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May 8, 2016

Yellowstone Grizzly Bear Population Proposed Delisting Rule  
Public Comments Processing  
Attn: Docket No. FWA-R6-ES-2016-0042  
U. S. Fish and Wildlife Service  
MS: BPHC  
5275 Leesburg Pike  
Falls Church, VA 22041-3803

I oppose delisting the grizzly; the delisting is premature in the Greater Yellowstone Ecosystem (GYE). I am going to address the northern, western and northwestern part of GYE in Montana and later the connectivity to the northern continental population.

**Grizzlies in Montana have limited habitat**

Grizzlies now occupy less than 95% of their original habitat and have lost 95% of their numbers. They are now found in the GYE and the northern continental area. Presently there is no connectivity between the grizzly populations. **Attachment 1** shows a map of observations and recency of observations. This map is from the State of Montana Natural Heritage Program. This map shows that there is no connectivity that has been observed. The map also shows that observations are adjacent to YNP to the north, northwest and west. These populations do not continue north to connect with observations that have been made with the northern continental population. To the west, grizzlies have not been observed in many years in the Bitterroot Range. With delisting and the resulting population decline, the connectivity will not happen. The grizzly population needs to increase and migrate for connectivity.

**Attachment 2** shows Montana Mountain Ranges marked with connectivity corridors from the GYE. The route to the northwest has not been established nor the route to the west. Both of these routes are perilous for grizzlies, especially if delisted. Even at the present time, ecological conditions necessary for viable populations are tenuous because of livestock grazing. Connectivity is necessary for this species. The connectivity value of these areas is available but if the grizzly is delisted, fewer protections will be in place to insure connectivity.

The concentration of observations is next to YNP in Montana, north, northwest and west. There are difficult issues already for grizzlies in these areas.

- west is a sheep station in the Centennial Mountains and many allotments on USFS and BLM land in the Tendency Mountains ,
- To the northwest in the Gravelly and Snowcrest Ranges are numerous cattle and sheep allotments. The Gravellys have 8000-12,000 sheep in seven allotments.
- Delisting will make it much easier for the state to control the bear through less regulation for "problem" bears; livestock producers will have more power, hunters (even when they are not following prudent procedures for game storage and retrieval) will have fewer consequences if they kill a grizzly in an encounter. I can speak to this, because I witnessed what happened to wolves when they were delisted next to YNP.

### **Grizzly Habitat is Impacted**

**Attachments 3 and 4** show proposals of the USFS logging projects adjacent to YNP on the west and northwest. Similar projects will probably be proposed adjacent to YNP in the southwest corner and to the north. These areas were designated Farm Bill priority lands which mean they are planned with a categorical exclusion which is a much less rigorous review. These USFS projects will have a negative effect on grizzlies leaving YNP. In addition; The requirements for these designations were laid out explicitly in the 2014 Farm Bill, Sec 602 and are as follows:

- 1) Experiencing declining forest health, based on annual forest health surveys conducted by the Secretary;
- 2) At risk of experiencing substantially increased tree mortality over the next 15 years due to insect or disease infestation, based on the most recent National Insect and Disease Risk.

The Farm Bill lands have ecosystem problems that impact grizzlies. **Attachment 5** shows the Farm Bill lands north and west of YNP. Wildlife migration routes are marked. The grizzly habitat is negatively impacted by declining forest health, increased tree mortality, and it will be logged up to the edge of YNP AND they will not have protections that the ESA provides. This is too much change for the species.

So, not only is the habitat already impacted by declining forest health, but will be further impacted by logging. **Attachment 6** shows data from NOAA about the long-term conditions for the area around YNP.

### **Management of the Grizzly Population**

Management of grizzlies will be turned over to the State of Montana, and managed by Montana Fish Wildlife and Parks. FWP released their draft grizzly management plan on 5/5/2016 and in the plan, it is proposed:

- Spring and fall hunting seasons in seven hunting districts near the border.  
**Attachment 7** shows where these hunts are located, all around the boundaries of

Yellowstone National Park. The state is opening seven hunting districts that is the YNP/Montana boundary. Where can the bears go, and when? A spring hunt, (right out of hibernation) and a fall hunting season, preparing for hibernation does not provide grizzlies enough protection

- the state didn't address habitat connectivity for the bears even though biologists say connectivity is vital to their long-term viability

Now why is this background information important, and why should it be a major consideration in the delisting process. This is what I will address:

**GYE grizzlies have a special diet, mainly ungulates, cutthroat trout, whitebark pine and army cutworm moths. These foods have been documented and the effects on the physiology of the bears, especially females is known. These food groups have and continue to be profoundly impacted.**

