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Comments:

I would like to submit that I only support Alternative D as the "Gold Standard" and was developed to address comments and themes of emphasizing natural processes and restoration. Some of the main points for Alternative D are summarized in the list below with details in the text/paragraphs that follow the list below:

1. Wilderness:

- a. Gallatin Range comprises a very important piece of the Greater Yellowstone Ecosystem which is the largest essentially intact functioning ecosystem in the temperate zones of the world.
- b. Need to safeguard key wildlife habitat areas and secure a 40-mile long unbroken habitat link for grizzly bears, elk, moose, bighorn sheep, mountain goats, deer, pronghorn, and bison.
- c. There is 230,000 of roadless lands that meet the criteria of wilderness character. Anything less would be short changing future generations of the spectacular wildlands for wildlife.
- d. There is 711,000 of potential wilderness lands that has been set aside in Alternative D. Some of these lands will be in the Gallatins, Pryors, and other current wilderness areas.

2. Wildlife:

- a. Proclaimed by prominent scientist that the Hyalite Porcupine Buffalo Horn Wilderness Study Area (HPH WSA) is renowned for its wildlife. Species such as elk, grizzly and black bear, wolverine, moose, bighorn sheep, mountain goats, deer, pronghorn, and bison and so many other species that inhabit the slopes of the Gallatin Range.
- b. The Gallatin Range serves as a wildlife corridor and connectivity route for a variety of species which should include the I-90 corridor between Bozeman and Livingston as a permeable barrier to wildlife. There needs to be among the Forest Service the acknowledgement of a greater number of species of conservation concern.

3. Watershed/Climate Change:

1. Wildlife species which require large landscapes need to be able to move in order to fight ill effects of climate change, hotter drier weather patterns, more chances for fire.
2. Wilderness and National Parks are best to sustain an ecosystem when the effects of climate change are factored in.

Alternative D is the draft forest plan that will offer the best protection for the Gallatin Range and other critical wildlife habitat across the Custer Gallatin Forest. Alternative D creates 39 recommended wilderness areas totaling over 711,000 acres across the forest. First, the original Hyalite-Porcupine-Buffalo Horn Wilderness Study Area (HPBH WSA); an area composing of the 155,000 acres is protected in Alternative D. In fact, Alternative D comes the closest to protecting all the roadless lands within the Gallatin Range by proposing 230,000 acres of wilderness. The remaining acres of designated wilderness include the Lionhead, Crazy Mountains, the Bridger Range, Cowboys Heaven, Deer Creeks, Lime Creek Plateau, Emigrant Peak, West Fork Rock Creek, Red Lodge Creek, Pryor Mountains and Tongue River Breaks.

The Greater Yellowstone Ecosystem (GYE) is universally recognized as the best intact ecosystem in the lower 48, and is widely recognized as one of the last remaining and best functioning temperate ecosystems in the world. The Buffalo Horn-Porcupine drainages just north of Yellowstone National Park contain critical grizzly bear habitat, elk winter range, and a vital elk migration corridor, and are one of the best places for recolonization by wild bison. We also need to think about the connectivity potential that the Gallatins and other forests within the CGNF play in providing a critical pathway for species of the GYE to make contact of those Northern Continental Divide Ecosystem.

It should be noted that Alternatives B and C propose legitimizing decades of illegal mountain biking and ORV use in the HPBH WSA. The S. 393 Wilderness Study Area SEC. 3 (a) states the wilderness study areas designated by this "ACT" shall, until Congress determines otherwise, be administered by the Secretary of Agriculture so as to maintain their presently existing (i.e. 1977 and prior years) wilderness character and potential for inclusion in the "National Wilderness Prevention System"

The Custer Gallatin National Forest (CGNF) is one of the most spectacular wildlands in the Nation and Montana specifically. These wildlands are home to some of the best wildlife habitat in the country, and is habitat to grizzly bear, lynx, wolf, elk, moose, mountain goat, and bighorn sheep, as well as the source of waters that support genetically pure Yellowstone and West Slope cutthroat trout.

