

GENERAL BISON MANAGEMENT DOCUMENTS AND GUIDELINES

Under Governor Bullock's 2015 Decision Notice for Year-round Habitat for Yellowstone Bison Environmental Assessment, bison are currently allowed to walk north up Highway 191, up to and including access to the Taylor Fork Drainage. Access to the nearby Cabin Creek Wildlife Management Area and the Monument Mountain Unit of the Lee Metcalf Wilderness has been allowed since 2000. Management of bison in these areas falls under the management and monitoring directives of the 2015 Decision Notice. These directives were incorporated into the current Interagency Bison Management Plan (IBMP) Adaptive Management Plan in May of 2016 (IBMP 2016). Further management direction is found in IBMP Operating Procedures adopted annually by IBMP agencies (most recently the 2018 Winter Operations Plan; IBMP 2017). These two documents outline considerable direction, including geographic limits, population ranges, management responses and tools, seasonal expectations, hunting and recreational opportunities, habitat and grazing, monitoring metrics, human safety concerns, and property conflicts. Importantly, because of the many variables and changing conditions both seasonally and year-to-year, the governor's direction to agencies provides "...management discretion on the ground to address potential threats as they are anticipated or arise, rather than simply applying a uniform, inflexible management response that at times may be unnecessary and costly." The IBMP has received questions regarding agency actions that may occur if bison move up and into the Taylor Fork. We have grouped questions and interagency responses under the following subtitles.

BISON AND HIGHWAY SAFETY

1. If 6 bison walked up HWY 191, what if any management of the bison or the traffic will there be? How would the road be managed if there were bison on the highway? If there are reduced speed limits, will they be enforced?

Highway Safety falls under the authority of the Montana Department of Transportation and Montana Highway Patrol (MHP). These agencies are the best resources to answer questions about HWY 191. MHP has detachments in WY, Belgrade, and Big Sky that respond to highway issues.

Montana Fish, Wildlife and Parks (FWP) does help with safety issues on the highway, but does not respond to haze every animal that is reported on a public road, including elk, deer, bison, moose, or others. FWP will work closely with the Montana Department of Transportation, the Montana Highway Patrol, Gallatin County, and local citizens to discuss safety measures. Significant new signage may be necessary, as may reduced speed limits.

Montana Department of Transportation provides information and data, but they do not set speed limits. There is a process in place to include speed studies and how to handle concerns. This information can be found at: <http://www.mdt.mt.gov/visionzero/roads/speedlimits.shtml>

2. How often does law enforcement patrol from the south of Ophir School to the YNP line?

Montana Highway Patrol does not track the time troopers spend patrolling particular areas or highways. However, the trooper stationed in West Yellowstone spends several shifts a week in the area between Ophir School (Big Sky) and the Yellowstone Park line. There is an additional vacancy in Big Sky, which if/when filled, will result in additional patrolling in this area.

3. How many tickets are handed out?

85 in 2017; 88 in 2016

4. How many animals are hit per year that you know of?

Our best available knowledge is that 5 bison were struck in 2016, and 3 in 2017, all just west or north of West Yellowstone. There have been no reported human fatalities from accidents involving bison within Yellowstone Park (Adams and Dood 2011).

Department of Transportation collects animal-vehicle carcass records. Using 2006-2017 data from the entire HWY 191 corridor from north of the canyon (mile marker 75) to West Yellowstone (mile marker 0), an average of about 100 animals of all species are hit per year. Carcass records include white-tailed deer, mule deer, elk, bighorn sheep, moose, and bison. White-tailed deer are the most common species hit and occur predominantly north of Big Sky. More animal-vehicle collisions occur between Bozeman and Big Sky than between Big Sky and West Yellowstone.

BISON AND HUMAN INTERACTIONS

5. Are there some sort of guidelines or training for landowners on living with bison?

The IBMP partners have sponsored and distributed a brochure entitled “Staying Safe in Bison Country.” Perhaps this document needs reprinting, much wider distribution, or improvement. This information is available at: <http://www.ibmp.info/bisoneducation.php>

6. How long will it take to get FWP folks out to haze bison? Can we haze them? Can we use flash bangs on them? What if the bison come up around our cabins? How quickly can the dangerous situation be managed? Are there guidelines on hazing them and are there fencing guidelines?

In the case of a landowner complaint, FWP would expect to respond within 48 hours, as we would with any game damage complaint. If an emergency arises, landowners should call 911. The closest local law enforcement is the Gallatin County Sheriff’s Office in Big Sky. Landowners can also call 1-800-TIP-MONT, which is FWP’s dispatch number.