- **Ungulate**- numbers are down for wild ungulates in the GYE around YNP.
- **Army Cutworm Moths (ACM)**- are found in the alpine talus slopes in the SE area of YNP and outside the park to the SE. These alpine area are predicted to have a 90% loss by 2099
- **White Bark Pine** – WBP have suffered catastrophic losses from the 1988 fires, beetle kill from 2005 onward; since 2007 they have been in terminal decline. Climate warming is having a huge effect and the projection is for warmer temperatures and flat precipitation, so warmer and drier (the warmer temperatures negate average precipitation). In preparation for this comment period I hiked much of the area around the perimeter of YNP to the north, northwest and west to assess the WBP conditions. I photo documented no WBP cones in any locations.
- **Cutthroat Trout Cutthroat Trout** – since the introduction of the Lake Trout in 1994 CTT numbers are in severe decline

Now with CTT, WBP and ungulate numbers down and ACM only in the SE area grizzlies are forced to move toward meat. Eating meat is hazardous for grizzlies; it brings them into more contact with humans which mean more grizzly deaths (conflicts with hunters and livestock producers). Grizzly deaths have been at record high, over 60 this year, with 80-90% human caused by conflicts with hunters or livestock producers

As they search for their dietary needs that have shifted toward meat creates a problem for grizzlies. This meat shift is especially dangerous for females because it puts them in competition with males for the same food source and males are larger, males want to kill cubs to mate with the female, plus meat is not the food source that females need to produce

the number of cubs that will survive (only ½ the cubs survive the 1<sup>st</sup> year). Female cub birth rate/ WBP food supply = 3 cubs, Meat food supply = 1 or possibly 2 cubs each breeding cycle

Habitat changes (diet, food effects) will not be immediate; the lag effect may take 10-15 years. Presently the population trend is flat to downward. The study team said that grizzlies are occupying more area as they search for food (I don't see this documented in observations the Montana area of the GYE. The population is up, but the trend is flat to downward. Trend trumps size when other factors are considered.

The food effects show that grizzlies need more protections and more space, something that delisting will not provide.

### **Population**

There is also a question about the population numbers that were gathered. If ACM being a major food source is used as a primary site to gather data, the data could be moved toward larger numbers, they are easy to spot because of the open area of the alpine talus slope. Comparing the old counts, (when they were in WBP forests and harder to count thus giving a lower count to more open counting could make it a false positive population count. Another count method that has been used shows a slight decline from 2000 to 2015.

### **Climate Change in the Greater Yellowstone Ecosystem-the Science**

Climate science and understanding how climate change may affect the Greater Yellowstone Ecosystem and today there is no question that Earth's climate has warmed. **Yellowstone Science** published a special issue in 2015 on the **Ecological Implications of Climate Change on the Greater Yellowstone Ecosystem**.

- **Ecological Implications of Climate Change in Yellowstone: Moving into Uncharted Territory?** By Dr. William H Romme and Dr. Monica G. Turner "Climate warming is inevitable and the changes are coming much sooner than previously thought; many are already underway. It is also apparent that the ecological effects of climate change will be more dramatic and far-reaching than we realized. The Yellowstone ecosystem now appears less resilient to future change than we thought in 1992. We need to be alert to tipping points and thresholds beyond which major qualitative changes will take place. The past may not predict the future, but we may be heading outside the range of climatic and ecological condition that have characterized the last 10,000 years-moving into uncharted territory."
- **Historic and Projected Climate Change in the Greater Yellowstone Ecosystem** by Tony Change and Dr. Andrew Hansen. "results indicate climate has and will continue to change substantially. Our summary of projected climate suggests the



future will experience temperatures higher than any time in the warm periods of the Holocene. One possible future is for the system to move into a new state with little summer snow, very low stream flows, frequent and severe fire, and switch from forest-dominated vegetation to desert scrub vegetation.

- **Changing Climate Suitability for Forests in Yellowstone and the Rocky Mountains** by Dr. Andrew Hansen, Dr. Nate Piekielek, Tony Chang and Linda Phillips Whitebark pine is of special interest in GYE. It is considered a keystone species in the subalpine. It provides a food source for wildlife, including the grizzly bear. Whitebark pine has experienced a notable decline in the past decade...whitebark pine was found to have the highest vulnerability to climate change in the the Rocky Mountain analysis...a high level of concern for this species in the GYE is warranted. Projected suitable habitats for this species by 2100 are only in the highest elevations of the GYE "Projected climate change represents a very significant challenge to natural resource managers...climate adaptation planning involves multiple steps that link climate science and management...vulnerability assessments can reveal which species or ecosystems are at risk."

### **Other Science**

We have a stressed ecosystem that is to be logged with a categorical exclusion without having to consider the effects on an endangered species if the grizzly is delisted. This is only one ramification of delisting. Here is research from Colorado University. Lands of the edge of YNP that will be logged can have serious consequences for the grizzly.

### **A framework for integrating thermal biology into fragmentation research**

"When you chop down trees, you create hot spots in the landscape that are just scorched by the sun," said Kika Tuff, a PhD candidate in the Department of Ecology and Evolutionary Biology at CU-Boulder and the lead author of the new paper. "These hot spots can change the way that heat moves through the landscape."

