Interagency Bison Management Plan

2021-2022 Annual Report

November 1, 2021 through October 31, 2022

This report summarizes progress under the Interagency Bison Management Plan (IBMP) during November 1, 2021, to October 31, 2022. It provides the results of education, management, monitoring, outreach, and research activities conducted as part of IBMP adaptive management (see http://ibmp.info/adaptivemgmt.php).

In addition, this report documents the effects and effectiveness of management actions taken to progress towards objectives and adjust management actions for the following year, as appropriate, to better meet those objectives. The annual report is not intended to provide a comprehensive description of all actions taken by the agencies during the preceding year. Additional information is available at the IBMP website (see http://ibmp.info/index.php), including meeting reports, key science reports, and information on other relevant activities.

This report was produced by representatives of the Confederated Salish and Kootenai Tribes, InterTribal Buffalo Council, Montana Fish, Wildlife and Parks, Montana Department of Livestock, Nez Perce Tribe, National Park Service/Yellowstone National Park, and the USDA Animal and Plant Health Inspection Service and Forest Service/Custer Gallatin National Forest.

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1. Background

In 2000, the Federal government and the State of Montana agreed to an Interagency Bison Management Plan (IBMP) to cooperatively manage the risk of brucellosis transmission from Yellowstone bison to cattle. The Plan recognizes that bison fill important biological, ecological, and cultural roles and that seasonal migrations of the bison from Yellowstone National Park into Montana are natural events. The Montana Department of Livestock (MDOL), Montana Fish, Wildlife & Parks (MFWP), the U.S. Department of Interior National Park Service (NPS) Yellowstone National Park (YNP) and the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) and U.S. Forest Service (USFS) Custer Gallatin National Forest (CGNF) were initially responsible for implementing the IBMP. In 2009, the Confederated Salish and Kootenai Tribes (CSKT) and the Nez Perce Tribe (NPT) became involved due to their treaty hunting rights for bison on open and unclaimed Federal lands in southwestern Montana. Also, the InterTribal Buffalo Council (ITBC) became involved due to its mission of restoring bison to Tribal lands.[1]

Management practices under the IBMP have been successful at preventing the transmission of brucellosis from bison to cattle. This result is due to efforts by State and Federal agencies to maintain temporal and spatial separation between the species. The IBMP has also allowed the successful conservation of Yellowstone bison and supported the presence of a viable, wide-ranging bison population within YNP and on adjacent lands in Montana. Bison management is a complex and often controversial endeavor requiring ongoing evaluation and adjustment of management actions to measure effectiveness and progress towards further desired conditions.

2. Objectives

The purpose of the IBMP is to maintain a wild population of Yellowstone bison and address the risk of brucellosis transmission from bison to protect the economic interest and viability of the livestock industry in the State of Montana. The agencies agreed to address these objectives[2]:

1. Address bison population size and distribution; have specific commitments relating to the size of bison herd.
2. Clearly define a boundary line beyond which bison will not be tolerated.
3. Address the risk to public safety and private property damage by bison.
4. Commit to the eventual elimination of brucellosis in bison and other wildlife.
5. Protect livestock from the risk of brucellosis transmission from bison.

[1] The Shoshone-Bannock Tribes, Confederated Tribes of the Umatilla Indian Reservation, and Confederated Tribes and Bands of the Yakama Nation have recognized treaty rights to harvest bison in southwestern Montana. While they regularly participate in IBMP meetings, none is a formal member of the IBMP.

[2] Objectives are from the 2017 Winter Operations Plan and based on the 2000 Final Environmental Impact Statement and Records of Decision.

6. Protect the State of Montana from risk of reduction in its brucellosis status[3].

7. Maintain a viable population of wild bison in Yellowstone National Park, based on biology, genetics, and ecology.
8. Base decisions on factual information, with the recognition that scientific understanding is, or can, evolve.
9. Recognize the need for coordination in the management of natural and cultural resource values that are the responsibility of the signatory agencies.

The IBMP is not intended to eradicate brucellosis, but rather to prevent transmission from bison to cattle and reduce the prevalence of brucellosis in bison.

The *IBMP Adaptive Management Plan* (AMP) signed by the Partners in 2016 contains three goals:

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).
2. Conserve a wild, free-ranging bison population.
3. Prevent the transmission of brucellosis from bison to cattle.

Each goal has related objectives. Corresponding to each objective are management actions and lists of monitoring metrics and management responses that Partners can utilize to guide their reporting.

NPS reports that under the IBMP (2001-2022), counts of bison after calving in summer have ranged between 2,969 and 5,939. The maximum aerial count of bison during summer 2021 was 5,394. The Partners decided to manage for a stable to slightly decreasing population during the winter of 2021-2022 by removing an anticipated 600 to 900 bison, plus no more than 200 additional animals as warranted consistent with other objectives in the plan and focusing removals on bison in the northern portion of YNP and nearby areas of Montana.

3. Pre-Winter Status and Trends

Bison Count and Age-Sex Classification by Central and Northern Region (NPS)

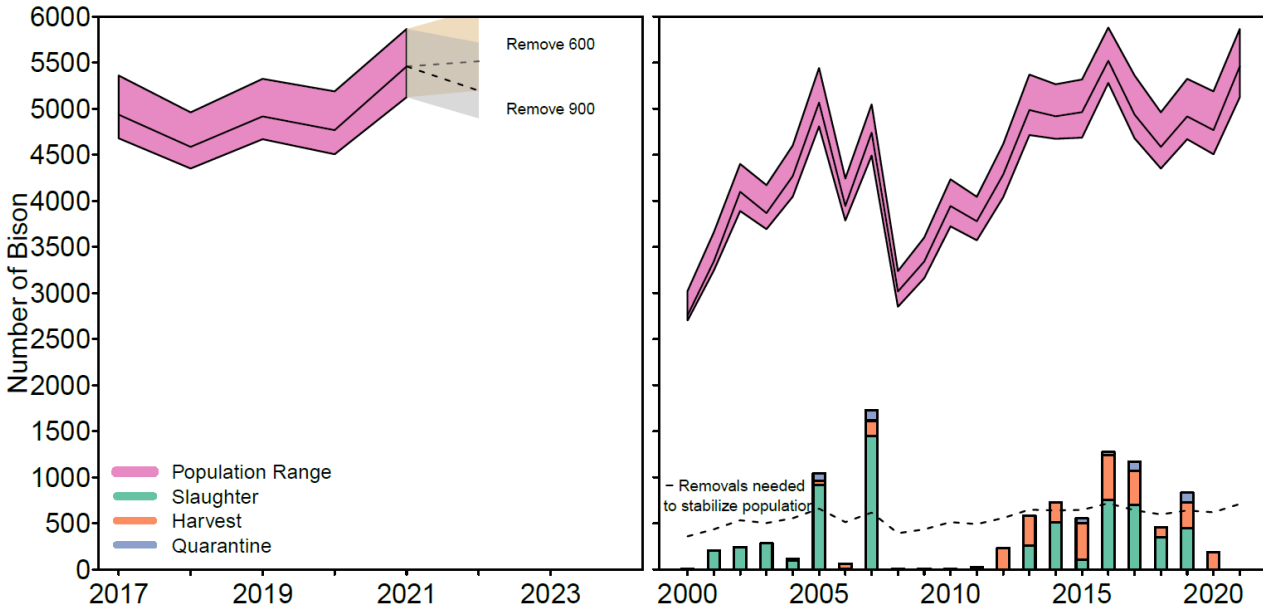
NPS reports[4] that during summer 2021, the maximum aerial count of bison was 5,394 including 3,830 in northern Yellowstone (Northern Herd) and 1,564 in central Yellowstone (Central Herd). The population increased from about 4,594 in 2018 due to generally milder winters resulting in fewer animals exiting the park. Survival and birth rates remained high as numbers increased,

[3] A *brucellosis-free* classification allows producers outside the designated surveillance area for brucellosis to export livestock to other states or nations without testing for brucellosis exposure.