Any landowner with safety or property concerns can haze bison as necessary. Gates et al., 2010 recommend employing preventative safety measures when/if possible (e.g., removing food attractants, moving around bison rather than confronting them). If landowners need to haze bison, less-aggressive hazing can be more effective and safer for humans, property, and bison. Examples include: do not separate bison from one another; allow them to stay in a herd; motivate the lead cow to move, and others will follow. If more aggressive measures are needed, hazing with a motor vehicle or use of rubber bullets are acceptable and legal. Regarding the use of “flash-bangs” or cracker shells, federal regulations prohibits use of cracker shells by private citizen unless properly trained.

There are a variety of resources available for guidelines on living with bison (see literature cited) as well as fencing bison (see Page 4, below). (IBMP 2018, Paige 2012, Adams and Dood 2011, and Gates et al. 2010)

7. When folks drive into YNP they are given all sorts of information on the dangers of bison. How will that information be gotten out to folks using the forest and river up this way?

(Also see question 5) FWP and the IBMP agencies can print and distribute the handouts about “Bison Basics” and “Staying Safe in Bison Country” to guest ranches. These handouts are available at: <http://www.ibmp.info/bisoneducation.php>

The Custer-Gallatin National Forest can work with FWP and other agencies to develop and distribute information regarding recreating safely in bison country. Potential outreach tools may include signs, brochures, flyers, web-based resources, and staff training. In order to maintain a consistent public message, outreach would align with literature previously developed by The Citizen Group on Bison Education with support of the IBMP addressing the basics of bison biology and staying safe in bison country.

8. When we travel into YNP there is almost always a ranger in attendance whenever there are bison near pedestrian areas or roads. Will bison/public interactions be managed in the Gallatin?

(See question 5.) Along with Gallatin County law enforcement, both FWP and MHP respond to safety issues on the highway, but do not respond to every animal that is reported on a public road, including elk, moose, deer, bears, or bison. We do not foresee the need to have rangers present due to bison on the landscape, although FWP wardens will at times be present, and will respond to landowner concerns.

9. How will campers/bison issues be managed on Taylor Fork?

FWP is open to discussing additional measures that may be necessary related to camping and campers, but would be prone to look at bison management similarly to bear or moose management in the same situation. If new signage is desirable, FWP will work with the Forest Service as necessary.

The Custer-Gallatin National Forest currently manages the Taylor Fork as a designated dispersed camping area. In addition, there are two rental cabins (Eldridge and Wapiti) available to the public. Bison safety information can be distributed and made available to campers through methods similar to those currently used for the “bear aware” program. Potential outreach may include signs, brochures, flyers, web-based resources, and staff training.

10. How will snowmobile users in the area be impacted?

FWP is open to discussing additional measures that may be necessary related to snowmobile users, but would be prone to look at bison management similarly to bear or moose management in the same situation. This situation presently exists in and around Yellowstone Park, and recreationists on snowmobiles are expected to behave accordingly. If new signage is desirable, FWP will work with the Forest Service as necessary.

General information on bison-human interactions

There are 2 reviews of bison-human interactions in Yellowstone National Park. Olliff and Caslick (2003) summarized data from 1980-1999, and Cherry et al. (in review) summarized data from 2000-2015. Olliff and Caslick (2003) described 79 incidents (range 0-13 per year) with annual Park visitation averaging 2.7 million people per year. The average distance between a human and bison for these incidents was 28.5

feet. There was one death in 1983. Cherry et al. described 25 incidents (range 0-5 per year) with annual Park visitation averaging 3.2 million people per year. The average distance between a human and bison for these incidents was 11 feet. There were no deaths. Both studies indicate photography as the major human activity leading to the encounter; that photographers were approaching just too close to get their picture. The clear finding of these reports is to recommend maintaining respectful distance from bison. The National Park Service (NPS) recommends a minimum distance of 25 yards or greater from wild bison. NPS also recommends observers learn to read the body language of wild bison; if a bison's tail is raised above horizontal, that is a clue the bison is agitated, and an observer should back up and increase distance between themselves and the bison (R. Wallen, personal communication).

Additional information is available from Adams and Dood (2011), who wrote at length about bison/human interactions. They reviewed several case studies from other areas. Although every area has unique qualities and circumstances, learning from what was done elsewhere can be very helpful. The two free-ranging bison programs in Utah have not had any reported incidents of bison threatening or injuring humans, even though the region of the Henry Mountains occupied by bison has seen an increase in public recreational use. As a result of hunting, the Henry Mountains bison have become very wary of humans, with most tending to flee at the sound of a stopping vehicle or the smell of approaching hikers. A similar situation exists on several of Montana's Indian Reservations where bison are hunted. There have been human/bison encounters resulting in light or no injury to humans on Antelope Island and in Saskatchewan; these are rare and anecdotal. Again, bison generally move off when humans enter an area. Wind Cave National Park in South Dakota hosts 600,000 visitors a year with 400 bison and has not reported a bison-related human injury (as of August 2010).