One such example, Tuff said, could be the feeding patterns of animals living at the forest edge. Animals are very temperature sensitive, so they hunt for food when they have sufficiently warmed up in the morning and stop hunting for food when it is too hot in the afternoon. If temperatures are higher at the forest edge, species may respond by retreating to hunt in the cooler, deeper forest, where they become dependent on new types of food, sparking a domino effect in the food chain.

Another example might be the timing and duration of species activity. If temperatures were to increase due to tree loss, predators may start foraging later in the day to avoid the heat. Such a change could increase how frequently predators come across their prey, intensifying predation events and resulting in localized prey population crashes in some cases.

K. T. Tuff, T. Tuff, K. F. Davies. **A framework for integrating thermal biology into fragmentation research.** *Ecology Letters*, 2016; DOI: 10.1111/ele.12579

**Shrinking habitat, increased conflict projected in regions critical to survival of threatened apex predators.**

Lead author Dr. Enrico Di Minin of University of Helsinki explained, "We assessed how expected land use change will affect priority areas for carnivore conservation in the future. The analysis revealed that carnivores will suffer considerable range losses in the future. Worryingly, it seems that the most important areas for carnivore conservation are located in areas where human-carnivore conflicts are likely to be most severe."

Enrico Di Minin, Rob Slotow, Luke T. B. Hunter, Federico Montesino Pouzols, Tuuli Toivonen, Peter H. Verburg, Nigel Leader-Williams, Lisanne Petracca, Atte Moilanen. **Global priorities for national carnivore conservation under land use change.** *Scientific Reports*, 2016; 6: 23814 DOI: 10.1038/srep23814

**USFWS and the Great Northern Landscape Conservation Cooperative**

USFWS is a leader in this landscape conservation effort. USFWS coordinated, administrates information systems and is the science coordinator. Funding for 2016 has been appropriated to increase the partner's forum, to plan for conserving an intact and connected GNLCC, analysis of future landscapes for viability, coordinate climate change adaptation, and build large scale drought resiliency in the Missouri Headwaters Basin.

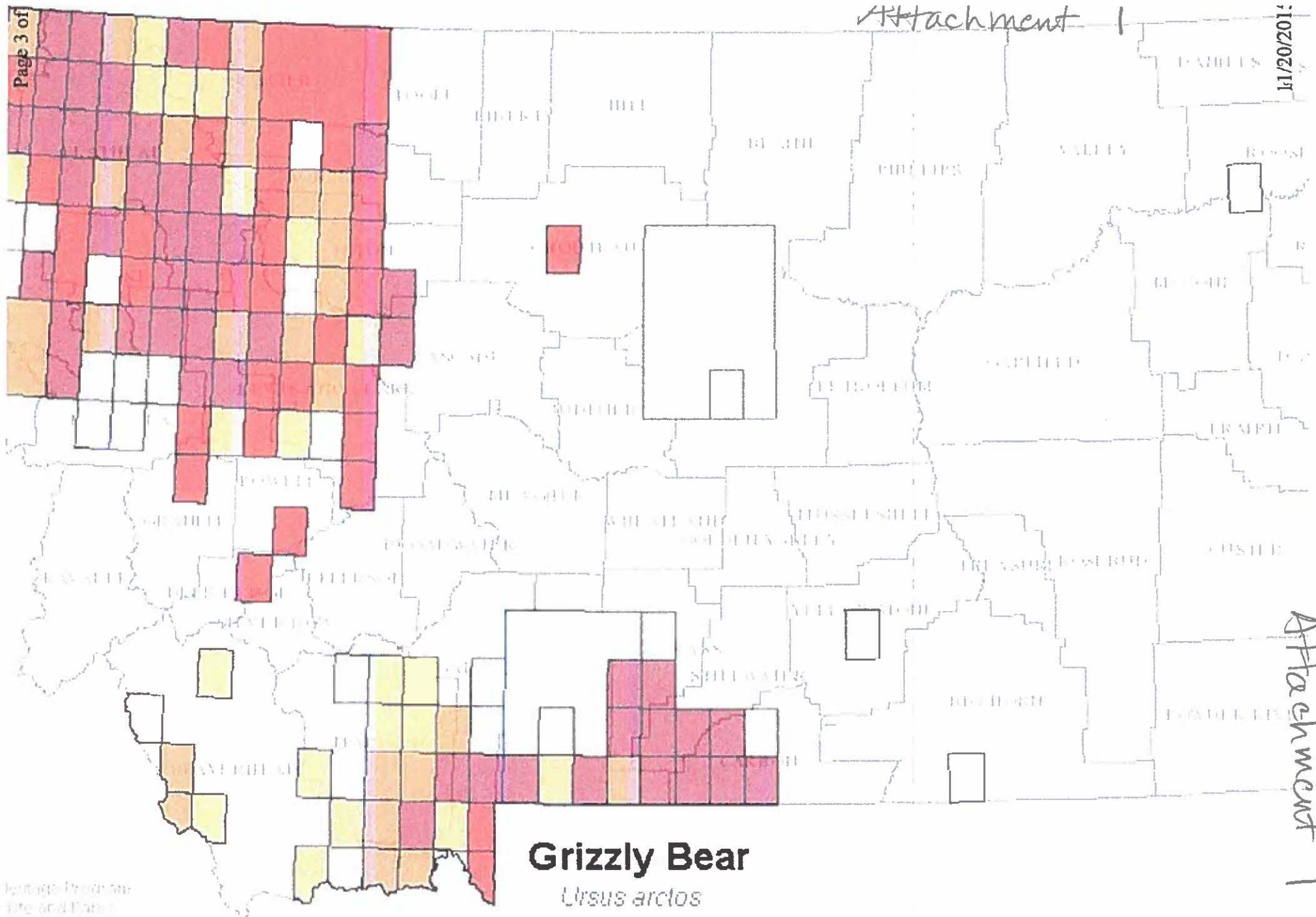
The GNLCC has been allocated \$600,000 in 2016 to address connectivity, climate change, viability and drought resiliency; the GNLCC needs to work on these issues. These are issues that impact grizzlies. If it was important enough for the USFWS to lead this, it tells me that there is recognized work that needs to be done. Don't delist now - wait 5 years - let the GNLCC continue to assess the situation.