[4] In the *Status Report on the Yellowstone Bison Population to the Superintendent* dated September 29, 2022.

with the population maintaining an annual growth rate of about 15% after accounting for management removals. The population remains below the predicted capacity based on forage production of 5,000 in northern regions of the YNP and 10,000 across the entire park.

Figure 1. NPS removal recommendation for winter 2021-2022[5].

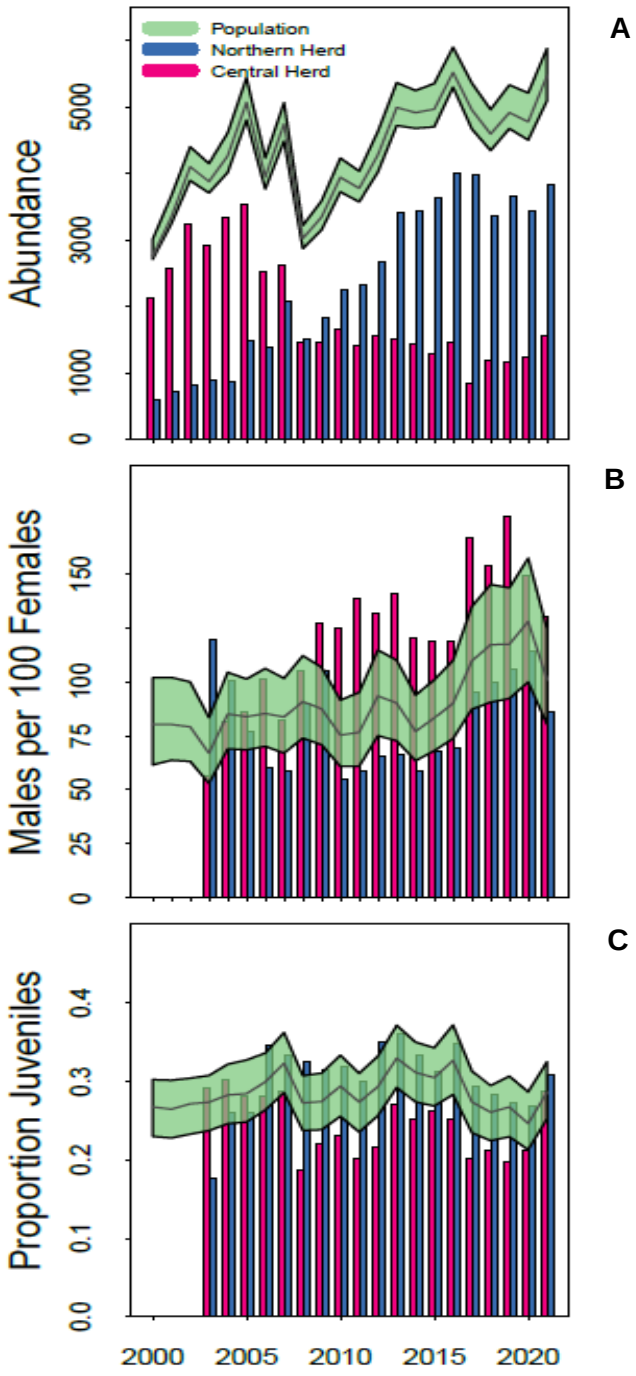


(A) Removal of 600-800 bison during winter 2020-2021 should stabilize the population. **(B)** It takes a bison population of at least 3,800 at the end-of-winter or 4,500 after calving for the number of animals migrating to wintering areas to equal or exceed the number of animals that must be removed to stop exponential growth and stabilize the population. In **A-B**, purple polygons represent the 95% confidence range of the population after spring calving. In **B**, colored bars show numbers of bison rounded up and transferred to slaughter, harvested by State-licensed and Tribal hunters, or entered in the Bison Conservation and Transfer Program (quarantine).

NPS reports that the estimated sex ratio was 101 males per 100 females (excluding calves). Over the last five years, the sex ratio averaged 53% males and 47% females. A balanced sex ratio supports mate competition allowing natural selection to affect population genetics. About 29% of the population was composed of juvenile animals (0 to 16 months of age). Over the past five years, the age composition averaged 27% juveniles and 73% adults. An age structure of about 70% adults and 30% juveniles is based on the expected population composition based on age-specific birth and survival rates.

[5] *Status Report on the Yellowstone Bison Population to the Superintendent* dated September 29, 2022.

Figure 2. Abundance, Age and Sex Structure[6].



(A) Post-Calving Abundances, **(B)** Sex Ratios, and **(C)** Age Structures of the Yellowstone Bison Population. In A-C, the green polygons represent the 95% confidence range. Estimates were generated using an integrated population model. The colored bars show annual counts of the northern and central herds.

[6] *Status Report on the Yellowstone Bison Population to the Superintendent* dated September 29, 2022.

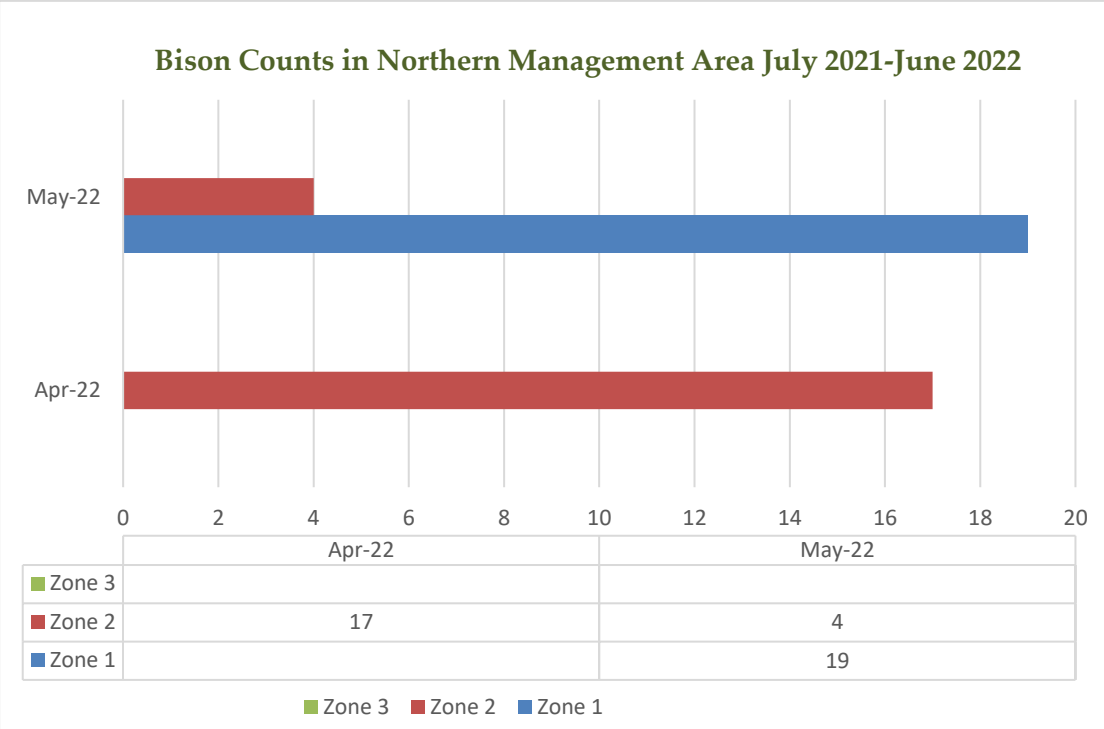
Cattle Counts and Locations in Gardiner and Hebgen Basins

