March 17, 2025

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Director, U.S. Fish and Wildlife Service
1849 C Street N.W., Room 3358
Washington, D.C. 20240

Re: Public comment on Grizzly Bear Lower 48 Rulemaking

Dear Director of the U.S. Fish and Wildlife Service,

Thank you for the opportunity to submit comments on the U.S. Fish and Wildlife Service's ("the Service's") January 15, 2025 prosed rule for grizzly bears in the lower-48 States and related, revised section 4(d) rule (hereinafter "the Proposed Rule" or "Rule'), 90 Fed. Reg. 4,234 (January 15, 2025). These comments are submitted on behalf of WildEarth Guardians, Flathead-Lolo-Bitterroot Citizen Task Force, Wilderness Watch, Wyoming Wildlife Advocates, Friends of the Bitterroot, Friends of the Clearwater, Western Watersheds Project, Yaak Valley Forest Council, Glacier-Two Medicine Alliance, the Inland Empire Task Force, Rock Creek Alliance, and Save Our Cabinets.

Together our groups represent thousands of members and supporters throughout the country who envision a future where grizzly bears occupy biologically suitable habitat unimpeded, without the threat of death or displacement, so they can thrive for generations to come.

These comments supplement and do not replace other comments that have already been submitted or will be submitted by the above-named groups or individual members. **Cited literature has been separately uploaded into the comment portal, described as 'Literature in support of comments submitted by WildEarth Guardians, et al.'** Please contact us if you have any problems accessing these materials.

We commend the Service for the decision to keep grizzly bears listed as 'threatened,' and for rejecting the petitions from Montana and Wyoming to remove their threatened status. We also commend the Service's recognition that individual recovery zones, specifically the Greater Yellowstone Ecosystem and Northern Continental Divide Ecosystem, are not valid listable entities. This comports with the Endangered Species Act ("ESA") and the Service's 1996 Distinct Population Segment ("DPS") policy, 61 Fed. Reg. 4,722 (February 7, 1996). Recovery means that grizzlies live in a unified population in the

Northern Rockies and Washington, inhabiting and reoccupying historic habitats. *See* A New Vision for Grizzly Bear Recovery in the Northern Rockies 2025 for more.

That said, the best available science on grizzly bears and threats to the species reveals more needs to be done in the Proposed Rule to ensure the full recovery of grizzly bears in the lower-48 States.

Specifically, all threats need to be fully evaluated and addressed before delisting occurs. These threats must be discussed and addressed in the Proposed Rule but, as written, the Proposed Rule's threats analysis inaccurately disqualified multiple threats to grizzlies, including climate change. The proposed DPS boundary for grizzly bears in the lower-48 States also needs to be adjusted and expanded to include—at a minimum—several additional areas currently outside the boundary but where bears may roam. It is well understood under the Service's own DPS policy, that DPS boundaries must go well beyond where the Service has determined grizzly bears are likely to occur in the future as recovery proceeds to account for dispersing bears that may exit the proposed boundaries. Lastly, the proposed 4(d) rule for grizzly bears falls short and fails to ensure the conservation of the species by allowing too much take. The best available science reveals it will undermine grizzly bear conservation by allowing liberalized grizzly bear killing by federal and state government entities as well as private individuals, even though record mortalities are already occurring under the current, and stricter, 4(d) rule. *See* Davis (2024).

I. *Grizzly bears require continued protections under the ESA because of ongoing threats.*

We agree with the Service's determination that the grizzly bear DPS remains threatened within the meaning of the ESA. Proposed Rule, p. 5 ("This document proposes to . . . retain its status as a threatened species[.]"). The Service determined that the grizzly bear DPS is a threatened species due to the threats of habitat destruction and modification, human-caused mortality, and the isolated nature of some populations. Proposed Rule, p. 6. We agree with this assessment, and below provide additional information to support the continued 'threatened' designation. However, the Service incorrectly determined that several threats were not threats, such as climate change, and entirely failed to consider other threats. We take these in turn below.

A. *Significant staff and funding losses within the federal government are a threat to grizzly bear recovery.*

At least several hundred staff at the U.S. Fish and Wildlife Service have been laid off in the first few months of the Trump Administration. "These firings, which

disproportionately target biologists and natural resource professionals, are a direct attack on science-based conservation and the future of America's wildlife." National Wildlife Refuge Association, 2025. The Service must consider how the lack of adequate staff and funding at this and other relevant federal agencies may threaten grizzly bear management and recovery. *See also* "Department of Government Efficiency" Workforce Optimization Initiative, Feb 11, 2025.

B. *Existing Regulatory Mechanisms in the Northern Rockies are Inadequate*

Wyoming, Idaho, and Montana's legislative approach to wildlife management—particularly regarding large predators—raises significant concerns about the future of grizzly bears should they be under state management. Exacerbating the issues, the Interagency Grizzly Bear Study Team, an interdisciplinary team of scientists from multiple agencies including state agencies, relies on a significant amount of flawed science which must be considered by the Service in the Final Rule. (Mattson 2023).

Inadequate management of mortality and habitat security includes: inconsistent and scientifically indefensible recovery criteria and habitat security standards, lack of authoritative forest plan standards, inadequate regulations governing conduct of hunters, inadequate regulations and plans governing public land grazing allotments, inadequate resources and mandates for sanitation infrastructure and highway crossing infrastructure, inadequate resources and authority for coexistence specialists, inadequate resource and funding for coexistence on private lands, inadequate resources and mandates for law enforcement, inadequate criminal penalties and resources for criminal prosecutions, lack of state-level policies for protection bears, and state level policies that jeopardize bears.

Inadequate governance is also a major issue that the Service failed to adequately consider, which includes government deference to special interests of extractive, consumptive, and recreation industry, illegal decisions and concurring USFWS opinions, monopolistic government control of research, lack of publicly available data, lack of transparent decision-making and inconsistent decision making, exclusionary inexpert advisory committee, and the absence of a recovery team. Mattson 2024c.

The proposed DPS leaves habitat in all three states open to state management. This would lead to high mortalities for grizzly bears in those areas because the states consistently ignore science and ethics—while also promoting misinformation—to support the passage of laws and regulations to kill carnivores and predators by any means they deem necessary.

For example, in a recent House Joint Memorial No. 4 in Idaho, the state claims, “the expansion of unmanaged populations into unsuitable habitat has led to loss and harm of livestock and domestic animals, as well as harm and death to humans as demonstrated by several bear-to-human conflicts.” In Idaho, grizzlies exist only within very few areas in and around the Greater Yellowstone Ecosystem with very small bear numbers in the Cabinet-Yaak, Selkirks, or Bitterroot Ecosystems. If the Greater Yellowstone Ecosystem isn’t “suitable” bear habitat, where is?

In that same statement, Idaho says in regards to continued protections for grizzly bears, “such expansion into unsuitable habitat poses extreme risks to human safety, private property, and the economic well-being of local communities and will conflict with the traditional uses of land and natural resources in Idaho.” This statement from Idaho lacks scientific substantiation on multiple fronts. Research on grizzly bear habitat selection and behavior does not support the claim that expansion into what Idaho deems "unsuitable habitat" inherently poses "extreme risks" to human safety or economic well-being. Studies across the Northern Rockies demonstrate that grizzlies can successfully coexist with human communities when proper conflict prevention measures are implemented. Idaho’s assertion ignores extensive data showing that proactive management strategies—such as secure food storage, electric fencing, and public education—significantly reduce human-bear conflicts in interface areas.

Furthermore, the claims that grizzlies negatively impact the economy are incorrect, and overlook research documenting massive *positive* economic benefits from wildlife tourism associated with healthy predator populations. *See*, *e.g.*, Greater Yellowstone Wildlife-Related Activity Valuation Study 2022, p. 20, 29 (explaining that hundreds of thousands of visitors to Yellowstone National Park in 2005 directly spent $35 million in Montana, Idaho, and Wyoming, and who also listed grizzly bears as the top species they wanted to see on their trip; also noting that in the 16 years after that survey, visitation has increased dramatically with direct spending over $80 million in 2022). Idaho’s statement demonstrates the commonplace alarmist language used by Northern Rockies governments ("extreme risks") without support from scientific studies or quantifiable metrics. Idaho’s assertion also presents a false dichotomy between bear conservation and traditional land uses that contradicts documented examples of successful coexistence throughout the species' range. Similar statements from both Wyoming and Montana also demonstrate that the states are focused more on using grizzlies as a political pawn rather than being dedicated to the species recovery and long-term survival.

Additionally, as discussed below, these states' legislative history regarding grizzly bears and other predators demonstrate significant risks to the grizzly population where

management authority shifts from federal to state control, as done in the 4(d) rule proposed here.

1. *Wyoming Legislation*

Wyoming's legislature has consistently demonstrated a tendency toward aggressive management of large predators. This approach is evident in both passed legislation and proposed bills that would affect grizzly bears if delisting occurs. Several key legislative actions illustrate this pattern: Following previous delisting attempts, Wyoming quickly established trophy hunting seasons for grizzly bears. In 2018, after a brief delisting period, Wyoming approved a hunt that would have allowed up to 22 grizzlies to be killed before it was halted by a federal court decision that restored ESA protections. The Wyoming Game and Fish Commission, whose members are appointed by the governor and confirmed by the state senate, has repeatedly signaled its intent to implement hunting immediately upon delisting. The Wyoming Grizzly Bear Management Plan states, “Public hunting seasons may also be used to limit grizzly bear occupancy outside the Demographic Monitoring Area (DMA), but will be regulated to assure overall population and distribution goals continue to be met within the DMA.” The state has no intention or regulatory mechanism to ensure a population of grizzlies remains outside the DMA.

Notably, Wyoming Statute § 23-1-304 requires the Game and Fish Commission to manage trophy game animals (which would include delisted grizzlies) "for recreational opportunity," effectively mandating hunting as a management tool rather than treating it as one option among many conservation strategies. Grizzlies present in areas outside of the DMA are unlikely to persist with hunting and management removals. Wildlife biologists note that given grizzlies' low reproductive rates, even moderate hunting pressure could quickly reverse population gains achieved under ESA protection.

Wyoming's legislative framework for wildlife management includes classification systems that could dramatically affect grizzly bears upon delisting. The state maintains predator zones and trophy game zones for species like wolves, with almost no protections in areas where species are classified as predators. Similar legislation for grizzlies could create a situation where bears would be protected only within a limited geographic area around the national parks, while being classified as predators subject to unregulated killing elsewhere.

The new signed Memorandum of Understanding between Idaho, Wyoming, and Montana aims to set total numbers of grizzly bears in the Greater Yellowstone Ecosystem to between 800 and 950. This is a minimum population number and not how any other

species is managed by the state. Genetic connectivity and further expansion of grizzly bear populations would struggle with numbers this low.

The Wyoming legislature has consistently underfunded non-lethal conflict prevention programs in favor of lethal control measures. State bills allocating resources for wildlife management have prioritized hunting infrastructure and predator control rather than investing in proven conflict mitigation strategies such as electric fencing, bear-resistant containers, or range riding programs.

House Bill 186 Bear Coupons (2025): This legislation mandates the Wyoming Game and Fish Commission to issue bear coupons and provide evidence of grizzly bear population recovery. This bill would have given a tag for either black bear or grizzly bear to any person purchasing an elk tag without charge.

Senate File 170 Grizzly Bear Management Prohibition (2025): This bill, titled "Grizzly Bear Management Prohibition," aims to limit the actions the Wyoming Game and Fish Department and Commission may take in the management of grizzly bears. This bill would have usurped the authority of the Wyoming Game and Fish Department to manage grizzly bears unless the action is expressly required by statute or the action is necessary for the public safety and welfare. This would have applied to actions taken by the WGFD until grizzly bear management is turned over to the state.

HB 0286 Mountain Lion Hunting Seasons (2025): Would have allowed for unlimited mountain lion hunting across the state of Wyoming including the use of traps and snares.

House Bill 0104 Hunting of predatory animals-amendments. (2023): Allows for the use of artificial light including thermal or infrared imaging or other imaging outside the normal visible light spectrum while hunting predatory animals at night. If listed as predators in other parts of Wyoming, grizzlies will be subjected to hunting at night using non fair-chase methods. This would endanger grizzly bear sows with dependent young and could also increase risk to human life.

Senate File 0010 Predator Control (2022): Allows the Department of Agriculture to contract predator control with local county governments and animal damage control boards. This effectively puts predator killing in the hands of the Department of Agriculture. If grizzly bears are listed as predators in other parts of Wyoming, they will not be managed by the Wyoming Game and Fish Department, but by the Department of Agriculture.

The state of Wyoming has attempted to relocate grizzly bears to California through legislative action. In 2019, **Senate File 0093 Grizzly Bear Hunts** was passed that dictates,

"Grizzly bears are trapped and relocated in Wyoming and in some cases are euthanized for livestock depredation, property damage or endangerment of human life. If the game and fish commission determines under the laws of the state of Wyoming that extraterritorial relocation would be beneficial for managing Wyoming's wildlife and protecting Wyoming workers and other citizens and tourists of the state, the game and fish commission may relocate to the state of California, to states with a grizzly bear population below the threshold for ESA protection or to other willing states with suitable habitat all grizzly bears trapped for relocation or that would otherwise be euthanized."

HB 0012 Mountain Lion Trapping (2016): This bill would have allowed mountain lions to be killed via trap or snare. Allowing traps and snares large enough to capture a mountain lion would threaten grizzly bears by allowing traps in grizzly bear habitat. Even without allowing grizzly bear trapping, there have been many reports in the last decade of grizzly bears caught in traps across the Intermountain West with several bears missing paws or pieces of paws and toes.

HB 0018 Wolves and grizzly bears-limited state action (2016): Would have prohibited any game and fish personnel or Wyoming law enforcement officer from assisting any official, agent or employee of the United States government in the investigation, arrest or prosecution of any person who takes or causes injury of a gray wolf or grizzly bear in the state, if the animal is a species listed as experimental nonessential population, endangered species or threatened species in the state. This bill also would have allowed game and fish personnel or Wyoming law enforcement officers to work with any official, agent or employee of the United States government in an effort to ***reduce*** the number of gray wolves or grizzly bears in any area in the state (emphasis added).

2. *Montana Legislation*

A consistent theme across Montana's grizzly-related legislation is the diminished role of scientific research in management decisions. Under federal management, recovery criteria and population goals are established based on extensive biological research. Montana's legislation shifts significant decision-making authority to agricultural boards, county commissioners, hunting organizations, and even the legislature itself—entities that often prioritize economic and recreational interests over conservation outcomes. Montana's recent legislative actions regarding grizzly bears suggest that state management could significantly threaten the species' recovery. While state wildlife management can be effective when grounded in science and conservation principles, Montana's current legislative direction appears to prioritize reducing bear numbers and restricting their range rather than ensuring long-term population viability. In recent years, the Montana Legislature has become increasingly hostile toward wolves and other large carnivores,

reflecting a broader shift in state wildlife policy that prioritizes hunting, livestock interests, and predator control over conservation. Montana lawmakers have passed laws allowing more aggressive hunting and trapping of wolves. Some of the key measures include:

- Increased Bag Limits: Hunters and trappers can now kill more wolves per season.
- Extended Seasons: Wolf hunting and trapping seasons have been lengthened.
- Baiting and Night Hunting: The use of bait and night hunting with artificial light is now permitted on private lands.
- Snaring: Montana legalized the use of neck snares, a controversial and often indiscriminate trapping method that also kills non-target species, including pets and other wildlife.

There is every indication that Montana will manage grizzly bears very similar to if not exactly like wolves in places where state management is returned. These extreme legislative actions reflect a broader political trend in some Western states where predator management is becoming more about eradication than balance. If these trends continue, they could have significant ecological and economic consequences, particularly for Montana's reputation as a destination for wildlife and outdoor recreation.

HB 648 Require FWP notification before the release of large predators (2025): It would require the Montana Department of Fish, Wildlife, and Parks (FWP) to give 30 days notice before releasing/relocating bears, lions, and wolves. It would incentivize lethal management over relocation which is included in the Grizzly Bear Augmentation and Recovery Management (ARM) process where lethal management by FWP does not count towards the quota, only the mortality threshold in Demographic Monitoring Areas.

Senate Bill 295 Revising laws to accommodate grizzly bear delisting (2023): Montana passed one of the most threatening pieces of legislation to grizzly bears in 2023. Senate Bill 295, established guidelines for grizzly bear management upon return of state management to Montana. While ostensibly designed to manage human-bear conflicts, the bill includes provisions that wildlife biologists consider problematic:

- Designation of "conflict zones" where bears could be removed with minimal oversight
- Relaxed restrictions on lethal control measures for landowners encountering bears
- Reduced buffer zones around key habitat areas
- Establishment of bear population caps potentially below sustainable levels

The bill effectively prioritizes agricultural and development interests over conservation science, setting the stage for management decisions that could rapidly reduce bear numbers outside of core recovery zones.

In 2021, Montana passed two bills that were focused on reducing the chances of long-term grizzly survival in the state. Senate Bill 337 prevents any grizzly that gets into a conflict outside of a recovery zone from being relocated. Senate Bill 98 makes it legal under state law to kill one of the bears if it's threatening or attacking livestock. SB 98 allows for unregulated killing of grizzlies if a landowner or livestock producer feels a grizzly is being "threatening" without defining what constitutes a threatening grizzly bear.

For grizzly bear recovery to continue if management authority transfers to Montana, significant revisions to the state's legislative approach would be necessary. Without such changes, the delisting of grizzly bears from the ESA could transform a conservation success story into a cautionary tale about the fragility of endangered species recovery in the face of shifting political priorities.

Senate Bill 337 Limiting Relocation Options (2021): Passed in 2021, this bill significantly restricts where wildlife officials can relocate "problem bears," effectively shrinking the available habitat for relocated grizzlies. Under federal management, biologists have flexibility in relocating bears to suitable habitats where conflicts with humans are minimized. SB 337 restricts relocations to a narrowly defined set of areas, potentially leading to more bears being killed rather than relocated when conflicts occur. This bill prohibits Montana Fish, Wildlife and Parks from relocating bears and instead places the onus on the U.S. Fish and Wildlife Service to relocate grizzly bears in areas where the state has not approved MTFWP to relocate grizzlies.

Additionally, the Service's reliance on Montana's ARM 12.9.1413, which states that grizzly hunting would not occur in Montana for a minimum of five years after delisting, is misplaced. ARM 12.9.1413 is not set in stone and can be changed by executive agencies like the Fish and Wildlife Commission through a rulemaking process, or can be overridden by the legislature, a body which has aptly demonstrated its willingness to prescribe even the minutia of wildlife management decisions, particularly for carnivores.

Montana Grizzly Bear Management Plan

3. *Idaho Legislation*

Idaho has established a contentious track record regarding large predator management, as evidenced by its approach to gray wolves following their delisting. Since wolf management was returned to state control, Idaho has implemented increasingly

aggressive wolf hunting and trapping policies. In 2021, the Idaho legislature passed Senate Bill 1211, which aimed to reduce wolf populations by 90%, expanded methods of take, and extended hunting seasons. This historical context provides insight into how Idaho might approach grizzly bear management if similar authority is granted or if they are allowed more management flexibility. Instead of emphasizing conflict prevention, which is crucial for coexistence with grizzlies, Idaho's legislation has focused predominantly on post-conflict lethal management. Proposed bills would expand the circumstances under which private citizens could kill grizzlies in "self-defense" or to protect property, likely leading to increased bear mortality. Idaho's legislative approach contradicts scientific recommendations in favor of policies that prioritize reduced restrictions on hunting, expanded lethal control, and minimal state investment in recovery efforts.

Several bills introduced in the Idaho legislature in recent sessions reveal a potential framework for how the state might manage grizzlies:

House Joint Memorial No. 4 (2025): This memorial calls upon the federal government to delist grizzly bears and review the ESA.

House Joint Memorial No. 10 (2024): This memorial expresses opposition to the active reintroduction of grizzly bears within Idaho and supports the continuation of current management practices.

House Bill No. 592 (2024): This bill provides compensation to livestock owners for depredation by grizzly bears and wolves.

Senate Bill No. 1012 (2025): This bill establishes an appeals process for individuals experiencing depredation from grizzly bears, wolves, black bears, and mountain lions.

House Bill No. 82 (2025): This bill amends existing law to provide compensation to livestock owners for depredation by grizzly bears and wolves.

Expanded Hunting Authorization: Legislation has been proposed that would mandate the Idaho Department of Fish and Game to implement grizzly bear hunts immediately upon delisting, without requiring the population studies typically conducted before establishing hunting quotas for recovered species.

1. **Reduced Buffer Zones**: Bills have been introduced to eliminate or significantly reduce buffer zones around national parks and protected areas, which would expose bears that wander outside these boundaries to hunting pressure.
2. **Liability Protection Laws**: The legislature has considered bills that would shield the state from legal liability for management decisions that might negatively impact

grizzly bear recovery, potentially limiting judicial oversight of management practices.

3. **Predator Classification Changes**: Proposed legislation would classify grizzlies as predators in certain management zones, which would subject them to less restrictive hunting regulations than game animals.
4. **Budget Reductions**: The legislature has repeatedly attempted to reduce funding for bear management, monitoring, and conflict prevention programs in anticipation of delisting.

2002 Idaho Grizzly Bear Management Plan (only applies to GYE bears)

4. *Wyoming, Idaho and Montana at the National Level*

Lawmakers from Wyoming, Idaho, and Montana have consistently pushed to remove grizzly bears from federal protections under the ESA, arguing that states—not the federal government—should have full control over grizzly management. Their stance is driven by political, economic, and cultural factors, rather than scientific considerations.

These are the Key Reasons for Lawmakers' Hostility Toward Grizzlies

- State Control Over Wildlife
  Lawmakers from these states argue that the federal government oversteps its authority by keeping grizzlies under ESA protections. They believe states should manage their own wildlife, including decisions about hunting seasons and population limits.

- Livestock and Agriculture Interests
  Livestock producers are a powerful political force in these states, and many view grizzlies as a direct threat to their cattle and sheep. Lawmakers often side with ranchers, pushing for grizzly delisting to allow more aggressive predator control.

- Big Game Hunting and Trophy Hunting
  Hunting is a major industry in the region, and many lawmakers support grizzly delisting to open up hunting seasons for them. This is often framed as "wildlife management," but it also aligns with the interests of hunting outfitters and sportsmen's groups.

- Rural vs. Urban Divide
  Many rural communities in these states see grizzlies as a nuisance, while urban areas and conservation groups often support protections. Lawmakers tend to align with rural voters, who favor looser regulations on predator control.

- Anti-Federal Sentiment
  There is a long-standing distrust of federal agencies in these states, particularly regarding land and wildlife management. Pushing to remove grizzlies from federal oversight is often part of a broader anti-Washington, pro-states' rights agenda.

Legislative Actions and Pressure

- Repeated Lawsuits & Petitions: These states have repeatedly sued the federal government or petitioned for grizzly delisting.
- Congressional Pressure: Lawmakers have introduced bills to delist grizzlies permanently, even trying to prevent courts from overruling them.
- Public Messaging: They often frame grizzlies as "fully recovered" and portray continued federal protections as government overreach rather than necessary conservation.

Wyoming, Idaho, and Montana lawmakers want grizzly bears delisted not because of scientific necessity, but because of political and economic motivations. Their efforts are deeply tied to ranching, hunting, and anti-federal government ideologies, rather than a balanced approach to wildlife conservation. Giving the states additional control over grizzly bear management in a 4(d) rule will lead to population declines, fragmented habitat, and increased grizzly deaths due to hunting and conflict removals.

5. *The 1998 baseline management objective for secure grizzly bear habitat conflicts with the best available science.*

The Forest Service's "1998 baseline" management objective for secure grizzly bear habitat, which the Service has also adopted and signed off on in multiple contexts including in the 2022 revised Custer Gallatin Forest Plan, conflicts with the best available science for three reasons.

First, the 1998 baseline adopts the flawed "secure habitat" definition that includes patches of land as small as 10-acres, which has zero support in scientific literature and is discussed in detail below. Second, the 1998 baseline is not a proxy for secure habitat conditions because it fails to account for the key habitat variables that the best available science says are needed for actual security. Grizzy bear habitat security cannot be defined solely as areas a certain distance from roads. Other factors include vegetation (food, cover), concentrated human use locations (e.g., town sites, camp grounds), heavily used non-motorized trails and areas of high levels of dispersed human use will also influence the effectiveness of area[s] in regards to habitat security. Secure habitat, therefore, must meet the seasonal habitat needs of bears. But the 1998 baseline fails to account for such needs at

all. For example, it fails to include any requirement that secure habitat include vegetation or cover required for functional grizzly bear habitat.

And third, the 1998 baseline is outdated. The Greater Yellowstone area has experienced significant changes in the past 25 years, including increased population, recreation, and private residential development, as well as climate change and changes in grizzly bear range, food sources, and habitat that have significantly impacted grizzly bears and led to increased mortalities. None of these changes are accounted for under the static 1998 baseline.

C. *Human-caused mortality is a major threat to the grizzly bear DPS.*

As stated in the Proposed Rule, human caused mortality is the "leading cause of grizzly bear mortalities range wide." Proposed Rule, p. 62. Excessive human caused mortality was also the "primary factor contributing to grizzly bear decline during the 19th and 20th centuries" which led to the need to list them as a threatened species. *Id.* human caused mortality includes accidental killings, management removals, mistaken identity killings, defense-of-life killings, and illegal killings or poaching, as well as unknown/unreported human caused mortality. *Id.* The Service must fully incorporate data for and consider direct mortality, including grizzly bear deaths from: (1) poaching and malicious killing; (2) garbage-related conflicts; (3) livestock related conflicts; (4) conflicts with hunters; (5) mistaken identity; (6) deaths/injury from non-target trapping; (7) vehicle and train collisions; (8) killing human-tolerant bears. *See* Mattson 2024c.

In addition to direct human caused mortality, problematic human perspectives and practices also threatened grizzly bears, including: (1) inadequate sanitation of infrastructure; (2) problematic hunting practices including disposition of carcasses in backcountry camps, carcasses left in the field overnight, and large groups of hunters; (3) prevalence of firearms, (4) disregard for non-lethal deterrents; (5) inadequate husbandry practices; (6) criminality including poaching an illegal motorized use of closed roads; and (7) displacement of cultural resentments, regarding the "extent to which some people displace their resentments organized around culture change, urban elites, and the federal government onto grizzly bear management, tolerance for bears, willingness to deploy coexistence measures, and grizzly bears they may encounter." Mattson, 2024c.This comment discusses human caused mortality from livestock-related management removals below in section IV(A)(1).