There are so many known's; climate change impacts, food sources availability and lack of connectivity. The unknowns are what will delisting do to grizzlies? What will fewer protections do? What will two hunting seasons a year do? What will hunting on the YNP borders do to the YNP bears? What will becoming just another "problem predator" do? Will it become another call to the USDA Wildlife Services?

Too many unknowns, meanwhile we **know** how important the grizzly is to the GYE. The grizzly is a big reason so many tourists come and support our tourism economy, the largest economic driver in Montana.

It is not time to delist.

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# Grizzly Bear

*Ursus arctos*

## Recency of Observations



Montana Department of Fish and Wildlife

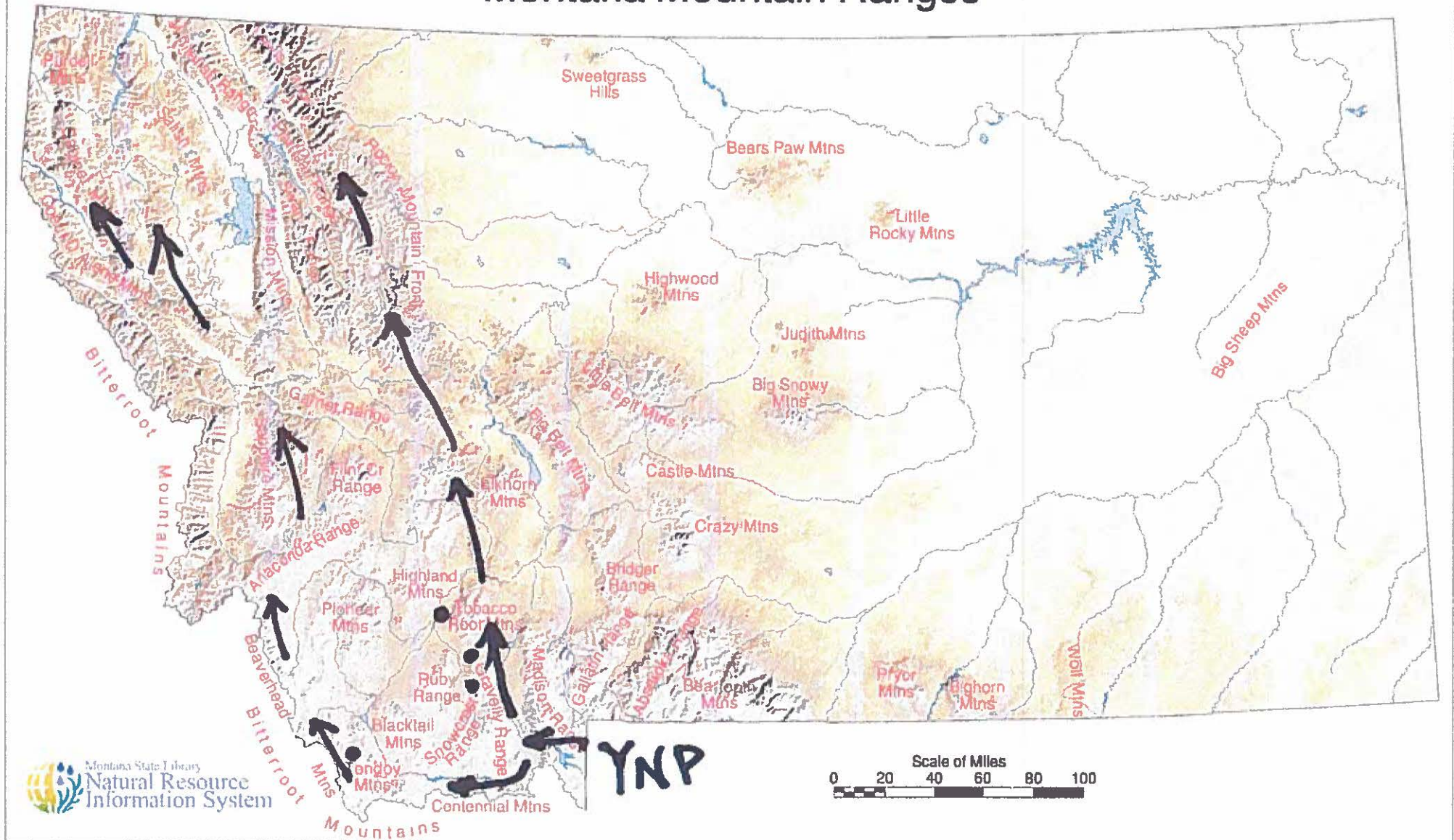
1/1/2015

Report generated by: [http://www.mt.gov/department/fish-and-wildlife](#)