The Montana Department of Livestock (MDOL) reports observations of bison in both the Gardiner and Hebgen Basins. The number of bison observed are provided in Figures 3 and 4.

Northern Management Area

MDOL's observed bison counts for the Northern Management Area (Gardiner Basin) are provided in Figure 4. Note that Zone 1 is the area inside of YNP on the boundary of Zone 2; this area is reported so bison personnel are aware of bison movement on the park boundary. Zone 2 consists of the area outside of YNP in Montana with varying degrees of bison tolerance as put forth in the State's 2015 EA. Zone 3 is the area outside of YNP with zero tolerance for bison.

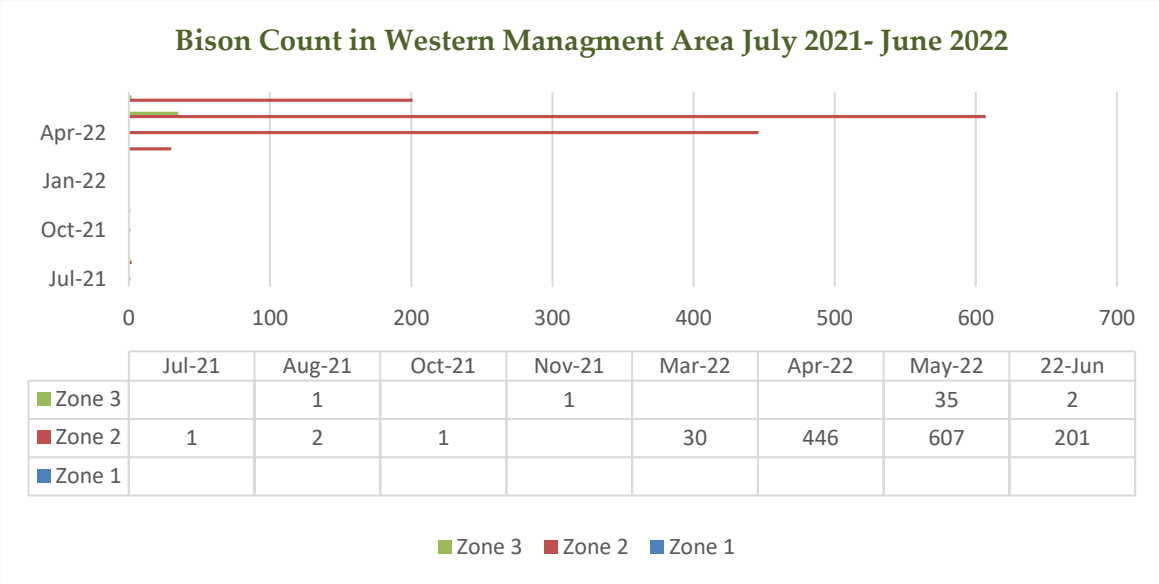
Figure 3. Number of Bison Observed by Week in Zones 1-3 of the Northern Management Area. *Observations are conducted by MDOL personnel who are responsible for monitoring bison abundance outside YNP. Observations are summarized by week to account for periods without observations.*



Western Management Area

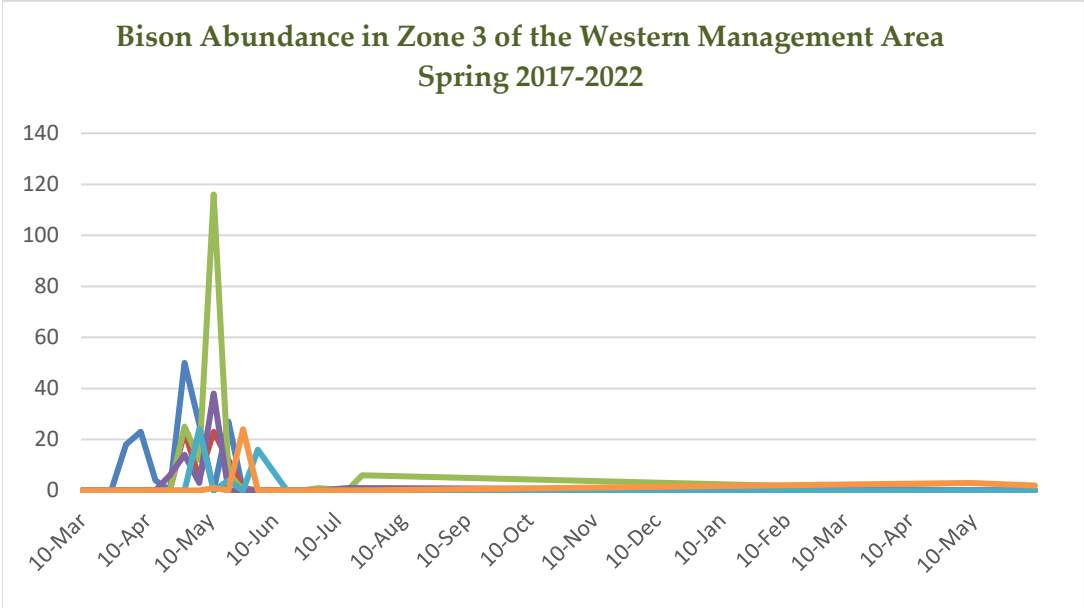
MDOL's observed bison counts for the Western Management Area (Hebgen Basin) are provided in Figures 4 and 5. Note that Zone 1 is the area inside of YNP on the boundary of Zone 2, this area is reported so bison personnel are aware of bison movement on the park boundary. Zone 2 consists of the area outside of YNP in Montana with varying degrees of bison tolerance as put forth in the State's 2015 EA. Zone 3 is the area outside of YNP with zero tolerance for bison.

Figure 4. Number of bison observed by week in Zones 1-3 of the Western Management Area. *Observations are conducted by MDOL personnel who are responsible for monitoring bison abundance outside YNP. Observations are summarized by week to account for periods without observations.*



	Jul-21	Aug-21	Oct-21	Nov-21	Mar-22	Apr-22	May-22	22-Jun
Zone 3		1		1			35	2
Zone 2	1	2	1		30	446	607	201
Zone 1								

Figure 5: Number of bison observed by Montana Department of Livestock personnel in the entire Western Management Area by week during the spring operation seasons 2016-2021.