The Custer Gallatin National Forest (CGNF) is not the nation's woodbox, nor should it be the nation's outdoor gymnasium. What the CGNF does best is provide for high-quality Wildlands, Wildlife and Watershed ecosystem. Wildlands protection is critical to the quality of life of the region's communities, and essential to the outdoor economy that draws visitors, as well as contributing to the well-being of residents providing clean water, important fish habitat, critical wildlife habitat, and scenic beauty. In addition, some wildlands are critical corridors for the movement of wildlife between other protected landscapes. For example, the Bridger Range can serve as a corridor connecting the Greater Yellowstone Ecosystem to other lands further north. With that in mind, the CGNF proposed wilderness recommendations in its draft Forest Plan are inadequate. Below are suggested comments that will improve the CGNF wilderness recommendation.

Here's what the CGNF recommended for wilderness. Note that "Not" a single acre in the Crazy Mountains or Bridger Range and paltry wilderness recommendations for the Gallatin Range and Pryor Mountains.

Lost Water Canyon, Pryor Mountains 6,804 acres
Line Creek Plateau, Absaroka Beartooth Mountains, 801
Red Lodge Creek-Hell Roaring, Absaroka Beartooth Mountains 802
Mystic Lake, Absaroka Beartooth Mountains 247
Republic Mountain, Absaroka Beartooth Mountains 388
Gallatin Crest, Gallatin Mountains 70,614
Sawtooth, Gallatin Mountains 14,827
Taylor Hilgard, Madison Mountains 4,466
Lionhead, Henrys Lake Mountains 17,983
Total Acres of Recommended Wilderness Areas by the CGNF is 116,392.

GALLATIN RANGE

The Gallatin Range is the largest unprotected roadless area in Montana and a key part of the Greater Yellowstone Ecosystem. The Gallatin Range portion of the CGNF stretches 50 miles from Yellowstone Park north to Bozeman including the popular Hyalite Canyon area. The FS identified some 251,700 acres in its Wilderness Inventory Polygon 28 which includes the Hyalite-Porcupine-Buffalo Horn WSA, but it is not all inventoried roadless a portion of the full Gallatin Range Roadless area which extends south into Yellowstone NP and takes in over 546,000 acres. The CGNF appears to use the "purity" argument to disqualify many areas from its recommendations saying there is noise from highway traffic, a municipal watershed, or a few cabins or other structures that do not conform to the Wilderness Act. This argument seems to be used to exclude tens of thousands of acres from its recommendations. The Gallatin Range higher elevations feature glacially carved cirques, and grassy ridges. There are a lot of open grassy valleys and slopes which are exceptional wildlife habitat, particularly the Porcupine-Buffalo Horn Drainage where thousands of elk winter. Three drainages-Mol Heron, Tom Miner, and Rock Creek- that flow from the Gallatin Range are considered essential Yellowstone Cutthroat trout habitat by Montana Fish Wildlife and Parks. The Gallatin Range also supports grizzly bear, wolf, mountain goat, wolverine, bighorn sheep, moose, mule deer, and potentially wild bison. The largest petrified forest in the world is found at the headwaters of Porcupine, Rock, Tom Miner, and Buffalo Horn drainages. Commercial and amateur collectors have ravaged this world-class complex. Wilderness designation would help to halt this tragic damage. Since 1977 approximately 155,000 acres have been protected as the Hyalite, Porcupine and Buffalo Horn Wilderness Study Area. In total there are about 230,000 acres of potential wilderness, but the CGNF has only recommended about 85,000 in two units and proposes that the Buffalo Horn drainage be designated a backcountry "recreation" area. The Buffalo Horn drainage is the most important wildlife habitat in the entire Gallatin Range-if any area should be wilderness it is this drainage.

Also many roadless drainages in the Gallatin Range were left out of wilderness recommendations including the upper portions of Cottonwood, Sourdough, Trail Creek and others.

MADISON RANGE

A significant portion of the Madison Range is protected within the Lee Metcalf Wilderness. However, 111,000 acres in the Cabin Creek Recreation and Wildlife Management Area lies between the Taylor Fork and Hebgen Lake and is sandwiched between the Monument Peak area and the main crest of the Madison Range. This exceptional wildlands is without wilderness protection. It is critical grizzly bear habitat, and also could support wild bison herds. Nearly 50 miles of stream support West Slope Cutthroat trout. The FS does not recommend wilderness here because of on-going biking and ORV/snowmobile use, but that is no excuse. The area easily qualifies for wilderness based on its essential character and should be added on to the Lee Metcalf Wilderness. Another significant 43,000 acre roadless area lies between Big Sky and the Taylor Fork. This area of rolling hills, open meadows, and scenic view is also critical wildlife habitat. It includes Buck Ridge. The area should be added to the Lee Metcalf Wilderness. Grizzly bear's are utilizing this area. A third 17,000 acre roadless portion of the Madison Range north of the Spanish Peaks that includes the upper Cherry Creek and Spanish Creek drainages would connect the Madison Canyon and Spanish Peaks as a continuous unit. Known as Cowboy's Heaven, it is part of a 26,000 acre roadless area that is split between the CGNF and BDNF;. It should be added to the existing Spanish Peak unit of the Lee Metcalf Wilderness. It contains some of the best lower elevation big game habitat, and is used by several thousand elk.

