 bison at	Conduct risk management activities as per ROD.	

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200

season start	
> 4500 bison >=4000 bison	Take all opportunities to capture and remove bison after Feb 15. Increase state and treaty hunting, quarantine and restoration, and brucellosis risk management removals, where authorized, to selectively remove certain age and sex classes to decrease population growth rate without impairing the population demographics and genetic integrity.

# Management action 2.1.b—Increase our understanding of genetics of Yellowstone bison to inform adaptive management.

Complete an assessment of the existing genetic diversity in Yellowstone bison and how the genetic integrity of Yellowstone bison may be affected by management removals (all sources combined) to estimate existing genetic diversity and substructure in the population. Establish long-term objectives for conserving genetic integrity, including assessing hunting and risk management removal strategies that are compatible with conservation of genetic integrity.

# Management action 2.1.c—Increase our understanding of the ecological role of bison inform adaptive management.

Develop a joint research strategy agreed to by the interagency partners focusing on understanding bison population conservation thresholds and the implications to risk management activities. Commission a comprehensive review and assessment of the ecological role and function of bison (e.g., nutrient redistribution, competition with other ungulates, prey and carrion, trophic relations, effects of grazing and trampling, foraging, and movement ecology) and based on that review prioritize new monitoring and research to inform bison conservation and IBMP adaptive management. Use results of this review, potentially, to refine thresholds for management actions in 2.1.a.

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

### Management action 2.2.a—Use slaughter only when necessary; attempt to use other risk management tools first.

Use management tools such as hazing to habitat, hunting, quarantine, and shipping sterilized bison to alternate, isolated destinations (e.g., tribal lands, conservation reserves) to decrease consignment of seronegative bison to slaughter.

*Monitoring:* Annual count of bison sent to slaughter. Compile five year rolling average of bison sent to slaughter.

 Associated threshold for action: When five year rolling average count of bison sent to slaughter increases then increase the use of (and resource allocation to) other management activities until slaughter count falls to or below five-year rolling average level.

#### Management action 2.2.b—Utilize hunting to achieve wildlife and risk management objectives.

In Zone 2 lands adjacent to Yellowstone National Park, emphasize management of bison as wildlife and increase the use of state and treaty hunts outside Yellowstone National Park to manage bison numbers and demographic rates, limit the risk of brucellosis transmission to cattle, and protect human safety and property.

Method: Regardless of population abundance, develop a hunting strategy that includes combined harvest thresholds with state and tribal hunters that manage bison abundance,

Comment [SB8]: Recognition that tools will not be available on a weekly basis and that each year, Jan 1, we likely need to evaluate tools available for bison management.

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

Monitoring: Weekly and annual summaries of bison harvested by state and treaty hunters.

# Management action 2.2c—Complete the quarantine feasibility study and utilize outcome to inform adaptive management.

Complete the quarantine feasibility study and consider an operational quarantine facility to provide a source of live, disease-free bison for tribal governments and other requesting organizations.

Sub-action I: Evaluate regulatory requirements and constraints for moving live bison, including adults, to suitable restoration sites.

Sub-action II: Continue the Interagency/Tribal Bison Restoration Panel to identify suitable release sites for brucellosis-free bison in quarantine, and solicit proposals from groups interested in restoring bison.

*Monitoring:* Annual summary of bison sent to quarantine and bison transported from quarantine to suitable restoration sites.

*Monitoring:* Annual summaries from bison populations restored using quarantined Yellowstone bison, including numbers, demographic rates, and implemented risk management actions.

#### Goal #3: Prevent the transmission of brucellosis from bison to cattle.

#### Objective 3.1: Reduce the risk of disease transmission through vaccinations.

Management Action 3.1.a—Continue bison vaccination under prevailing authority and utilize vaccination of cattle to increase immunity of cattle to brucellosis.

Reduce number of infected bison by reducing total seroprevalence of bison. Vaccinate and release eligible bison (i.e., calves, yearlings, non-pregnant females) captured near the boundary of Yellowstone National Park after state and treaty hunting seasons end each winter and spring.

Sub-action 1: Complete (National Park Service) NEPA process and reach a decision on whether remote vaccination of bison can/will be employed *inside* Yellowstone NP.

Sub-action 2: Based on NEPA results, determine if remote vaccination of bison will be a future tool for management of bison *outside* of Yellowstone NP.

Monitoring: Document the number of eligible bison captured and vaccinated.

Monitoring: Utilize the Yellowstone NP Bison and Brucellosis Monitoring and Surveillance Plan.