As reported by MDOL, Tables 1 and 2 summarize cattle locations in the Northern and Western Management Areas, respectively. Included, as available, are livestock owner, number and class of cattle, and date the cattle were put on and taken off grazing pastures.

Table 1. Ownership and Turn-Out Dates for the Northern Management Area (reported by MDOL)

Owner	Zone	No. Cattle	Class	On-date	Off-date
Bridger Cunningham	GB	60/6	Pairs/Bulls	June 24	Oct 1
Cinnabar Basin (leased)	GB	20	Pairs	June 20	Oct 15
Yellowstone Cattle Co	3	100	Pairs	May 21	Oct 14
B-Bar	3	150	Yearlings	June 15	Nov 15
Anderson Ranch	3	92	Pairs	July 1	Sep 1
West Creek Ranch	3	150	Pairs	Year-round	n/a

Table 2. Ownership and Turn-out Dates for the Western Management Area (reported by MDOL)

Property Owner	Livestock Owner	Zone	Date In	No. Cattle	Class	Date Out
Whitman	West Yellowstone	2	Jun 20	200/4	Pairs/Bulls	Oct 17
PP—Deep Well Ranch	LM—Twin Bridges, MT	3	Jun 15	320/10	Pairs/Bulls	Nov 3
LD—Quarter Circle JK	CC/BF—Cameron, MT	3	Jul 1	22/1	Pairs/Bulls	
USFS—South Fork Allotment	CC/BF—Cameron, MT	3	Jul 1	11/1	Pairs/Bulls	Oct 17
USFS—Watkins Cr. Allotment	CC/BF—Cameron, MT	3	Jul 1	55/4	Pairs/Bulls	Oct 17

4. Operations Plan

As related to AMP Objectives 2.2 and 3.1, NPS biologists estimated population trends and developed management recommendations. Models predicted the removal of 600 to 900 bison

during winter 2021-2022 should 600 to 900 bison during winter 2021-2022 should result in a bison population of 4,300 to 4,700 at the end of winter and 5,200 to 5,700 animals after calving. A report[7] on the status of the bison population during 2022, with demographic information, analyses, and predictions of trends, as well as management recommendations, is available on the IBMP website. The IBMP managers agreed to manage for a stable to slightly decreasing population trend during winter 2020-2021, using public and treaty harvests in Montana and capture operations at Stephens Creek in YNP to meet population management and conflict resolution objectives. Approved Operations Plans are available on the IBMP website.

5. Bison Migration and Distribution

Bison Movement and Trends

NPS reports[8] (in relation to AMP Objectives 1.1, 1.2, and 2.1) that bison migrations to the northern boundary of YNP began in January (Table 3). The maximum number of bison counted in the Northern Management Area was 101 on February 17, 2022. Snowpack severity has progressively decreased in recent years, resulting in fewer animals migrating to the YNP boundary and being removed from the population (Figure 6). Few animals migrate even with large population sizes when snow is low. Thus, very few bison were removed during this winter when snow conditions were well below average, resulting in a 27% increase in numbers since 2020. NPS did not monitor bison migration to the western boundary and Western Management Area during winter 2020-2021.

Table 3. Numbers of bison counted in the Gardiner basin by ground observers during winter 2021-2022. *Note: Bison held within the Stephens Creek Capture Facility are not included in counts.*

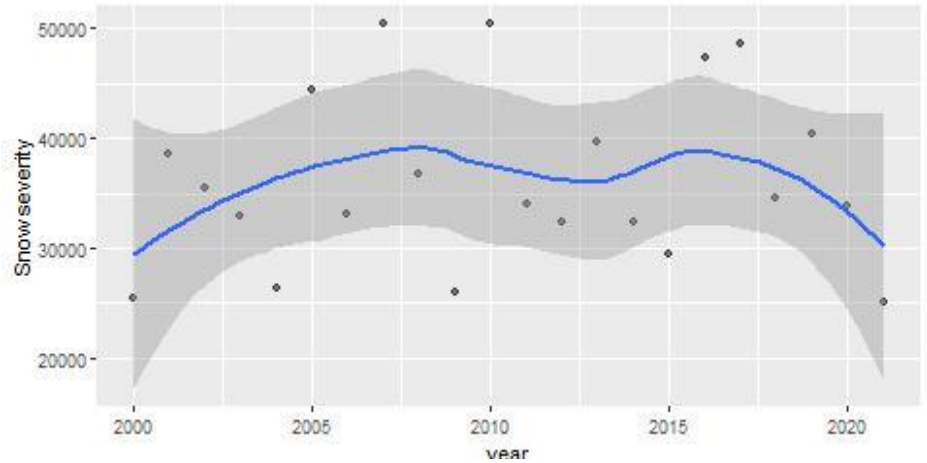
Date	Mammoth to Gardiner	North Entrance Station to Stephens Creek Facility	Stephens Creek Facility to YNP Boundary	North of YNP Boundary	Eagle Creek SMA	**Total**
1/18/2022	20	5	9	0	0	**34**
2/2/2022	52	0	0	0	0	**52**
1/25/2022	0	11	0	0	0	**11**
2/8/2022	0	21	0	0	0	**21**
2/14/2022	6	53	0	0	0	**59**
2/17/2022	6	95	0	0	0	**101**
2/22/2022	12	18	0	0	0	**30**
2/28/2022	37	36	4	0	0	**77**
3/8/2022	11	3	4	0	0	**18**
3/15/2022	16	1	4	0	0	**21**
3/22/2022	5	17	4	0	0	**26**
3/29/2022	5	30	0	0	0	**35**

[7] *Status Report on the Yellowstone Bison Population to the Superintendent* dated September 29, 2022.

[8] *Status Report on the Yellowstone Bison Population to the Superintendent* dated September 29, 2022.

4/5/2022	51	0	0	0	0	**51**
4/13/2022	75	8	0	0	0	**83**

Figure 6. Relationship between snowpack severity and the number of bison leaving Yellowstone National Park during 2000 to 2022.



Incidents of Commingling with Cattle

No incidents of bison commingling with cattle were reported by IBMP Partners during the period covered by this annual report

6. Hunting

Hunting (as related to AMP Objective 1.4 and 2.2) during the reporting period: State-licensed and Tribal hunters harvested 13 bison outside of YNP in the State of Montana.

Bison Hunt Results

Table 4 tallies the results of the bison hunt of 2021/22. The table provides the combined hunt, as well as the hunt broken out by the Northern and Western Management Areas. A couple bison were also hunted near Cooke City. Treaty Tribe hunt information was updated by Treaty Tribes on November 30, 2022, at the IBMP Meeting; MFWP provided the figures for the State-licensed hunters and verified the Treaty Tribe hunt numbers.

Table 4. Bison hunt results for 2021/22 season (as reported by MFWP).