The Service also must perform a cumulative effects analysis, considering the effects of future State or private activities that are reasonably certain to occur within the action area of this Federal action. 50 C.F.R. § 402.02.

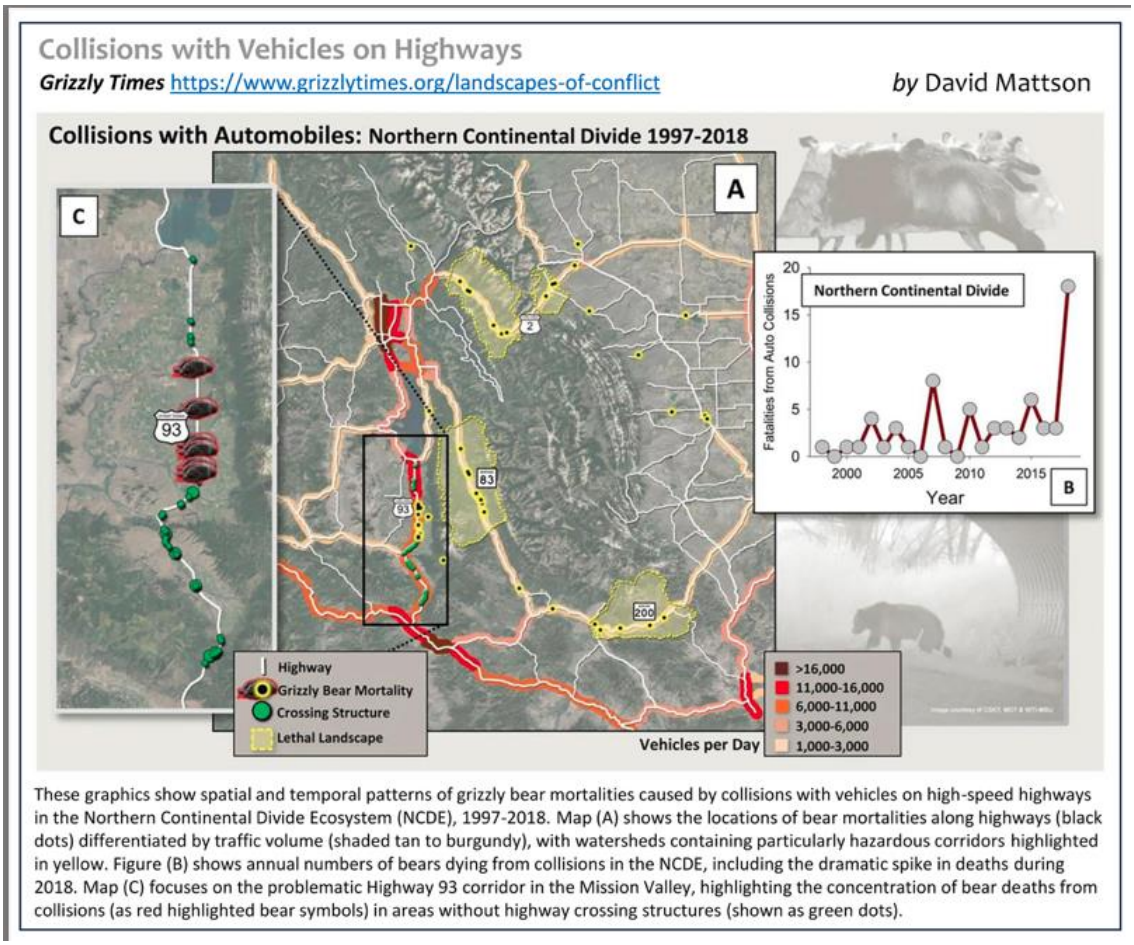
We agree with the Service's determination that human caused mortality will continue to be a threat to the grizzly bear DPS without adequate conservation measures, which don't currently exist. Proposed Rule, pp. 75-6.

1. ***Accidental killings on highways and railways are a threat to grizzly bears.***

A significant and largely avoidable source of human-caused grizzly bear mortality occurs on highways and railways all over the DPS, and the resultant barrier effects associated with both human caused mortality and increasing traffic volumes increase the likelihood and severity of fragmentation, which compromises population viability, reduces a species ability to respond to climate change, and ultimately may reduce biodiversity (Proctor et al. 2012).

Proctor et al. (2012) found that fragmentation and resultant genetic discontinuities are most acute along human-settled valleys where highways and railways are located, where human caused mortality and barrier effects are most acute. Males and females both demonstrated reduced movement rates with increasing settlement and traffic. While occasional dispersals of male bears can mediate genetic connectivity, female bears reduced their movement rates dramatically when settlement increased to >20% of the fracture zone.

Highways and railways in the DPS are a significant source of human caused mortality. From 1999-2018, collisions with vehicles accounted for 19 percent of all mortalities in the NCDE and less than 5 percent in the GYE, CYE and SE (Mattson 2019b). Vehicle collisions accounted for a staggering 25 percent of mortalities, only slightly less than attractants (26 percent), in the western portion of the NCDE, where traffic volumes are higher.



These graphics show spatial and temporal patterns of grizzly bear mortalities caused by collisions with vehicles on high-speed highways in the Northern Continental Divide Ecosystem (NCDE), 1997-2018. Map (A) shows the locations of bear mortalities along highways (black dots) differentiated by traffic volume (shaded tan to burgundy), with watersheds containing particularly hazardous corridors highlighted in yellow. Figure (B) shows annual numbers of bears dying from collisions in the NCDE, including the dramatic spike in deaths during 2018. Map (C) focuses on the problematic Highway 93 corridor in the Mission Valley, highlighting the concentration of bear deaths from collisions (as red highlighted bear symbols) in areas without highway crossing structures (shown as green dots).

In the US-2/BNSF transportation corridor between Columbia Falls and Browning, vehicular traffic has tripled since 1975. According to the most recently available data from two spots along US-2, the average total traffic volumes had increased from 1806 to 3305 vehicles per day (VPD) at mile marker (MM) 184 (near Java Creek) between 1999-2001 and 2022, and 2066 to 2942 VPD at MM 202 (near Coonsa Creek) (Waller and Miller 2015; Waller pers. comm. 2024).

Research in southwest Alberta found that traffic volumes caused a behavioral shift in grizzly bears, causing them to avoid roads with traffic volumes as low as 20 vehicles per day, and they strongly avoided high-use (>100 VPD) roads at all times (Northrup et al. 2012). Another study (Waller and Servheen 2005) found that grizzly bears don't cross US-2 east of Columbia Falls when traffic exceeds 100 vehicles per hour. Between 2000 and 2022, the number of hours available for grizzlies to cross the highway at MM 184 has dropped from 14 hours to 10 hours (between 2200 and 0600). The number of hours available for grizzlies to cross the highway at MM 202 has remained 12 hours (2000 to 0700) during the same period. This means grizzly bears are selecting to cross the highway at night, when train traffic (and therefore risk) is highest.

Trains also take their toll on grizzly bears. Between 1980 and 2018, BNSF trains or trains on BNSF tracks killed a minimum of 56 grizzly bears in the NCDE, CYE and SE recovery areas (Mattson 2019a). The vast majority of these bears were killed on the stretch of BNSF tracks between Browning and Columbia Falls. Three deaths occurred along a railway used by Montana Rail-Link along the southern boundary of the CYE west of Thompson Falls.

These mortalities and the related barrier effects of US-2 and the BNSF Railway in close proximity have created a fracture zone between Glacier National Park and the Bob Marshall Wilderness Complex, right in the heart of the NCDE recovery area and the Crown of the Continent Ecosystem. A 2009 DNA study identified incipient genetic fragmentation of the NCDE grizzly bear population (Kendall et al. 2009) along this stretch of US-2/BNSF transportation corridor, a finding corroborated on a much larger scale by the Proctor study (2012). A recent study on black bears found that the US-2/BNSF transportation corridor now presents a total barrier to movement of male black bears (Carroll et al. 2024), which may be a proxy for its effects on grizzly bears.

Regulatory mechanisms to date are not adequate to reduce grizzly bear mortality and associated barrier effects along this stretch of the US-2/BNSF corridor, nor have they improved over the decades, as both the grizzly bear population and traffic volumes have increased. While there is growing interest in building wildlife mitigations across this section of US-2, the railway has been largely ignored. As a result of increasing grizzly bear mortalities in the NCDE, the IGBC directed the NCDE subcommittee to "conduct a critical review of grizzly bear mortalities and current mortality reduction methods to include focal areas, resource needs, methods, and implementation strategies to reduce grizzly bear conflicts and mortalities" (NCDE working group, 2019).

The working group identified both train and automobile strikes as significant sources of mortality, but their recommendations for the railway were inadequate. For the highway, they suggested "increasing engagement and support for scheduled MDT projects" and "supporting an NGO coalition to advocate for effective wildlife connectivity measures (i.e. crossing structures)." For the railway, they suggested only to "conduct a review of early warning systems and other mitigation tools used in other areas (e.g., Banff) and keep the subcommittee apprised of new and promising methods." Research along the railway in Banff National Park found that early warning system were only minimally effective in certain contexts, and there was no evidence they worked on grizzly bears (Backs et al. 2020).

The recent approval of BNSF's Habitat Conservation Plan and Incidental Take Permit by both FWP and the Service is also inadequate. The foundational premise of the plan is that "there is no other practicable means to eliminate" BNSF trains from killing grizzly

bears, and so the ITP allows BNSF to kill as many grizzly bears over the next seven years (19) as it did during the last seven years. This is justified, the plan reads, because "the population can absorb the estimated level of incidental take attributed to BNSF Operations." While three new bear technicians may make the rest of the NCDE a safer place for grizzly bears and people, there's little evidence in the plan that it will prevent the deaths of grizzly bears on BNSF's tracks.

BNSF knows what actually works, because it has done it. In the early 2010s, it built wildlife fences and several bridge-span underpasses to stop trains from killing bighorn sheep in Abo Canyon, New Mexico. And yet BNSF and the "technical committee" it employed to determine "the measures [that] will be most beneficial to the population" never even considered crossing structures and fencing as one of the alternatives in the HCP.

The only successful solution to reducing grizzly bear mortality and barrier effects here is to build wildlife accommodations (crossing structures and fencing) along and across both the US-2 highway and the BNSF railway between Columbia Falls and Browning. Crossing structures have been installed across railways in Europe to great success (van der Ree et al. 2007), and of course BNSF already built underpasses in Arizona. And we already know from the work in Banff and along US-93 North that male grizzlies will use large underpasses, while females with cubs prefer well-designed overpasses (UBC 2017).

2. ***Impact of grizzly bear management on recovery of U.S. trans-border populations.***

Four of the grizzly bear populations in the lower 48 States abut the border with Canada, three connected to BC bears (NCE, SE, CYE) and one connected to Alberta (NCDE). However, these Canadian bear population units are generally small, fragmented and ineffectively managed, and should not be relied upon to improve the long-term health of U.S. populations.

In 2017, the Auditor General of British Columbia undertook an assessment of whether the BC government was adequately protecting and recovering its grizzly bear populations, nine of which were designated as threatened at that time, by implementing its 1995 Grizzly Bear Conservation Strategy. In her report (AGBC 2017), the Auditor General, Carol Bellringer, expected that the government "would be managing B.C.'s grizzly bear populations co-operatively and effectively," but what she found was shocking (p.3). Instead, what she found was an "unclear organizational structure for wildlife management" that "makes it difficult for [Minister of Environment] to deliver on its mandate to provide leadership in pursuit of healthy grizzly bear populations." Among the commitments that

went unfulfilled, she included “identifying and securing key grizzly bear habitats, creating a grizzly bear management plan and implementing a recovery plan for the North Cascades grizzly bear population.”

“The ministries have taken action to reduce some of these impacts, but they have not evaluated whether their actions are effective. For other risks, government has taken little action or has been slow to respond. For example, there are 600,000 km of resource roads with on the order of 10,000 km more added each year. This expansion allows greater human access into wilderness areas, which results in increased illegal killing of grizzly bears, and greater human-bear conflicts. Yet, long-promised resource road legislation that could address this risk is not yet in place. Grizzly bear populations in some areas of B.C. are now increasing. Our report shows this is likely happening independently from an adequate management framework” (p.4).

She also found that “there is no organized inventory and limited monitoring of grizzly bears (p.6)” and little understanding of whether the Ministry of Environment was effectively reducing illegal killings or other human-caused grizzly bear mortalities (p.7), For the nine “threatened” grizzly bear populations, only one recovery plan has been created, for the North Cascades population, and it has never been implemented (p.8). Various land use and resource management plans do not take the needs of grizzly bears into account and/or evaluate their effectiveness.

Among other things, the Auditor General recommended that the responsible government ministries create a modern, credible grizzly bear management plan that includes clear goals and targets, prioritized activities and timelines, adequate resources to implement said plan, and monitoring of program effectiveness (p.11).

Apart from canceling the grizzly bear trophy hunt in December 2017, two months after the Auditor General’s scathing rebuke of BC’s lax grizzly bear management protocols, not much has changed over the last eight years. Indeed, not much has changed over the last 30 years, since the original 1995 grizzly bear conservation strategy was published. Even now, the BC government’s grizzly bear webpage, last updated in Jan. 2024, promises that the Provincial Grizzly Bear Stewardship Framework is “coming soon” (Mar. 5, 2025).

Several assessments have confirmed that many of the US-BC transborder population units were in trouble. In 2012, the BC government assessed the conservation status of grizzly bears. Nine of the 55 grizzly population units were designated as “threatened,” including the three population units that abut the international border: North Cascades, South Selkirk and Cabinet Yaak/Yahk. A 2017 IUCN global status review based on IUCN red list criteria confirmed BC’s designations, finding that three populations of grizzly

bears along the BC-US border were either “critically endangered” (North Cascades), “endangered” (Yahk-Yaak) or “vulnerable” (South Selkirk). The BC government recently (2020) conducted a conservation “ranking” process using the “NatureServe calculated approach”, though only five of the 55 population units had published empirical trend data. Overall, things look worse than they did in 2012: “There are significantly more GBPUs that could be considered of management concern than the nine identified in the 2012 assessment…. [T] here are some factors that have informed this assessment that are leading to lower ranks for some GBPUs, including changes in some threats, such as increases in the amount of active roads and declining salmon stocks, and documented population declines.” Once again, the North Cascades (extreme conservation concern), South Selkirk (high conservation concern) and Yahk (high conservation concern) population units were determined to be “of management concern”, and several others on or near the border were upgraded to “high conservation concern”, including the Kettle-Granby unit that abuts the U.S. Selkirk recovery zone and the Flathead unit, which abuts the NCDE recovery zone to the northwest (Morgan et al. 2020). And yet, since 1995, when the original conservation strategy was published, only one recovery plan has been developed, for the North Cascades population unit in 2004, but it was never implemented.

The threatened/critically endangered/extreme threat North Cascades GBPU abuts the U.S. North Cascades recovery unit, but is otherwise isolated in an area east of Hope, BC, west of the Okanagan and south of Lytton (North Cascades Grizzly Recovery Team 2004). Potential connectivity to occupied bear habitat to the northwest is impeded by the formidable combination of the Fraser River, the Trans-Canada Highway, the Canadian Pacific and Canadian National railroads, and associated human settlements. Habitat directly east and northeast of this GBPU is blocked by highways and a railway, and is currently thought to be unoccupied and largely unsuitable given the significant amount of habitat alteration and human development. Genetic or demographic connectivity to the North Cascades from other population units is unlikely in the near future (Proctor and Morehouse 2021, in USFWS, SSA 2024).

How many bears remain in BC’s North Cascades GBPU is unknown, and information about the degree of genetic isolation of this population is absent because of the paucity of hair or scat samples. The most current estimate suggests only six animals, but efforts to detect grizzly bears in the North Cascades in the early 2000s have been unsuccessful: the fact there has been no credible sightings or human-caused mortality recorded in this GBPU for the last 20 years (Proctor and Morehouse 2021, in USFWS, SSA 2024) suggests there no grizzly bears left here.

Of all the threatened GBPUs in British Columbia, the ones in the south-central part of the province have been the most rigorously studied, largely because they are connected

to threatened grizzly bear populations being recovered in the U.S. The smallest and most at risk of these is the threatened/endangered/high threat Yahk GBPU is contiguous with the U.S. Cabinet-Yaak recovery zone. Here, the grizzly bear population is extremely small (18 in 2004-05), occurs at low densities, lacks demographic connectivity (i.e. female fragmentation), and is subjected to high road densities and relatively high mortality (Proctor and Morehouse 2021, in USFWS, SSA 2024). While Proctor and Morehouse (2021) states "there has been a significant amount of conservation-oriented grizzly bear research in the Yahk" and "connectivity between the Yahk and the [larger] South Purcell population unit to the north" has increased, he also admits that the difficulty of "implementing access management across the Yahk GBPU will be a challenge due to strong public opposition and heavy industrial timber harvest."

Like the Yahk, the South Selkirk GBPU is right at the top of the list of Canada's most threatened grizzly bear populations, in large part because it, too, is so small and isolated. Contiguous with the U.S. Selkirk recovery zone, the population estimate is just 58 bears in BC's South Selkirk population unit. Like the Yahk unit, relatively high human-caused mortality, high road densities, and fragmentation continue to pose threats, though conservation actions have reduced human-caused mortalities and improved genetic and demographic connectivity to the north.

The Kettle-Granby population unit shares a 22-mile border with the western edge of the South Selkirk unit and has more bears (87), but highways and the associated human settlement along them means the Kettle-Granby unit "represents only minimal potential for grizzly bear connectivity with the South Selkirks" (Proctor and Morehouse 2021, in USFWS, SSA 2024).

Proctor and Morehouse conclude that "the Canadian South Selkirk GBPU is the most important link for the bears in the U.S. portion of the South Selkirk Recovery Zone to be connected to a larger grizzly bear population in Canada, though he cautions that the B.C. government is "not currently prepared to be the leader of grizzly bear conservation and management into the future." This frank statement could be applied to grizzly bear conservation and management writ large in B.C.

Further west, contiguous with the NCDE population unit and recovery zone are two Canadian grizzly bear population units: the Flathead in SE BC, and the in SW Alberta. Despite very high grizzly bear densities (41 bears/1000 sq. km.) in the Flathead grizzly bear population unit, the 2019 assessment of grizzly bear conservation status in BC upranked it, for the first time, to "high concern" and "in need of conservation attention" (Morgan et al. 2020). Elevated concern for this GBPU is associated with "threats and fragmentation related to conflict mortality on the unit's periphery along B.C. Highways 3 and 97, forestry roads, and high ungulate hunter density and the accompanying mortality (Proctor *et al.*

2012, Lamb *et al.* 2016, McLellan *et al.* 2018, Morgan *et al.* 2020)" (Proctor and Morehouse 2021, in USFWS, SSA 2024).

If the BC government is "high risk" to grizzly bear conservation and recovery, Alberta is "extreme". Grizzly bears were listed as "Threatened" under Alberta's *Wildlife Act* in June 2010, two years after a recovery plan was developed, but this "listing," unlike the ESA, provides no legal obligation for the government to do anything. "Alberta has no legislated process for identifying critical habitat for an endangered species and no substantive legal protection for any habitat identified (even in protected areas other than those few areas with a 'wilderness' designation). Instead, Alberta relies almost entirely on discretionary power exercised by regulatory agencies or departments under resource development legislation to impose terms and conditions to mitigate the adverse impacts to habitat caused by resource extraction, agriculture, roads, and urban developments" (Fluker 2024).

In fact, in July, 2024, the Alberta government announced via press release that the Minister of Forestry and Parks has reinstated a grizzly bear hunt in Alberta, despite the fact that it is still "listed" as threatened. In response, Shaun Fluker, a law professor at the University of Calgary, wrote that "Alberta's endangered species law and policy has always been a sad joke in terms of facilitating protection or recovery of species, but the UCP government has now managed to make this a sad and twisted joke" (2024).

"Alberta does not have effective legislation to protect and facilitate the recovery of endangered species" (Fluker 2024).

Despite this farce, the Alberta government updated its province-wide grizzly bear management plan in 2016 and again in 2020, though little if any of these revisions have been implemented. Still, some population units have increased, while others have continued to stagnate or decline, largely because road densities in Alberta are extraordinarily high outside of national parks. The government's "draft" recovery plan has "recommended road density thresholds … but there are regional differences in the enactment of these recommendations and there is no province-wide mandate requiring their implementation. Additionally, there is a lack of clarity in terms of what constitutes a closed or restricted road that should be excluded from open-road density calculations" (Proctor and Morehouse 2021, in USFWS, SSA 2024).

Alberta has some of the high densities of linear features, developed for oil and gas exploration, anywhere in North America, and they often become recreational trails used by off highway vehicles (OHVs). As we all have known since the mid-1990s, closing or restricting motorized access in high quality bear habitat is a powerful tool in grizzly bear

management, Alberta doesn't have and has never had a provincial motorized access management plan (Proctor and Morehouse 2021, in USFWS, SSA 2024).

Alberta is divided into seven "bear management areas". The BMA in southwest Alberta that is contiguous with the NCDE recovery zone is BMA 6, which is 1811 sq. km., 87 percent of which are protected areas. A recent (2016) population study indicated that there were 67 resident grizzly bears in BMA 7, and an additional 104 "partial residents" (i.e. transients) who used the BMA for part of the year (Morehouse and Boyce 2016). These bears are moving back and forth from the NCDE recovery zone and BC's Flathead GBPU. Given the high number of human-caused mortalities in, and translocations out of, BMA 6, especially females, this may be a cause for concern.

The six-year average of **female removals** from the recovery zone and the adjacent (to the east) support zone in BMA 6 between 2010-2015 was three per year (one mortality and two translocations to a BMA north of Highway 3), 4.5 percent of the population (Alberta Environment and Parks. 2020). This exceeds Alberta's objective of no more than 1.2 females/year by almost 400 percent. This could include transients from the NCDE's "threatened" grizzly bear population, creating a source-sink dynamic between Glacier National Park and SW Alberta, though no DNA work has been done to ascertain the origins of the dead or translocated females.

Given that the grizzly bear hunt in Alberta is set to resume in the Fall of 2025, and that mortalities across the border could increase, the Service should analyze the impact of high levels of mortalities and translocations in SW Alberta on the NCDE population.

Whatever Americans think about whether grizzly bears in the Northern Rockies should be delisted or not, it's useful to consider the fact that while the Service and its many partners have doubled the Northern Rockies population under a comparatively robust recovery plan since 1993, the BC and Alberta governments have done little to nothing to recover its "threatened" grizzly bear population units.

Given the B.C. government is "not currently prepared to be the leader of grizzly bear conservation and management into the future" (Proctor and Moorehouse 2021), and given the fact that "Alberta does not have effective legislation to protect and facilitate the recovery of endangered species" (Fluker 2024), it would be foolish by far to expect that BC and Alberta will any help in recovering or maintaining trans-border grizzly populations.

3. *Wolf hunting and trapping are a threat to grizzly bears.*

The SSA accurately finds that:

"Wolf trapping and snaring and black bear hunting have the potential to incidentally take grizzly bears. Recent legislation in Montana and Idaho expanding hunting and trapping tools available for wolves and black bears will likely increase incidental take of grizzly bears… However, there may be some mortalities that go unreported due to unknown mortalities/injuries resulting from grizzly bears breaking away from the site with the snare and/or trap still attached."

Moreover, illegal takings of grizzly bears often go unreported and reporting rate is as low as 12% (McLellan, et al. 2018) and 32% (Lamb et al. 2023).

A robust review of trapping and snaring impacts on grizzly bears is contained in Mattson (2024b, expert disclosure). We also shared extensive facts in our scoping comments and below.

4. *Black bear hunting is a threat to grizzly bears.*

Idaho, Montana, and Wyoming all allow black bear hunting practices which threaten grizzly bears, including black bear baiting and hound hunting. Black bear hunting itself is a threat to grizzly bears due to mistaken identity killings when hunters cannot tell the difference between a black or a grizzly bear. The Proposed Rule correctly concludes that these practices are all ongoing threats to the grizzly bear population, necessitating a continued 'threatened' designation under the ESA. *See*, *e.g.*, Proposed Rule, pp. 82-3, "[B]lack bear hunting [has] the potential to incidentally take grizzly bears," and "Recent legislation in Montana and Idaho expanding hunting and trapping tools available for . . . black bears will likely increase incidental take of grizzly bears."

Hound hunting for black bears is a threat to grizzly bears. In 2021, the Montana legislature passed a law to allow hound hunting of black bears during the spring black bear season and to authorize a 'training season' for hounds starting at the end of spring bear season and going through June 15th. HB 468. Hound hunting for black bears was prohibited in Montana for the century before HB 468 became law. Idaho also allows hound hunting for black bears. Hound hunting black bears in grizzly range is a threat because of the risk of encountering a grizzly instead of a black bear. Instead of running away like black bears, grizzlies are more likely to stand and fight, creating dangerous situations for hounds and hunters, and leading to self-defense killings. Smith and Servheen 2024.

Using bait to hunt black bears is a threat to grizzly bears. Idaho and Wyoming both allow hunters to use bait for black bear killing. (Idaho Big Game Regulations) (Wyoming

Black Bear Regulations). Bait that attracts black bears is going to attract grizzly bears, which creates two dangers. One, this can habituate grizzlies to human food sources. And two, it literally puts grizzlies in the crosshairs, increasing the odds they will be mistakenly shot by a black bear hunter. Wright 2024 *and* Nickas 2020 ("At least five grizzlies have been shot and killed over bait" in the Greater Yellowstone area). As such, the Service correctly identified black bear hunting in Northern Rockies states as a threat to the grizzly bear for the reasons detailed above. The state of Wyoming does not have a requirement for black bear hunters to take an identification course on the differences between black bears and grizzly bears. Grizzly bears continue to be killed in mistaken identity cases. Until Montana, Idaho, and Wyoming stop hound hunting and baiting black bears, and all require a bear identification course (Wyoming still does not require this), these activities will remain a dire threat to the grizzly bear population.

5. ***Defense of life kills and the northern Rockies' states refusal to require bear spray threaten grizzly bears.***

Grizzly bear "defense of life kills" (DOL) have increased fourfold in recent years (see data below). A large number of the DOL kills involved people who did not have bear spray available. A common refrain came from a grizzly specialist after a bird hunter killed a female and 3 cubs: ""Bear spray could have turned this an entirely different way." Martinsen 2009.

