

From: [Kaczor, Nick](#)
To: [Pettibone, Andrew L](#); [Moeder, Linda J](#)
Cc: [Gilles, Benjamin M](#)
Subject: Fw: Grizzly Ridge Bison Ranch Map
Date: Thursday, September 14, 2023 3:45:23 PM
Attachments: [Outlook-fr5kkcee.png](#)
[GRBR_Map_Zoomed.pdf](#)
[GRBR_Map_Zoomed_Topo.pdf](#)
[Outlook-x0r1e2rx.png](#)

Andrew and Linda,

Before sending up to Matt, we need to change some things to alleviate any questions on this. Goal is to clearly show the work on the ground without spurring more questions. See my comments below. Thanks,

- Increase the size of the legend.
- Clean up the legend descriptions so the reasoning behind the colors is more defined (e.g., Orange = Grizzly Ridge Ranch - No easement..... Red = Grizzly Ridge Ranch - FWS easement)
- Fencelines. Change to a fence icon so we know where they are at. Remove the gray line on the ranch polygons so they don't look like fences. Let's try and clearly show where the fences are, and where they are not.
- While probably important for the field, not sure the inset map helps as it doesn't help with the view. I suggest removing.
 - Also, I don't know all the history here, but we may get questions on why the cluster of crossings in a non-bison area. Do we want to highlight that, or remove them from the display?

-Nick

Nick Kaczor

Acting Refuge Supervisor
Mountain Zone (CO, MT, UT, & WY)

U.S. Fish and Wildlife Service
Mountain-Prairie Region
134 Union Blvd., Suite 300
Lakewood, CO 80228
303-345-4299
nick_kaczor@fws.gov



From: Pettibone, Andrew L <andrew_pettibone@fws.gov>

Sent: Tuesday, September 12, 2023 10:07 AM

To: Fox, Trevor T <trevor_fox@fws.gov>; Armitage, Stacy A <stacy_armitage@fws.gov>; Gilles, Benjamin M <benjamin_gilles@fws.gov>; Kaczor, Nick <Nick_Kaczor@fws.gov>

Subject: Re: Grizzly Ridge Bison Ranch Map

Morning all,

1. The sentinel imagery was goofing up. I changed the aerial imagery background and included one with a topo background.
2. Fence crossings have been enlarged and color changed.
3. Red cross hatching displays where the bison pastures are located. Only those portions of the ranch are managed for bison and have bison fencing.
4. The white arrow is an inset displaying a cluster of fence crossings. The map was designed for a printed use and this inset is helpful when there are so many crossings so close together.
5. We're zoomed in too far to see the Canadian boundary. The previous version had some text that was not dynamic to the map and has been deleted.

Andrew Pettibone
U.S. Fish and Wildlife Service
Wetland District Manager
Benton Lake Wetland Management District
Cell: (406) 690-9202

From: Fox, Trevor T <trevor_fox@fws.gov>

Sent: Tuesday, September 12, 2023 8:24 AM

To: Pettibone, Andrew L <andrew_pettibone@fws.gov>; Armitage, Stacy A <stacy_armitage@fws.gov>; Gilles, Benjamin M <benjamin_gilles@fws.gov>; Kaczor, Nick <Nick_Kaczor@fws.gov>

Subject: Re: Grizzly Ridge Bison Ranch Map

Good morning, Andrew:

Thanks for turning this around quickly. Could you (and/or Linda) make a few adjustments to the map to make it a little easier to read and get the point across?

- The aerial photos are great, but the different shades of the coverage are a little distracting. Could you do a version with this aerial phot background and one with a different background layer (e.g., topo or hybrid map layer... whatever looks best)?
- The icons for the map crossings are a little difficult to pick out, could you adjust the size and potential color to better highlight?
- It is not clear what the red cross-hatching mean in the legend. I assume that is for bison

pasture, but it isn't clear.

- It's not clear what the white arrow is from easement to the parcel with the dotted boundary is. Also, not sure what the dotted boundary line means.
- Mark the Canada boundary

Thanks for all the great work on this issue!