PRYOR MOUNTAINS:

The Pryor Mountains lie south of Billings and are primarily limestone. There are deep canyons and grassy ridgelines to support 13,000 acres in the Lost Water Crooked Creek area - not just the 10,421 CGNF Inventoried Roadless. ALL of this area passed the U.S. house in Pat Williams' Wilderness bill in 1994. (In 2015 BLM added 11,00 acres of Lands with Wilderness Character to their 22,000 acres of WSAs from the 1980s.) In addition, there are three more roadless areas that should be protected as wilderness.

Punch Bowl / Dryhead Creek Canyons RWA (~8,500 acres) of an incredible wild country. This will require converting at least a couple miles of unfortunate 4WD road to motor-free along the ridge between the two canyons.

Big Pryor RWA (12,000 acres) (A couple miles of little used "motorized trail" ought to be converted to motor-free to improve the integrity of the area.)

Bear Canyon RWA (10,000 acres) This one should be a total "no-brainer as there are no roads here.

CRAZY MOUNTAINS

Rising 7,000 feet above the plains (as much as the Tetons rise above Jackson Hole), the Crazy Mountains have numerous peaks over 10,000 feet, including 11,201 foot Crazy Peak. The range also harbors 30 alpine lakes and even a few small glaciers. The range is well known for its geological radiating volcanic dike system and heavily glaciated peaks and valleys. The range is considered sacred to the Crow Tribe. The Crazy Mountains have been included in previous wilderness bills. The CGNF recommended no wilderness in the Crazy Mountains. Part of their rationale is that there are checkerboard inholdings in the range. However, the CGNF identified 90,690 acres as roadless, but split this into two units for no apparent reason. This is considerably less than the 135,500 acres the FS identified as roadless in the 1980s. Conservationists should insist that at least 90,690 acres be recommended for wilderness with the caveat that private inholdings should be aggressively removed through land trades or purchase.

Conservationists should recommend a 90,000 acre wilderness.

ABSAROKA BEARTOOTH WILDERNESS ADDITIONS:

There are many potential additions to the AB Wilderness. Starting in the East, there is the Line Creek Plateau near Red Lodge. The CGNF has recommended only 801 acres out of 32,983 roadless acres with some on the Shoshone NF. The plateau is so special that the FS has designated 16,127 acres as the Line Creek Research Natural Area. At least 30,000 acres should be recommended for wilderness.

The West Fork and Lake Fork of Rock Creek by Red Lodge and the Beartooth Front from Red Lodge to East Rosebud drainage comprise 34,640 acres of roadless lands adjacent to the existing AB Wilderness that includes 27 miles of trail. The West Fork of Rock Creek is the municipal watershed for Red Lodge. In particular, all the roadless lands in both the glaciated valleys of the West and Lake Forks of Rock Creek should be recommended as wilderness.

The 25,000 acre East Rosebud to Stillwater Roadless area along the Beartooth Front provides for the access to East and West Rosebud, as well as Stillwater trailheads. All should be protected as wilderness.

Along the north face of the AB Wilderness are any number of roadless lands that should be added to the list of recommended wildernesses, including the 129,000 Deer Creek drainage lying between the Boulder River and Stillwater River, and includes lands surrounding the East Boulder, Lower Deer Creek, Upper Deer Creek and Bridger Creek. This area, which is mostly foothill terrain, is largely missing from the AB Wilderness. It is important elk and deer habitat, not to mention genetically pure Yellowstone cutthroat trout in the upper Deer Creek drainages. At least half of this area could be managed reasonably well as wilderness.

The 5,000 acre Mount Rae between the Boulder and West Boulder Rivers is another area with aspen and meadows and good wildlife habitat.