States of the Northern Rockies must require bear spray and bear identification courses to reduce human-caused grizzly deaths. Bear spray is the most effective tool in preventing bear attacks and minimizing injuries to both humans and bears. Summers et al., 2019; Bear spray saves lives, 2019. However, these states have resisted policies requiring its use, citing concerns about the burden on hunters. Arrivo, 2019; PETITION FOR ADOPTION OF RULE, Idaho, 2019; PETITION FOR ADOPTION OF RULE, Wyoming, 2019. With grizzly bear populations at risk, every dead bear is significant. The mistaken identification and killing of grizzly bears by hunters highlights the need for required bear identification courses and bear spray. Combs et al., 2023.

At page 169 the SSA states: "*In the GYE DMA, from 2002 to 2023, 31 percent (134 of 433) of human-caused mortalities of independent-age bears and 50 percent (60 of 119) of human-caused mortalities of dependent young were defense-of-life kills (Gould 2024a, in litt.).*" In the NCDE and CYE these figures are 14% and 18%.

Montana Grizzly Bear Defense of Life Kills (Reported) Data Sources: Montana Fish, Wildlife & Parks, U.S. Forest Service, and Yellowstone Grizzly Study Team.

Year	NCDE	GYE (within Montana)	
1991	0	-	
1992	0	-	
1993	1	-	
1994	1	-	
1995	0	-	
1996	no data	-	
1997	no data	-	
1998	no data	-	
1999	1	-	
2000	1	-	
2001	2	-	
2002	2	-	
2003	1	-	
2004	1	-	
2005	2	-	
2006	0	-	
2007	4	-	
2008	1	-	
2009*	1	2	3
2010	0	0	0
2011	8	0	8
2012	2	0	2
2013	1	0	1
2014	2	0	2
2015	1	5	6
2016	1	0	1
2017	8	10	18
2018	6	0	6
2019	3	5	8
2020	7	4	11
2021	3	3	6
2022	1	1	2
2023	6	0	6
2024	2	0	2

*category changed Self-Defense to Defense of Life

NCDE Statistics

1980-2002: 23 years = 1.0/year (MTFWPs analysis)

2004-2010: 7 years = 1.3/year
2011-2024: 13 years = 3.8/year

1991-2010 = 0.9/year

NCDE Population 2004- N = 765; 2024- N = 1,100 = **43.8% increase**

Over same time period **DOL = 192.3% increase**

Within Montana 2009-2024: 82 = 5.1/year

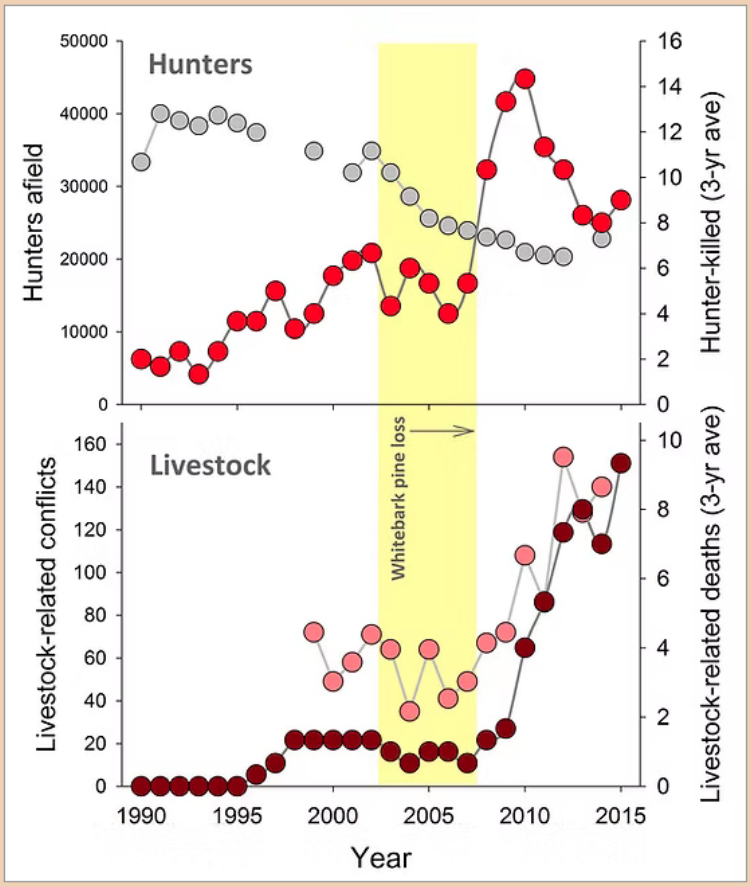
GYE DOL Kills 2009-2024

2009	6
2010	11
2011	9
2012	11
2013	4
2014	7
2015	14
2016	7
2017	15
2018	6
2019	8
2020	7
2021	13
2022	3
2023	2
2024	1

124/16 = 7.8/year

Until the states require users of grizzly bear habitat to carry bear spray, have it available and know how to use it, DOL kills will remain an ongoing threat to grizzly bears.

Livestock and Hunter-Related Mortalities 1990-2015



The graphs at left shows trends in hunter and livestock-related conflicts and mortalities in the Greater Yellowstone Ecosystem, expressed as 3 year averages, up to Oct. 20, 2015. The top graph shows hunter-caused mortalities, with number of hunters afield in grey. The bottom graph shows livestock-related conflicts (pink) and mortalities (maroon). The yellow vertical bar denotes the period of maximum loss of whitebark pine from mountain pine beetles. Bottom line: grizzly bear conflicts with hunters and livestock producers over meat have surged dramatically since loss of whitebark pine, which is consistent with a turn by many bears to eating more meat in compensation for loss of pine seeds...and cutthroat trout. Note that the increase in hunter-caused mortalities has occurred despite substantial declines in numbers of hunters afield. This belies claims by agency spokespeople that hunters are "behaving better" than in the past. *Data were compiled by Dr. David Mattson from annual reports of the Interagency Grizzly Bear Study Team*

6. *Predator control actions are a threat to grizzly bears.*

Predator control actions carried out by USDA's Wildlife Services in Montana threaten grizzly bears. Wildlife Services is charged with killing and removing predators like mountain lions, coyotes, wolves, black bears, and even grizzly bears under the current 4(d) rule. Wildlife Services responds to requests for assistance from individuals or state and federal agencies, and has agreements with the Montana Department of Fish Wildlife (MFWP) and Parks and the Montana Department of Livestock who also take and kill grizzly bears.

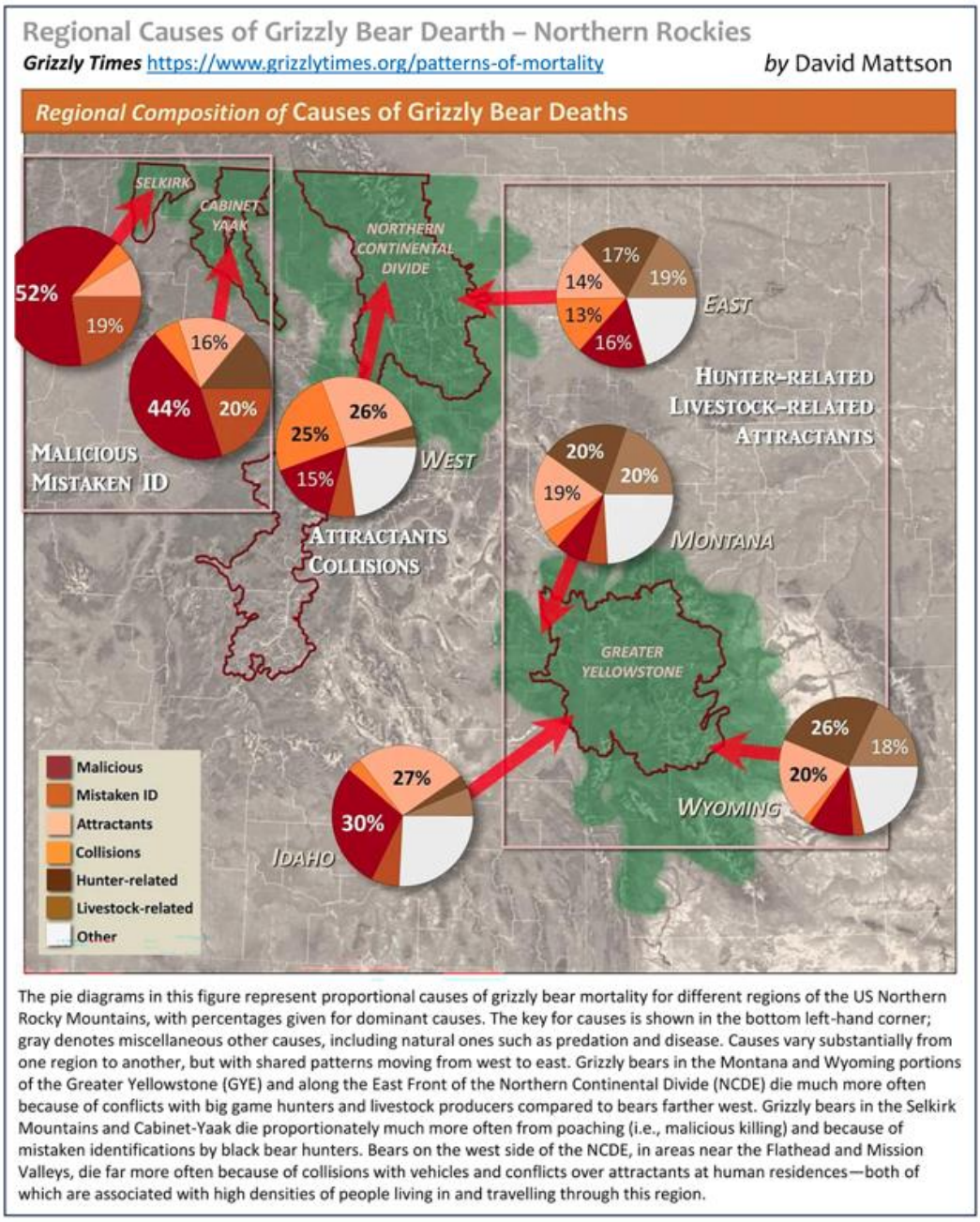
Wildlife Services kills aerially guns down wolves, coyotes and grizzly bears, and uses traps, snares, and poison gas cartridges to target canids, lions, and black bears, among others. Wildlife Servies intentionally—and sometimes accidentally—removes and kills grizzly bears in Montana, specifically bears that prey on livestock or pose a threat to human safety. Grizzly bears are sometimes caught and killed after being accidentally

caught in traps and snares set for other species (either by Wildlife Services, MFWP, Montana Dept. of Livestock, or individuals).

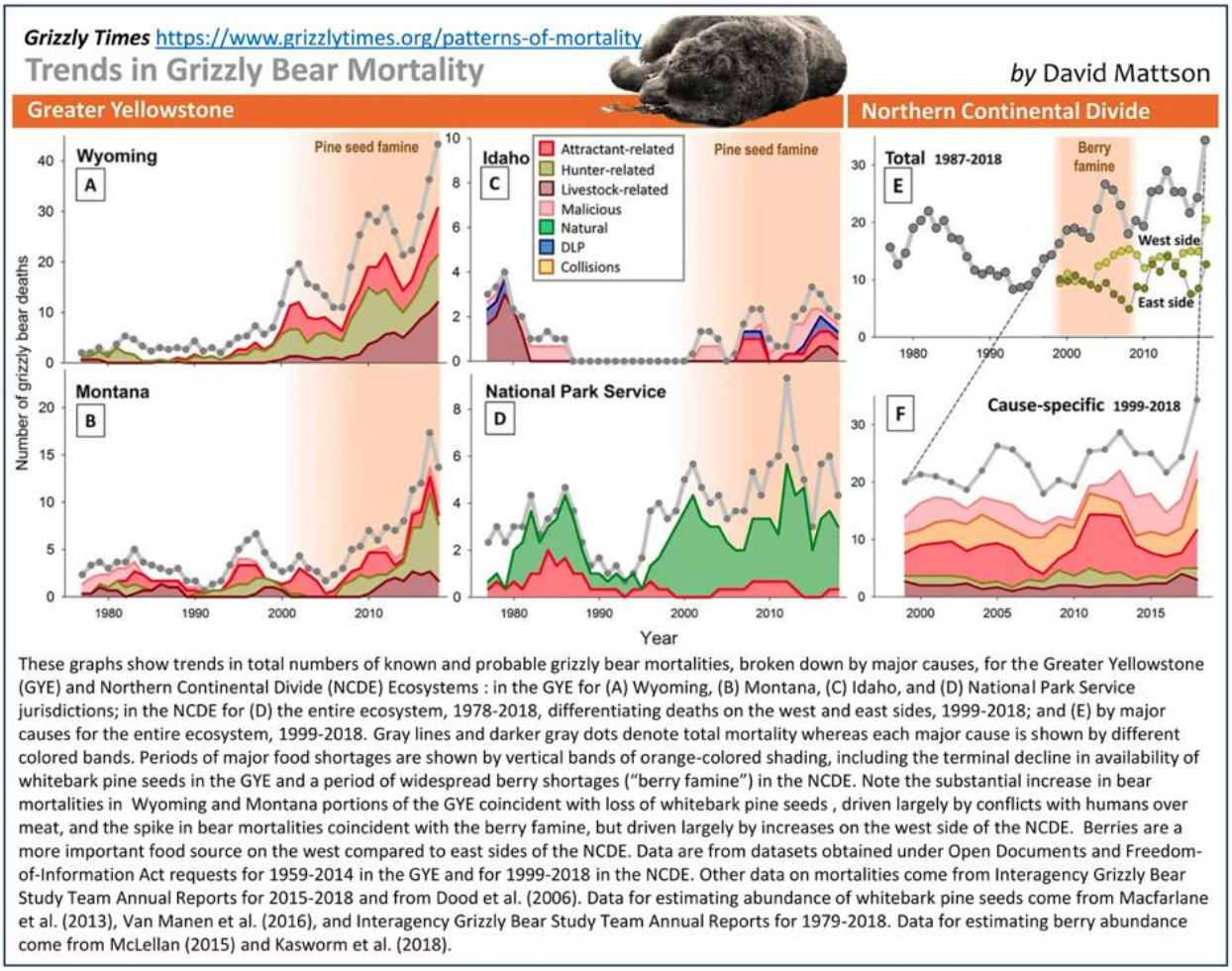
From 2017 to 2020, MFWP reported being involved in 176 "conflict captures" or takes of grizzly bears in Montana, or roughly 58 a year, and reported that 59 of these bears were killed—averaging about 20 bears per year killed by MFWP. Wildlife Services also reported taking about 9 grizzly bears per year in Montana, most of which are transferred to MFWP, after which point Wildlife Services loses track of the bear's fate. Over the last 10 years, the number of grizzly bears taken by Wildlife Services has increased, the most recent data from 2013-2022 reveals Wildlife Services takes roughly 13 grizzly bears a year. The Montana Dept. of Livestock is also authorized to take animals depredating on livestock.

The Service must account for the threats posed to grizzly bears from intentional and unintentional take of bears and other species under the umbrella of predator control.

7. ***Graphs related to patterns of mortality.***



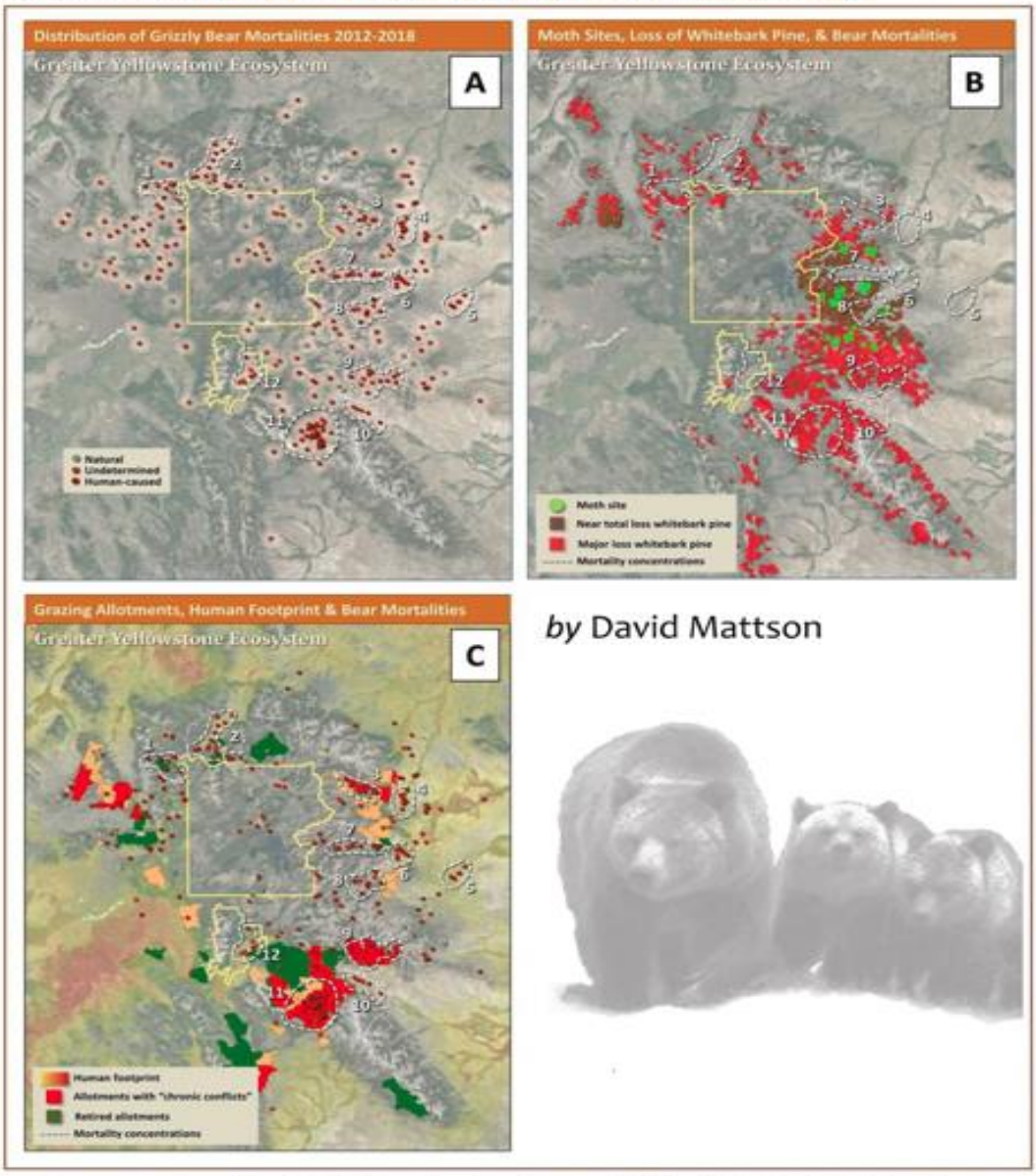
The pie diagrams in this figure represent proportional causes of grizzly bear mortality for different regions of the US Northern Rocky Mountains, with percentages given for dominant causes. The key for causes is shown in the bottom left-hand corner; gray denotes miscellaneous other causes, including natural ones such as predation and disease. Causes vary substantially from one region to another, but with shared patterns moving from west to east. Grizzly bears in the Montana and Wyoming portions of the Greater Yellowstone (GYE) and along the East Front of the Northern Continental Divide (NCDE) die much more often because of conflicts with big game hunters and livestock producers compared to bears farther west. Grizzly bears in the Selkirk Mountains and Cabinet-Yaak die proportionately much more often from poaching (i.e., malicious killing) and because of mistaken identifications by black bear hunters. Bears on the west side of the NCDE, in areas near the Flathead and Mission Valleys, die far more often because of collisions with vehicles and conflicts over attractants at human residences—both of which are associated with high densities of people living in and travelling through this region.



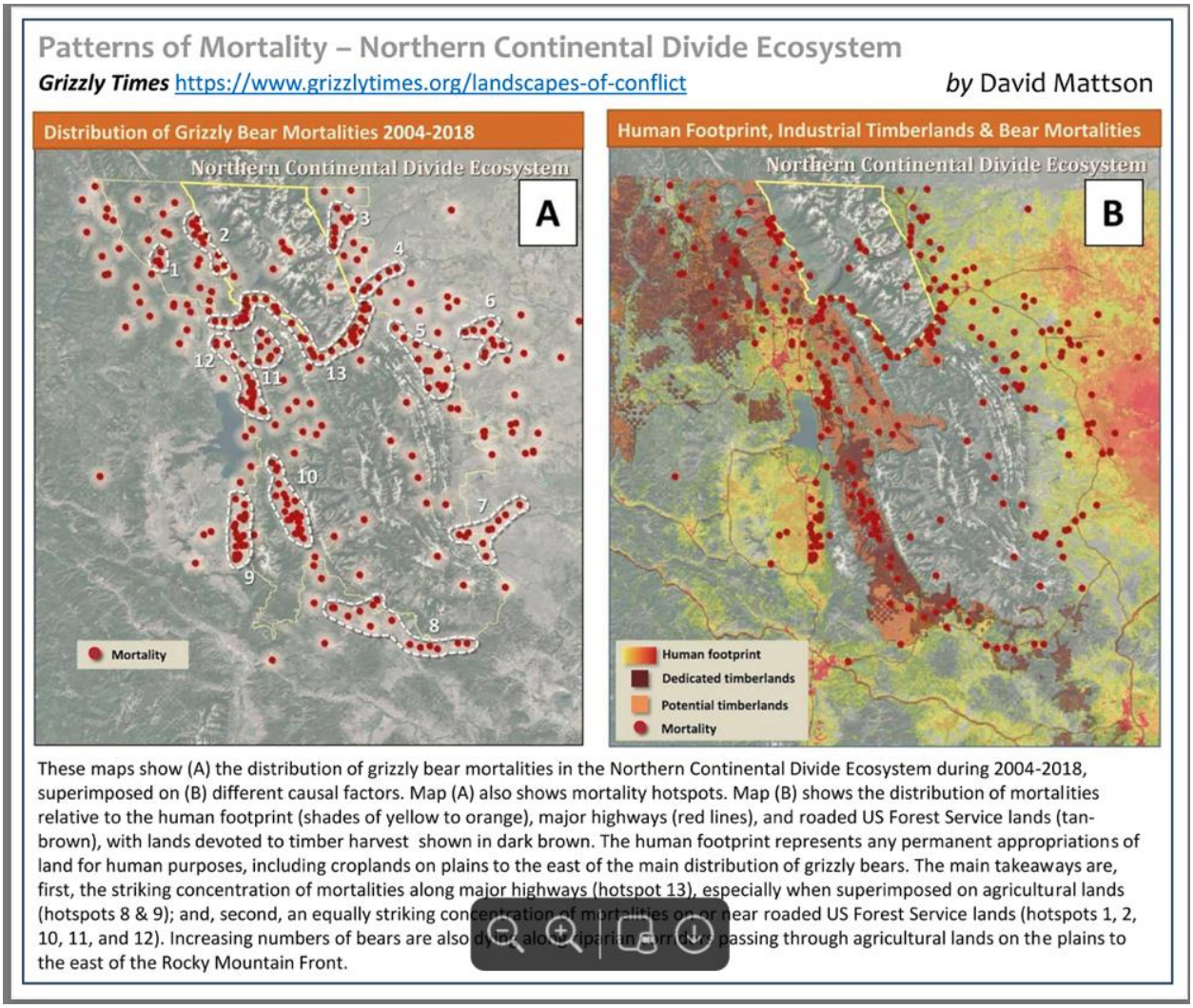
These graphs show trends in total numbers of known and probable grizzly bear mortalities, broken down by major causes, for the Greater Yellowstone (GYE) and Northern Continental Divide (NCDE) Ecosystems : in the GYE for (A) Wyoming, (B) Montana, (C) Idaho, and (D) National Park Service jurisdictions; in the NCDE for (D) the entire ecosystem, 1978-2018, differentiating deaths on the west and east sides, 1999-2018; and (E) by major causes for the entire ecosystem, 1999-2018. Gray lines and darker gray dots denote total mortality whereas each major cause is shown by different colored bands. Periods of major food shortages are shown by vertical bands of orange-colored shading, including the terminal decline in availability of whitebark pine seeds in the GYE and a period of widespread berry shortages ("berry famine") in the NCDE. Note the substantial increase in bear mortalities in Wyoming and Montana portions of the GYE coincident with loss of whitebark pine seeds , driven largely by conflicts with humans over meat, and the spike in bear mortalities coincident with the berry famine, but driven largely by increases on the west side of the NCDE. Berries are a more important food source on the west compared to east sides of the NCDE. Data are from datasets obtained under Open Documents and Freedom-of-Information Act requests for 1959-2014 in the GYE and for 1999-2018 in the NCDE. Other data on mortalities come from Interagency Grizzly Bear Study Team Annual Reports for 2015-2018 and from Dood et al. (2006). Data for estimating abundance of whitebark pine seeds come from Macfarlane et al. (2013), Van Manen et al. (2016), and Interagency Grizzly Bear Study Team Annual Reports for 1979-2018. Data for estimating berry abundance come from McLellan (2015) and Kasworm et al. (2018).

Patterns of Mortality – Yellowstone Ecosystem

Grizzly Times https://www.grizzlytimes.org/patterns-of-mortality



These three maps show the distribution of grizzly bear mortalities in the Greater Yellowstone Ecosystem during 2012-2018 relative to different causal factors. Map (A) identifies clusters of mortalities that are shown in (B) and (C). Map (B) shows clusters relative to areas with heavy whitebark pine mortality during 2002-2009 (denoted by red and burgundy) and sites where grizzlies fed on army cutworm moths (denoted by green dots). Map (C) shows mortality clusters relative to the human footprint (in shades of yellow to orange) and public-land grazing allotments differentiated by whether these allotments experienced chronic bear depredations (red), something less than chronic conflicts (orange), or had been retired (green). The major points to be taken away from these maps are, first, many mortality hotspots are spatially associated with heavy losses of whitebark pine that were not offset by nearby availability of moth sites (hotspots 1, 3, 9, 10, 11); second, a heavier human footprint was associated with only a handful of hotspots (2, 4, 5); and, third, most hotspots were associated with public-land grazing allotments in areas with heavy losses of whitebark pine, but with the Upper Green River area (hotspot 11) standing out from all of the rest. Notably virtually no grizzly bears died in grazing allotments that had been retired



D. *The Service incorrectly concluded that climate change is not a threat to grizzly bears.*

The SSA states:

"Therefore, we do not anticipate changes in food resources to be a threat to the grizzly bear DPS.