Group	Male	Female	(M) Calf	(F) Calf	Calf Unknown	Unknown	Running Total
2021-2022 HD-385 (Gardiner) Bison Hunt Harvest Log							
State	1	1	0	0	0	0	**2**
CSKT	0	0	0	0	0	0	**0**
NPT	1	0	0	0	0	0	**1**
SBT	0	0	0	0	0	0	**0**
CTUIR	1	0	0	0	0	0	**1**
YN	0	0	0	0	0	0	**0**
BFN	1	6	0	0	0	3	**10**
NA	1	2	0	0	0	0	**3**
Total	**5**	**9**	**0**	**0**	**0**	**3**	**17**
2021-2022 HD-395 (West) Bison Hunt Harvest Log							
State	1	0	0	0	0	0	**1**
CSKT	0	0	0	0	0	0	**0**
NPT	0	0	0	0	0	0	**0**
SBT	27	0	0	0	0	0	**27**
CTUIR	0	0	0	0	0	0	**0**
YN	0	0	0	0	0	0	**0**
BFN	1	5	0	0	0	0	**6**
NA	0	0	0	0	0	0	**0**
Total	**29**	**5**	**0**	**0**	**0**	**0**	**34**
2021-2022 Combined Bison Hunt Harvest Log (Totals)							
State	2	1	0	0	0	0	**3**
CSKT	0	0	0	0	0	0	**0**
NPT	1	0	0	0	0	0	**1**
SBT	27	0	0	0	0	0	**27**
CTUIR	1	0	0	0	0	0	**1**
YN	0	0	0	0	0	0	**0**
BFN	2	11	0	0	0	3	**16**
NA	1	2	0	0	0	0	**3**
Total	**34**	**14**	**0**	**0**	**0**	**3**	**51**

Key: State (Hunters licensed by the State of Montana); Confederated Salish and Kootenai Tribes (CSKT); Nez Perce Tribe (NPT); Shoshone-Bannock Tribes (SBT); Confederated Tribes of the Umatilla Indian Reservation (CTUIR); Yakama Nation (YN); Blackfeet Nation (BFN; and Northern Arapaho (NA).

In connection with AMP Objective 1.4, Management Action 1.4.a, CSKT reports that they do not track individual hunter days. The CSKT Yellowstone bison hunt season runs from September 1-January 31. The CSKT limits the number of Tribal member hunters allowed to hunt in the Beattie Gulch area through the use of a special permit per the Inter-Tribal Beattie Gulch Hunt MOA. The

CSKT had hunters in Beattie Gulch the last two weeks of January 2022. The total harvest for the 2021-22 CSKT Yellowstone bison hunt was zero (0).

7. Culling (Capture and Removal)

NPS reported (in connection to AMP Objective 2.2) that NPS captured 38 bison at the Stephens Creek facility near the northern boundary of YNP. Captured bison were transferred to Tribes for meat and hides (27), entered in brucellosis quarantine for their eventual live transfer to Tribes (10), or released back into YNP (1).

8. Hazing

MDOL describes bison herding actions (also termed "hazing") taken in the Western Management Area in Figure 7 and in Table 5, the Northern Management Area in 2022. NPS had none to report.

Figure 7: Comparison of the total number of bison hazed from Zone 3 by MDOL personnel in the Western Management Area during 2017-2022.

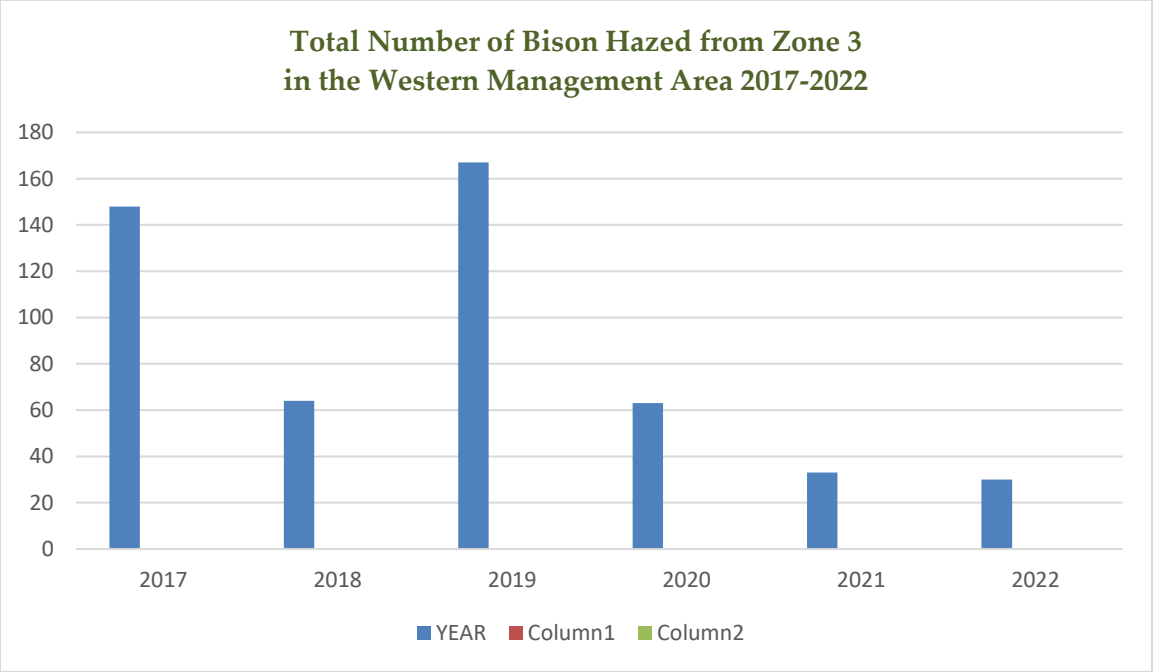


Table 5. Hazing of bison in the Northern Management Area during the reporting period.

Northside Hazing and Lethal Removals		
Date	**Number**	**Description**
7/30/2022	**1**	Lethal removal of one bull bison – north of the tolerance zone on the North Side, near Dailey Lake and East River Rd. Options to try and haze the bison back to the tolerance zone or YNP were limited due to the distance, time of night, darkness, and limited personnel. Tribal or private hunters were not available. Additionally, a private landowner in the vicinity that wanted the bison removed immediately. The decision was made to lethally remove the bison. FWP, assisted MDOL with the lethal removal.

The CSKT reported that they are not aware of any hazing operations that occurred during the CSKT hunt season. The CSKT did not participate in any IBMP hazing operations.

9. Brucellosis Testing and Vaccination

The brucellosis testing and vaccination of bison brucellosis (related to Objective 3.1) is described by NPS in Table 6 below.

Table 6. Brucellosis Testing and Vaccination.

Date	Male						Female					
	Adult		Yearling		Calf		Adult		Yearling		Calf	
	+	-	+	-	+	-	+	-	+	-	+	-
2/21/2022			2	3						1	1	2
Total			2	3						1	1	2
Total	**5**						**4**					

10. Post-Winter Status and Trends

Bison Quarantine

APHIS reports that 10 animals were in brucellosis quarantine during winter 2021-22. NPS continued phase one and phase two testing with 38 animals still undergoing testing at the end of the annual reporting period. APHIS reports that NPS transferred no bison to the APHIS quarantine facility at Corwin Springs.