Attachment 1

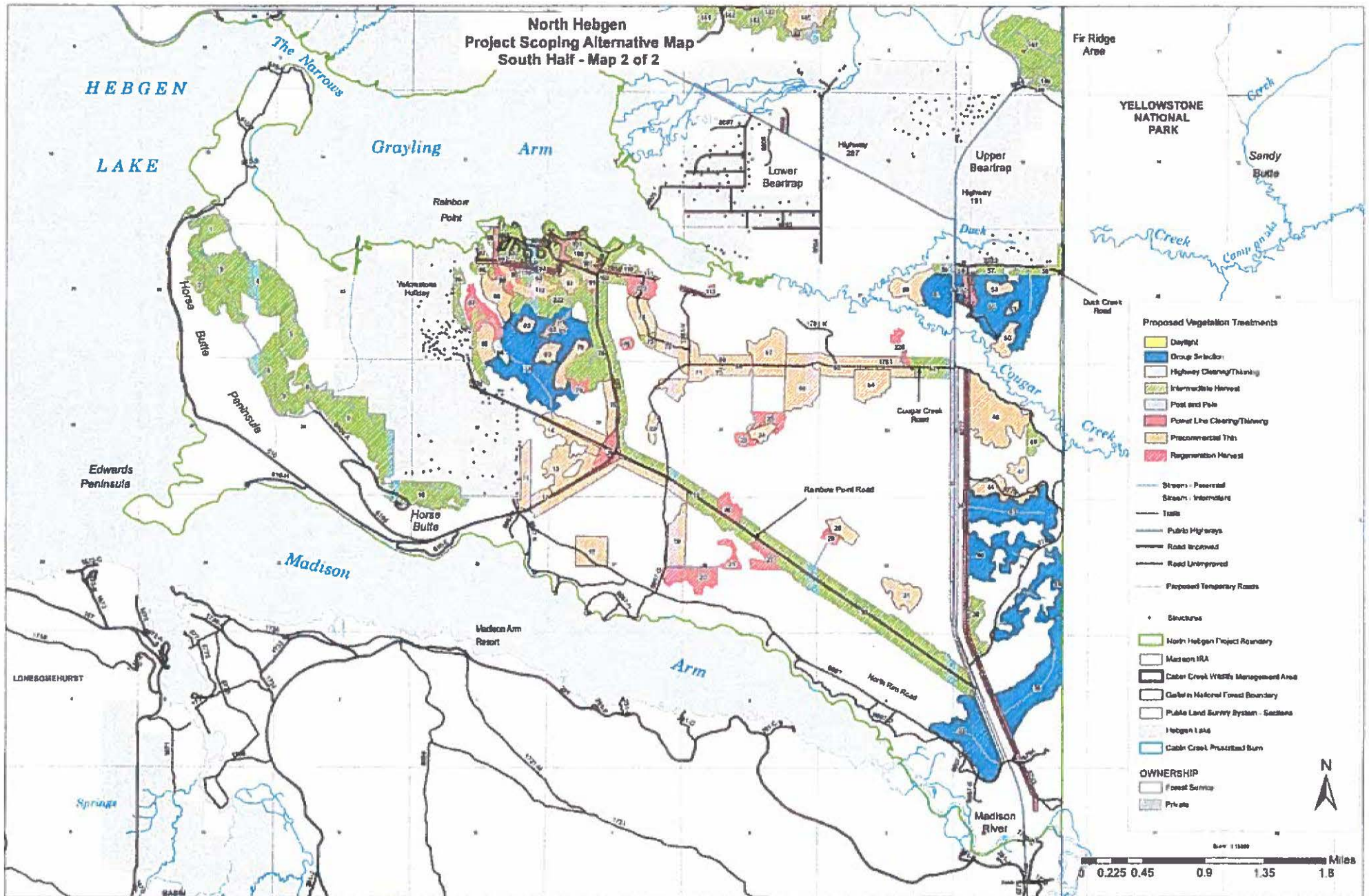


# Montana Mountain Ranges



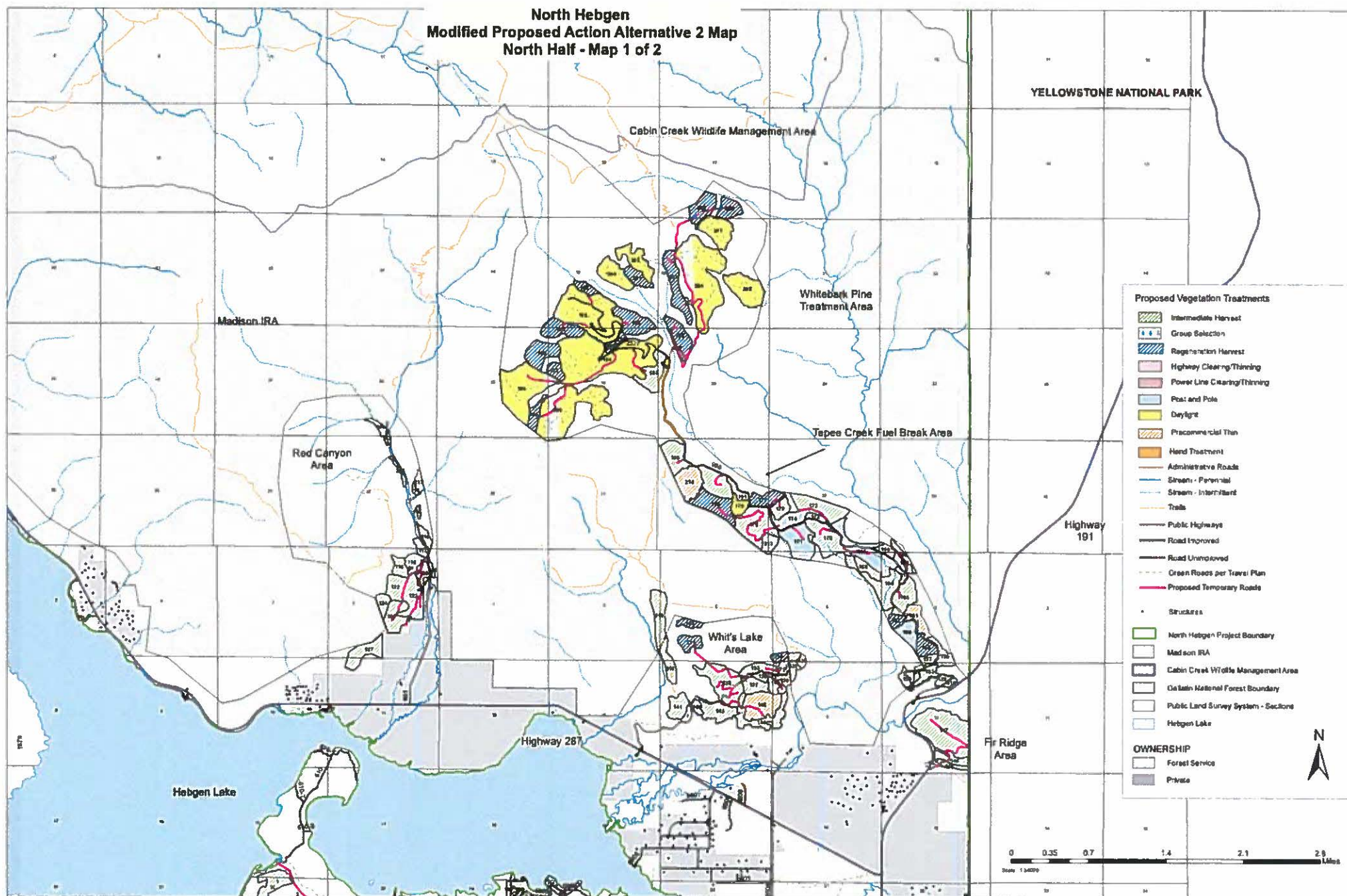