Most grizzly bear biologists in the United States and Canada do not expect habitat changes predicted under climate change scenarios to have significant consequences for grizzly bears (Servheen and Cross 2010, p. 4).

Therefore, in the absence of the protections of the Act, we do not anticipate potential effects of climate change to be a threat to the grizzly bear DPS."

These statements are contravened by a host of scientists and the scientific literature. The Servheen and Cross reference is from 15 years ago and before significant climate change research. It was a report on a workshop and not a peer-reviewed published analysis. The SSA neglects to include the following statement from Servheen and Cross: "*Climate change may play a significant role in driving grizzly bear/human interactions and conflicts.*"

This is an example of using older, now irrelevant science to justify a current decision. Climate change effects on grizzly bears are not speculative or "potential" nor are they in the distant future. Rather, they have been documented in many published studies and the Service failed to adequately incorporate this information into the threat assessment. The SSA treats climate change as a potential future threat rather than the documented current and imminent threat it represents to entire ecosystems and the planet. Adding to the current effects from climate change, scientists predict these threats will significantly increase in the foreseeable future.

Kurth et al. (2024) reviewed 120 papers pertaining to climate change effects on grizzly and black bears in North America and provide an extensive resource of climate change effects. They wrote: "*Climate change poses a pervasive threat to humans and wildlife by altering resource availability, changing co-occurrences, and directly or indirectly influencing human-wildlife interactions.*" And, "*Climate-driven changes in natural food availability were frequently implicated in influencing bear behavior and demography and creating conditions under which interactions with humans are likely to increase.*" And, "*Given substantial evidence of climate impacts to bears, incorporating climate considerations into bear management can help managers strategically allocate resources and promote human-bear coexistence.*"

Existing and ongoing climate change effects on grizzly bears are predicted to increase. Rogers, et al. (2021): "*Our results suggest that climatic modulation of costs imposed by the thermal environment likely is an important driver of behaviour and energetics in large endotherms and that relative importance of the thermal environment to endotherm ecology is likely to increase as the climate continues to warm.*"

The assessment fails to assess the impacts on denning chronology in grizzly bears, which is exposing bears to human threats over a longer period of time each year and at times of year when natural food sources may be largely unavailable (Pigeon et al. 2016).

Montana has experienced what climate change scientists have predicted for years which is milder winters and lower snowpack that melts earlier (Whitlock et al. 2018,

Montana Climate Assessment). In the winter of '23-'24 female grizzly bears with cubs were out at the end of December and into January (Montana FWPs 2024) and some grizzlies were reported by the Custer-Gallatin National Forest out in January around Gardiner and West Yellowstone. Montana Fish, Wildlife & Parks issued a bulletin urging people to carry bear spray –– in January. Bears were also still out in December 2024.

Hostetler et al. (2021, The Greater Yellowstone Climate Assessment) found that in the next 80 years "GYE *is projected to warm by* 5-6^{o} *F by* 2040 *and as much as* 10-11^{o} *F by the end of the century*. A *greater portion of winter precipitation will fall as rain instead of snow and snowpack will continue to decline. Snowmelt and runoff will occur earlier in the spring, adding to water shortages in summer*." "*Since* 1950 *the growing season is two weeks longer, below* 8000' *annual snowfall declined* 25% *and by* 96% *in September*."

Fowler et al. (2019) found a significant reduction in the denning period for North American grizzly and black bears. They cite four studies that documented grizzly bears being active all winter.

Based on the newer scientific evidence and verified observations by Montana FWPs, the courts found in *Flathead-Lolo-Bitterroot Citizen Task Force v. Montana* (CV 23-101-M-DWM, 2024) that grizzly bears were exposed to wolf traps and snares in November, December and March and limited the wolf trapping and snaring season in grizzly bear habitat from January 1-February 15, when most grizzly bears are in their dens.

The figure shown below from Mattson (2024) shows that even when incorporating decades old data, the trend in shorter denning seasons is evident.

<u>There must be a new assessment of grizzly bear denning chronology.</u> The problem with the government analyses is they base denning dates that rely on data as far back as 40 years. It has been more than 20 years since the last scientific assessment for GYE (Haroldson et al. 2002, data current through 1999). This obscures the signal we are now getting from climate change. Most long-time grizzly bear biologists and managers state they have detected a change in recent years and there is data to back it up. Information from Yellowstone National Park (NPS) shows first documented grizzly bear sightings of the year over the past decade or so are mostly from early February to early March, much earlier than previously published studies (see Mattson expert report, 2024). The trend is almost certain to continue. If plant phenology cannot adapt quickly enough, bears, especially in late fall/early winter and late winter/early spring, bears will be active when there may not be adequate natural foods which will cause bears to seek human foods, which causes high mortality risks and rates (Pigeon et al. 2016). If bears are out of the den a

longer portion of the year, it creates added exposure to conflicts with humans and higher mortality risk.

A new assessment must account for the data bias in the GYE and NCDE. Managers do not sample areas beyond the core interior, the highest and snowiest area where denning seasons are generally longer. Denning behavior in a vast area of currently occupied habitat is not captured, nor the potential impacts from recreational activity that affects den selection and den viability (see also Bader and Sieracki 2022).

There are other predicted impacts on grizzly bears from climate change. As explained by grizzly bear expert Dr. David Mattson, the Interagency Grizzly Bear Study Team of which he was a part was "flagging climate change" as early as 1986 as a threat to grizzlies, because a warming climate would lead to the decline of whitebark pine, and thus cause issues for grizzlies (Hettinger 2019).

Rogers et al. (2020) found lactating females have a harder time thermoregulating which may affect cub survival. Other effects include caloric burn which may deter grizzly bears from accumulating the fat reserves required for hibernation, increases in distribution area and lower bear density, and challenges to thermoregulation.

Drought and climate change are known to have significant effects on primary food sources for grizzly bears including *Vaccinium spp.* and other berry producing shrubs. During drought years with poor berry crops, bear-human conflicts and grizzly bear mortalities explode (Jonkel, Montana Fish, Wildlife & Parks annual data). With climate change, such food source failures will become more common.

Corradini et al. (2023) wrote: "*…synergistic effects of continued climate change and increased human impacts could lead to more extreme changes in food availability and affect observed population resilience mechanisms.*" (emphasis provided).

As explained by Dr. Mattson on the *Grizzly Times*, "Yellowstone grizzly bears are already suffering from the impacts of climate change, which has precipitated the rapid decline of whitebark pine, a key fall food source for the bears. Other foods may be next." The availability of nutrient dense white bark pine seeds before hibernation is crucial for grizzly bears, and particularly so for females, who consume roughly twice as many whitebark pine seeds as males, and "are more likely to reproduce—and produce larger litters—following good pine seed crops." *Id*, citing Mattson (2000).

Whitebark pine also reduces human-caused mortality because it brings grizzly bears to high-elevation areas and away from people and hunters. Mattson (1992). When

pine crops are poor, grizzlies seek food elsewhere, including elk, which is a risky food source for females and cubs due to male dominance of elk carcasses and is risky to all grizzlies because it drives conflicts with big game hunters. *Id.*

There is no justification for the SSA to conclude that changes in food sources are not a threat to grizzly bears. "*Shifts in bear habitat availability and quality <u>are projected to continue</u> in the face of climate change*" (Kurth et al. 2024) (emphasis provided). The saying that grizzly bears are generalists and opportunists and "they'll just eat something else" oversimplifies the issue. High protein foods may be replaced with low protein foods, which affects fitness and reproduction. Natural foods may be replaced by human-related foods, which again increases mortality. These effects are already being detected and cumulatively warrant a finding that climate change is an imminent and ongoing threat to the grizzly bear DPS.

E. *The Service incorrectly concluded that changes to food resources are not a threat to grizzly bears.*

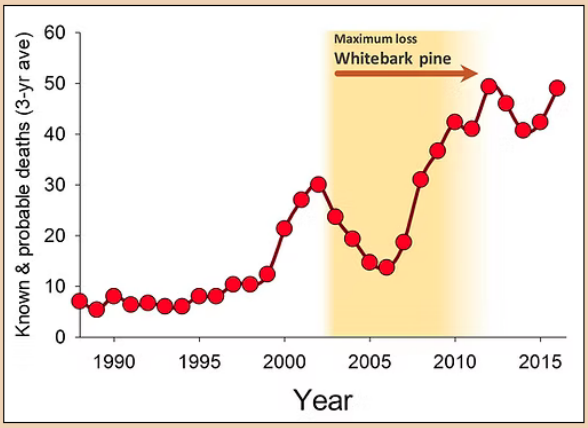
Changing food resources are a demonstrated threat to the grizzly bear population, and the Proposed Rule incorrectly determined it is not because grizzly bears are adaptable and eat many different foods. Proposed Rule, pp. 111-4. However, research shows that a loss or change in food sources does pose a threat to grizzlies. As the Proposed Rule notes, whitebark pine seeds, cutthroat trout, and salmon have changed in the last several decades in all recovery zones. These are major food sources for the grizzly bear and are not so easily replaced as the Service implies. Proposed Rule, p. 112. Further, the *Food Resources* report in the SSA 2024 did not use post-2005 data, and so did not consider the spike in mortality that occurred as 2 of the 4 food sources in the GYE declined (white bark pine and cutthroat trout).

Loss of natural foods, including because of human caused climate change as discussed in the preceding subsection, is a threat to grizzly bears, particularly huckleberry, buffaloberry, chokecherry, service berry, cutthroat trout, and whitebark pine. Mattson 2024c. Pease and Mattson (1999) determined that "grizzly bear mortality rates are about double in years when the whitebark pine crop fails than in mast years, and that the population probably declines when the crop fails and increases in mast years. Our model suggests that natural variation in whitebark pine crop size over the last two decades explains more of the perceived fluctuations in Yellowstone grizzly population size than do other variables." (p 957). Native Yellowstone cutthroat trout, another historically important food source for GYE grizzly bears, has also declined drastically. This means that two of the four most important food sources for Yellowstone bears are much less available today than in the past, which currently and increasingly threatens grizzly bears as they have less food

available and as they seek food elsewhere, which likely resulted in a spike in human-caused grizzly mortality for grizzlies in Greater Yellowstone since 2008.

The Service failed to consider literature demonstrating that despite the flexibility of grizzly bears' diets, changes in primary food sources threaten their survival and lead to increased mortality. See the chart below from Dr. David Mattson, showing the post-2005 spike in mortality coinciding with the maximum loss of whitebark pine, one of the most important food sources for grizzly bears in the Greater Yellowstone Ecosystem.

Total Known & Probable Mortality 1998-2016

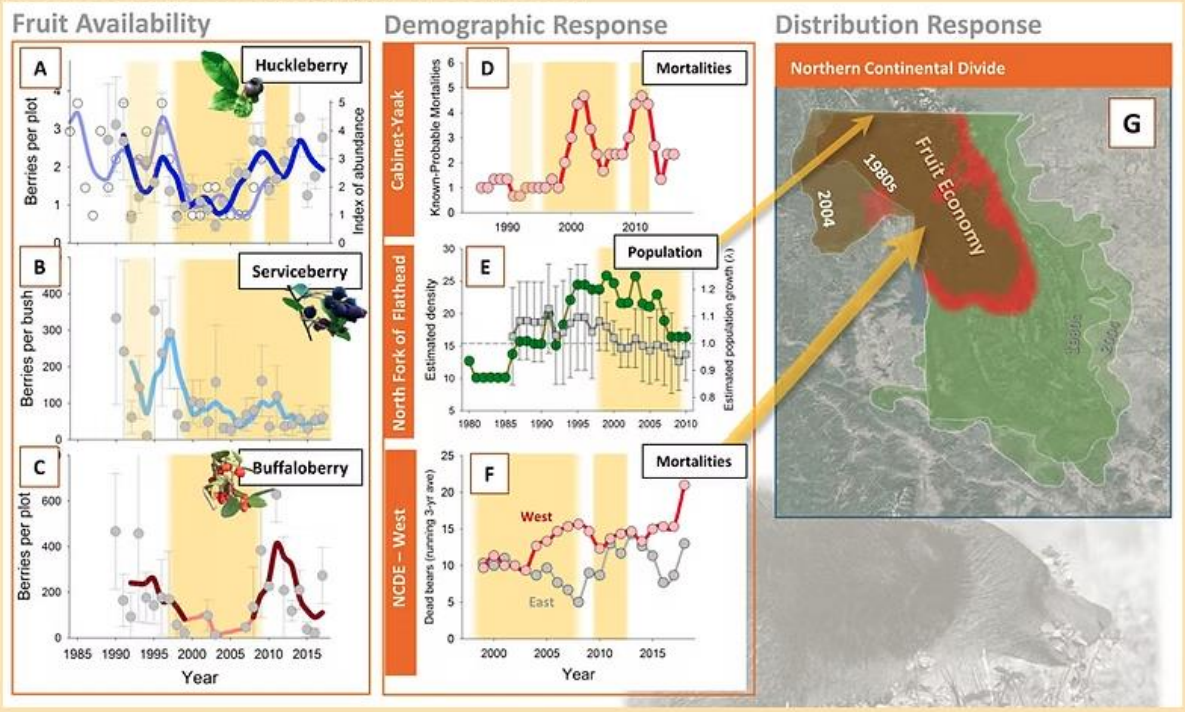


Trends in total mortality are consistent with estimated trends in population size. The graph immediately above shows a 3-year running average of total known and probable bear deaths in the Yellowstone ecosytem (see immediately above for the rationale behind use of a 3-year running average). The dominate trend since roughly 2000 has been a dramatic upsurge, far in excess of anything that can be explained by changes in population size. In fact, the population has been static since roughly 2002 (see above). The most important trend is the substantial increase that has followed hard on the heals of when we lost most whitebark pine in the ecosystem. 2014 wasn't bad insofar as mortality was concerned, at least compared to the years before. But we have seen record numbers of dead bears during 2015 and 2016, with 2017 shaping up to be bad as well.

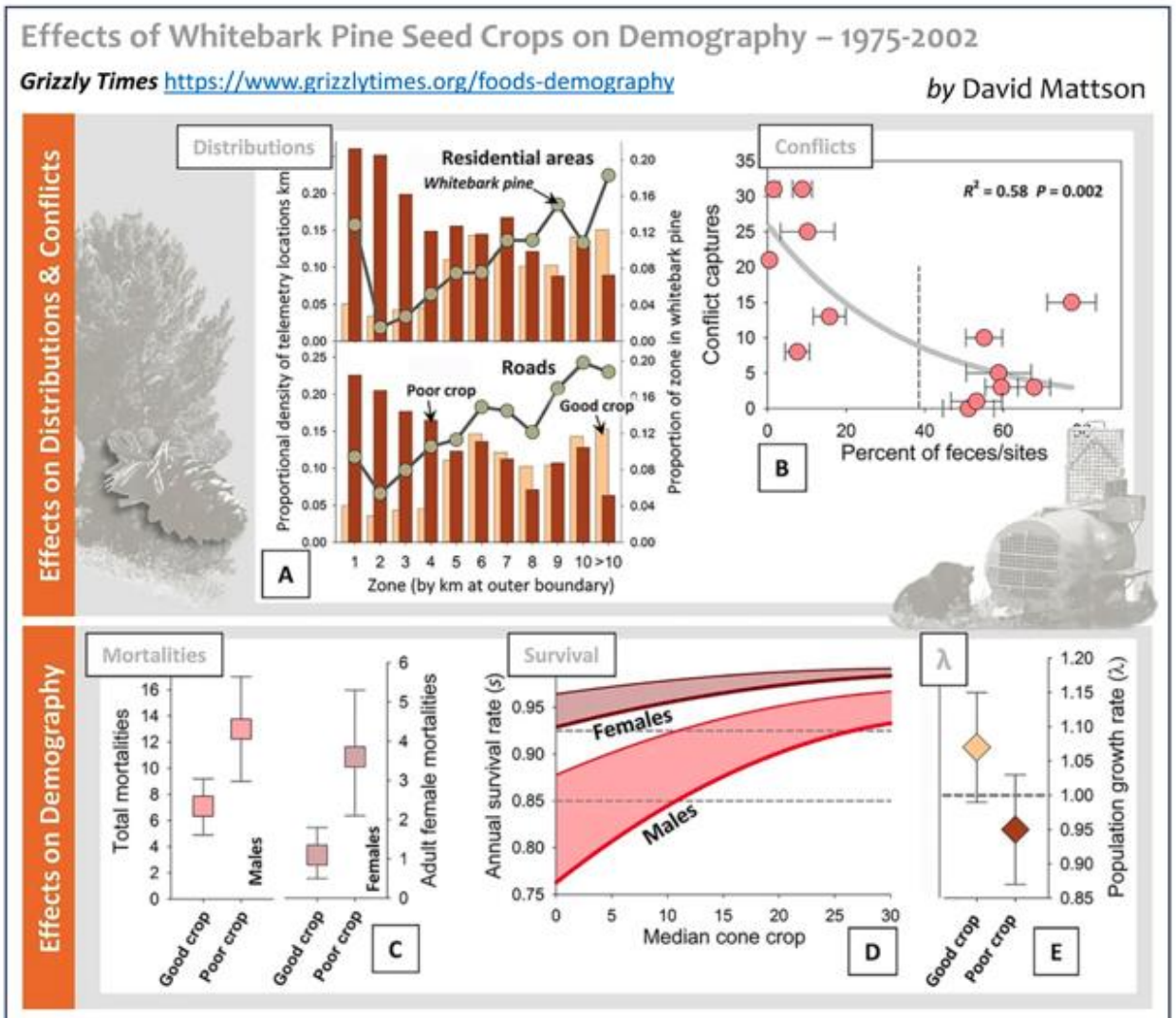
When natural food sources are scarce, bears need to find protein elsewhere, often turning to meat found at nearby grazing allotments or communities, which increases mortality. A recent natural food shortage near Columbia Falls, caused mayhem. FWP reported that bear conflict management specialists in Region 1 received more than 60 calls per day about bears, especially around Whitefish and Columbia Falls (Montana Free Press 9/21/2022). Food shortages and changes in diet can be a great threat to grizzly bears if they must resort to human foods and agricultural areas. The Proposed Rule incorrectly concludes that changes in food resources are not a threat to grizzly bears. The Service must analyze the effects of changes in food sources and their relationship to grizzly bear mortality.

The graphics created by Dr. David Mattson demonstrate the effects of food on grizzly bear demography and distribution:

Effects of Fruit on Demography & Distribution



These graphics show (A-C) variation in availability of major fruit crops to grizzly bears in the Cabinet-Yaak Ecosystem (CYE) and western portions of the Northern Continental Divide Ecosystem (NCDE); (D-F) demographic responses to this variation; and (G) associated changes in grizzly bear distribution in western portions of the NCDE. Annual variations in fruit crops were monitored by Wayne Kasworm and Bruce McLellan; associated changes in grizzly bear population density and growth rate were estimated by Bruce in the North Fork of the Flathead River Valley (E). The geospatial focus of these graphics is on areas where bears rely most heavily on fruit, shown is shades of red in (G). The most notable patterns are a synchronous dearth of fruit from huckleberry, serviceberry, and buffaloberry during a "berry famine" that lasted 1998-2008; related spikes in grizzly bear mortalities in (D) the CYE and (F) western portions of the NCDE (in striking contrast to in eastern portions, where mortality actually declined); associated declines in bear density and population growth rate in the North Fork of the Flathead (E); together with a major increase in distribution of bears westward from the NCDE (G). The berry famine clearly drove a spike of largely human-caused grizzly bear mortalities, declines in bear densities, and a rapid synchronous increase in bear distribution, presumably as bears ranged more widely in search of alternate foods or came into conflict with humans for the same reason.

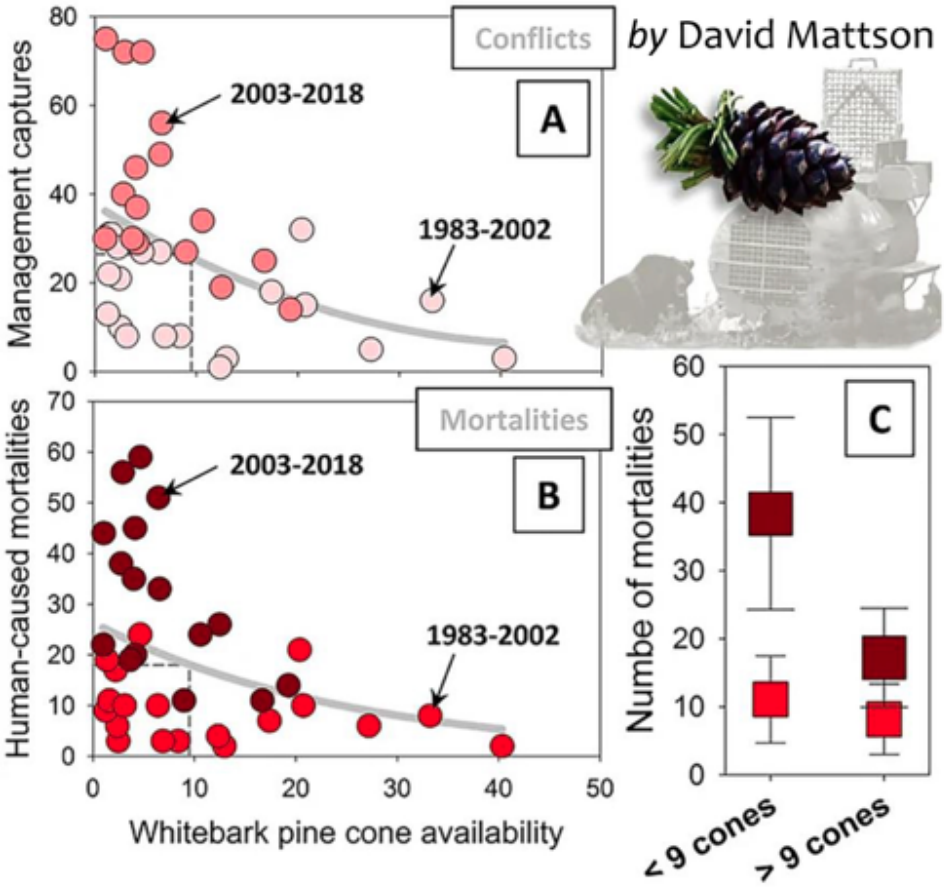


These graphics summarize the documented effects of variation in availability of whitebark pine seeds on grizzly bears in the Greater Yellowstone Ecosystem during 1975-2002, prior to the loss of most mature whitebark pine to an unprecedented outbreak of mountain pine beetles. Figure (A) shows relative availability of whitebark pine with increasing distance to residential areas and roads in Yellowstone National Park (gray dots and lines) along with distributions of grizzly bears during years with good (tan) versus poor (burgundy) seed crops. This change in distribution reflected consumption of pine seeds by bears, exposure to people, and related levels of human-bear conflict, manifest in a negative relationship between consumption and conflict (B). More conflicts naturally led to more bear deaths during years of poor seed crops (C), along with reduced survival rates (D), and population growth rates (E). These results are from Mattson et al. (1992); Mattson et al. (2004) and unpublished data; Mattson (1998); Schwartz et al. (2006); and Pease & Mattson (1999).

Effects of Whitebark Pine Seed Crops on Demography – 1983-2018

Grizzly Times https://www.grizzlytimes.org/foods-demography

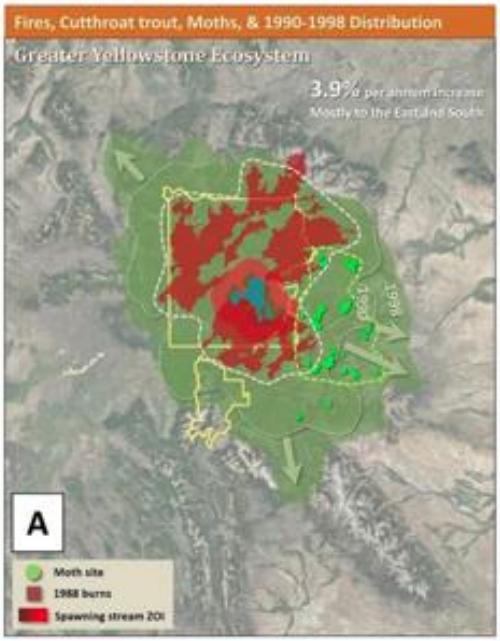
by David Mattson

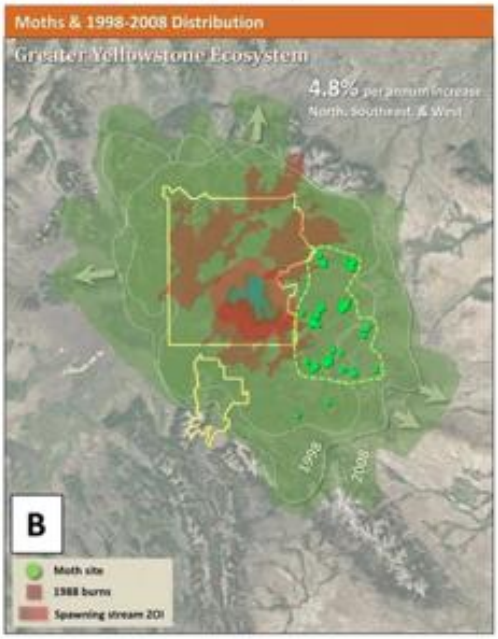


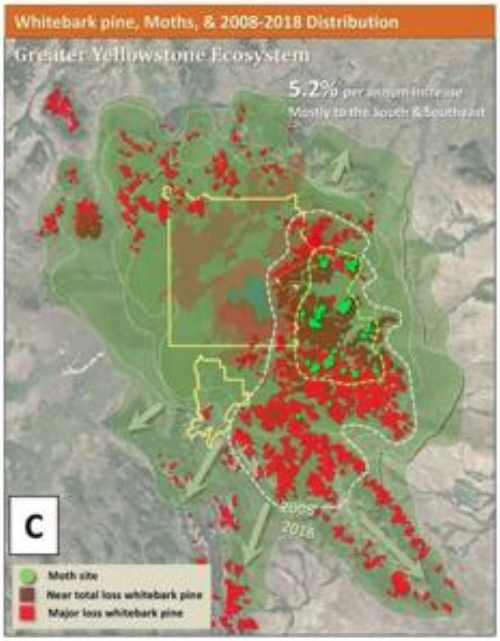
These two graphics compare relations between availability of whitebark pine seeds (i.e., cones) and conflicts (indicated by conflict-related bear captures; [A]) and human-caused mortalities (B) in the Greater Yellowstone Ecosystem (GYE), contrasting relations for the period after most whitebark pine had died (2003-2018) compared to before (1983-2002). The basic nature of relations did not change between these two periods, although cone crops were perpetually smaller after 2002, simply because most mature whitebark pine had died. The tendency for comparatively greater numbers of bear to die at a given crop size during 2003-2018 is likely attributable to a dietary shift by bears to eating more meat, much of which led to increased conflicts with people.

