

IBMP adaptive management committees
Increasing Habitat
Report from field review on west side (Hebgen Lake Ranger District) 9/27/11

Participants: Jodie Canfield - GNF, committee lead
Julie Cunningham - FWP
Rick Wallen - YNP
Shane Grube - DOL
Jim Smolczynski - FWP
Brent Brock - Craighead Institute

Background: The trip objective was to field review the area south of West Yellowstone along the park boundary and south of HWY 20 (South Fork Madison River), which was identified at our committee meeting in Helena last April, to assess its current and potential suitability for occupation by bison outside of YNP. We also discussed Horse Butte and opportunities for management changes there.

Jodie hired the Craighead Institute to put together some map layers showing topography, snow depths, vegetation, roads, developments, and grazing allotments. They also have the capability to run a "cost distance model" that would help identify the potential bottlenecks for bison in this area (poor habitat = high cost and visa versa).

Rick Wallen has maps of bison habitat based on a (year-round) model he developed from radio-marked females; he has also mapped what they currently use. The model shows suitable bison habitat in the South Fork area.

General observations from the maps:

- The area is mostly forested; a mix of gentle and steep topography
- There are no cattle grazing allotments
- The only private land is the South Fork Madison Guest Ranch and it is fenced with high tensile fence and under a conservation easement
- Popular area for snowmobiling; rendezvous ski trails are immediately south of West Yellowstone.
- ATV's, bicycles etc. use in summer

Shane: Bison have never occupied this area. They don't find it. They come out of the park and hit the fenced airport and go north. There were a few bulls that crossed the highway and went over to the Madison Fork Ranch and they ended up in Idaho. This area is a snow hole and does not have very good habitat.

Rick: Forested areas are used by bison when grassland habitats become desiccated. Thinning forests can help keep the understory vegetation palatable to bison. Bison find this kind of habitat at higher bison densities (intra-specific competition). Burned areas can function to "lure" bison into new areas for at least 5-6 years.

Question: Is snow a predictable barrier?

Craighead maps showed min snow depths > 1 meter in March and April. We may want to use average and $\frac{1}{2}$ meter in next go-round. Also, by March, bison are able to walk on top of the frozen snowpack in the morning. Fred Watson did a snow melt model in YNP; when the snow melts along the river corridors, bison start to move out of YNP. The riparian (and sometimes, road) corridors are key to bison movement.

Question: Are we limiting our discussion to late winter/early spring occupation?

The IBMP adaptive management measures in 2008 allow for consideration of adult male bison to pioneer new habitat; hazing should be focusing on the females. At high densities of bison, females may move into mountainous habitat. Males will use mountainous habitat on NFS lands in the fall (which then makes them available for hunting). Bison, if not hazed, may spend additional time on NFS lands, but will move back into the park for the rut in late July. Should be noted that hunting will affect bison use of an area (avoidance).

Question: Why is this area mapped as ZONE 3 (no tolerance for bison) when there is no issue with cattle?

No one is sure why the lines were drawn that way; DOL would not actively remove bison from this area if they got there unless there was a request by private landowners.

Question: What could we do to get bison into the South Fork area?

- Transporting doesn't seem feasible
- Fire openings seem to attract bison and they will use burned open areas as corridors - when the standing trees fall, the movements shift again.
- Clear timber from roadsides to attract bison - grasses melt out sooner along road corridors; could also have a secondary benefit in reducing snowmobile accidents
- May need to preclude hunting until use patterns become established - works with state hunters; would need to inform and educate to get tribal cooperation.
- Probability of winter use is low - no water source to follow from the park.

Connected Actions in the rest of Hebgen Basin:

Hazing on Horse Butte (Why do we haze bison in zone 2)? Fear is that bison will swim the narrows and co-mingle with cattle. Also, the grass on HB is much better than in the park, so if you wait too long phonologically, the bison do not want to leave. Counterpoint: Hazing is costly (\$) and agencies get a black eye; bison physiological costs as well.

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Potential Mitigation:

- Drift fence on HB to prevent bison from "swimming the narrows".
- Cattle guards to prevent bison from being in the subdivisions where they damage property.
- Provide fencing and address damage like we do for other wildlife species (FWP).
- Provide game damage herders (FWP).
- Lethally remove bison that are pioneers (generally males)
- Change dates on use of the capture facility to allow females to stay longer; once the calf is born, there is no brucella risk
- Improve habitat on HB to increase grass production (timber thinning, Rx burning)

Hypothesis: If bison were not hazed from Horse Butte, by mid-June, they would naturally move back into the Park Interior. A few animals may not move back and could provide opportunities for expansion on NFS lands and ultimately additional hunting areas. Tolerance is density dependent (the public will tolerate a few bison).

Competing Hypothesis: If bison are not hazed as they are currently, they will not move back into the park and they will scatter; making hazing challenging; irrigated areas will attract bison. High likelihood of property damage occurring. Issues with horses (bison will "gore"). Increasing recreational use as season progresses will also prevent effective hazing.

Recommendation: Test the hypothesis; develop trigger points and contingency plans if the prediction does not prove true. Engage the citizen's working group to help.

FIELD REVIEW CONCLUSIONS and PHOTOS

The South Fork Madison area has several riparian corridors and natural openings that are suitable for bison. The capability and suitability could be enhanced by creating a treeless buffer (50-100 feet on either side) along the roads. In addition, Rx fire could enhance bison habitat. A strategy for the season, intensity, and rotation around the landscape could be developed. It would be worthwhile to have the connectivity analysis completed so we could better understand how bison would move around in this area and what the pathways for "getting out" might be.