During the reporting period, NPS and APHIS transferred 28 bison to the Fort Peck Reservation to undergo one additional year of assurance testing before final release. A group of 56 mixed sex bison completed assurance testing at the Fort Peck Bison Facility during the reporting period.

Bison Population Number and Structure Estimates

As reported[9] by NPS (in relation to AMP Objective 2.1), aerial surveys in August 2022 counted 4,420 and 4,507 bison in the Northern Herd (5-year average 3,760), and 1,284 and 1,432 bison in the Central Herd (5-year average 1,318). The estimate for the bison population was 6,013 animals. The proportion of females in the population increased over the last year with 91 males per 100 females (excluding calves). Over the last five years, the sex ratio averaged 52% males and 48% females. About 31% of the population was composed of juvenile animals (0 to 16 months of age), which included 45 calves per 100 adult females and 39 yearlings per 100 adult females. Over the past five years, the age composition averaged 28% juveniles and 72% adults.

11. Human Safety and Property Damage

NPS reports that in connection to Human Safety and Property Damage (AMP Objective 1.3), there were at least 3 people injured by bison and 14 vehicle collisions that killed bison in YNP from November 1, 2021, to October 31, 2022.

MFWP reports that in 2022, the MFWP Enforcement Division responded to 11 calls for service regarding bison management in the Greater Yellowstone area to include the communities of West Yellowstone and Gardiner. During 2022, 14 MFWP Wardens spent over 950 hours actively managing bison, responding to complaints, patrolling for hunting related issues, and assisting MDOL with hazing.

In 2022 there were 7 motor vehicle crashes reported to MFWP and the Montana Highway Patrol that involved a vehicle versus bison in the greater Yellowstone area. All 7 occurred on US 191 north of West Yellowstone, between mile markers 4 and 14. A total of 8 bison were killed due to these crashes.

MFWP responded to zero incidents involving bison threatening damage to private property. Public safety incidents were limited to the 7 motor vehicle crashes.

12. Habitat Assessments and Enhancement

NPS reports[10] on Habitat Assessments and Enhancement (AMP Objective 2.1) in Tables 7 and 8. NPS biologists continued to monitor the effects of bison grazing on grasslands in Yellowstone. Grassland areas continue to sustain ecosystem function with higher bison numbers. Monitoring during 2015-2022 confirmed soil organic matter was stable, unchanged under yearlong grazing exclusion, and within ranges supporting nutrient cycling, water holding potential, and physical structure. Grazed plant communities maintained primary production compared to year-long

[9] *Status Report on the Yellowstone Bison Population to the Superintendent* dated September 29, 2022.
[10] *Status Report on the Yellowstone Bison Population to the Superintendent* dated September 29, 2022.

grazing exclusion, although one area of the Lamar Valley shows a gradual decline in production over time.

Table 7. Net aboveground herbaceous production (g m^{-2}) in sites monitored across Yellowstone National Park.

SITE	REGION	2015	2016	2017	2018	2019	2020	2021	2022
Lamar Valley	L1	290	301	417	292	394	331	327	338
	L2	214	141	290	264	115	149	89	116
	L3	213	202	348					
	L4	263	193						
	L5			202					
	L6		178	278					
	L7								380
Slough Creek	S1	58	57	107	79	101	96		104
	S2	224	188	344		142	152		223
	S3				48				
	S4			52	101				
	S5				118				
	S6								244
Hellroaring	H1	100	62	115	114	94			100
	H2	165	77						
	H3	116	96						
Blacktail	B1	85	62	90	68	59			70
	B2	66	35						
Gardiner	G1	62							
	G2	74	160						
	G3			106					
Hayden Valley	H1	321	265	304					
	H2	213	201						
	H3	147							
	H4		164						
Firehole Valley	F1	206	130						
	F2	140	109						
Madison Valley	M1	414	278						
	M2	114	91						
	M3	367	227						

Table 8. Percent soil organic matter in top 10 centimeters of soil in sites monitored across Yellowstone National Park.

SITE	REGION	2015	2016	2017	2018	2019	2020	2021	2022
Lamar Valley	L1	10.1	9.3	10.6	9.0	11.0	13.2	12.7	
	L2	11.8	12.6	13.9	14.3	17.0	12.9	12.5	
	L3	18.9	20.4	25.0		24.1	17.9	20.9	
	L4	18.5	20.1				17.3	19.0	
Slough Creek	S1	7.0	5.8	6.7	6.8	6.2	5.5		
	S2	14.3	13.6	13.7		13.0	13.7		
Hellroaring	H1	13.5	11.9	13.0	12.2	15.2			
Blacktail	B1		12.6	9.6	9.0	12.9			
Hayden Valley	H1	13.9	17.5	14.8	16.9	13.8			

13. Research and Surveillance

NPS reports[11] on Research and Surveillance (AMP Objective 2.1) with data on bison genetics in the *Status Report on the Yellowstone Bison Population to the Superintendent* dated September 29, 2022. Bison breed in northern or central geographic regions of the YNP with some interchange of animals between breeding areas among years. The founding maternal lineages of the population are found in both breeding areas. Between two and five groups of related alleles based on neutral markers exist across the park. Maintaining more than 1,000 bison in each breeding area helps to protect any existing unique diversity or rare alleles.

Ongoing genetic assessments indicate no loss of genetic diversity and or change in allele frequencies with higher numbers. The larger numbers of bison help maintain existing genetic diversity without genetic exchange from other bison populations. Allelic diversity, allele frequencies, and inbreeding levels remained similar over more than two decades based on 44 microsatellites across the bison genome. Also, bison from both the native and introduced lineages remain in the population in approximate equal distribution based on mitochondrial DNA.

Geneticists at Texas A&M recently published findings that all North American bison have some level of cattle introgression, including Yellowstone bison. When bison numbers were at their fewest in the late 1800s, they included the last wild herd in Yellowstone and five privately owned herds across the country. Private buffalo managers ubiquitously cross-bred bison and cattle. In the early 1900s, park managers brought 21 privately owned bison into Yellowstone to captively breed bison when they feared this last wild herd may go extinct. The research by Texas A&M suggests at least one of the males brought in was hybridized with cattle genes. While this finding is disappointing, it does not change the conservation value of Yellowstone bison, which remain the closest ancestral connection to the animals that once roamed North America. Yellowstone