The 8,000 Tie Creek/Mission Creek/Livingston Peak including the north face of Shell Mountain with trailhead access near the 63 Ranch east of Livingston Peak provides the scenic backdrop to Livingston. Little Mission and Mission Creek both harbor genetically pure cutthroat trout. All of this area should be protected.

In Paradise Valley, much of the lower foothills of the Absaroka Mountains are not within the wilderness, the entire roadless terrain of 13,000 acres from Deep Creek to Strawberry Creek along the Absaroka Front should be added to the AB Wilderness.

Chico Peak, Emigrant Peak and Dome Mountain 56,000 acre roadless reaches from Cedar Creek by Gardiner north to Passage Creek in the Mill Creek drainage. These lands are critical migration corridors and winter range for elk and bison moving north from Yellowstone as well as important grizzly bear habitat. Six Mile Creek has pure Yellowstone Cutthroat trout populations.

BRIDGER RANGE:

The dramatic face of the Bridger Range walls in the eastern side of the Gallatin Valley. The Bridger Bowl Ski area is located on its eastern flank. The Bridger Range is an important corridor between the Greater Yellowstone Ecosystem and Central Montana. The range supports important winter deer habitat at lower elevations and its streams hold genetically pure West Slope Cutthroat trout and Yellowstone Cutthroat trout. Approximately 45,000 acres of the Bridger Range is roadless and surprisingly the FS did not recommend a single acre for wilderness. The area around Blacktail Peak in the northern Bridger Range has about a third of this roadless component and should be recommended for wilderness.

LIONHEAD (SOUTHERN MADISON RANGE):

The 32,000 acre Lionhead Roadless area includes 18 miles of the Continental Divide Trail and lies to the west of Hebgen Lake. The area is a critical corridor that links the Yellowstone Park area to the Lee Metcalf Wilderness. The CGNF has recommended nearly 18,000 acres as wilderness, but in 1986 Forest Plan had recommended 22,000 acres for wilderness. The Forest Service should include the Lionhead but recommended the wilderness should be enlarged to include most of the 32,000-acre roadless area.

WILDLIFE, WILDERNESS AND WATERSHED IN THE CGNF:

As noted previously Alternative D is the draft forest plan that would offer the best protection for the Gallatin Range and other critical wildlife habitat across the Custer Gallatin Forest. Alternative D creates 39 recommended wilderness areas totaling over 711,000 acres across the forest. First, the original Hyalite-Porcupine-Buffalo Horn Wilderness Study Area (HPBH WSA); an area composing of the 155,000 acres is protected in Alternative D. In fact, Alternative D comes the closest to protecting all the roadless lands within the Gallatin Range by proposing 230,000 acres of wilderness. The remaining acres of designated wilderness include the Lionhead, Crazy Mountains, the Bridger Range, Cowboys Heaven, Deer Creeks, Lime Creek Plateau, Emigrant Peak, West Fork Rock Creek, Red Lodge Creek, Pryor Mountains and Tongue River Breaks.

The Greater Yellowstone Ecosystem (GYE) is universally recognized as the best intact ecosystem in the lower 48, and is widely recognized as one of the last remaining and best functioning temperate exosystems in the world. The Buffalo Horn-Porcupine drainages just north of Yellowstone National Park contain critical grizzly bear habitat, elk winter range, and a vital elk migration corridor, and are one of the best places for recolonization by wild bison. We also need to think about the connectivity potential that the Gallatins and other forests within the CGNF play in providing a critical pathway for species of the GYE to make contact of those Northern Continental Divide Ecosystem.

The other alternatives do not provide the protection of land or wildlife that Alternative D provides. We cannot be fooled by what some like-minded NGO's are recommending. Alternative C would protect only about half of the wilderness quality lands in a "rock and ice" scenario. It also releases the Porcupine Buffalo Horn drainages for motorized and mechanized recreation, more timber harvest, and temporary road-building. On a more problematic note, Alternatives B and C propose legitimizing decades of illegal mountain biking and ORV use in the HPBH WSA.

WILDLIFE, WILDERNESS AND WATERSHED IN THE CGNF (cont'd):

Currently, Custer/Gallatin recognizes 29 vertebrate wildlife as sensitive species, affording them enhanced concern in management decisions. Of these, 27 are on the Custer Forest; 14 are on the Gallatin Forest. (Twelve occur on both Forests.) The draft Forest plan proposes replacing these with only 2 species - sage grouse and white-tailed prairie dog.