Other places with wild, free-roaming bison include:

- Henry Mountains, Utah: 300,000 acres (4,800'-11,500' with 98.6% public land). Country is steep and dry, bison have adapted to it and use the topography. Managed for 325 adults. Managed with cattle.
- Book Cliffs, Utah: 2.1 million acres, 5% private, 35% Ute Tribe Trust. 7,500-9,000' elevation, arid Colorado Plateau ecotype. 600-650 bison.
- House Rock, Arizona: >60,000 acres of public lands. 5,200-8,000' elevation, desert scrub grasslands, sagebrush, pinyon-juniper. 300 bison.
- Grand Teton, Wyoming: >350,000 acres of public land (Wildlife Refuge, National Park, National Forest) with some use on private lands in Jackson Hole. >6,200' elevation, sagebrush grasslands with long, cold winters. More than 1,000 bison as of 2007
- Sturgeon River Plains, Saskatchewan: >500 mi² public and private lands. Aspen forests, wet sedge, dry fescue. 200-400 bison.

BISON AND FENCES

11. (Questions regarding fences in general) We use jack fencing to keep our horses off the highway. Will Bison respect our fencing or walk right through to get to our irrigated pastures? What changes to our fence would be needed to keep the bison out? How tall? Electric fence has been mentioned... cost? Maintenance issues? Can we add electric to the jack fence or would we need two fences?

Adams and Dood (2011) and Gates et al. (2010) provide a literature review on exclusion and containment fences for bison. They acknowledge management experience is hindered by the limited number of free-ranging herds to learn from, and that communication, observation, and

future work will be necessary to develop creative management solutions. Based on these reviews, following are general guidelines:

- Effectiveness of any kind of exclusion fencing will differ based on the motivation of bison to breach the fence. Exclusion fence differs from containment fence; we do not need to discuss how to keep bison in (as on a bison ranch) but we do need to discuss how to keep bison out.
 - If motivation is low, less structure is needed to influence bison movement.
 - If hazed or chased, bison may break through fences.
 - Bison may test fences if they are hungry and there is a food attractant on the other side.
- Electric high-tensile fence can be effective at containment, as evidenced by many miles of it on the Fort Peck Indian Reservation.
 - Maintenance is minimal for this kind of fence if it is well-constructed.
 - High shocks will deter crossings. Energizers on electric fences increase amperage and voltage and power of the shocks.
- Properly-maintained 3 or 4 wire fences deter bison if motivation is low. This is the experience of Turner Ranches
- Woven-wire 48" fence with 2-strand barbed wire tops will be complete exclusion fences to all large wildlife species. This fence should only be considered for small areas (e.g., stackyards) and not be used on large scales (e.g., pastures) as animals, including elk and deer, attempting to cross can get entangled and perish.
- A 6' buck and pole fence along the Northern Range in Yellowstone was not crossed by bison, except by using an irrigation ditch that ran below the fence. They typically walk along it until they find a gate. Generally speaking, unless motivation is high, buck and pole fences provide a visual barrier that deters bison.

Any changes to fencing are entirely a landowner prerogative and decision. Experience has shown that taller fences are not necessary to deter bison. Cost and maintenance are items on which FWP and NGO's have worked cooperatively with landowners, and always remain an option.

12. (Questions regarding landowner liability) What if one of the bison breaks our fence and our horses get out on the highway and cause a wreck? What if a fisherperson touches our electric fence and gets hurt? What if our electric fence causes a fire to start?

Montana law (27-1-724. MCA) provides clear limits to the liability of any livestock or property owner in accidents involving motor vehicles and livestock. The law reads, "a person owning, controlling, or in possession of livestock or a person owning property has no duty to keep livestock from wandering on highways and is not subject to liability for damages to any property or for injury to a person caused by an accident involving a motor vehicle and livestock unless the owner of the livestock or property was grossly negligent or engaged in intentional misconduct." Neither gross negligence nor intentional misconduct applies to the proposed scenario. With proper installation of modern electric fencing technology, neither human danger due to shocking nor fire danger pose a risk.

BISON AND HUNTING

13. If Bison are hunted in the area, how will the gut piles impact the behavior of our other wildlife or will the gut piles be packed out?