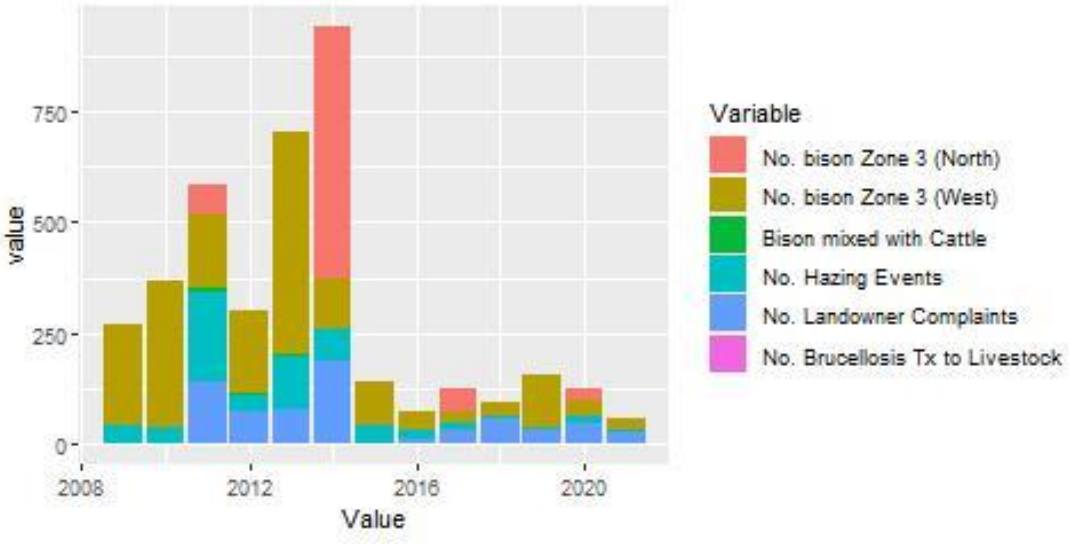
[11] *Status Report on the Yellowstone Bison Population to the Superintendent* dated September 29, 2022.

bison are valuable because they live in herds of several thousands of individuals, moving and grazing across migratory landscapes, competing with other herbivores, and coping with predators and disease. Letting nature regulate Yellowstone bison allows the fittest to survive, helping them adapt to the environment as it changes, which should remove any genes, including cattle-related genes, that reduce their fitness.

14. Landowner Engagement

NPS reports[12] on Landowner Engagement (AMP Objective 1.3) in Figure 8. Bison-related conflicts remain low despite higher numbers of bison. IBMP managers have agreed (consensus) on operations plans since 2013 that led to a bison population averaging near 5,100 animals after calving. Managers agreed to these numbers, because of increased tolerance for bison outside the YNP, balancing hunting outside the park with capturing animals for slaughter inside the YNP, developing a transfer program to rehome bison to Tribes, and continued success limiting bison-related conflicts outside the park (Figure 8).

Figure 8. Bison-related conflicts and mingling (bison-cattle) reported by YNP, State of Montana, U.S. Forest Service, and APHIS during 2009-2021.



15. Education and Outreach

No Partner reported under this topic.

[12] *Status Report on the Yellowstone Bison Population to the Superintendent* dated September 29, 2022.

16. Stakeholder and Public Engagement

The IBMP held three public meetings during the reporting period: on December 1, 2021 in Missoula, Montana; April 13, 2022 in Bozeman, Montana; and November 30, 2022, in West Yellowstone, Montana.

For each meeting the final agenda, summary report, presentations, and other pertinent items can be found via links located on the IBMP.info website under Meetings (*ibmp.info/meetings.php*).

17. Adaptive Management Adjustments

No changes were made to the IBMP Adaptive Management Plan during the period covered by this report. The current IBMP Adaptive Management Plan, along with the history of adaptive changes leading to the current Plan, can be found at *ibmp.info/adaptivemgmt.php*.

18. Environmental Compliance, Legislation, and Litigation

A. Forest Plan Revision—The Custer Gallatin National Forest signed a revised Land and Resource Management Plan (Forest Plan) on January 28, 2022. This Plan includes specific language recognizing that the Yellowstone bison is of great importance to Tribal, local, regional, and national visitors. The Forest Plan desires that bison are a native species that have access to forage, security, and movement corridors facilitating distribution into suitable habitat on the national forest. This suitable habitat supports year-round bison presence and connectivity between suitable habitats. The Forest desires to have educational materials available at prime locations to help visitors to the National Forest understand bison behaviors and to act accordingly to minimize conflict with bison. Finally, the Forest desires bison presence year-round with adequate numbers and distribution to support a self-sustaining population on the Custer Gallatin National Forest. These desired conditions come with the goal to continue engagement with Tribal, Federal, State, and other willing partners to cooperatively enhance bison management on the Custer Gallatin National Forest within existing management zones.

B. Legal Cases

(1) ***Buffalo Field Campaign et al. v. U.S. Fish and Wildlife Service et al., United States District Court for the District of Columbia, Case No.* 1:20-cv-00798 *(2020)***

On March 23, 2020, Plaintiffs brought action over the agencies' September 6, 2019, decision not to undertake a status review of the potential listing of a distinct population segment of Yellowstone-area bison as threatened or endangered. The Plaintiffs maintain the curtailment of range for Yellowstone bison, the last remaining free-roaming plains bison without evident of hybridization with cattle, by nearly 85% has already resulted in the population being at risk of extinction. They also maintain the continued culling of

Yellowstone bison may degrade genetic viability through the loss of genetic heterogeneity and loss of ability to migrate. The Plaintiffs suggest the central and northern breeding herds, which they identify as subpopulations, should each have an effective population size of 1,000 (census of 2,000 to 3,000) to avoid inbreeding depression. On January 12, 2022, the court agreed with plaintiffs that the U.S. Fish and Wildlife Service applied the incorrect standard in their decision-making by effectively choosing one scientific study over another which was improper at the 90-day finding stage. In terms of remedy, the court rejected the plaintiffs' request to order a new decision in 90 days or require the Service to conduct a 12-month analysis. Rather, the court ordered the parties to submit a status report in 90 days.

(2) ***Neighbors Against Bison Slaughter and Bonnie Lynn v. the National Park Service et al., United States District Court for the District of Montana (Billings), Case No. 1:19-cv-00128-SPW (2019)***

On October 21, 2019, the plaintiffs filed a complaint in the District Court for the District of Columbia against the National Park Service, U.S. Forest Service, Secretaries of Interior and Agriculture, and the Superintendent of Yellowstone National Park for failure to impose reasonable restrictions on the migration and hunting of wild bison in Beattie Gulch, Montana; thereby risking the safety of businesses, residents, and visitors. The State of Montana and American Indian Tribes with treaty hunting rights are not defendants. The plaintiffs contend the National Park Service failed to consider public safety in otherwise disposing of bison (i.e., allowing them to migrate outside the park and be shot), while the Forest Service failed to consider impacts of the bison hunt on property owners, neighbors, and visitors. The plaintiffs contend both agencies failed to comply with the National Environmental Policy Act by not evaluating hunting impacts on private residents and not exploring alternatives in a single environmental impact statement. The plaintiffs asked for a temporary restraining order and a preliminary injunction to stop the winter hunt and permanently enjoin the Federal agencies "from authorizing bison hunting on Federal land in Beattie Gulch and within one mile of the private residences there."

On November 14, 2019, the D.C. District Court ordered the case transferred to the District of Montana and denied the motion for a temporary restraining order. On December 2, 2019, the District of Montana Court denied the plaintiff's motion for a preliminary injunction and ordered the respective parties to file a joint case management plan by December 20, 2019. On June 30, 2020, the Department of Justice filed a motion for voluntary remand or stay of the proceedings while additional NEPA analysis is completed by the National Park Service. On February 5, 2021, the District Court for the District of Montana granted the NPS a voluntary remand without *vacatur* to conduct additional NEPA analysis of the IBMP and issue an appropriate final decision. The IBMP would remain in effect until this decision is reached. On July 14, 2021, the plaintiffs appealed the decision to the Ninth Circuit Court of Appeals requesting a deadline for

completion of the NEPA analyses. The Court held a hearing on February 11, 2022, and issued a decision on May 3, 2022, against the plaintiffs.

