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Comments: As a wildlife biologist at the Craighead Institute in Bozeman, Montana I highly suggest that the Forest Service adopt alternative D in the draft revised forest plan. Alternative D provides the best option for wildlife (that currently can't speak for themselves) by designating the most acres of wilderness into perpetuity. I am not opposed to motorized vehicle use or mountain bikes, but I feel strongly that there should be areas set aside where those activities do not threaten wildlife species or humans that want a wilderness experience without the intrusion of people motivated by speed and horsepower. The only way to ensure that such areas can provide ecological services, security for wildlife and natural conditions is to designate them as wilderness. Part of the tenets included in the 1964 Wilderness Act were the ecological, geological, scientific, education and scenic values of wilderness (Wilderness Act, 1964). In the face of climate change, areas of wilderness especially high elevation wilderness will be the last vestiges of refugia for plants and animals to maintain connectivity and secure habitat. I will address my comments to three main areas; Madison, Henry's Lake and Gallatin Mountains, Bridger-Bangtail and Pryor mountains.

Gallatin Mountains

Wilderness areas especially in the Gallatin mountains (Hyalite-Porcupine Buffalo Horn Wilderness Study Area, HPBH WSA) will provide secure and core habitat to a wide array of species including T&E species (grizzly bear, lynx) and species of concern (wolverine) under Montana Fish Wildlife and Parks and US Forest service focal species (FS draft revision plan 2019, MFWP 2019). All of these species have been documented in the HPBH WSA (Craighead 2015, Gehman 2019, IGBST 2018). This area borders the northern boundary of YNP and is a logical extension for connectivity for big game, apex predators and smaller mammals from YNP to the GYE and beyond. Wilderness protection in the front country bordering the existing Absaroka-Beartooth mountains will provide food for grizzly bears in the early spring.

The recently published Montana climate assessment predicts average temperatures to increase between 4-6 O F by 2040 and the number of days over 90 o F will increase between 5-35 days for this region (Whitlock et al. 2017). This increase in temperature may put tremendous stress on wildlife populations and change seasonal foraging patterns. Areas like wilderness with fewer human intrusions will be important areas of refugia in the future for big game and apex predators.

Results from numerous peer reviewed articles indicate that many of the FS focal species (FS draft revision plan, 2019) need areas of limited human use for populations to survive and reproduce (Craighead 2015, Gallatin NF, amendment 19 1996, IGBST 2018, Servheen 2017). If this area were to be opened up to more recreation including mountain bikes or ATV's it could be very detrimental to grizzly bear, elk and wolverine populations. Mountain bikes pose a threat to both grizzly bears and elk as far as colliding with animals threatening the lives of both humans and animals (Servheen 2017). Their presence also displaces wildlife near trails to a greater degree than hikers or horseman (Craighead 2015, Kasworm and Manley 1990).

Mountain bikers and ATV users do not have a very good reputation of abiding by existing trails and frequently cut new trails or connector trails in areas that are not sanctioned (see illegal trails bibliography). Does the FS have the money or the man power to persecute offenders and rehabilitate trails which is costly and time consuming? Future funding for the FS will be allocated to fighting wildfires and will not be spent on rehabilitating illegal trails or the prosecution of offenders. From 1995 -2015 fighting wild fires has reduced the overall Forest Service annual budget by 67% (USDA 2015). During a similar time period, staffing for wildland fires has increased by 114% while staffing for non-fire programs has been reduced by 39%. The forest service plainly states that under present staffing conditions that they are no longer able to continue work on forest restoration and management, research, watershed protection and other activities (USDA 2015).

Bridger-Bangtail and Crazy Mountains

The Bridger-Bangtail mountains currently contains habitat for wolverines (Gehman 2019) and is important mule deer winter habitat on both the east and west side of the Bridger mountains (Hamlin 1974). There are numerous recreational opportunities on the east side of the Bridgers and Bangtials with Bridger bowl and FS logging roads.

There are also numerous subdivisions that break up the east side of the Bridger's that can displace big game and other species with their presence (Vore 2012). Having wilderness protection on the east side of the Bridger's would provide habitat connectivity and secure habitat for a multitude of species.

The Pryor Mountains

The Pryor mountains is a unique island mountain range that contains high biological diversity in a relatively small geographic area. The FS draft revised forest plan describes its uniqueness for botanical and avian species and its unique research and education values (Draft Revised plan FS 2019, pg 147) so why would you open it up to more recreation. Illegal trails made by ATV's and other off road vehicles are already causing havoc in the Pryor's (http://www.pryormountains.org/management-issues/law-enforcement/violations-of-the-land-and-of-the-law/). Opening up more trails will continue to degrade fragile habitat for unique plant species. In the face of climate change wilderness areas in the Pryor's will provide opportunities for plant and animal assemblages from the Great Basin ecosystem to continue to move northward.

The forest service is in a unique position to listen to the best available science and protect wildlife, ecosystem services and wilderness values for generations to come if they adopt Alternative D in the proposed forest plan. Many recreational enthusiasts including all terrain vehicle users, snowmobilers and mountain bikers are only interested in the short-term thrill of riding in untrammeled places where they will have dominion over the land. Don't we have enough of those areas already? How many years will these people be physically able to ride and snowmobile, perhaps 20 years but wildlife has been using these areas for thousands of years. Alternative D is the only option that takes wildlife and ecosystem services into consideration. Climate change is already occurring in Montana with warmer temperatures, shorter winters and changes in precipitation (Whitlock et al. 2017). These changes will only be exacerbated in the future and wildlife populations will need these areas of refugia like wilderness to be sustained into the future. Increased wildfires will consume most of the forest service's budget and there will be little money to monitor and prosecute people that violate FS rules concerning trails and habitat damage.

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