Trevor



Trevor Fox

Deputy Assistant Regional Director

National Wildlife Refuge System

U.S. Fish and Wildlife Service

Mountain-Prairie Region

Cell 303-253-4259

Pronouns: he/him

From: Pettibone, Andrew L <andrew_pettibone@fws.gov>

Sent: Monday, September 11, 2023 11:31 AM

To: Armitage, Stacy A <stacy_armitage@fws.gov>; Fox, Trevor T <trevor_fox@fws.gov>; Gilles, Benjamin M <benjamin_gilles@fws.gov>

Subject: Grizzly Ridge Bison Ranch Map

Morning all,

Attached is a zoomed in version of the Grizzly Ridge Bison Ranch (GRBR) map that we received from Realty a couple weeks ago. Linda Moeder in realty shared the project file with me and I am now able to make tweaks to the map as needed. I've zoomed in as much as possible and still display the N/S reaches of the eased portion of the ranch. I'm not a cartographer and this map is very busy and difficult to display everything we are trying to communicate with this product. One must read the legend to begin to decipher this darn thing. If we or Matt need much beyond what's attached, I suggest we go back to Linda Moeder and ask for her assistance.

Also attached is a photo of the ranch's fence crossings that they use in Canada. This Canadian portion of the GRBR is under easement by TNC and TNC has approved the following fence crossing. Photo is attached as "TNC Canada Crossing GRBR". The crossing is 18" bottom and 48" top.

Hope this helps.

Thank you,

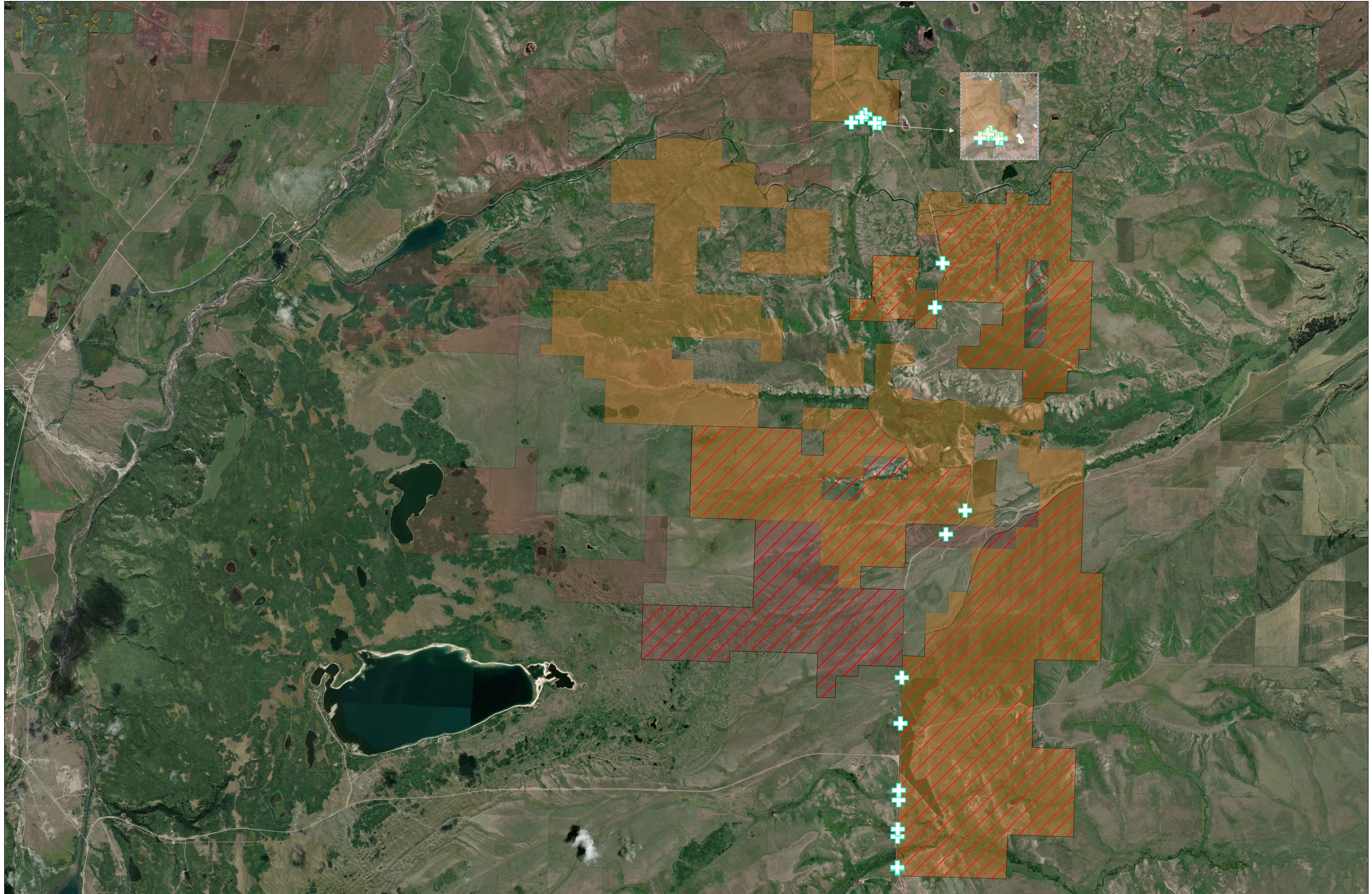
Andrew Pettibone
U.S. Fish and Wildlife Service
Wetland District Manager
Benton Lake Wetland Management District
Cell: (406) 690-9202