Effects of Habitat Change on Distribution – Greater Yellowstone

Grizzly Times https://www.grizzlytimes.org/foods-demography *by* David Mattson







These three maps show increases in distribution of the Greater Yellowstone grizzly bear population relative to major environmental changes for three time periods : (A) 1990-1998; (B) 1998-2008; and (C) 2008-2018. Grizzly bear distributions are shown in green, with boundaries for beginning and end years of each transition differentiated by gray lines. Areas of major increase in distribution are identified by arrows. Per annum rates of growth in distribution for each period are also shown in the upper right-hand corner of each map. The white dashed lines delineate areas within which major environmental changes were concentrated. Areas burned during 1988 are denoted by dark red in (A), as is the area around Yellowstone Lake within which bears that consumed cutthroat trout tended to concentrate. Green dots denote sites where bears fed on army cutworm moths beginning in the mid-1980s.

Foraging on moths increased dramatically between 1985 and 1995; cutthroat trout were driven to functional extirpation as a bear food between 1995 and 2005; and the 1988 fires burned extensive forest areas that had previously been used by bears to forage on whitebark pine seeds. The areas shaded red and burgundy in (C) denote heavy to near-total mortality of whitebark pine caused by an unprecedented outbreak of mountain pine beetle between 2002 and 2009. Key take-away points are, first, increases in distribution have accelerated over time, far in excess of any increases in population size, and second, areas with the most rapid increases in distribution are associated with major changes in availability of important foods.

F. *Habitat fragmentation from roads and trails is a major threat to grizzly bears.*

The SSA states:

The building of roads associated with vegetation management projects pose the largest potential threat to grizzly bear populations. And at page 51 of the SSA: "*In general, road access probably poses the most imminent threat to grizzly bear habitat.*" And at page 113: "*In general, motorized access brings humans into grizzly bear habitats, and increased human presence may disturb, displace, or kill grizzly bears if human-interactions trigger activities that are associated with human-caused mortality, such as defense-of-life kills or management removals.*" Even so, the SSA relies on Conservation Strategies that do not protect grizzly bears from this "ongoing threat."

On page 7 the SSA states: "*Regulating human-caused mortality and displacement through habitat management and conflict prevention are effective approaches, as evidenced by increasing grizzly bear populations in the lower-48 States, specifically the GYE and NCDE, where conflict prevention measures are commonly employed and motorized access standards exist and have been met.*"

This is false. For example, on the Flathead National Forest in the NCDE, the ruling and final resolution in *Swan View Coalition, Friends of the Wild Swan v. Haaland* D.C. No. 9:22-cv-00096-DLC District of Montana, Missoula (appeal dismissed February 20, 2025) shows that the current system of accounting for road impacts is both biologically and legally deficient. Many "closed" roads are being accessed by illegal motorized use and must be incorporated into road density calculations for grizzly bear habitat security, as must all roads that have not been fully reclaimed to no longer function as roads or trails. Science also shows that grizzly bears avoid even closed roads (Mace and Waller 1997).

Moreover, on the Kootenai National Forest in the Cabinet-Yaak, the Ninth Circuit Court of Appeals agreed with the lower court that unauthorized road use must be included in road density calculations and that the Forest Service did not provide clear data on that. *Center for Biological Diversity et al. v. U.S. Forest Service*, No. 23-2882 D.C. No. 9:22-cv-00114-DWM, (9th Cir. Feb. 24, 2025).

Compliance with the current standard for NCDE grizzly bears of 0.6km/km^2 (1mi/mi^2) within the Primary Conservation Area does not include the roads the Court ordered must be included in density analysis. Thus, when the illegally used roads and trails are incorporated into density calculations, these National Forests are not in compliance

with the standards in the Conservation Strategy and Forest Plan Amendments. The SSA does not account for this increased threat level.

New science also indicates that even the 0.6km/km^2 standard may be too high. For example, Proctor et al. (2023) presented several models and their best model score indicated grizzly bears best tolerated open motorized route density less than or equal to 0.3 km/km^2 (0.5mi/mi^2). This is half of what is allowed for grizzly bears.

In the NCDE, there is also Zone 1, which is part of the Demographic Monitoring Area. Within Zone 1, the standard allows Open Motorized Route Density of 1.2km/km^2 (2mi/mi^2). At this level, there are severe impacts on female survival rates, grizzly bear population growth, density, den selection and occupancy. These are summarized in the table below. Bader and Sieracki (2022) found bears selected dens 1.2km from open motorized routes in the Northern Rockies, mostly in roadless areas, consistent with numerous other studies.

Vast areas of occupied grizzly habitat have no road and trail density standards whatsoever.

At page 152: "*We are reevaluating the current method used to measure (i.e., linear miles or road densities) and meet the intent of motorized route objectives in Zone 1 and the DCAs.*" There is no explanation of any proposed changes.

The GYE Conservation Strategy counts very small areas of habitat as secure core. At page 81 the SSA states: "*Our definition of secure habitat includes areas as small as 10 acres (0.31m2 (0.016 mi2)) in size because both the IGBST and YES concluded that all secure habitats are important for grizzly bears in the GYE, regardless of size, particularly in peripheral areas.*" And the Service has adopted and signed off on this approach.

The problem, however, is that there is no scientific support for the notion that patches of land as small as 10 acres provide security for grizzly bears. Nor is there any support in the 2003, 2007, or 2016 conservation strategies. This standard is clearly a gimmick designed to inflate the amount of functionally secure core on National Forest lands by adding up small, totally isolated patches that are a fraction of a grizzly bear's daily movement activity so that on paper it looks like the Forests are adequately protecting secure core habitat. It has no scientific basis. The best available science reveals that 10-acres is well below the size of security areas needed for grizzly bears, as it is magnitudes smaller than what a female grizzly bear covers during a single day of foraging.

The concept of identifying and protecting secure areas for grizzly bears emerged from Mattson (1993). There, the author reviewed research on the habitat needs and threats to grizzly bears and recommend establishing "security" areas "where grizzly bears will be secure from encounters with humans; where bears can meet their energetic requirements while at the same time choosing to avoid people." Mattson (1993) then proposed dimensions for secure habitat areas that are: (1) a certain distance from roads; and (2) encompass a sufficient size that corresponds to the "average 24-48 hour foraging radius of a Yellowstone grizzly bear." "This would hypothetically allow a grizzly bear the space to forage while concurrently maintaining its weariness to humans." *Id.* Mattson (1993) explained that the average size of a 24-48 hour foraging radius for grizzlies in the Greater Yellowstone was 237 acres. According to the authors, security areas should thus be roughly 7,000 acres in size, with a 237-acre core area surrounded by a 2-4 km buffer from roads. *Id.*

Following Mattson (1993), a 1994 Interagency Grizzly Bear Committee report recommended identifying and managing secure areas for grizzly bears free from motorized access, recommending 500 meters from a road and ensuring habitat is sufficient for the needs of each season. The 1994 report also emphasize the minimum patch size for secure areas be at least "that area necessary to support a female grizzly bear for 24 hours of foraging." This recommendation was, and remains, generally consistent with the best available scientific literature, including Mattson (1993), Gibeau (2001), and Proctor (2019).

As Dr. Mattson explained, the "logic of defining patches of secure habitat so as to encompass a typical 1-2 day foraging bout has been affirmed in several authoritative documents." Research indicates bears "use areas 720-2,220 acres in size during 1-2 day periods." Gibeau (2001), for instance, noted that daily foraging requirements for grizzly bears are roughly 2,224 acres. Proctor (2019) explained that secure habitat should be patch sizes greater than or equal to 2,471 acres (10 km squared). A South Fork Grizzly Bear Study defined "secure habitat as polygons greater than 2,000 acres . . . all farther than a mile from any road or trail."

In the 2018 Northern Continental Divide conservation strategy, the agencies went even further and defined secure habitat as areas 2,500 acres. This is consistent with how security is defined in the Cabinet-Yaak and Selkirk ecosystems. *See Cabinet Res. Grp. v. U.S. Fish and Wildlife Serv.*, 465 F. Supp. 2d 1067, 1090-91 (D. Mont. 2006) (discussing study). There, secure habitat for grizzly bears is generally considered to be between 1,280 acres and 5,120 acres, and roughly 95 percent of the grizzly habitat used occurred in secure areas 2,560 acres or larger. *Id.*

Contrary to the best available science, in 2003, Montana, Idaho, and Wyoming, along with the U.S. Forest Service, the Service, and other federal agencies, prepared a

"conservation strategy" for grizzly bears in the Greater Yellowstone to guide management post-delisting. The 2003 conservation strategy included a commitment to identify and protect patches of "secure habitat" – for the first time – as a patch of land more than 500 meters from an open road or gated motorized access route and "greater than or equal to 10 acres in size."

The 2003 conservation strategy also committed the state and federal agencies to strive to maintain secure habitat at levels present on the landscape in 1998—commonly referred to as the "1998 baseline." 1998 was chosen because it represented a time when the grizzly bear population and range were growing. Under this approach, the percent of secure habitat within each subunit would be maintained at or above levels that existed in 1998, subject to a few exceptions. The 2003 conservation strategy was updated in 2007 and 2016, and the secure habitat definition and 1998 baseline objective and exceptions were carried forward.

The 10-acre approach in the conservation strategy and various other agency action documents (including forest plans and project analyses and approvals) is contrary to the best available science. 10-acres is well below the foraging needs of a female grizzly bear, well below the size recommended by Mattson (1993), Gibeau (2001), or Proctor (2019), well below the Interagency Grizzly Bear committee recommendations, and well below the amount used in the Northern Continental Divide and Cabinet-Yaak and Selkirk. No scientific support was provided in any of the conservation strategies using the 10-acre approach, nor could there be.

The 10-acre threshold has significant consequences for grizzly bears because it creates a fragmented landscape comprised of small, 10-plus acre islands of "secure" habitat. Foraging grizzly bears will thus need to cross several roads daily and spend significant time within 500 meters of roads as they travel between these islands. The Proposed Rule lists 'regulatory mechanisms' to include the Greater Yellowstone Conservation Strategy and the Custer Gallatin National Forest Land Management Plan (2022) which adopted the 10-acre approach. These do not provide for the conservatoin of the species.

Moreover, at page 88 of the SSA: "N*on-motorized trails were not excluded from secure core because research indicates that non-motorized trails do not significantly affect grizzly bear survival in the GYE, and that survival was better explained by the absence of motorized routes.*" So grizzly bears have to go extinct before mechanized use of non-motorized trails significantly affects survival? Thompson, et al. (2024) found there were strong displacement effects away from trails on grizzly bears up to 267m and the effects

extended up to 1.8km. Trail-based effects are further discussed in the section on Recreation.

At page 124 the SSA states: "*The number of or capacity of developed recreation sites managed for overnight use can increase no more than once (e.g., a net of one campground may be added or expanded) in each BMU every 10 years (NCDE Subcommittee 2020, Chapter 3; USDA FS 2018c, p. 60; USDA FS 2018d, pp. 1-7, 1-19, 1-31, 1-42). This was chosen as a threshold because similar levels of increases occurred in the period prior.*" The peer review of this strategy by Dr. Bruce McLellan (2018) raised alarm at this provision, which he said would increase habituation and mortality in grizzly bears. At page 89 of the SSA it states: "*We are currently re-evaluating the need for limitations on the size of any new or current developed site expansion under this objective.*" And at page 151: "*We are currently re-evaluating the allowance for increases in developed recreation sites.*" What do these statements mean? As written it indicates the Service may eliminate any limitations on new developments in core areas, sharply increasing the threat to grizzly bears in violation of the ESA.

Also, at page 124: "*In conclusion, the NPS and USFS within the NCDE recovery zone will continue to manage overnight developed recreation sites, with regulated increases, to 2011 levels within each bear management subunit, with some exceptions under the application rules (NCDE Subcommittee 2020, Chapter 3; USDA FS 2018c, p. 60; USDA FS 2018d, pp. 1-7, 1-19, 1-31, 1-42).*" What are the exceptions?

This faulty line of reasoning is in line with the Service's faulty conclusion that recreation poses no threat to grizzly bears.

At page 122, the SSA states: "*…additional data are needed to inform effects of motorized access in potential connectivity areas that could facilitate natural recolonization of the BE. Motorized access remains an issue for the CYE, SE, and North Cascades, where conservation mechanisms to address motorized access are not yet finalized or standards have not been met.*"

The current standards for Zones 1 and 2 will not enhance natural recolonization.

Additionally, Proctor et al. (2012) found that fragmentation and resultant genetic discontinuities are most acute along human-settled valleys where highways and railways are located, where human caused mortality and barrier effects are most acute. Males and females both demonstrated reduced movement rates with increasing settlement and traffic. While occasional dispersals of male bears can mediate genetic connectivity, female

bears reduced their movement rates dramatically when settlement increased to >20% of the fracture zone.

G. *Recreation is a threat to grizzly bears.*

The SSA concludes: *"Therefore, in the absence of the protections of the Act, we do not anticipate that recreation would be a threat to the grizzly bear DPS.*

The SSA finds recreation is not a threat. This is completely groundless. New science shows that grizzly bears are displaced by trail-based recreation (Thompson et al. 2025). A host of studies show grizzly bears avoid motorized routes and even closed roads (Waller and Mace 1997).

Montana's population is growing rapidly with a net immigration rate now three times higher than the average for the last two decades. In 2022 Montana's population grew 1.5%, at the 2nd highest rate of immigration nationwide. The centers of this growth are concentrated within the areas adjacent to and between the grizzly bear recovery areas and DMAs. This growth will have profound impacts on maintaining a viable grizzly bear population due to housing demands, recreation demands, and other amenities. Increasing development of wildlife habitat and the accelerating pressure on our wild lands by more and more people and recreation demands diminishes the grizzlies' chances of survival. Recommendations from the Grizzly Bear Advisory Group for managing recreation should be adopted in full including objective monitoring and assessment of successes, failures, and ability to adapt in favor of protecting grizzly bears.

Legendary Montana wilderness guide Smoke Elser observed there is a new breed of recreationist on the land:

> "*Mountain bikers are out to challenge the resource. It's about how fast you can go and how many miles you can put on. Snowmobilers are after the highest mark on the hillside, the highest speed across the meadow.*"

In the 1980s manufacturers began producing recreational machines that could go farther into previously inaccessible terrain. High power snowmobiles can traverse deep powder snow, enabling off-trail "high marking." Mountain bikes became widely available and now feature shock absorbers, gas and electric-powered motors and spiked tires for over-snow use. ATVs are bigger and go faster. New technology includes snow bikes which are modified motorcycles with tracks instead of wheels which can access off-trail areas and negotiate tight spaces. Mountain bike advocates say that electric powered bikes are

not motor vehicles but that's like saying a Prius or a Tesla isn't an automobile because they have electric-powered engines.

Recreation impacts on grizzly bears can take two forms: displacement and habituation, both of which are bad. Displacement drives grizzly bears away from high quality habitats with primary food sources, resulting in direct loss of habitat as well as habitat security which can reduce fitness and the ability for females to rear cubs (USFWS 2022). Grizzly bears that habituate to areas with high human recreational activity may lose their natural fear and avoidance of humans, which can lead grizzly bears to approach human residences and campsites and result in direct conflicts often resulting in the lethal removal of the bear.

At page 134 the SSA concludes: "*Therefore, we do not have information suggesting that current and projected levels of non-motorized recreation (with the exception of hunting, see below), including mountain biking, require limitations at this time.*" This statement is completely ignorant of current science and ignores the former National Grizzly Bear Recovery Coordinator's views.

Dr. David J. Mattson and other leading grizzly bear scientists have analyzed the impacts of different forms of recreation on grizzly bears, finding that mountain biking is many times more likely to result in a grizzly bear-human encounter and as much as 14X as much compared to activities such as hiking. Dr. Mattson is well-known as the former Field Team Leader of the Yellowstone Interagency Grizzly Bear Study Team. Mattson (2019) at pages 36-37 includes this statement: "*The few investigations of encounters between bikers and grizzly bears paint a stark picture (Schmor 1999, Herrero and Herrero 2000, Honeyman 2007, Servheen et al. 2017. Data polled from all of these reports show that 87% (+-) 4.6%) of all documented encounters were at distances less than 50m, and that 52% (+- 10%) involved females with young. Of those close encounters, 89% (+- 6%) resulted in the biker either being approached or charged by the involved bear.*"

Likewise, a Board of Inquiry Report chaired by the former National Grizzly Bear Recovery Coordinator (Servheen et al. 2017) on the death of a mountain biker who crashed into a male grizzly bear was well-publicized. Dr. Servheen has also said that mountain biking in grizzly bear habitat is particularly conducive to bear-human confrontations due to surprise encounters.

> "*High speed and quiet human activity in bear habitat is a grave threat to bear and human safety and certainly can displace bears from trails and along trails. Bikes also*

degrade the wilderness character of wild areas by mechanized travel at abnormal speeds." (Servheen quoted in Wilkinson 2020).

According to Hammitt et al. (2015) "*The intrusion of humans into wildlife habitats during recreational activities can cause various types and levels of change in both animals and their habitat. First, the normal behavior of animals may be altered to various degrees, all the way from habituation to slight modifications to migration from impacted sites. Secondly, animals may be displaced completely to a new habitat or, in the case of sport hunting, and traveling, displaced from the population. Thirdly, all these impacts can cause a reduction in the reproductive level of many species. Ultimately, these impacts result in a change in the species composition and structure of wildlife populations*" (p. 59-60).

Another growing impact on habitat security are high-use non-motorized trails in Wilderness and roadless areas. Gunther (1990) documented significant displacement of grizzly bears away from high use recreation trails in Yellowstone National Park. Coleman et al. (2013) made similar findings. The Flathead National Forest Plan allows parties up to 15 people with 35 head of stock within the Bob Marshall Wilderness and is expanding the number of Special Use Permits for outfitting and guiding, adding more use to high-use trails. FWS, as a party to the Conservation Strategy must insist that high-use non-motorized trails be buffered 500m on either side as part of calculating the amount of secure core habitat in the NCDE as they previously were.

Other trail-based impacts are also apparent. Thompson, et al. (2024) found there were strong displacement effects on grizzly bears up to 267m and effects extended up to 1.8km

Recreation destinations also create residential developments that add to sprawl, water pollution, wildlife displacement and mortality sinks for sensitive species like grizzly bears. The Big Sky area in Montana is a prime example. These become permanent features of the landscape. Another threat of unrestrained recreational impact on grizzly bears is the proposal to expand the Holland Lake Lodge into a four-season resort. Dr. Chris Servheen (2023, attached) told the Interagency Grizzly Bear Committee these expansions of recreational use are an inadequate regulatory mechanism which will prevent delisting. This proposal would be allowed under The NCDE Conservation Strategy which allows one new large developed area or an expansion of an existing developments area once every ten years in each Bear Management Unit. The peer review of this strategy by Dr. Bruce McLellan (USFWS 2018) raised alarm at this provision, which he said would increase habituation and mortality in grizzly bears.

There are also winter recreation impacts on denning bears and other species. New technology such as motorized "snow-skis" allow people to access densely forested and remote terrain.

In Appendix F it states: "*We found no studies in the peer-reviewed literature documenting the effects of snowmobile use on any denning bear species and no records of litter abandonment by grizzly bears in the lower-48 States due to snowmobiling*;"

Hilderbrand et al. (2000) document a female grizzly and her two cubs killed by a snowmobile-caused avalanche in Alaska. In Alberta, there have been several recent encounters with denning bears, including a disturbed bear that killed a recreationist. The fact there has been no documented impacts in the lower 48 in the peer-review literature doesn't mean it doesn't happen, just that few or none have been studying it. Prodruzny et al (2002) mapped conflict zones in GYE between snowmobiling and denning grizzly bears. Winter Recreation Use Plans also take into account snowmobile impacts on denning grizzly bears, though not adequately.

H. *Avian Flu is a threat to grizzly bears.*

Avian flu (H5N1) also known as Highly Pathogenic Avian Influenza (HPAI) was an issue the Service was urged to review as a threat to grizzly bears. Amazingly, avian flu was not analyzed or even mentioned in the SSA and findings.

Data from the CDC shows that avian flu has killed every species of bear in North America (polar, Kodiak, grizzly, black) including three grizzly bears in the Northern Continental Divide Ecosystem in 2022 (MT FWPs mortality data and Missoulian 1/18/23) as well as practically every carnivore and scavenger species in North America. The three documented cases in the NCDE were from different parts of the ecosystem, indicating widespread potential for exposure.

Three juvenile grizzly bears tested positive for highly pathogenic avian influenza (HPAI) virus this fall. The three bears, one near Augusta, one near Dupuyer, and another near Kalispell, were observed to be in poor condition and exhibited disorientation and partial blindness, among other neurological issues. They were euthanized due to their sickness and poor condition. These were the first documented cases of HPAI in grizzly bears. A fox and a skunk in Montana also tested positive for HPAI last year, and the virus has been found in raccoons, black bears and even a coyote in other states and countries.

> "*We suspect these mammals probably get the virus from consuming infected birds,*" *said FWP Wildlife Veterinarian Jennifer Ramsey*. (FWPs press release January 2023.)

Wild birds are a common carrier of avian flu and have infected domestic chickens resulting in millions of chicken deaths nationwide and at least 2 human fatalities. Infected wild birds also feed on carrion and leave their saliva and wastes behind which then exposes mammal scavengers including bears.

Chicken-related mortality is kept as a separate category of grizzly bear mortality by MT FWPs and is now one of the largest sources of mortality. The three HPAI mortalities in 2021 occurred near areas with domestic chickens. Domestic chickens in grizzly bear country are a transmission source to grizzly bears. Avian flu is an ongoing threat to grizzly bears and other wildlife and has entered the food chain. The failure to analyze the threat from avian flu in the threat assessment is a violation of the ESA.

I. Anthropogenic environmental degradation is a threat to grizzly bears.

Overgrazing, conversion of native vegetation to croplands, removal of vegetation cover/screening related to "timber harvest practices that remove thermal and security cover as being more-or-less distinguishable from the hazards and disturbances associated with humans using backcountry roads, and increasing extent and frequency of wildfires driven by climate change, creating a "tempo of a natural disturbance regime [which] outpaces the natural ability of species such as huckleberry, buffaloberry, and whitebark pine to recover from a fire"; loss of native pollinators and ecosystem engineers including western bumblebees and native mycorrhizal fungi, problematic trends in increasing human populations, increasing exurban development, and increasing human visitation to public lands. Mattson, 2024c.

II. *Grizzly bear recovery requires a naturally connected population across the Northern Rockies.*

The best available science demonstrates that both demographic and genetic connectivity are vital to the recovery of the proposed grizzly bear DPS in the lower 48. First, there are too few bears, which "sets the stage for inadequate genetic viability" and overall genetic impoverishment, particularly when combined with population isolation. (Mattson 2024c). Further, there is a lack of bears in suitable habitat, "especially relevant in central Idaho and the North Cascades in addition to suitable habitat connecting these core areas of potential suitable habitat to current grizzly bear populations." *Id.* Reed et al. (2003) estimated that for species such as grizzly bears, minimum viable populations need to be near 9,000 when managed for little or no increase (Expert testimony, Mattson, 2018). The DPS now includes just four extant populations totaling at most ~2100 individuals, with the possibility of a few hundred more if the BE population reaches capacity. Only the NCDE population has meaningful connectivity to grizzly bears in SE BC and SW Alberta. Such

viability considerations create a mandate for connectivity (e.g., Craighead and Vyse 1996; Servheen et al. 2001; Carroll et al. 2001, 2003, 2004; Proctor et al. 2005), which poses yet more problems, given the limited ability of grizzly bears to colonize even nominally nearby areas (Mattson 2018).

The Proposed Rule itself acknowledges as much (p. 106): "[c]onnectivity, or dispersal and successful immigration, of males or females enhances genetic diversity and reduces genetic fragmentation (i.e., provides genetic or demographic connectivity, respectively) (Miller and Waits 2003, pp. 4337–4338; Proctor et al. 2005, pp. 27–28)" (Proposed Rule, pp. 106-7). The lack of connectivity between grizzly populations in the lower 48 States was recognized as a threat at the time of the original listing" (40 FR 31734, July 28, 1975).

The Proposed Rule also explains that grizzly bear science has come a long way in the past few decades, noting that in the past, it did not adequately consider "long-term genetic health and population connectivity," and that the 1993 Recovery Zone boundaries "did not reflect the need for natural connectivity that may be necessary to the long-term genetic health of small or isolated populations for populations to be self-sustaining" (Proposed Rule, pp. 31-2). Finally, even the original 1993 Recovery Plan determined that "preserving linkage [connectivity] between populations is a more legitimate long-term conservation strategy than are attempts to manage separate island populations" (USFWS 1993 p 24).

Mattson 2021 states that the importance of connectivity has been "routinely extolled not only by grizzly bear managers, but also by grizzly bear researchers, notably Walker & Craighead (1997), Craighead (1998), Proctor et al. (2004, 2005, 2012, 2015), Craighead et al. (2005), Newmarck et al. 2023, and Peck et al. (2017)" (Mattson 2021, p 60). *See also* Primm and Wilson 2004. And yet, fifty years after being listed, the four extant populations in the proposed single DPS are still not connected, leaving two small and mostly isolated populations (SE, CYE) and a GYE population that suffers from reduced genetic diversity because the population has remained isolated for more than a century (50 CFR Part 17, USFWS, 2024).

A (re)connected population, including healthy population units in all six recovery areas and the maintenance of resident females and males in the areas in between (Costello 2000), will require managing the threats listed above at the periphery of larger population units to keep human-caused mortality low enough to allow grizzly bears, especially females, to expand into, and reside in, linkage corridors. This will increase resiliency, redundancy, and representation and alleviate the impacts of stressors like climate change, and contribute to the recovery of the grizzly bear in the lower 48.