# Attachment 3





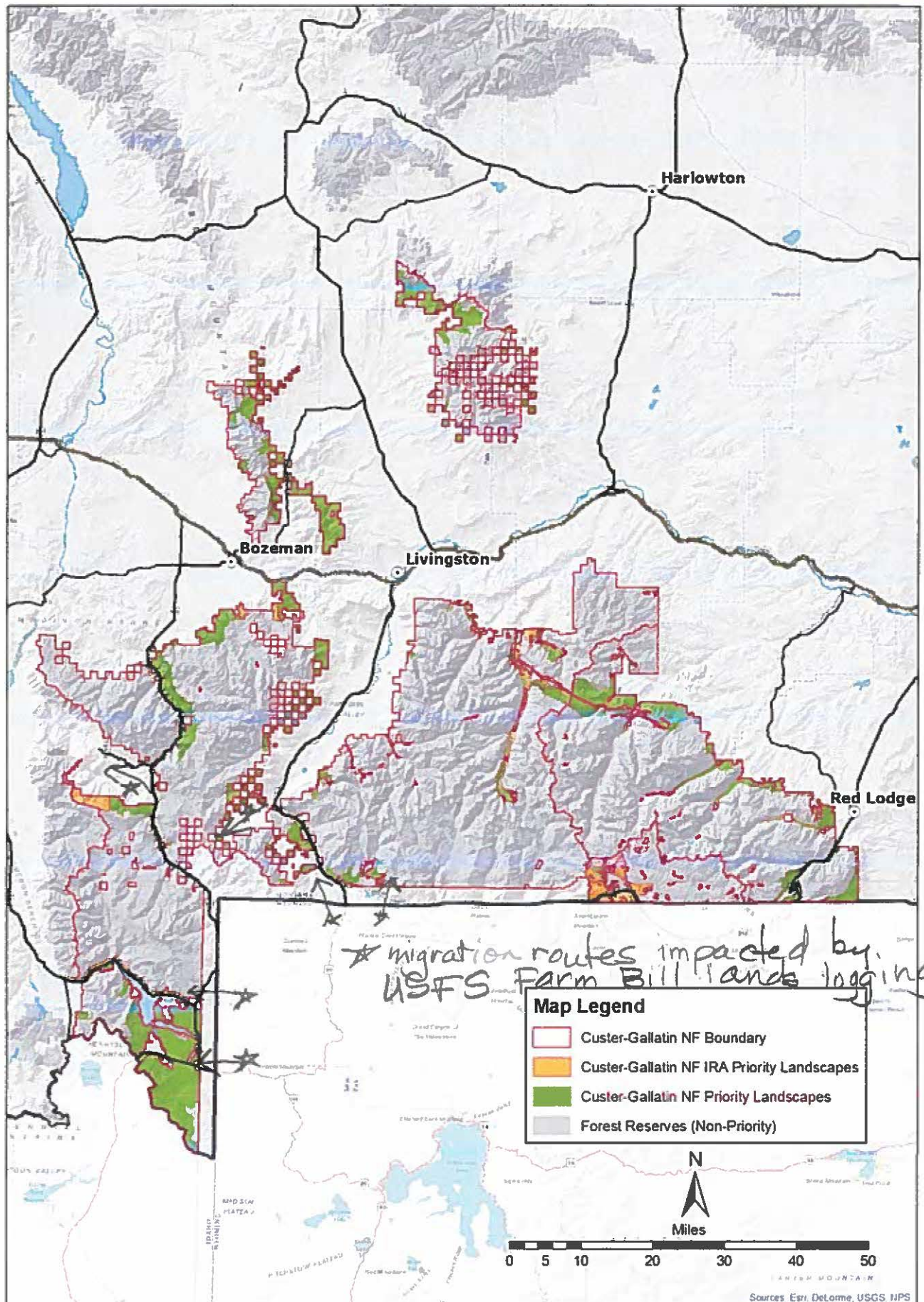
North Hebgen  
Modified Proposed Action Alternative 2 Map  
North Half - Map 1 of 2