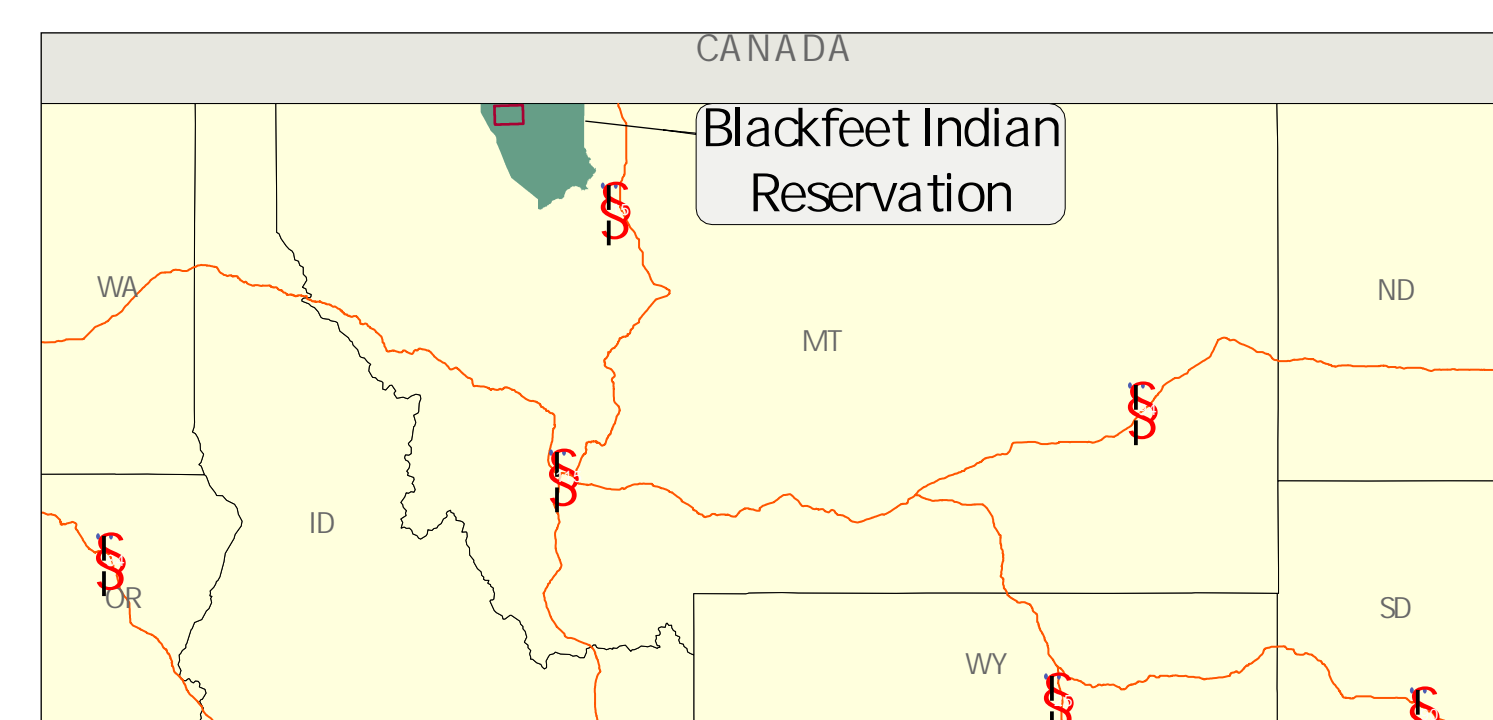
N A T I O N A L
W I L D L I F E
R E F U G E S Y S T E M



U.S. Fish & Wildlife Service
Grizzly Ridge Bison Ranch Easement
Glacier county, Montana