The Service appropriately emphasizes that connectivity between recovery areas is foundational to the eventual recovery of the grizzly bear population. However, it failed to specifically identify where these areas of connectivity are and failed to identify mechanisms by which it will account for expansion of connectivity areas as the population continues to recover. (*See, e.g.*, Graves et al. 2014; Itoh et al. 2012; McLellan and Hovey, 2001).

A. *Connectivity contributes to population resiliency, redundancy, and representation.*

USFWS SSA 2024 and the Proposed Rule assess the needs and viability of grizzly bears by using the conservation biology principles of resiliency, redundancy, and representation. The Proposed Rule states, "In general, viability will increase with increases in resiliency, redundancy, and representation (Smith et al. 2018, p. 306)" (p 59). Connectivity directly or indirectly affects all three of these principles defined in USFWS 2024:

> *Resiliency is the ability for populations to persist in the face of stochastic events, or for populations to recover from years with low reproduction or reduced survival, and is associated with population size, growth rate, and the quality and quantity of habitats. Resiliency is positively related to abundance (population size) and growth rate and* ***may be influenced by connectivity between populations****. Populations need an abundance of individuals within habitat patches of adequate quantity and quality to survive and reproduce in spite of disturbance. (Service 2016, p. 12)*
>
> *Redundancy is the ability for the species to withstand catastrophic events, such as a rare destructive natural event or episode involving many populations for which adaptation is unlikely and is associated with the number and distribution of populations. Redundancy is about spreading risk among multiple populations to minimize potential loss of the species from catastrophic events and is characterized by having multiple, resilient populations distributed within the species' ecological settings and across the species' range. Redundancy can be measured by the number of populations, their spatial extent, and* ***degree of connectivity****.*
>
> *Representation is the ability of a species to adapt to changes in the environment over time and is associated with its diversity, whether ecological, genetic, behavioral, or morphological. It is characterized by the breadth of* ***genetic and environmental diversity within and among populations*** *and measures of representation may include the number of varied occupied niches, genetic diversity, heterozygosity, alleles per locus, or other geographic, genetic, or life history variation of the species (emphasis added, p 31).*

B. *Establishing natural connectivity, as opposed to relying on translocation or reintroductions, is essential for long-term viability.*

Natural connectivity is superior to translocation for achieving a unified, connected population across the Northern Rockies for the long term. We agree with the Service that "individuals [grizzly bears] that arrive naturally have a higher probability of remaining in the area and lower mortality risk than translocated individuals" (Proposed Rule, p. 109). Natural connectivity is attainable, as USFWS 2024 states, "Although other grizzly bear populations and unoccupied recovery zones included in the lower-48 States, such as the GYE, North Cascades, and BE, are currently isolated, they are within male dispersal distance of existing populations, and connectivity is possible" (Proposed Rule, p. 54). Natural connectivity is possible, has a higher probability of recovery, and can relieve many stressors affecting the recovery of grizzly bears in the lower 48.

We agree with the Proposed Rule that, "While translocation has the potential to improve genetic connectivity and long-term genetic health, it cannot guarantee these needs, as translocated bears may leave the ecosystem or die before reproducing. Translocated bears often exhibit unusual movement patterns, which can increase their mortality risk" (p 109). Translocating bears is risky because it requires capturing them, which can cause harm to the captured individual. Cattet et al. 2008; Cattet et al. 2003. Further, translocation is limited to a few individuals, which Mills and Allendorf (1996) suggest is inadequate for achieving long-term genetic health. A recent example of these erratic movement patterns is shown by the two bears translocated from the NCDE to the GYE in July of 2024. Figure 1 shows the female moved well beyond the expected 50-150 square mile average female territory and the male stayed within a 20 square mile area as compared to average male territories that can be up to 600 square miles. According to the Daily Montanan, the female "thoroughly explored northwest Wyoming from her initial release location north of Dubois. She has ranged west to the shore of Jackson Lake near Teton National Park, looped up around the entirety of Yellowstone Lake nearly two times, and roamed all the way into eastern Idaho, hopping the border into Montana before returning to the east side of Yellowstone Park" (Daily Montanan 12/13/2024).

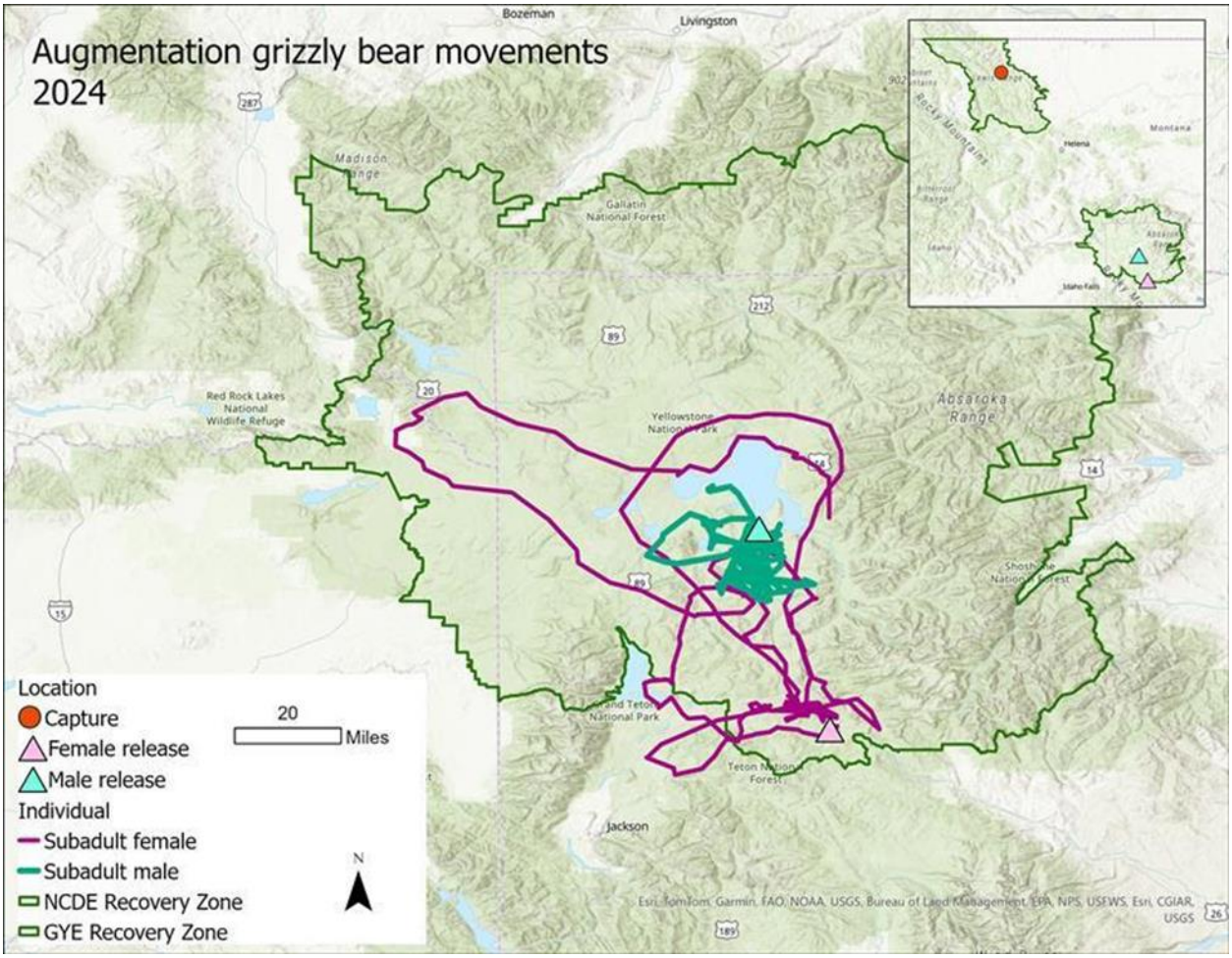


Figure 1: A map showing the movements of two subadult grizzly bears relocated from Montana to Wyoming this summer. (Courtesy FWP) (from Daily Montanan 12/13/2024)

Trapping and handling of bears has a deleterious effect on bears. Pease and Mattson 1999 found, "The mortality rate of bears that were management-trapped at least once was almost double that of bears that were never management-trapped, implying a source/sink (i.e., never management-trapped/management-trapped) structure." Proposed Rule, p. 957. The Proposed Rule did not adequately analyze the effects of grizzly bear handling on bear mortality as it relates to translocation and management actions.

Translocation of bears is controversial and lacks public support. When a project was approved to translocate grizzly bears to the Bitterroot Ecosystem (BE) in 2000, western senators promoted and passed a bill to pull all federal funding for translocation activities. The project was never implemented. Translocation has proven to be unpopular and politically difficult. As the Proposed Rule states, "While translocation has the potential to improve genetic connectivity and long-term genetic health, it cannot guarantee these

needs …" Proposed Rule, p. 109. The Final Rule must analyze the lack of dependability of translocation into the future.

C. *Regulatory mechanisms for establishing and maintaining natural connectivity are currently inadequate*.

We agree with the Service's determination that there are no regulatory mechanisms in place to facilitate natural connectivity between grizzly bear populations. Proposed Rule, p. 76. Currently in grizzly bear habitat, there are excessive road densities, high levels of vehicular traffic and foot and bicycle traffic, disturbance from hound hunting, human infrastructure in attract habitat, lack of visual and audio cover, and lack of highway crossing infrastructure. Mattson 2024c.

Montana, which is largely responsible for reversing, preventing or mitigating habitat fragmentation by creating and maintaining connectivity in the proposed DPS (apart from the NCE) has no meaningful plan on how to do so. In 2019, a Grizzly Bear Conservation and Management Advisory Council was created. It was comprised of 18 Montana citizens from all over the state and all walks of life. The goal was "to ensure [Montana's] citizens have a voice in the future of grizzly bears" and to "provide meaningful opportunities for people to engage in a public discussion around grizzly bear management, recovery, and conservation." The Council's final report (GBCMAC 2020) includes the following recommendation: given that "genetic and demographic connectivity among Montana's four recovery zones is important to the long-term viability of grizzly bear populations in the continental United States," there is a need to "balance the continued importance of public lands with the need for the involvement of private lands to support our vision for an interconnected metapopulation of grizzly bears in Montana."

Among the many other recommendations in the Council's final report, the following are pertinent to connectivity:

1. "FWP should continue to allow natural movement to new areas between all four identified recovery zones in Montana"
2. "FWP and all relevant agencies should clearly define the 'landscapes in-between' the four recovery zones in Montana that are important for genetic and demographic connectivity and the long-term sustainability of the grizzly bear"
3. "FWP, in coordination with relevant agencies and through a public process, should evaluate and identify those landscapes that can reasonably be considered important for grizzly bear recovery and connectivity from those that cannot, and clearly distinguish these in its management plan. Such a distinction is necessary for determining appropriate relocation sites between the four recovery zones, as well as for prioritizing resources for outreach and education, transportation upgrades,

and conflict prevention, reduction, and response efforts. These decisions should be in accordance with current Conservation Strategies."

Unfortunately, the new Montana Grizzly Bear Management Plan (2024) does not inspire much confidence in the realization of the Grizzly Bear Advisory Council's recommendations, nor does it provide a science-based vision for how to connect grizzly bear population units. This is in part, FWP claims, because neither the NCDE nor the GYE conservation strategy "provides explicit guidance to FWP for managing and conserving grizzly bears between the ecosystems they define" (MTGBMP 2024, p. 30).

The management plan acknowledges that the NCDE CS aims to "maintain a recovered, genetically diverse grizzly bear population throughout the Demographic Monitoring Area (DMA: the Primary Conservation Area (PCA) and Zone 1) while maintaining demographic and genetic connections with Canadian populations and providing the opportunity for demographic and/or genetic connectivity with other ecosystems (Cabinet-Yaak, Bitterroot, Greater Yellowstone)" (p. 31), but "no explicit objective is articulated" (p. 42). The GYE CS, on the other hand, makes no mention of the need or desire to maintain demographic and genetic connections with any other population unit (FWP 2024, p. 31).

Nonetheless, FWP took a stab at planning for connectivity in its 2024 grizzly bear management plan. The plan acknowledges that "occasional, thoughtful translocations … for genetic exchange is not a standalone strategy for connectivity as the conservation of habitat and the prevention of conflicts in between recovery zones are important components to ensure long-term connectivity" (p. 6), as well as "maintaining an appropriate density of grizzly bears where connectivity is prioritized (p. 13).

This suggests that both genetic and demographic connectivity are not only contemplated but acknowledged as essential to the connectivity and long-term recovery of grizzly bears in Montana, where the preponderance of connectivity habitat and immigration pathways exist in the proposed DPS. But other language in the plan indicates that FWP's commitment might be half-hearted at best, and certainly not based on the best available science. For instance, the statement that "FWP would not actively manage for grizzly bear presence between core areas, where the likelihood of conflict is high but [FWP] would promote low density populations in between core areas for connectivity purposes" (p. 9). Another eyebrow-raising statement that produces substantial concern is this: "Existing FWP planning documents focus on maintaining populations in the CYE, NCDE, and GYE, but articulate the desirability of long-term connectivity among them (as well as toward the BE), acknowledging that human–bear conflicts would likely be more common in these relatively less-wild areas" (p.42).

These and other references in the Montana grizzly bear management plan indicate that FWP seems to want to have its cake and eat it too. On the one hand, FWP claims a "commitment to" and the "desirability of" long-term connectivity, and "demographic connectivity may be achieved through the residency of females and males in the areas between subpopulations because female bears typically disperse shorter distances than males" (p. 93), which is a textbook definition of how this should work.

But when you read the report more carefully, the emphasis is really about limiting grizzly bear density outside the DMAs, including potential linkage zones, as a means of reducing human-bear conflicts. "Functional connectivity between population cores … should not be interpreted as requiring one seamless group of animals stretched across the various population cores; instead, occasional migrants among the cores will suffice" (p. 93). Repeated claims that "the likelihood of conflict is high" in linkage zones–as if high levels of conflict is a constant like the force of gravity, and not amenable to change through education and management–and that "management decisions for any bears found outside of core areas will be guided by the likelihood that the bear will contribute to the long-term persistence and connectivity of populations. Where that likelihood is low, FWP will be quick to recommend (or implement, if appropriate) control when conflicts arise" (p.48). In fact, FWP readily admits, it "would not actively manage for grizzly bear presence" outside of DMAs, because "demographic connectivity can often be achieved by moving females" (p.93). The many caveats and inconsistencies undermine any faith in Montana's commitment to natural genetic and demographic connectivity, which leaves it specious at best.

FWP's grizzly bear management plan and the Service's Proposed Rule leave some important questions unanswered. Where are the best linkage areas? How would we designate and manage them to ensure "the residency of females and males in the areas between subpopulations"? How would we ensure that the vagaries of state management aren't able to undo these needed protections if or when some population units were delisted? The lack of goals, objectives and necessary actions in the NCDE and GYE conservation strategies and the current recovery plan are shortcomings that must be addressed in the Final Rule.

The Service must analyze how the lack of regulatory mechanisms promoting natural recovery, and current regulatory mechanisms that discourage connectivity, will impact the achievement of connectivity goals in these areas and other modelled and verified bear movement areas. The Proposed Rule also failed to specify which areas it considers as 'areas of connectivity,' and how the agency will identify and expand these areas for connectivity in the future.

Efforts to maintain or increase habitat security and reduce human-bear conflicts and grizzly mortalities should be targeted in the pathways predicted in Sells' 2023 study to be important for connectivity among grizzly bear populations. (See Fig. 2) Increasing human populations in western Montana pose a threat to the future viability of these pathways. Proactive efforts will be needed in predicted pathways outside recovery zones and on the periphery of occupied habitat that are not currently heavily used by grizzly bears, such as the edges of the Missoula Valley. Proactive education programs focused on encouraging recreationists to carry bear spray and preventing bears from accessing human foods (e.g., through bear-resistant trash cans, adherence to food storage orders on public lands, and electric fencing of crops, apiaries, and small farm animals) may provide more tangible benefits than efforts focused on changing livestock husbandry practices to reduce depredation by grizzly bears (Sells et al. 2023).

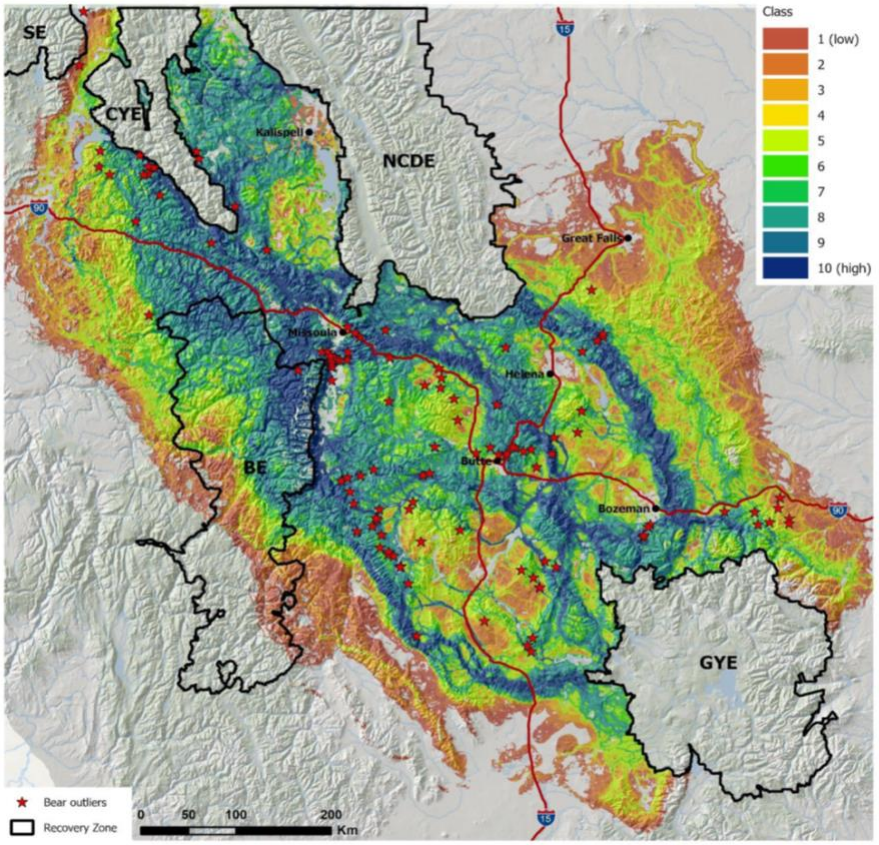


Figure 2: Prediction of female grizzly bear connectivity pathways in western Montana with independent grizzly bear outlier observations from Sells et al. 2023 (p. 6).

Measures to promote and achieve natural connectivity would alleviate many of the six stressors to grizzly bears listed in the Proposed Rule: human-caused mortality, habitat

destruction and modification, lack of connectivity, reduced genetic variability, food resources, climate change, and stochastic events.

Human-caused mortalities are the leading cause of mortality throughout the lower 48, and most of them happen in occupied habitat that lies outside the Demographic Monitoring Areas (DMA), including in connectivity areas. In the GYE, 36% of the occupied range is outside the DMA. In the NCDE, it is 29% (Proposed Rule, pp. 62, 85-6). Anywhere from 83% to 98% of mortalities occur in these areas. The Proposed Rule states, "measures to limit incidental take inside grizzly bear occupied range in Idaho are minimal, and measures to limit incidental take outside of occupied grizzly bear range in Montana are also minimal" (p 83). Establishing demographic connectivity requires "maintaining residency of females and males in the areas between subpopulations.... By default, demographic connectivity also achieves genetic connectivity" (Costelle 2020). Restoring demographic connectivity will require limiting human-caused mortality to the point that resident bears, especially females, can live long enough to successfully raise cubs in linkage areas. Improved monitoring in designated linkage zones outside the DMA is essential to determine the degree that demographic community is taking place.

Successful natural connectivity would require education, ordinances, zoning, and regulations for securing attractants and practicing non-lethal conflict mitigation in communities and on agricultural lands. At this time, the Montana side of the BE will impose food storage orders in March of 2025, but the Idaho side still lacks such measures. Reducing human bear conflicts decreases the need for management removals, and education would also reduce mistaken identity killings.

Constructing crossing structures across and fencing along priority transportation corridors would not only prevent grizzly mortalities on roads and railways, it would reduce barrier effects and improve wildlife movement through key linkage zones. *See, e.g.*, Ford et al 2017. Sadly, "without adequate conservation measures, human-caused mortality would continue to be a threat to the grizzly bear DPS" (Proposed Rule, p. 76). The Final Rule must analyze effects of the lack of mortality limits and regulatory mechanisms in connectivity areas on the recovery of grizzly bears.

Adequate habitat management and security is also essential for fostering natural connectivity. The Proposed Rule states, "Motorized access management is an important management tool for grizzly bear populations, as it can increase habitat security, which is crucial for female reproduction, and reduce potential mortalities from human-bear encounters and vehicle strikes" (p 88). However, "Conservation mechanisms to reduce the negative effects of motorized access independent of the Act are currently only in place for two [NCDE and GYE] of the six ecosystems. They have not been met or finalized for the

remaining four [SE, CYE, BE, NC] ecosystems or in connectivity areas" (Proposed Rule, p. 94).

Recent forest plan revisions do not reflect the need to increase connectivity and reduce human bear conflict in key linkage areas. The revised Flathead National Forest Plan eliminated amendment 19, created to preserve and restore grizzly core areas through access management, and relaxed road closure measures. The Nez Perce Clearwater National Forest Plan revision is bereft of access management to benefit grizzly bears. The Bitterroot National Forest recently amended the current forest plan to suspend road management for elk that also protected grizzly bears. Few of the forests between recovery areas have adequate enforcement or effective road closures. According to USFWS 2024, "To facilitate natural recolonization of the BE, strategies to minimize human-caused mortality will need to be applied in the intervening areas of connectivity, potentially including access management" (p 149).

Indeed, even the Service recently contributed to inadequate regulatory mechanisms relating to the establishment and maintenance of natural connectivity. In February, the Service approved a Habitat Conservation Plan (HCP) and incidental take permit for BNSF Railway Company trains on 206 miles of track through the Northern Continental Divide Ecosystem (NCDE) in Montana. Trains operated by BNSF or on its tracks have killed 75 grizzly bears, all protected by the ESA, between 1975 and 2023, including three bears in 2023 alone.

The HCP itself acknowledges that it is simply formalizing what BNSF has been doing, unsuccessfully, to reduce grizzly bear mortality over the last two decades. While three new bear technicians may make the rest of the NCDE a safer place for grizzly bears and people, there's little evidence in the plan that it will prevent the deaths of grizzly bears on BNSF's tracks. The foundational premise of the plan is that "there is no other practicable means to eliminate" BNSF trains from killing grizzly bears, and so the incidental take permit allows BNSF to kill as many grizzly bears over the next seven years (19) as it did during the last seven years.

The claim of BNSF's Abo Canyon project *proves* there is a practicable means to eliminate BNSF trains from killing grizzly bears. We've known for at least two decades how practicable it is to stop trains (and cars and trucks) from killing grizzly bears and other wildlife on our highways and railways. In fact, in the early 2010s, BNSF built wildlife fences and several bridge-span underpasses to stop trains from killing bighorn sheep in Abo Canyon. And yet BNSF and the "technical committee" it employed to determine "the measures [that] will be most beneficial to the population" never even considered crossing structures and fencing as one of the alternatives in its Habitat Conservation Plan.

During the 20 years BNSF has been applying for an incidental permit, Montana has become something of a leader in the construction of wildlife accommodations along transportation corridors. In 2004, Montana Department of Transportation and the Confederated Salish and Kootenai Tribes began construction of what would become what Montana Department of Transportation proudly acknowledges is "the most extensive wildlife-sensitive highway design and construction effort in both road length and number of crossing structures in North America," including one overpass, several open-span bridges and 75 smaller fish and wildlife crossing structures.

Natural connectivity will improve genetic health. According to Mattson 2021, "Fragmentation potentially threatens the persistence of grizzly bears in the contiguous United States by reducing numbers of breeding individuals in any given population; decreasing genetic diversity through impaired gene flow and increased inbreeding and purging (Miller & Waits 2003, Lino et al. 2019)" (Mattson 2021, p 60). The Proposed Rule agrees: "Connectivity, or dispersal and successful immigration, of males or females enhances genetic diversity and reduces genetic fragmentation (i.e., provides genetic or demographic connectivity, respectively) (Miller and Waits 2003, pp. 4337–4338; Proctor et al. 2005, pp. 27–28)" (p 106-7). It also states that, "Natural connectivity between the GYE population and other populations would improve the chances of long-term genetic health in the GYE" (p 109).

Climate change is another stressor alleviated with natural movement between populations allowing adaptation. Climate induced natural food failures increase mortality and cause bears to access human foods when natural foods are scarce. Change in denning seasons due to climate puts bears on the landscape with humans during more months of the year increasing human-caused mortality. The Proposed Rule admits, "Effects related to climate change may result in a number of changes to grizzly bear habitat, including a reduction in snowpack levels (McKelvey et al. 2011, entire; Schwartz et al. 2016, p. 317; Livneh and Badger 2020, pp. 453–454), which may shorten the denning season (Leung et al. 2004, pp. 93–94), shifts in denning times (Craighead and Craighead 1972, pp. 33–34; Van Daele et al. 1990, p. 264; Haroldson et al. 2002, pp. 34–35), shifts in the abundance and distribution of some natural food sources (Rodriguez et al. 2007, pp. 41–42), and changes in fire regimes (Nitschke and Innes 2008, p. 853; McWethy et al. 2010, p. 55)" (p 113). These changes could profoundly affect recovery especially if grizzly bears remain in isolated populations. The Proposed Rule incorrectly concluded that climate change is not a threat to the grizzly bear DPS.

Even stochastic events that could wipe out nearly an entire population like a volcanic eruption could be lessened with natural connectivity, by allowing remnants to migrate out or new bears to migrate in. As Mattson 2021 states, a fragmented population

can lessen “the likelihood of demographic rescue of one population by another when environmental catastrophes strike (Cosgrove et al. 2018, Millon et al. 2019)” (p 60).

To attain natural connectivity, a concerted effort must be made to preserve and restore grizzly core habitat, reduce human-bear conflicts, educate those living, working and recreating in linkage zones, build crossing structures, and employ non-lethal conflict mitigation measures. As the scenarios analyzed in USFWS 2024 demonstrate, increasing conservation measures that promote connectivity between known populations and into areas of viable habitat, will increase resiliency, redundancy, and representation of the grizzly bear in the lower 48 (see figure 3). As the USFWS 5-year review 2021 concludes, “While the GYE and NCDE populations remain relatively resilient under all but one future scenario, viability for the grizzly bear in the lower-48 States as a whole only increases under the two optimistic future scenarios, which rely on increases in conservation efforts such that the BE and North Cascades support resilient populations” (p 21). The final rule must analyze the lack of regulatory mechanisms to promote natural connectivity on the recovery of grizzly bears.