(3) ***Cottonwood Environmental Law Center v. Secretary Bernhardt et al., United States District Court for the District of Montana (Butte), Case No. Case 2:18-cv-00012-SEH (2018)***

Plaintiffs filed complaints against the IBMP partners to supplement the NEPA analysis for the IBMP due to an increased number of bison hunters and consideration of 4,200 bison as a new population objective. Plaintiffs sought to enjoin the Defendants from enforcing the tolerance zone boundary or quarantining, hazing, or harassing bison until supplemental NEPA is completed. On February 20, 2019, the District Court granted the Federal and State defendant's motions to dismiss the case, indicating the complaint failed to allege facts sufficient to show an ongoing major Federal action that could require supplementation. However, the Federal defendants did not contest that the IBMP is an ongoing action. Thus, on December 23, 2019, the United States Court of Appeals for the Ninth Circuit remanded the case to the District Court to determine whether the State and Federal aspects of the IBMP are sufficiently interrelated to subject the State of Montana to NEPA's requirements. In addition, the District Court was to determine whether findings from a 2017 study by the National Academy of Sciences regarding brucellosis transmission from elk to cattle is new and significant information that requires supplementation under NEPA. The District Court also was to determine whether human safety concerns related to the hazing and hunting of bison, as well as a proposal for a new population objective for the bison population, requires supplementation.

On June 30, 2020, the District Court dismissed Governor Bullock (State of Montana) from the complaint. Also, the Superintendent of Yellowstone National Park signed a declaration indicating the National Park Service would initiate additional NEPA on bison management in the park. On July 9, 2020, the Department of Justice filed a motion for voluntary remand without vacatur (i.e., IBMP remains in effect) or stay of the proceedings until additional NEPA analysis is completed. On December 10, 2020, the District Court for the District of Montana granted the NPS a voluntary remand without *vacatur* to conduct additional NEPA analysis of the IBMP and issue an appropriate final decision. The IBMP would remain in effect until this decision is reached. On May 7, 2021, the plaintiffs appealed the decision to the Ninth Circuit Court of Appeals requesting a reversal of the court order dismissing the Governor, reversal of the court order granting remand without vacatur, ordering a new district court judge, and partially vacate or enjoin the defendants from hazing Yellowstone bison on Federal land under the IBMP until NEPA analyses are complete. The Court held a hearing on February 11, 2022, and issued a decision on March 2, 2022, against the plaintiffs.

Other References

2016 Adaptive Management Plan—The most recent version of the Adaptive Management Plan can be found in the Adaptive Management section of the IBMP website (*http://ibmp.info/adaptivemgmt.php*).

Citizens Working Group Recommendations (2011)—All of the documents pertaining to the Citizens Working Group can be found in the library section of the IBMP website (http://ibmp.info/library.php). The recommendations from the Citizens Working Group can be found at *http://ibmp.info/Library/20111130/Final%20CWG%20recommendations_formatted2.pdf.*

Appendix A. Northern and Western Management Area Maps

Figure A1. Northern Management Area for the IBMP as adjusted during 2012.

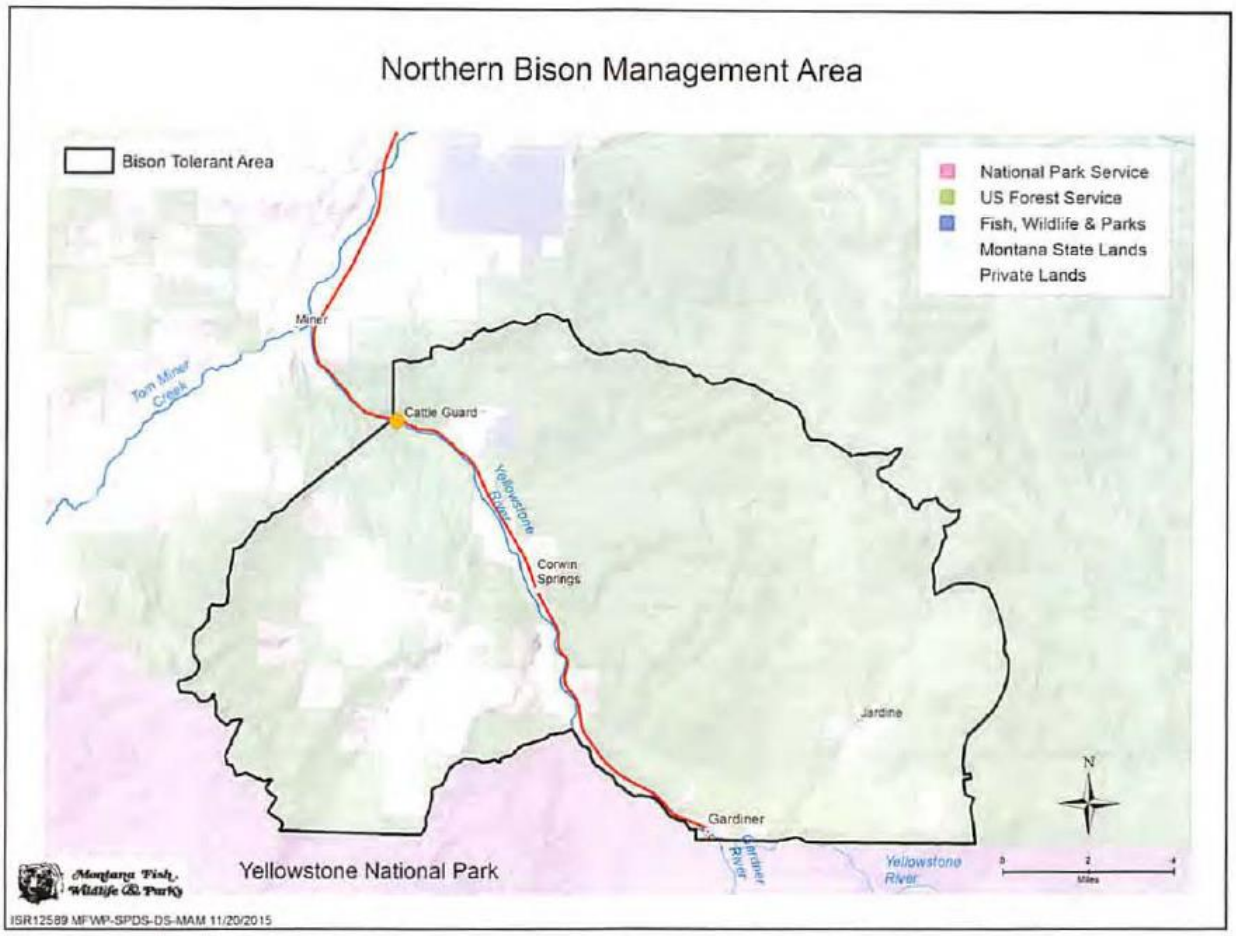


Figure A2. Western Management Area for the IBMP.