Comment [SB9]: Note that there is a great deal of overlap and redundancy between Goals #1 and 3. It appears, for example, that hazing and or temporal separation appears in Obj 1.1, 1.2, 1.3, and management action 3.2a and 3.2c. It would be better to capture the dates and quantitative information in a single place (say a table in Goal #1) then refer to that table in goal #3 but keep only new, unique quidance here in Goal #3.

**Comment [SB10]:** ?? Unsure what is meant here.

# Management Action 3.1.b—Complete EIS process for remote vaccination of bison and utilize outcome to inform adaptive management.

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

Test all cattle coming into the basin annually for brucellosis infection and vaccinate all calves, with booster vaccinations of adults as deemed appropriate by the Montana Department of Livestock. Provide regulations and incentives to ensure 100% of adult cattle in the Hebgen Basin are calf hood and booster vaccinated. Provide financial incentives to support this effort.

*Monitoring:* By May 1, determine and document the vaccination status of all cattle in or coming into the Hebgen Basin.

Associated threshold for action: If not OCV, consider AV (no details given). For Zone 2, vaccination is mandatory. If vaccination status of cattle is not 100%, then undertake vaccinations or other action (TBD) to achieve 100% status.

#### **Comment [SB11]:** ?? Unsure of what this is.

Comment [SB12]: ?? Unsure what was meant here.

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

### <u>Management action 3.2.a—Utilize spatial separation and hazing to prevent cattle/bison interactions.</u>

Establish a threshold protective distance for instituting bison hazing operations to prevent bison from entering cattle-occupied properties. That threshold should be established by utilizing *Brucella* persistence and viability research to guide adequate temporal separation across spring and summer. See Table 1

Monitoring metric: Document the nearest distance of approach of bison to cattle during February through June.

 Associated threshold for action: Once an allowable threshold distance has been established hazing, capture, or lethal removal must occur for any bison encroachment upon cattle inside that threshold.

### Management action 3.2.b—Utilize fencing for spatial separation to prevent cattle/bison interactions.

Maintain spatial separation of bison and cattle outside Yellowstone National Park during the likely abortion and birthing period for bison (February through June) each year by using limited, strategically placed fencing when and where it is effective to create separation between domestic livestock and bison, and when that same fencing will not represent a major wildlife movement barrier. In particular, use strategic fencing, stocking, and cost-sharing solutions to prevent commingling of bison and cattle at the Povah, Red Creek, Koelzer, and other cattle operations in the Hebgen Basin.

Monitoring: Document miles of fencing installed and resulting increase of acreage available to bison.

Monitoring metric: Document fence damage or number of times fence fails to inhibit bison trespass on private property occupied by cattle.

 Associated threshold for action: Any incidence of fence failure requires that action be taken to repair the fence.

#### Management action 3.2.c—Utilize temporal separation to prevent cattle/bison interactions.

Maintain 20-day separation between time when bison are off the landscape and cattle come onto the landscape.

Comment [SB13]: Correct names?

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*Monitoring*: Monitor cattle after their turn-out dates and bison from April-June for any interactions between animals or birthing fluids.

Monitoring metric: Document the number of times bison are successfully and unsuccessfully moved from within the identified defensible area surrounding cattle properties to maintain spatial separation during the 20-day temporal separation time period.

 Associated threshold for action: Any bison found within the identified defensible area must be hazed, captured, or lethally removed if it is within 20 days of cattle coming on to the that area.

\*\* End \*\*

#### Parked Long-term Goals

1.In the long term, provide space/habitat for untested bison on the Horse Butte Peninsula and the Flats year-round if this area is not grazed by livestock at any time during the year. (from Management Action 1.1a)

? define short-term as 2008/9 operating season; long-term as issues of addressing Step 3 of ROD

#### Simple example of an adaptive management record for the years ahead

	Date	Monitoring results vs threshold	Management action (if any) taken		
	= 3.0	metric	based on exceeding threshold metric		
Má	Management Action 1.1a				
	(1st review)	(results)	Action taken		
	(2 <sup>nd</sup> review)	(results)	Action taken		
	(etc)	(etc)	Action taken		
Ma	anagement Ac	tion 1.1b			
	(1st review)	(results)	Action taken		
	(2 <sup>nd</sup> review)	(results)	Action taken		
	(etc)	(etc)	Action taken		
Management Action 1.1c					
	(1st review)	(results)	Action taken		
	(2 <sup>nd</sup> review)	(results)	Action taken		
	(etc)	(etc)	Action taken		
Ma	anagement Ac	tion 2.1a			
	(1st review)	(results)	Action taken		
	(2 <sup>nd</sup> review)	(results)	Action taken		
	(etc)	(etc)	Action taken		
Ec	t, etc,				
	(1st review)	(results)	Action taken		
	(2 <sup>nd</sup> review)	(results)	Action taken		
	(etc)	(etc)	Action taken		