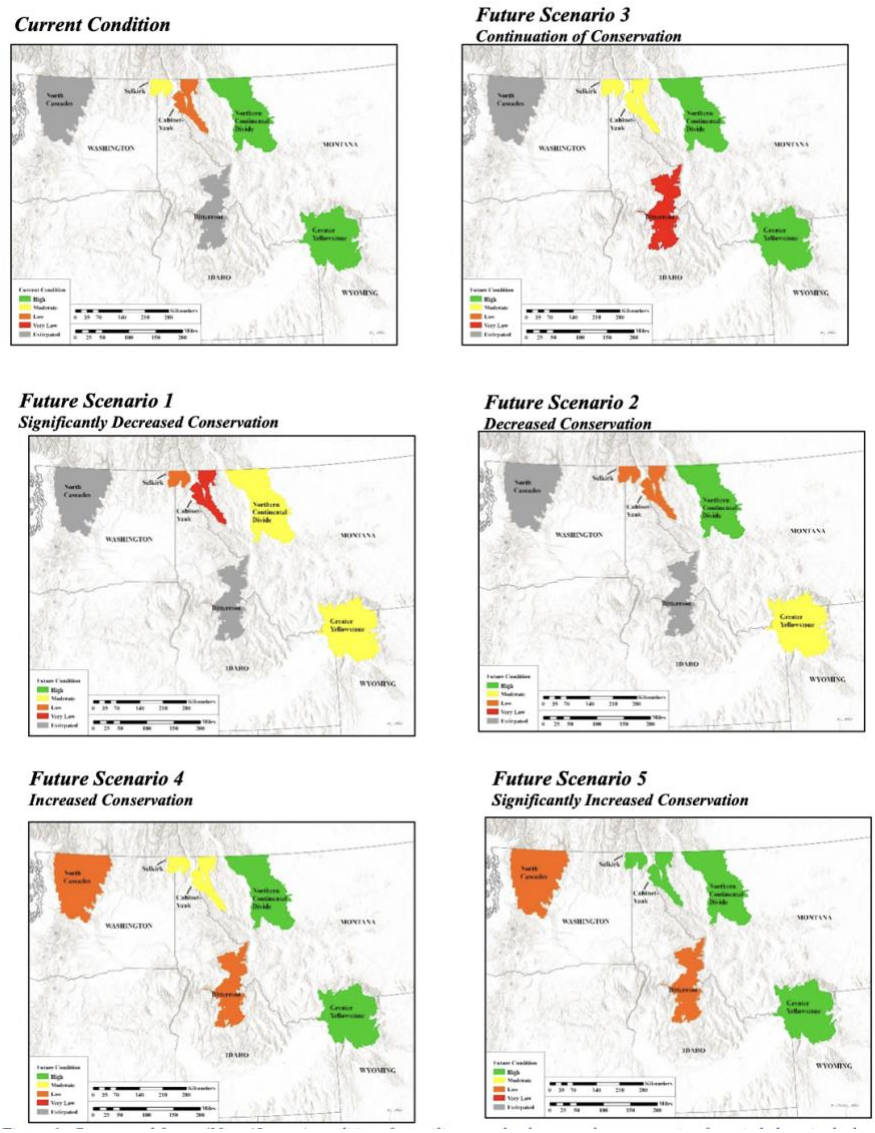


Figure 3: Current and future (30-45 years) conditions for resiliency, redundancy, and representation for the grizzly bear in the lower-48 States. Colors designate the following: Green = High, Yellow = Moderate, Orange = Low, Red = Very Low, Gray = Extirpated. (USFWS 2024, p 19)

D. *Establishing a Bitterroot population is crucial for eventual recovery via natural recolonization.*

Elsewhere these comments note the higher human acceptance of grizzly bears that naturally recolonize into areas previously not considered to have grizzly bears, and the toll exacted by capture and relocation efforts on individual bears themselves.

The Service's 2022 Species Status Assessment for the Grizzly Bear in the Lower-48 States finds the grizzly bear is likely to be in danger of extinction within the foreseeable future throughout all of its range, and notes that viability for the grizzly bear in the lower-48 States as a whole only increases under future scenarios which rely on increases in conservation efforts such that the Bitterroot Ecosystem (BE) and North Cascades support resilient populations. In other words, the Service acknowledges true recovery of the Proposed Rule's DPS won't happen without recovery of robust numbers of grizzly bears in the BE.

Mapping displayed by Carroll et al. (2001) shows the Clearwater River Basin of Idaho as having the best overall habitat suitability for grizzly bears in the Northern Rockies, compared to the other core areas identified as the Greater Yellowstone, Northern Continental Divide, Selkirk, and Cabinet-Yaak ecosystems. The analysis by Merrill et al. (1999) shows some of the most productive grizzly bear habitat in Idaho is on the Nez Perce-Clearwater National Forests, which largely overlaps the BE. The various and conflicting delineations of the BE are discussed at pp. 118-122 of the Friends of the Clearwater et al. Objection to the revised Forest Plan of the Nez Perce-Clearwater National Forests (NPCNF) [hereafter referred to as Friends of the Clear Water Objection]. And the BE's high value habitat is also recognized in Mattson (2021).

The Proposed Rule states, "There is no known population in the BE…". However, what is meant here by "population" is undefined and therefore misleading and unscientific. In recent years there have been numerous verified sightings of grizzly bears in the landscapes within or surrounding the BE. Friends of the Clearwater Objection pp. 128-131; *see also* the Draft Environmental Impact Statement for NPCNF revised forest plan at p. 3.2.3.3-78; *also see* the 2019 U.S. Fish and Wildlife Service Grizzly Bear Recovery Program Annual Report at pp. 12-13.

Grizzly bears must be expected to explore, inhabit, or migrate into the BE even as population density remains low.

Hertel et al. (2019) assert that such "explorer bears" are important to connectivity and persistence of the species: "Bolder individuals seem to be more tolerant towards human encroachment and move more easily through human-modified landscapes… ." This has implications for dispersal and genetic/core population interconnectivity. Grizzly bears that move into areas not densely occupied, or thought to be otherwise unoccupied, are highly important and should be recognized as such. Yet the Service and the U.S. Forest Service describe such grizzlies essentially as unwelcome "transients" instead of the natural genetic expression of population expansion and recovery they really are.

In *Alliance for the Wild Rockies v. Cooley* a U.S. District court in Montana ordered the Service to re-analyze the recovery of grizzly bears in the BE. CV 21-136-M-DWM *Opinion and Order*, March 15, 2023. The Court recognized non-discretionary legally binding commitments made in Service's 2000 Record of Decision and Final Rule, and the failure to fulfill those commitments. Ib. at pp. 21-22.

The Court also recognized that "as recently as October 2022, grizzly bears have been seen in the Bitterroot Ecosystem." Ibid at p. 4. This effectively invalidates the "experimental, nonessential" 10(j) status the 2000 ROD instituted for grizzly bears in the BE.

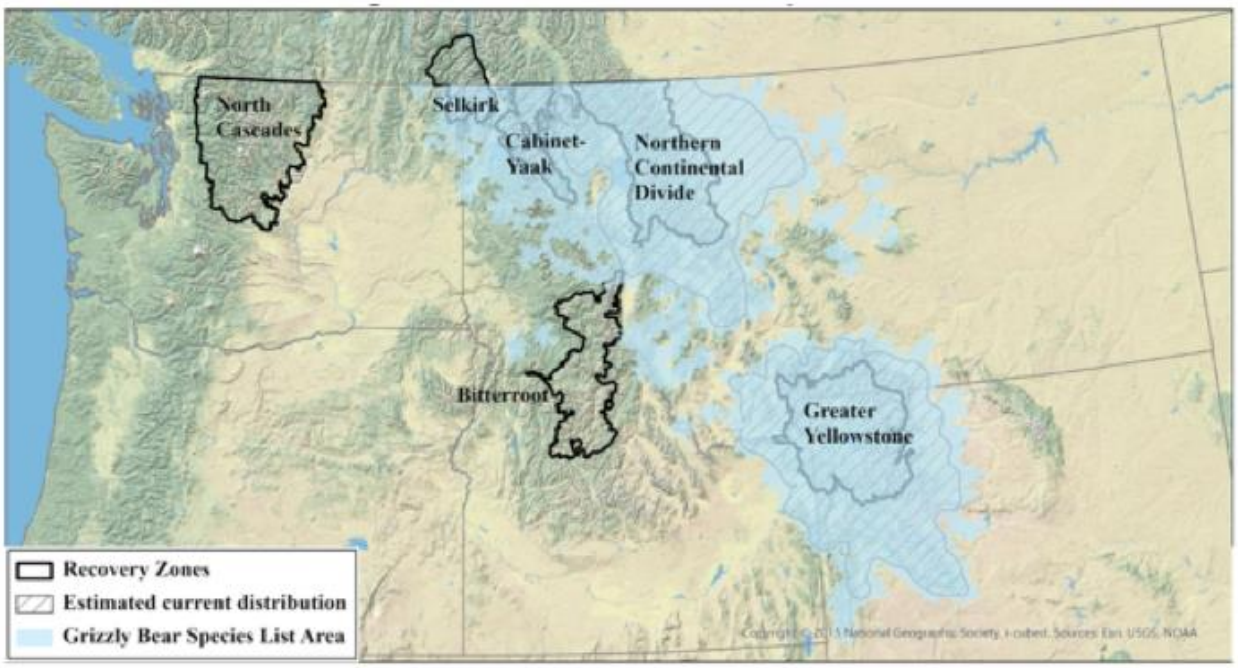
The failure of the Service to carry out its duties outlined under—as the Proposed Rule identifies—the December 18, 2000 "final environmental impact statement (EIS) and record of decision (ROD)" to implement the recovery of grizzly bears in the BE has surely contributed to continued low population density. Furthermore, this calls into question the Service's sincerity in prioritizing "recovery of robust numbers of grizzly bears" as stated in their 2022 Species Status Assessment. Indeed, the Service failed in its commitments to implement "a non-discretionary 'overlapping staged process' …(including) implementation of sanitation and education efforts to prepare the land and community for the presence of grizzly bears…". Ibid at p. 21. Furthermore, the agency itself raises other barriers to accomplishing robust BE grizzly numbers.

One of these barriers is the promotion of the idea of an "estimated occupied range" (Proposed Rule Figure 1) which lacks scientific support and inexplicably disregards recent confirmed sightings on three sides of the BE and within its northern edge. An origin of this fallacy is explained in the Service's 2022 Species Status Assessment: "(W)e view the BE as currently unoccupied as per the definition of a population (two or more reproductive females or one female reproducing during two separate years) of grizzly bears in the Bitterroot Environmental Impact Statement (EIS) (Service 2000, pp. 3-14–3-15)." In other words, procedural requirements under the ESA which might lead to substantive protections for individual bears appearing in the BE are arbitrarily being denied.

Related to that barrier is another–the Service's misleading "May be present" map–which also guides agencies such as the U.S. Forest Service into falsely concluding their huge clearcutting/road building and other management actions will have no effect whatsoever on grizzly bear habitat within the wider geographical sense of the BE and/or within important adjacent connectivity habitat, so that the latter avoids initiating Section 7 consultation in the process of project development and authorization. The "May be present" map exists without explanation of the potentially and continuously fluctuating nature of grizzly bear movements on the landscape into, out of, and between the

biologically-challenged “Species List” and the “current distribution” areas, and the “Recovery Zones” it displays.

Below is the Service’s July 2022 map of where grizzly bears “may be present”.



Further, we incorporate in full the comments provided by the Flathead-Lolo-Bitterroot Citizen Task Force et al. to the Service on March 18, 2024 (Regulations.gov, FWS-R6-ES-2023-0203).

It has long been known that grizzly bear recovery cannot occur in the Northern Rockies without reestablishment of a large population in the Bitterroot ecosystem (Metzgar and Bader 1992). The Service states:

> *Under this Proposed Rule, we would also retain the current entries at 50 CFR 17.11(h) for the Bitterroot and North Cascades nonessential experimental populations of the grizzly bear, as well as the applicable regulations at 50 CFR 17.84(l) and (y), respectively, unless we undertake separate rulemaking to revise or remove one or both of them… and our previous findings for the two experimental populations designated for the grizzly bear would remain relevant and applicable to the grizzly bear DPS.*
>
> *We continue to find that the experimental populations are not essential to the continued existence of the species in the wild. For the BE, we are currently in the process of reassessing options for restoring grizzly bears to that ecosystem (89 FR 3411,*

January 18, 2024), which could result in revising or removing that experimental population designation.

The current legal status of all grizzly bears within the lower 48 states is threatened under the ESA. The Experimental, Non-essential (ENE) population status under Section 10(j) of the ESA does not apply to the Bitterroot Ecosystem and there is no credence to the Service's claim that it still does.

In a letter to agencies, the Service (Bush and Swanson 1/21/20) states:

> "*In consultation with the Regional Solicitor's Office, we confirm that the current Endangered Species Act (ESA) section 10(j) rule for grizzly bears in the Bitterroot Grizzly Bear Experimental Population Area (BGBEPA), 50 CFR § 17.84(1), does not apply to grizzly bears that have dispersed into the BGBEPA on their own.*"
>
> "*Therefore, grizzly bears that are present in the BGBEPA are not covered by the 10(j) rule and are considered threatened under the ESA. This means that ESA section 7 consultation obligations apply to proposed federal agency actions that may affect grizzly bear in the BGBEPA, as with any grizzly bear in the lower 48 States.*" (emphasis provided).

Thus, the language in the proposed DPS and 4(d) rules is incorrect and must be corrected. Grizzly bears that are present in the BGBEPA are not covered by the 10(j) rule and are considered threatened under the ESA.

Moreover, the Service, in its process of preparing an EIS, announced in 2024 that the Preferred Approach is Natural Immigration with threatened species status (FWS, Summer Update 2024). In fact, the petition finding states:

> *Additionally, we anticipate that dispersing bears from the NCDE will re-establish a population in the Bitterroot Ecosystem (BE) in the next 15 to 20 years. The estimated occupied range for the NCDE grizzly bear population is less than 5 kilometers (3 miles) from the Bitterroot recovery zone.*

In fact, recent analysis shows it may occur within 5-15 years as shown in the graphic below from Bader and Sieracki (2024a).

The Service is also incorrect in determining that a Bitterroot grizzly bear population is not essential to the continued existence of the species in the wild. The Service itself

concluded that a Bitterroot population would greatly increase the chances of long-term recovery of grizzly bears in the northern Rockies. The best available science also finds this to be true (Bader and Sieracki 2022; Mattson 2021).

At page 174 the SSA states: "*The lack of food storage orders on USFS lands within the BE recovery zone may contribute to future grizzly bear mortality risk and inhibit natural recolonization.*" This lack of food security poses a threat to overall grizzly bear recovery since it is dependent on reestablishment of a Bitterroot population.

E. *Importance of NCDE for natural connectivity*

The NCDE grizzly population is the keystone to genetic and demographic connectivity of the lower 48 grizzly bear population. *See*, *e.g.*, Aune and Kasworm (1989). As the grizzly population has grown to ~1000 individuals, the NCDE range of occupancy has expanded significantly. NCDE grizzly bears have been identified east of Great Falls, south as far as Butte, southwest of Missoula, and as far west as the CYE. Since 2013, six NCDE grizzly bears have immigrated to the Cabinet-Yaak population unit, and three males are still alive (Kasworm et al. 2024). As of 2020, only 35 miles separated NCDE and GYE occupied ranges (Sells et al. 2023). An NCDE grizzly bear on the northeast boundary of the BE was mistaken for a black bear and killed by a hunter, while several grizzly bears have been seen in the Rattlesnake Creek drainage and in the lower Bitterroot Valley just south of Missoula. Grizzly bears recently have denned in the Rattlesnake Wilderness and in the Sapphire Mountains in the headwaters of Miller Creek (pers. comm., Craig Journdanais, 2024).

Sarah Sells' recent work (2023) modeled grizzly bear movements to predict areas of connectivity between federal recovery areas. All of these dispersing grizzlies chose predictable paths from their NCDE home to elsewhere. Pathways were similar for males and females and were associated with forested mountain ranges and river/stream corridors in open valleys. A diffuse network of pathways connect the NCDE to the CYE through much of the Salish and Cabinet Mountains, as well as Reservation Divide and Ninemile Divide Mountains. Pathways connecting the NCDE and BE were well distributed within the Reservation Divide, Rattlesnake, Garnet, Bitterroot, and Sapphire Mountains, but were relatively sparse in the Missoula and Bitterroot Valleys. Two primary pathways connected the NCDE and GYE, with one west of Helena and Bozeman along the Garnet, Nevada, Boulder, Tobacco Root, Madison, and Gravelly Mountains, and one east of both towns along the Big Belt, Bridger, and Gallatin Mountains.

When comparing the rates of simulated grizzly bears reaching a recovery zone different from their natal range, the NCDE was the source area most likely to provide

successful immigration. Females had a 7.2 percent chance of reaching the BE from the NCDE, and males were 11.3, compared to 7.1/9.2 from the CYE and 0.2/0.4 from the GYE. Likewise, female grizzlies heading to the CYE from the NCDE had a 10.2 percent chance of success, while males were slightly more likely to succeed (11.2). There was zero chance of a bear getting to the CYE from the GYE, and the chances of interchange between the GYE and the NCDE or BE were not much better: less than one percent in either direction, though the highest value (1%) was a male traveling from the NCDE to the GYE.

Two current demographic connectivity areas are included in the NCDE Conservation Strategy are "intended to provide sufficient security for female grizzly bear occupancy, potentially providing a demographic "stepping stone" from the NCDE to the CYE (via the Salish DCA) and to the Bitterroot Ecosystem (via the Ninemile DCA)" (MTGBMP 2024, p. 30). This provides a model of sorts for how linkage areas can be designated and managed across the entire DPS. But where should they be located? A comparison of Sells' modeling indicates that the Ninemile DCA matches well with Sells' "Reservation Divide, Rattlesnake, Garnet, Bitterroot, and Sapphire Mountains" pathway from the NCDE to the BE. However, the Salish DCA doesn't appear to align with the best pathway(s) nor where outlier bears have been located. The Service should review the data to identify the best potential linkage zones and work with state agencies to identify, designate and protect them.

This evidence indicates that prioritizing the predicted pathways out of the NCDE and into the CYE, BE, and GYE is likely the most efficient way to connect population units. Given the extremely low predicted success of grizzly bears moving between the NCDE and GYE populations, despite only being 35 miles apart, concerted efforts must be made to implement the necessary conservation efforts–crossing structures, increased habitat security, reduced human-bear conflicts and therefore grizzly mortalities–to enhance the ability to successfully immigrate between these two populations units, and particularly into the GYE from the NCDE.

Unfortunately, Montana, which is largely responsible for creating and maintaining connectivity in the DPS (apart from the NCE) has no plan on how to do so. In 2019, a Grizzly Bear Conservation and Management Advisory Council was created. It was comprised of 18 Montana citizens from all over the state and all walks of life. The goal was "to ensure [Montana's] citizens have a voice in the future of grizzly bears" and to "provide meaningful opportunities for people to engage in a public discussion around grizzly bear management, recovery, and conservation." The Council's final report (GBCMAC 2020) includes the following recommendation: given that "genetic and demographic connectivity among Montana's four recovery zones is important to the long-term viability of grizzly bear populations in the continental United States," there is a need to "balance the continued

importance of public lands with the need for the involvement of private lands to support our vision for an interconnected metapopulation of grizzly bears in Montana."

Among the many other recommendations in the Council's final report, the following are pertinent to connectivity:

4. "FWP should continue to allow natural movement to new areas between all four identified recovery zones in Montana"
5. "FWP and all relevant agencies should clearly define the 'landscapes in-between' the four recovery zones in Montana that are important for genetic and demographic connectivity and the long-term sustainability of the grizzly bear"
6. "FWP, in coordination with relevant agencies and through a public process, should evaluate and identify those landscapes that can reasonably be considered important for grizzly bear recovery and connectivity from those that cannot, and clearly distinguish these in its management plan. Such a distinction is necessary for determining appropriate relocation sites between the four recovery zones, as well as for prioritizing resources for outreach and education, transportation upgrades, and conflict prevention, reduction, and response efforts. These decisions should be in accordance with current Conservation Strategies."

Unfortunately, the new Montana Grizzly Bear Management Plan (2024) ("MTGBMP") does not inspire much confidence in the realization of the Grizzly Bear Advisory Council's recommendations, nor does it provide a science-based vision for how to connect grizzly bear population units. This is in part, FWP claims, because neither the NCDE nor the GYE Conservation Strategies "provides explicit guidance to FWP for managing and conserving grizzly bears between the ecosystems they define" (MTGBMP 2024, p. 30).

The management plan acknowledges that the NCDE CS aims to "maintain a recovered, genetically diverse grizzly bear population throughout the Demographic Monitoring Area (DMA: the Primary Conservation Area (PCA) and Zone 1) while maintaining demographic and genetic connections with Canadian populations and providing the opportunity for demographic and/or genetic connectivity with other ecosystems (Cabinet-Yaak, Bitterroot, Greater Yellowstone)" (MTGBMP p. 31), but "no explicit objective is articulated" (Id. at p. 42). The GYE CS, on the other hand, makes no mention of the need or desire to maintain demographic and genetic connections with any other population unit (Id. at p. 31).

Nonetheless, FWP does take a stab at planning for connectivity in its 2024 grizzly bear management plan. The plan acknowledges that "occasional, thoughtful translocations … for genetic exchange is not a standalone strategy for connectivity as the conservation of habitat and the prevention of conflicts in between recovery zones are important

components to ensure long-term connectivity" (Id. at p. 6), as well as "maintaining an appropriate density of grizzly bears where connectivity is prioritized (Id. at p. 13).

This suggests that both genetic and demographic connectivity are not only contemplated but acknowledged as essential to the connectivity and long-term recovery of grizzly bears in Montana, where the preponderance of connectivity habitat and immigration pathways exist in the DPS. But other language in the plan indicates that FWP's commitment might be half-hearted at best, and certainly not based on the best available science. For instance, the statement that "FWP would not actively manage for grizzly bear presence between core areas, where the likelihood of conflict is high but [FWP] would promote low density populations in between core areas for connectivity purposes" (p. 9). Another eyebrow-raising statement that produces a substantial concern is this: "Existing FWP planning documents focus on maintaining populations in the CYE, NCDE, and GYE, but articulate ***the desirability*** of long-term connectivity among them (as well as toward the BE), acknowledging that human–bear conflicts would likely be more common in these relatively less-wild areas" (Id. at p .42).

These and other references in the Montana grizzly bear management plan indicate that FWP seems to want to have its cake and eat it too. On the one hand, FWP claims a "commitment to" and the "desirability of" long-term connectivity, and "demographic connectivity may be achieved through the residency of females and males in the areas between subpopulations because female bears typically disperse shorter distances than males" (p. 93), which is a textbook definition of how this should work.

But when you read the report more carefully, the emphasis is really about limiting grizzly bear density outside the DMAs, including potential linkage zones, as a means of reducing human-bear conflicts. "Functional connectivity between population cores … should not be interpreted as requiring one seamless group of animals stretched across the various population cores; instead, occasional migrants among the cores will suffice" (p. 93). Repeated claims that "the likelihood of conflict is high" in linkage zones–as if high levels of conflict is a constant like the force of gravity, and not amenable to change through education and management–and that "management decisions for any bears found outside of core areas will be guided by the likelihood that the bear will contribute to the long-term persistence and connectivity of populations. Where that likelihood is low, FWP will be quick to recommend (or implement, if appropriate) control when conflicts arise" (Id. at p. 48). In fact, FWP readily admits, it "would not actively manage for grizzly bear presence" outside of DMAs, because "demographic connectivity can often be achieved by moving females" (Id. at p. 93). The many caveats undermine any faith in Montana's commitment to natural genetic and demographic connectivity, which leaves it specious at best.

FWP's grizzly bear management plan and the Service's Proposed Rule leave some important questions unanswered. Where are the best linkage areas? How would we designate and manage them to ensure "the residency of females and males in the areas between subpopulations"? How would we ensure that the vagaries of state management aren't able to undo these needed protections if or when some population units were delisted? The lack of goals, objectives and necessary actions in the NCDE and GYE conservation strategies and the current recovery plan are shortcomings that must be addressed in the Final Rule.

Successful restoration of genetic and demographic connectivity along these pathways will require the construction of crossing structures where pathways cross major roads. Crossing structures are likely to be particularly important in areas with high and increasing traffic, such as highways that connect urban areas or serve national parks.

Efforts to maintain or increase habitat security and reduce human-bear conflicts and grizzly mortalities should be targeted in the pathways predicted Sells' 2023 study to be important for connectivity among grizzly bear populations. Increasing human populations in western Montana poses a threat to the future viability of these pathways. Proactive efforts will be needed in predicted pathways outside recovery zones and on the periphery of occupied habitat that are not currently heavily used by grizzly bears, such as the edges of the Missoula Valley. Proactive education programs focused on encouraging recreationists to carry bear spray and preventing bears from accessing human foods (e.g., through bear-resistant trash cans, adherence to food storage orders on public lands, and electric fencing of crops, apiaries, and small farm animals) may provide more tangible benefits than efforts focused on changing livestock husbandry practices to reduce depredation by grizzly bears (Costello et al., 2020).

However, the efficacy of campaigns to affect each of these human behaviors can be increased by local connections between wildlife professionals and the public and appealing to social behavioral norms rather than individual risk factors (Nesbitt et al., 2021). Conservation easements with willing landowners in vicinities of predicted pathways (Sage et al., 2022) may also help facilitate connectivity between populations by preventing future human developments that inhibit grizzly bear movements and increase human-bear conflicts (Graves et al., 2019).

F. *The Cabinet Yaak subpopulations are small, isolated, and at risk of extinction.*

The subpopulations of grizzly bears that inhabit the Yaak Valley and, separately, the Cabinet Mountains, known collectively as the Cabinet Yaak population (CYE), are small, isolated, and at risk of extinction. Both populations qualified for uplisting to endangered

status under the ESA in 1993. (Kendall et al. 2015). These two demographically independent grizzly populations depend on explorer bears migrating into their ecosystems from outside populations through natural protected connectivity corridors for demographic and genetic variability. (Kasworm et al. 2014).