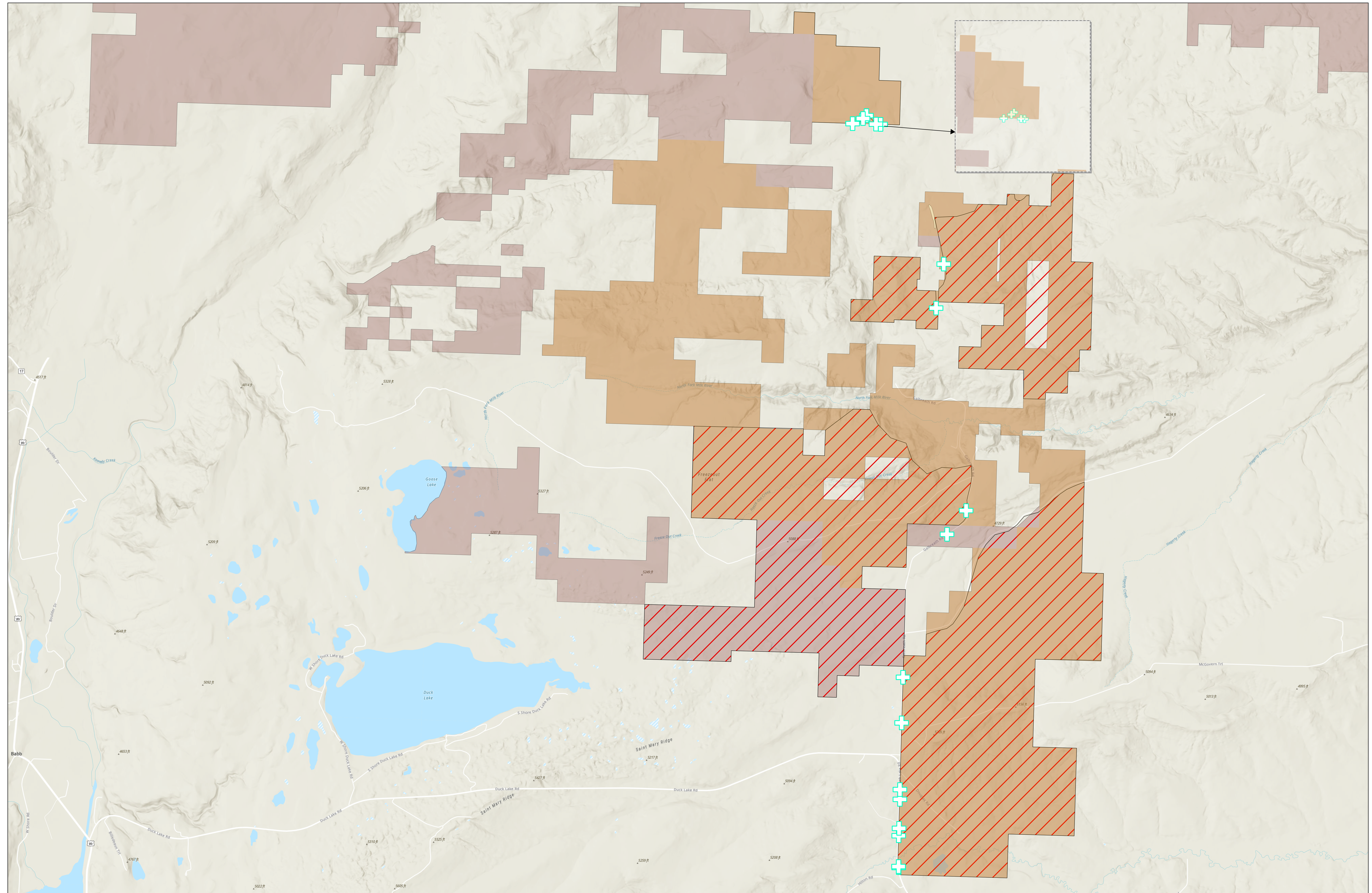
Produced in the Division of Realty
Lakewood, CO
Land Status Current To: 8/12/2023
Map Date: 9/12/2023
Project on: UTM Zone 12 - NAD 1983
Product on Software: ArcGIS Pro v3.1.2