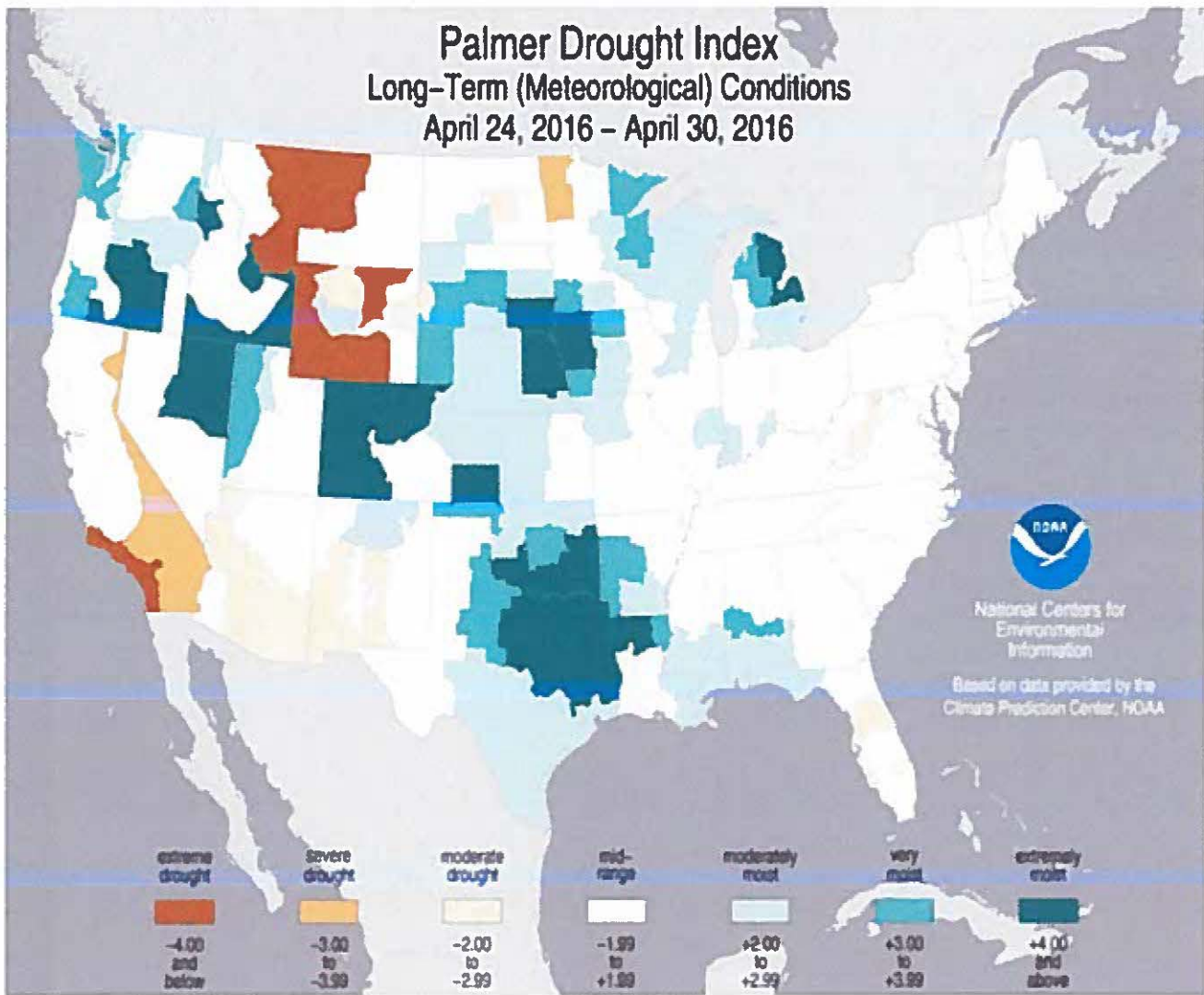




## 2014 US Farm Bill - Montana Priority Landscapes Custer-Gallatin National Forests







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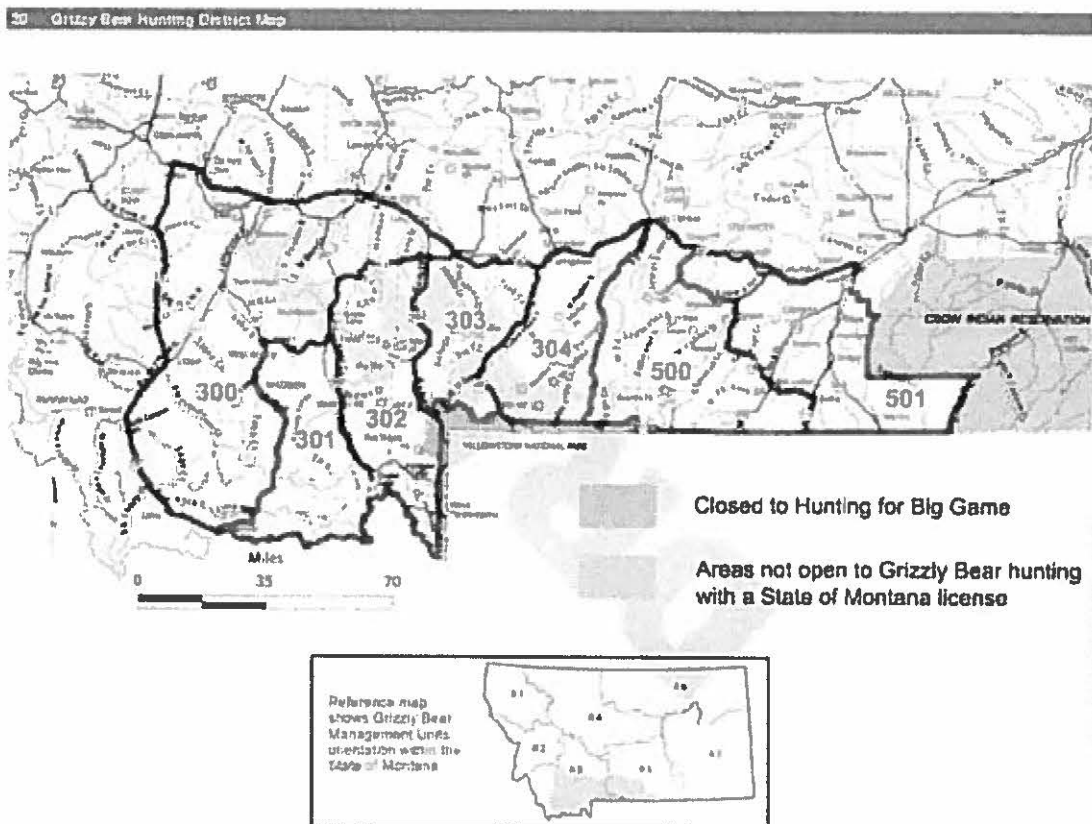
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# Montana Drafts Proposed Rules For Grizzly Hunting

By [ERIC WHITNEY \(/PEOPLE/ERIC-WHITNEY\)](#) • 19 HOURS AGO

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(/sites/shared/npr/styles/x\_large/nprshared/201605/476967240.jpg)

Draft map showing grizzly bear management units in Montana.

COURTESY MONTANA FWP

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