Threats to wildlife, including extinctions, extirpations, fragmented populations and degrading genomes, have been increasing for decades. Thus, the declining focus on imperiled wildlife, from 29 species to 2, seems absurd. Moreover, the draft plan states, as a desired future condition for the Custer/Gallatin: "A complete suite of native species is present, with sufficient numbers and distribution to be adaptable to changing conditions for long-term persistence."

The Custer/Gallatin analyzed 91 vertebrate species for possible listing as species of conservation concern. However, ultimate decisions come from the Regional Forester. Apparently, the Forest suggested 6 species for listing - the 2 cited above and 4 that were rejected by the Regional Forester. These 4 are western toad, arctic grayling, westslope cutthroat and Yellowstone cutthroat trout. In a brief meeting with the Regional Forester, Gallatin Wildlife was unable to ask for an explanation of these rejections.

The Forest list of analyzed species failed to include 2 species from the current list of sensitive species - greater prairie-chicken and wolverine. Other notable omissions were moose and swift fox. Much of the decline in Forest Service emphasis upon imperiled wildlife stems from the "new" 2012 planning rules. New rules require that concern for population viability must be "substantial". Species that are suspected, but not clearly known to be perennially present on a Forest are not allowed for listing as "of concern". (Note that this rejects special concern for native species that have been extirpated from the Forest.) The rules allow the Regional Forester to reject listing if a species is present on only a small fraction of the Forest - and missing from most of its native Forest range. Lastly, species may not be listed as of conservation concern if evidence about the species presence, abundance, trends or distribution is considered "insufficient".

WILDLIFE, WILDERNESS AND WATERSHED IN THE CGNF (cont'd):

Having limited local information on rare species is common. The Forest Service rule indicates that the Service is more willing to risk loss of a native species than to risk an erroneous, but conservative, conclusion that a species is imperiled. Nineteen species were cited as having insufficient information in the Custer/Gallatin analysis. Sixteen of these were not identified as "secure", but were not listed as of concern.

Notably rejected as being of conservation concern are bison (absent from almost all its large native range on the Forest) and bighorn sheep (persisting in small, somewhat isolated herds that, according to much available science, are not adequate for maintaining genetic quality and long-term persistence).

The Forest Service contends that the abandoned category of sensitive species is similar to the new category of species of conservation concern. It seems similarity is quite limited when the Custer/Gallatin goes abruptly from 29 sensitive species to only 2 species of conservation concern.

The real danger lies in the implication that, of all the vertebrate wildlife on the Custer/Gallatin, so many species are not of conservation concern. While the inadequate list of species of concern may diminish Forest Service support for imperiled species, the implication is also misleading to the public.

Clearly, the application of the 2012 planning rule by the Forest and Regional Forester is a step away from wildlife conservation on our National Forest.

WSAs are those places that qualify for full-blown wilderness status. Most people don't realize it, but when they were placed in that elevated category decades ago, compromises had already been made allowing other public lands, also possessing high wildlife and other natural amenity values, to be opened up to what federal land management agencies call "multiple use." Many of those lands which weren't given the banner of protection WSAs enjoy have been heavily logged, roaded, mined, drilled for oil and gas, inundated by a variety of

motorized uses (including ATVs and snowmobiles), been used as grazing areas for private cattle herds, and otherwise been left, at best, as half-wild or nominally so.

WILDLIFE, WILDERNESS AND WATERSHED IN THE CGNF (cont'd):

Even some of the WSAs, due to lack of adequate safeguarding from the Forest Service and Bureau of Land Management, have also been invaded by "illegal trespass" from motorized users and mountain bikers. In some cases, due to court cases which forced those agencies to actually uphold the law, trails, illegally blazed, have been closed.

The range is critical habitat for grizzly bears, lynx, wolverines, bighorn sheep, and other rarer mammals, as confirmed by a study conducted by the Craighead Institute. In addition, the lower elevations sustain thousands of wintering elk and encompass part of an important migration corridor. Indeed, the Montana Natural Heritage Program lists 18 birds, eight mammals, three fish, three amphibians, and one reptile as "at risk" or declining in numbers, demonstrating the need to provide the strongest protection possible for this area. A debate exists among conservation advocates over the best way to protect the rich biological heritage of this landscape.

Since 1977, 155,000 acres in Gallatins have been given partial protection via Hyalite-Buffalo Horn-Porcupine-Wilderness Study Area (HBHP) in the Montana Wilderness Study Act S. 393 legislation.