Experience has shown that gut piles are scavenged surprisingly quickly, and given the relatively low numbers of bison expected to be in the area, the expectation is that gut piles need not be packed out. That said, hunting seasons are set to avoid gut piles becoming an attractant to bears who may be coming out of their dens in the spring.

14. Will the native American hunter be hunting other species than bison?

Treaty tribes hunting on Forest Service lands typically do not take other species, but treaties do not necessarily prohibit the incidental take of other species. The presence of bison is not the determining factor of what species may be taken by an American Indian Tribe that have secured off-Reservation hunting and/or fishing rights in their usual and accustomed places. Currently, most Treaty Tribes limit their respective big game hunting in the greater Yellowstone area and focus primarily on the taking of bison.

IF BISON WERE TRANSPLANTED

If 20-25 bison arrived in Taylor Fork by truck:

15. Who would manage them?

FWP has management responsibility for all wildlife, including bison, unless there is a disease concern for livestock that may be present, in which case by law the Montana Department of Livestock has responsibilities as well.

16. Would they be monitored or tracked?

Yes, per the monitoring previously mentioned. (See question 1 above.)

17. What behaviors would be acceptable and what specific management steps would be taken?

(See questions 1, 7, and others, above.)

18. Would there be a hard cap on population growth?

Yes. Presently these caps vary by season, for the entire west side of the Park, from Horse Butte up through the Taylor Fork: January-February, up to approximately 450 bison; March-June, up to approximately 600 bison; July-September up to approximately 250 bison; September-December up to approximately 450 bison. These ranges are found in the 2015 Decision Notice and the May 2016 IBMP Adaptive Management Plan previously mentioned. (See literature cited for access to these documents)

19. Would there be meaningful help for local ranchers for fencing or livestock management?

(See questions 11 and 12 above)

20. Would the bison be removed/shot/... if they repeatedly crossed onto private lands or damaged fences?

Yes, capture and lethal removal can both be used in these circumstances if property damage or human safety is threatened, by landowner or by agency, per the plans and operating procedures mentioned above.

21. Would there be additional rangers to monitor folks coming up to see the bison?

(See questions 7 and 9, above)

LITERATURE CITED

Adams, S. and A. Dood. 2011. Background information on issues of concern for Montana: Plains bison ecology, management, and conservation. Montana Fish, Wildlife and Parks, Bozeman, Montana. 158pp.

Available at: <http://fwp.mt.gov/fishAndWildlife/management/bison/plainsEcology.html>

Cherry, C., K.M. Leong, R. Wallen, and D. Buttke. *In review*. Risk-enhancing behaviors associated with human injuries from bison encounters in Yellowstone National Park, 2000-2015.

Decision Notice. 2015. Year-round habitat for Yellowstone Bison Environmental Assessment. 38pp.

Available at: <http://fwp.mt.gov/fishAndWildlife/management/bison/>

Gates, C.C., Freese, C.H., Gogan, P.J.P. and Kotzman, M. (eds.) 2010. American Bison: Status Survey and Conservation Guidelines 2010. Gland, Switzerland: IUCN.

Available at: https://cmsdata.iucn.org/downloads/american_bison_report.pdf

IBMP 2016. May 2016 IBMP Adaptive Management Plan

Available at: <http://www.ibmp.info/library.php>

IBMP 2017. 2018 IBMP Winter Operations Plan. December 26th, 2017.

Available at: <http://www.ibmp.info/library.php>

IBMP 2018. Staying Safe in Bison Country. Brochure.

Available at: <http://www.ibmp.info/bisoneducation.php>

MFWP 2013. Draft Joint Environmental Assessment. Year-Round Habitat For Yellowstone Bison. July 2013. Montana Fish, Wildlife and Parks. Helena, MT. 120pp.

Available at:

http://fwp.mt.gov/news/publicNotices/environmentalAssessments/plans/pn_0014.html

Olliff, T. and J. W. Caslick. 2003. Wildlife-human conflicts in Yellowstone: when animals and people get too close. *Yellowstone Science* 11(1): 18-22.

Available at: https://www.nps.gov/yell/learn/upload/YS_11_1_sm.pdf

Paige, C. 2012. A landowner's guide to wildlife friendly fences. Second Edition. Private Land Technical Assistance Program, Montana Fish, Wildlife and Parks, Helena, MT. 56 pp.

Available at: <http://fwp.mt.gov/fishAndWildlife/landowners/>

Additional suggested reading on bison biology and behavior:

Olson, Wes. 2005. Portraits of the Bison. University of Alberta Press. Edmonton, AB. 107pp.