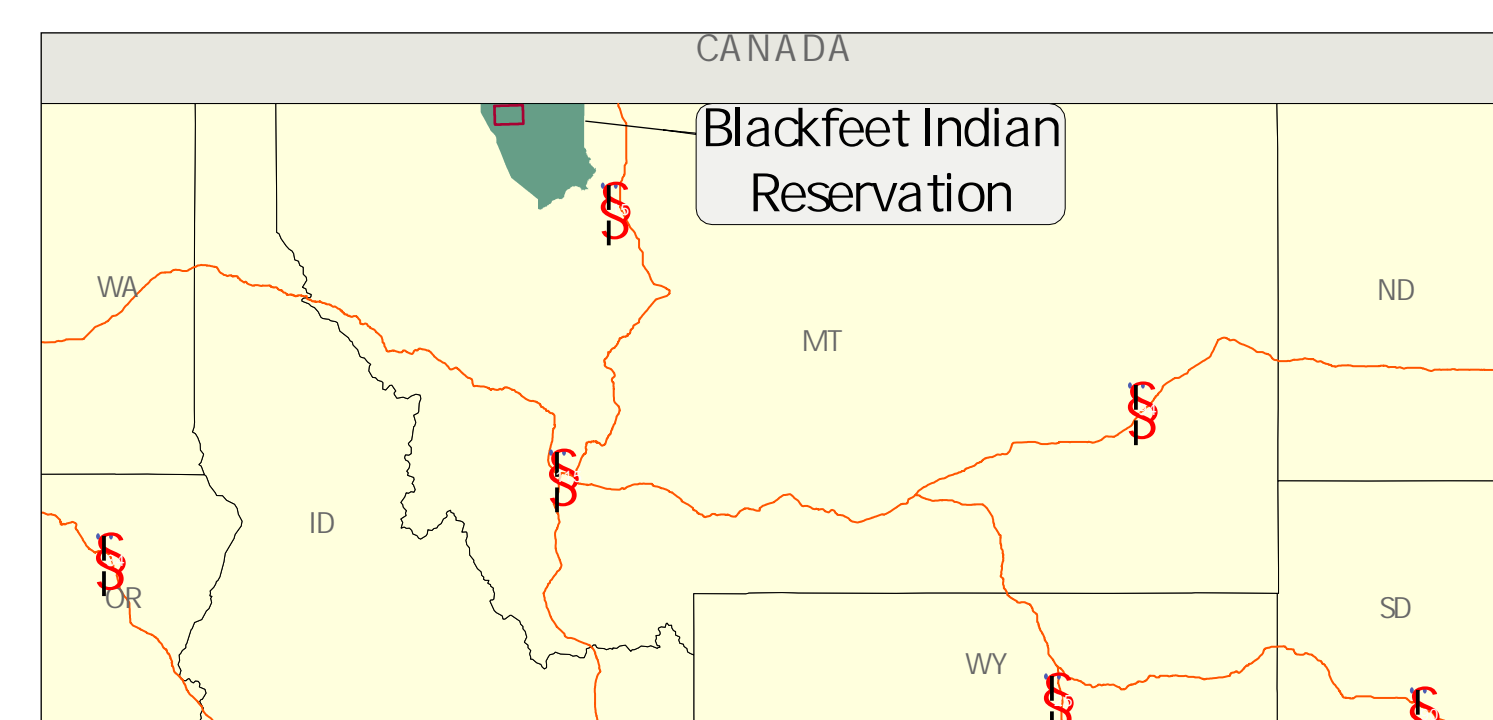
- Legend
- Modified Fence Crossings
 - Grizzly Ridge Bison Ranch Easement Boundary
 - Existing Bison Fence
 - Existing Bison Fence Line
 - Grizzly Ridge Bison Ranch
 - Grizzly Ridge Bison Ranch
 - dtl_st
 - Sentinel-2 Views
 - Red: B4_Red
 - Green: B3_Green
 - Blue: B2_Blue



U.S. Fish & Wildlife Service
Grizzly Ridge Bison Ranch Easement
Glacier county Montana



Produced in the Division of Realty
Lakewood, CO
Land Status Current To: 8/12/2023
Map Date: 9/12/2023
Project on: UTM Zone 12 - NAD 1983
Product on Software: ArcGIS Pro v3.1.2



- Legend
- Modified Fence Crossings
 - Grizzly Ridge Bison Ranch Easement Boundary
 - Existing Bison Fence
 - Existing Bison Fence Line
 - Grizzly Ridge Bison Ranch
 - Grizzly Ridge Bison Ranch
 - dtl_st



NATIONAL
WILDLIFE
REFUGE SYSTEM