The HBHP is about two-thirds the size of Montana's vaunted Scapegoat Wilderness Area-155,000 acres versus 239,936 acres. With the Custer-Gallatin National Forest Plan Revision, there is an opportunity to permanently protect this critical landscape under the auspices of the Wilderness Act. It is an opportunity made manifest by hard work that went into a series of land swaps in the 1990s that traded out checkerboarded lands given to the railroad in the 19th-century in exchange for other tracts, some of which were heavily logged.

WILDLIFE, WILDERNESS AND WATERSHED IN THE CGNF (cont'd):

The Gallatin Forest Partnership proposal is not as good as wilderness designation in terms of its ability to protect the mountain range's outstanding biological/ecological values. The architects of that proposal make a good start in addressing the long-term protection of the range, but it leaves two critical areas out of the wilderness proposal: Buffalo Horn-Porcupine and West Pine.

Their plan calls for designation of the Buffalo Horn Porcupine Area and West Pine Creek areas as "Wildlife Management Areas." Among the problems with such designations is that unlike wilderness which is time-tested and legally tested, there is no legal precedent for such designation. Though their proposal lays out specific limits on some recreational use, we do not have the assurances that these can be and will be enforced.

Just as WSAs themselves were not safeguarded from "illegal trespass" and the Forest Service in parts of the West has only enforced the law when compelled to do in court by environmentalists, we have no assurance that "wildlife management areas" (WMAs) will fare any better.

The Buffalo Horn and Porcupine area, adjacent to Yellowstone, is a very important elk migratory corridor and elk winter range. Other indications of its character is the presence of grizzlies, bighorn sheep, wolves, and wolverines. Someday, it could also be home to mountain bison.

The second area is West Pine which shares the northern edge of the range with the highly impacted Hyalite area. Anyone who has visited Hyalite in recent years understands how this multiple use area has become a crowded sacrifice zone to recreation. West Pine offers the only wildlife migration corridor that could effectively connect the Gallatin Range to the Bridger Range to the north. Given the high recreational use of the Hyalite area, reducing mass recreational impacts in West Pine is critical if a connection route between the Gallatins and Bridgers is to be maintained. If for no other reason West Pine should be protected as designated wilderness as well.

WILDLIFE, WILDERNESS AND WATERSHED IN THE CGNF (cont'd):

In the northern portion of the Gallatin Range, the Gallatin Forest Partnership proposes a "Hyalite Watershed Protection and Recreation Area" that would essentially make industrial-strength recreation the primary use of this area. Given the existing heavy roading that already exists in the drainage and its proximity to Bozeman, and the Hyalite Reservoir which serves as the city's water supply, there is less opportunity for wilderness designation. Still a few drainages like South Cottonwood, and other roadless lands surrounding Emerald Lake,

Divide Peak and Maid of the Mist that could and should be designated wilderness. Moreover, across the forest and throughout the Greater Yellowstone Ecosystem mountain bikers and motorized users already have thousands of miles to ride on public lands and a large number of places if you include the road and land trail systems in the valleys.

Mechanical access, including mountain biking, can increase displacement and stress for sensitive species more so than slow-moving hikers. Speed is an issue; so is attentiveness on the part of riders. When you are barreling down the trail at high speed you aren't noticing wildlife you might be displacing or having to avert; you are keeping your eyes on the ground to insure you don't run into a tree, another person, or collide with a boulder.

That kind of thrill riding can be done anywhere else. It does not need to happen in the last best places of habitat refugia for wildlife. You can read a number of scientific reference points about wildlife disturbance at the end of this essay. I encourage mountain bikers to honestly reflect on their own impacts, especially as their numbers continue to grow.

We as citizens can do better than the Gallatin Forest Partnership and we must insist upon it. This is our legacy. Just as earlier generations paid forward the benefits of environmental protection we enjoy, so too must we by not settling for less. Conservation is not a product of the past. It is about each generation taking part in its reaffirmation.

WILDLIFE, WILDERNESS AND WATERSHED IN THE CGNF (cont'd):

Think like Bob Marshall, Olaus and Margaret Murie and Lee Metcalf. If citizens wish to protect the biological diversity and incredible wildlife attributes of the Gallatin Range, designation of this entire roadless area as wilderness is the only logical choice. Other proposals are only halfway measures that will result in half-way protection compared to wilderness designation. If we can't protect the most biologically critical lands in the Gallatin Range, with so much of Greater Yellowstone's wilderness at stake, then where?

"Noted biologist Lance Craighead in his 2015 report on the Gallatins pointed out: "Disturbance due to human activities reduce the amount of habitat available for use by wildlife, increases stress, and depletes energy reserves, thus reducing the carrying capacity of the habitat: the best habitat for wildlife is found in areas with the least human disturbance."

In a literature review for Mount Spokane State Park by Pacific Biodiversity Institute (Snetsinger and White 2009) impacts were summarized: outdoor recreation was found to be the 2nd leading cause of decline of U.S. threatened and endangered species on public lands (Losos et al. 1995) and 4th leading cause across all ownerships (Czech et al. 2000). As recreational use of public lands continues to grow, there is increasing concern over the trade-offs that may exist between recreation and protection of wildlife (Reed and Merenlender 2008).

Displacement of elk (avoidance of habitat near trails) can extend up to 500 meters (550 yards) from a hiker, beyond 750 meters (820 yards) from horseback riders, and beyond 1500 meters (1,640 yards) from mountain bike and ATV riders according to some studies, while other studies arrived at different distances. Most studies agree however that hikers create the least disturbance, followed by horses, mountain bikes, motorcycles and ATV/ORVs.

Roads have been shown to be the most important variable correlating human influence on grizzly habitat. Trails with motorized traffic have effects on wildlife that are similar to roads. And a growing body of evidence suggests that non-motorized trail use by mountain bikers also displaces grizzlies.

WILDLIFE, WILDERNESS AND WATERSHED IN THE CGNF (cont'd):

Many wildlife species will avoid trails even when users are not present. "Elk displayed avoidance of the trail even when no ATV's or other users were present (Wisdom et al. 2004)" In other words increased recreational use will eliminate important habitat. This often causes a permanent loss of habitat as animals from elk to grizzlies tend to avoid heavily used trails.

Another study found that elk increased their travel time during most disturbance, which reduced time spent feeding or resting. Elk travel time was highest during ATV exposure, followed by exposure to mountain biking, hiking, and horseback riding. Elk reacted negatively to ATV traffic at distances up to 1,000 meters and had a

high probability of fleeing if they were near an ATV trail when ATVs were detected. It appeared that elk would habituate to horseback riding, but not to mountain biking.

Responding to this assertion, Lance Craighead notes: "Aside from some poor study designs, the factor that is ignored in reaching this conclusion is the fact that mountain bikers travel a lot farther than hikers in the same time period and thus create a disturbance over a much larger area; even if the disturbance is equivalent to hiking at any given point. This point is made by Vandeman (Vandeman 2004) who represents the opposite side of the mountain bike spectrum from Sprung; each has a website promoting their views. In one study by Wisdom et al. (2004) the same 20-mile (32 km) study area was covered by one pair of users on ATV's, 2 pairs of mountain bikers, and 3 pairs of hikers to traverse the distance in the time allotted."

A literature review in 2009 reviewed impacts on 21 wildlife species in Mount Spokane State Park in Washington and documented studies that found impacts on elk and wolverine among other species (Snetsinger and White 2009). The mere presence of trails negatively impacts 14 of the 21 species, and areas of concentrated recreation/recreational development negatively impacted an additional seven species.

WILDLIFE, WILDERNESS AND WATERSHED IN THE CGNF (cont'd):

Again, Craighead notes that the southern end of the HPBH WSA (Buffalo Horn) is within the grizzly bear Primary Conservation Area. "Recreational development increases bear mortality risk and alienates bears from preferred habitats such as riparian areas. The effect of developments on mortality extends up to 6 km from the recreational site (Mattson and Knight 1991). Even non-motorized trails may be avoided to a distance of 300 m (Kasworm and Manley 1990, Mace et al. 1996)."

Mace and Waller (1998) offer another insight on how recreation can affect bears when they studied recreational impacts on bears in the Jewel Basin hiking area east of Kalispell, Montana. They concluded that bear use of habitat increased with greater distance from trails and lakes with campsite studied the incidence of conflict/interaction between humans and grizzly bears along the Moraine Lake Highline Trail in Banff National Park. They found that, though intensity of use was much lower for mountain bikers than for hikers along this trail, mountain bikers accounted for a disproportionately high incidence of conflict with bears."