None of the six designated Grizzly Bear Recovery Zones identified in the 1993 Grizzly Bear Recovery Plan are large enough to independently support viable populations of grizzly bears. Without protected corridors between all the current Recovery Zones, the Cabinet and Yaak populations will not persist. The proposed modifications to grizzly bear protections under Section 4(d) of the ESA would lessen restrictions on the lethal management of grizzly bears in critical connectivity areas between Recovery Zones. This is unacceptable.

A 4(d) rule should be tailored to promote conservation of a species and target specific threats to that species. 16 U.S.C. § 1533(d). There is no greater threat to grizzly bears than human-caused mortality. (Mattson 2024). The proposed modifications of the 4(d) rule will increase human-caused mortality. Dispersing bears traveling on both public and private land between ecosystems, necessary for a viable unified population in the proposed DPS and beyond, will be at increased risk. Some of the areas linking the current Recovery Zones are deemed "less important for recovery." Proposed Rule, pp. 154-55. There exists no area "less important for recovery" of the grizzly bear throughout the lower 48 states or within the proposed DPS. All grizzly bear suitable habitat is important to recovery as are all grizzly bears. Grizzly bears must maintain all current protections across the lower 48 states.

In its Summary of Biological Status and Threats, the Service concluded that the grizzly bear DPS is likely to become an endangered species within the foreseeable future primarily due to habitat destruction and modification, human-caused mortality, and the isolated nature of some populations. Proposed Rule, pp. 148-49. The Proposed Rule will keep populations isolated and increase lethality, or the "authorized take," of bears attempting to move between populations. It is a step in the wrong direction.

In the Cabinet Yaak Ecosystem, the Service estimated a count of 54 grizzlies in 2018, 50 in 2019, 45 in 2020, 42 bears in 2021, 57 bears in 2022, and 67 bears in 2023. Annis, K. M. & R. Trimbo, 2019; Annis, K. M. & A. Kornak, 2020; Kasworm et al., 2021; Kasworm et al., 2022; Kasworm et al., 2023. This is all based on a 2012 population estimate of 48-50 bears in the CYE and a variable calculated rate of increase. Kasworm et al. 2023. The Cabinet Yaak lost four bears to human-caused mortality in 2023, including two adult breeding-age females, one of which had two cubs. The annual loss of one or two female bears to human-caused mortality can determine whether these small populations grow or decline. (Mattson

2024). Known grizzly bear mortality in the CYE is likely underestimated due to unreported mortality. Independent modeling shows that if the Yaak loses one adult female grizzly every other year, the population will be extinct in fewer than 20 years. (Craighead & McCrory 2018).

The Cabinet and Yaak grizzly populations are populations on the decline, down nearly 25% in 4 years (2018-2021) and well below effective population numbers. The Yaak grizzly bear subpopulation is North America's smallest, most vulnerable grizzly bear population. The grizzly bear population in Yaak is at high risk of extinction, with only 25 to 30 bears remaining, and only a few are females in their reproductive years. (Kendall et al. 2015). Full ESA protections for these bears must extend beyond the Recovery Zones and into areas of connectivity. The proposed modifications to the 4(d) Rule will put these two imperiled populations at increased risk.

Yaak's grizzly population, despite being in the epicenter of the new proposed DPS, remains the most endangered in the continental United States. The Cabinet-Yaak population is dependent on the voluntary movement of bears from the Northern Continental Divide if populations are ever to reach self-sustaining numbers. In fact, connectivity of the Northern Continental Divide Ecosystem through the CYE to the Selkirk Ecosystem and the newly established North Cascade Ecosystem is imperative to achieve the unified population envisioned in the DPS.

The Cabinet Yaak Ecosystem is fragmented into two sub-ecosystems with little to no interbreeding, the Cabinet ecosystem south of Montana State Highway 2 and the Yaak Ecosystem to the north of Montana State Highway 2. The two ecosystems are separated by the nearly impassable barriers of a highway, a railroad, and a river. The Yaak grizzly population cannot survive independent emigration; it lacks genetic self-sufficiency. A DNA study concluded that grizzly bears in the Cabinet-Yaak Ecosystem, due to its small population, isolation, and inbreeding, demonstrate the need for comprehensive grizzly management to support population growth and increase connectivity with other grizzly populations. (Kendall et al 2015). This increased connectivity is only possible with strong protections both within and outside of designated Recovery Zones.

Both the Cabinet and Yaak subpopulations are susceptible to the short-term inbreeding impacts of an N_e under 50, putting both grizzly populations at high risk of extinction. The most important evolutionary force necessary to offset dwindling population numbers and increase the effective population of grizzly bears in the CYE is migration. (Waples 2022). Protected migration is necessary to increase the number of individual grizzly bears driving ecological processes and increase the number of potential parents, adding to the evolutionary viability of the population. Ibid. This has been

attempted with limited success in the Cabinet subpopulation through augmentation with translocated bears. Natural protected movement between all ecosystems both within and outside of the proposed DPS is necessary for true recovery of grizzly bears.

All grizzly bears, regardless of their location in the proposed DPS are fundamentally contributing, and will continue to contribute, to the persistence of the species. Population connectivity is a fundamental principle of conservation, and it is vital to the survival of the Cabinet/Yaak grizzly bear population. In addition to managing for connectivity, by allowing bears to travel unmolested from core population to core population, first and foremost, healthy and secure core habitat must be retained and protected from the management practices of clearcutting and road building sanctioned by the U.S. Forest Service, and other human-driven encroachments.

In response to impacts to food sources related to climate change, explorer bears must be allowed to disperse unmolested outside of core areas between established Recovery Zones in search of food and potential mates. For this to occur, public education is of the utmost importance to facilitate security of man-made attractants that lead to conflict. Increased public awareness can mitigate conflict and increase social tolerance. This is the key to facilitating connectivity. The CYE depends on it. A recent study published on Jan. 11, 2023, in *Scientific Reports*, found that enhancing ecological connectivity would not only increase population size for mammals like grizzly bears but also allow species to shift their geographic ranges more readily in response to climate change. (Newmark et al., 2023).

Grizzly bears in the Cabinet/Yaak Ecosystem are at risk of mortality due to management practices for other species. These practices include hound hunting of black bears and wolf trapping using snares, traps, and bait. Wolf trapping is consistently open in CYE grizzly territory while grizzly bears are out of the den and active. Bears can also be active during winter months, putting them at significant risk of death or maiming.

Designation and enforcement of sufficiently connected core habitat must be the paramount management priority for federal agencies that are serious about recovering grizzly populations. The greatest threat to CYE grizzlies is humans. Human access into grizzly habitat is facilitated by roads, both open and closed, that are legacies of resource extraction. High densities of roads lead to increased encounters between grizzlies and humans and high lethality. There are far too many unsecured roads in “core” grizzly habitat.

A recent ruling in the Ninth Circuit Court of Appeals concluded that the USFS, Kootenai National Forest, which manages the CYE, violated the National Forest

Management Act by failing to demonstrate compliance with Standard FW-STD-WL-02 of the Access Amendments, because "the Forest Service may not exclude categorically documented unauthorized road use" in evaluating the security of grizzly habitat. *Center for Biological Diversity et al. v. U.S. Forest Service*, No. 23-2882 D.C. No. 9:22-cv-00114-DWM, (9th Cir. Feb. 24, 2025). The USFS was out of compliance with Access Standard 2 due to lack of enforcement of unauthorized road use and ineffective barriers and road closures required to secure core grizzly bear habitat. The Court further found that "the Forest Service failed to take a 'hard look' at unauthorized road use in violation of the National Environmental Protection Act. Both compliance and enforcement are key elements of habitat protections for CYE grizzly bears.

In addition to threats caused by climate change and habitat loss, the Cabinet-Yaak grizzly population is threatened by the intrusion of a Congressionally designated high-volume hiking trail through core grizzly bear habitat. The proposed route of the Pacific Northwest Trail runs through high-elevation, prime grizzly bear habitat in the Yaak region that formerly provided secure habitat within the Cabinet/Yaak Grizzly Bear Recovery Zone. Clearly, there is the potential for grizzly bear displacement and/or human conflict along the proposed trail route. The PNT, as proposed, unlike other long-distance thru-hike trails, runs east and west versus north and south and spans a narrow range of latitudes, resulting in a shorter, more compressed season for thru-hiking. This season, roughly mid-June to mid-September, is congruent with high levels of grizzly bear activity in the Yaak ecosystem.

The Proposed Rule will limit acceptance of grizzlies outside of core recovery areas impeding grizzly migration into the CYE and will interact cumulatively with other projects like the Pacific Northwest Trail (PNT) and timber sales on the Kootenai National Forest, including the Black Ram and Knotty Pine timber sales, both of which were approved in 2022, degrading grizzly core habitat and further impeding recovery.

G. *The Selkirk Ecosystem subpopulation is small and isolated, and habitat is fragmented and degraded.*

The Selkirk Mountains Grizzly Bear Recovery Zone (SE) includes northern Idaho, northeast Washington, and southeast British Columbia. The SE recovery area encompasses ~6,700 km² and includes the South Selkirks B.C. grizzly bear population unit. Population monitoring and genetic studies have been ongoing since 1983, with renewed efforts in 2012-2014 through partnerships between federal, state, and tribal agencies. Adult male grizzlies in the SE have an average annual home range of 729 km², while adult females have a smaller range of 252 km². SE grizzlies enter dens earlier (October-November) than those

in the Cabinet Mountains and Yaak drainage. By December 1, nearly all SE bears are in dens (Selkirk Grizzly Bear Annual Report 2023, p33).

The peninsular shape of Northwest grizzly distribution makes population isolation a predictable result of fragmentation as well as other areas, such as the Selkirk Mountains of southern Canada with an isolated population of approximately 100 bears (Proctor, 2003). Small, isolated populations like the SE grizzly bears are vulnerable to genetic bottlenecks and demographic fluctuations as discussed in Megan et al (2024). Although gene flow has been observed between the SE and adjacent ecosystems, restoring functional genetic connectivity remains a challenge and increasing connectivity with adjacent populations is a must for genetic survival.

> "Small grizzly bear populations like those in the SE and CYE are unlikely to reach a demographic or effective population size necessary to maintain genetic diversity in the absence of gene flow (Miller and Waits 2003; Proctor et al. 2015). Therefore, monitoring the impact of gene flow on these populations is critical to ensure that genetic diversity is being maintained. Ne estimation is also important to determine the susceptibility of these populations to genetic drift." (Megan et al, 2024)

> **"**Our research adds to the growing body of work that emphasizes a need for connectivity between the SE, CYE, and Canadian grizzly bear populations. Unlike other U.S. recovery zones and many Canadian populations, the SE and CYE lack large national parks or wilderness areas that can serve as core habitat. As a result, the SE and CYE have higher anthropogenic influence which contributes to relatively low bear densities compared with other North American populations (Kendall et al. 2016)." (Megan et al, 2024)

Human activities are increasing rapidly in the SE, including development around the Priest Lake fracture zone, a push for opening up mountain bike trails and year round snowmobiling in Upper Pack River and Roman Nose among other areas, and not deducting high use trails required by the Access Amendment for the IPNF.

As a first step, the SE grizzly population needs to be fully connected within the SE recovery zone. Habitat fragmentation from human activities (e.g., roads, land development, and high use trails) limits movement. Private land development poses a risk by increasing human-bear conflicts and restricting natural corridors. The area around Priest Lake, Idaho, is identified as a fracture zone due to human development, road density, and recreational activities. The Priest Lake community and the high traffic levels of Highway 57 south of Priest Lake limit grizzly movement south of Priest Lake and between the two southern lobes of the SE.

Inroads to grizzly core habitat are continuing to increase, leaving less and less functional habitat. We would ask the Service to reconsider adherence to the high use trail portion of the Access Amendment in the IPNF Forest Plan. While the Service discounts recreational activities as displacing individuals and not affecting the population, this still amounts to take and cumulative effects from recreation may be occurring especially when recreational use of trails exceeds the high use criteria of 20 parties per week agreed upon by the USFS.

The IPNF and the Service have implemented stricter disturbance distances from private lands for the BORZ than in the actual GBMU's. [in the BORZ, a 500m buffer is utilized that reduces BORZ security around private inholdings because of the possibility of road building and development next to the border of private lands, impacting the BORZ]. With few arbitrary exceptions, the Service does not buffer private or State lands in the Bear Units.

1. *Myrtle GBMU example.*

The Myrtle GBMU is an example of a compromised and dysfunctional bear unit in the SE. While the USFS states that there is 55% core meeting the Access Amendment standards, they fail to deduct core and buffer habitat from bear year snowmobiling in the Roman Nose Play Area, or remove core area by buffering the five high use trails mostly in the Pack River Drainage, while the Westside "Restoration" logging project is also promoting the creation of additional trails in the Bear Unit. A Core area analysis utilizing Access Amendment and BORZ private lands buffering standards shows approximately 44% core habitat. Even without applying the BORZ buffers to non-Federal Lands, including high use trails reduces core habitat below the 55% standard (*see* Westside Restoration, Request for Supplemental EA/EIS, 2023 which documents the impacts of high use trails and applies BORZ standards to the Myrtle Bear Unit).

2. *LeClerc GBMU example.*

The SE has "negotiated" core standards that are reducing grizzly occupancy of the LeClerc GBMU on the Colville National Forest. There are few grizzly observations in this BMU compared to others in the SE. Using checkerboard ownership as a reason, the Service only requires 27% core habitat. Core is further impacted by road building on the adjacent Trail logging project under litigation by the Alliance for the Wild Rockies. It is unknown if the Service has attempted any negotiations to increase core habitat through conservation easements with Stimson Lumber or Washington State Department of Natural Resources (WDNR).

3. *State GBMU example.*

The State GBMU, located east of Priest Lake is managed by the Idaho Department of Lands (IDL). It is a free-for-all as far as use goes with no standards for Core, OMRD and TMRD and bear year snowmobiling is allowed. IDL has no take permit for grizzlies or any ESA listed species. We have yet to see complete maps of cross boundary core habitat based for the entire SE. Even though there is no requirement for the BC and State bear units, a display of core habitat would be useful.

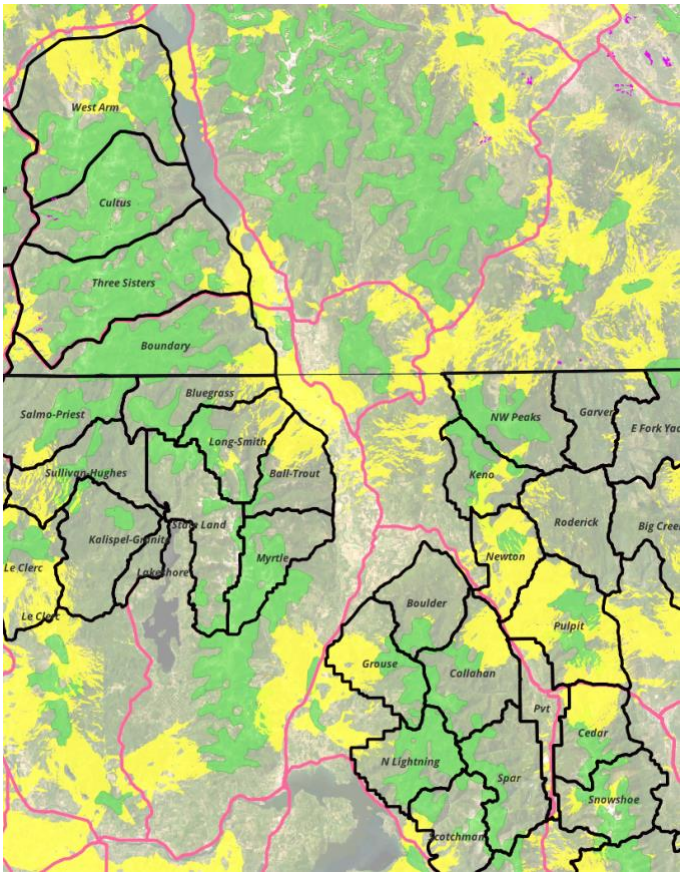
4. *Local Legislative Threats*

Local legislative threats include the Idaho Panhandle Public Lands Initiative, sponsored by Idaho Conservation League, which is populated with anti-wilderness, anti-grizzly and anti-wolf members and a mountain bike group that wants to open up more trails in grizzly habitat. The invite only initiative membership does not have any credible conservation groups participating. Several potential conservation contributors have left this collaborative including Kootenai Environmental Alliance, Selkirk Conservation Alliance and the Inland Empire Task Force. Legislating timber outputs and opening up bear year motorized access and late season snowmobiling opportunities is the main push of the group, impacting connectivity throughout North Idaho. The serious risk of roadless area loss and elimination of grizzly bear security standards from this group has spawned a group supporting NREPA or, a NREPA like legislative proposal which is in development. The recent proposals by the Trump administration to sell off Federal Lands is another threat to Grizzly Bears.

5. *Threats to connectivity between recovery areas*

Selkirk Ecosystem to Cabinet Yaak and Bitterroot Ecosystems.

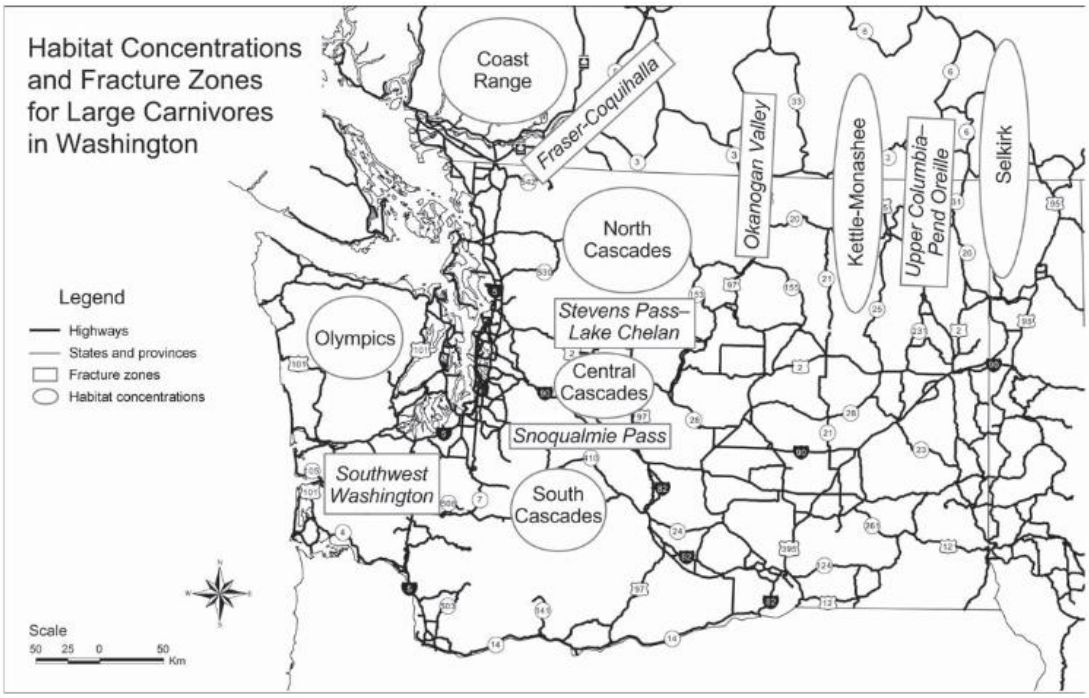
There are three areas of connectivity between the SE and CYE. The McArthur Lake area, north of Sandpoint, Idaho; the area along the US – Canada Border and at the south tip of Kootenay Lake, in the Creston Wildlife Management Area which accesses the Purcell population then the Yaak area. Like other areas, connectivity is threatened by valley development. Some attempts at maintaining connectivity are occurring with a wildlife underpass under construction between the SE and the Idaho CYE at McArthur Lake, and another underpass by Mission Creek. Connectivity is also impacted by late winter OSV use, with allowable off trail use potentially impacting bears that area leaving their dens earlier as a response to abrupt climate change. OSV activity impacts connectivity areas on the US side of the US-Canada border in the Harvey Mountain area along with no seasonal off trail snowmobile restrictions in connectivity areas between the CY and BE in Idaho, east of Pend Oreille Lake.



Selkirk Ecosystem to North Cascades.

The Colville National Forest and Colville Tribe are the primary landowners that provide lands providing connectivity between the SE and the North Cascades. Singleton et al (2002) modeled grizzly bear connectivity between the Selkirks and North Cascades. “Appendix 4” shows fracture zones between the two recovery areas and the following image shows possible connectivity areas.

Appendix 4: Habitat Concentration Areas and Fracture Zones



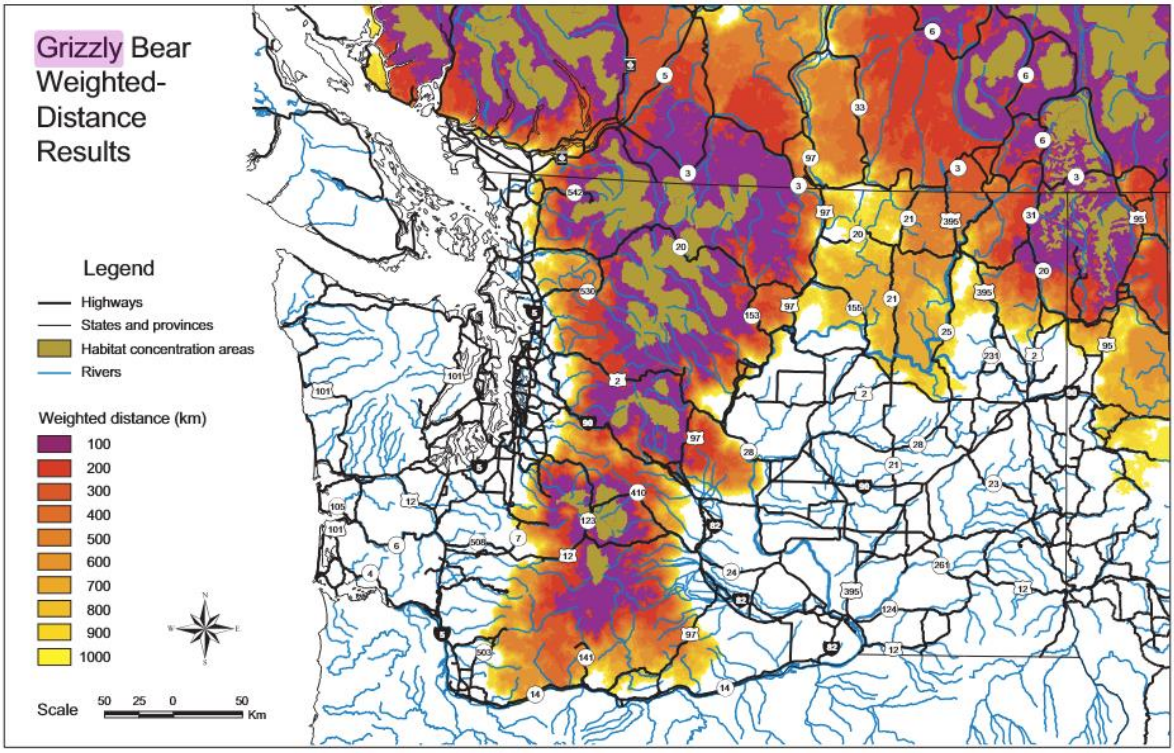
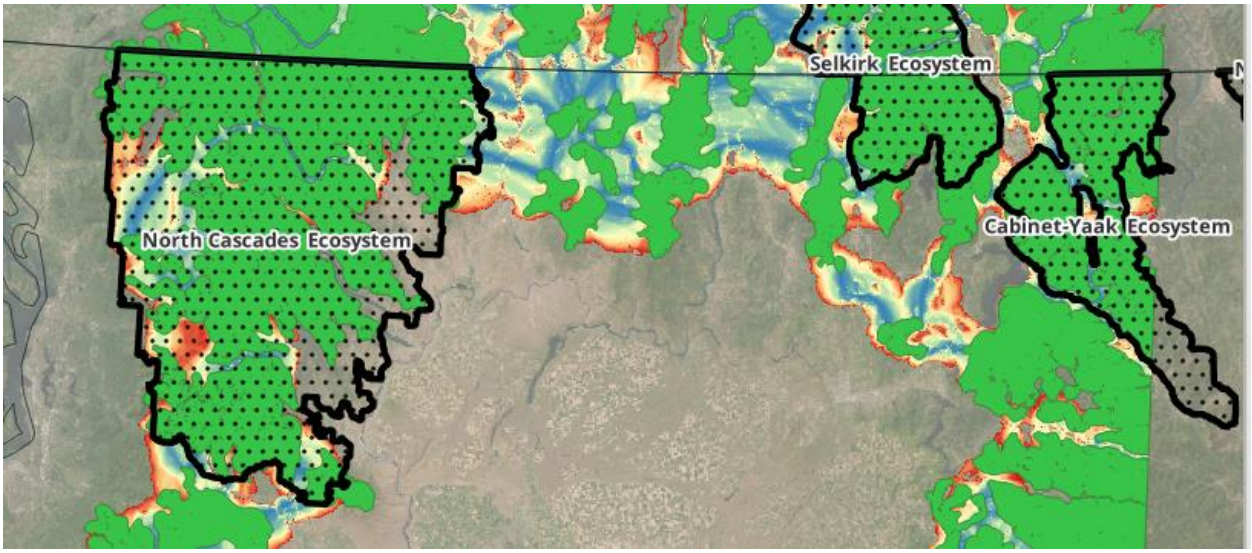


Figure 20—Weighted distance from habitat concentration areas for the grizzly bear model. Areas within 100 km weighted distance are expected to be accessible to short- and medium-distance movements. Areas beyond 1000 km are expected to be impermeable to movement.

The above maps show fracture zones and areas where grizzlies could disperse between the SE and NCE and from the NCE to the BC North Cascades Unit and south of I 90. (Singleton et al, 2002).

Potential connectivity areas in general are illustrated in Krosby et al (2015) show potential corridors that may provide connectivity for grizzly bears based on Focal Species and Landscape Integrity modeling. While not directly comparable, Krosby et al (2015) also provided a black bear habitat and Least Cost Corridor Network Analysis that shows connectivity for black bears between the SE and NCE, see map below.

Krosby et al (2015) showing potential dispersal corridors for focal species and using a landscape integrity index. FS = Focal Species, LI = Landscape Integrity.



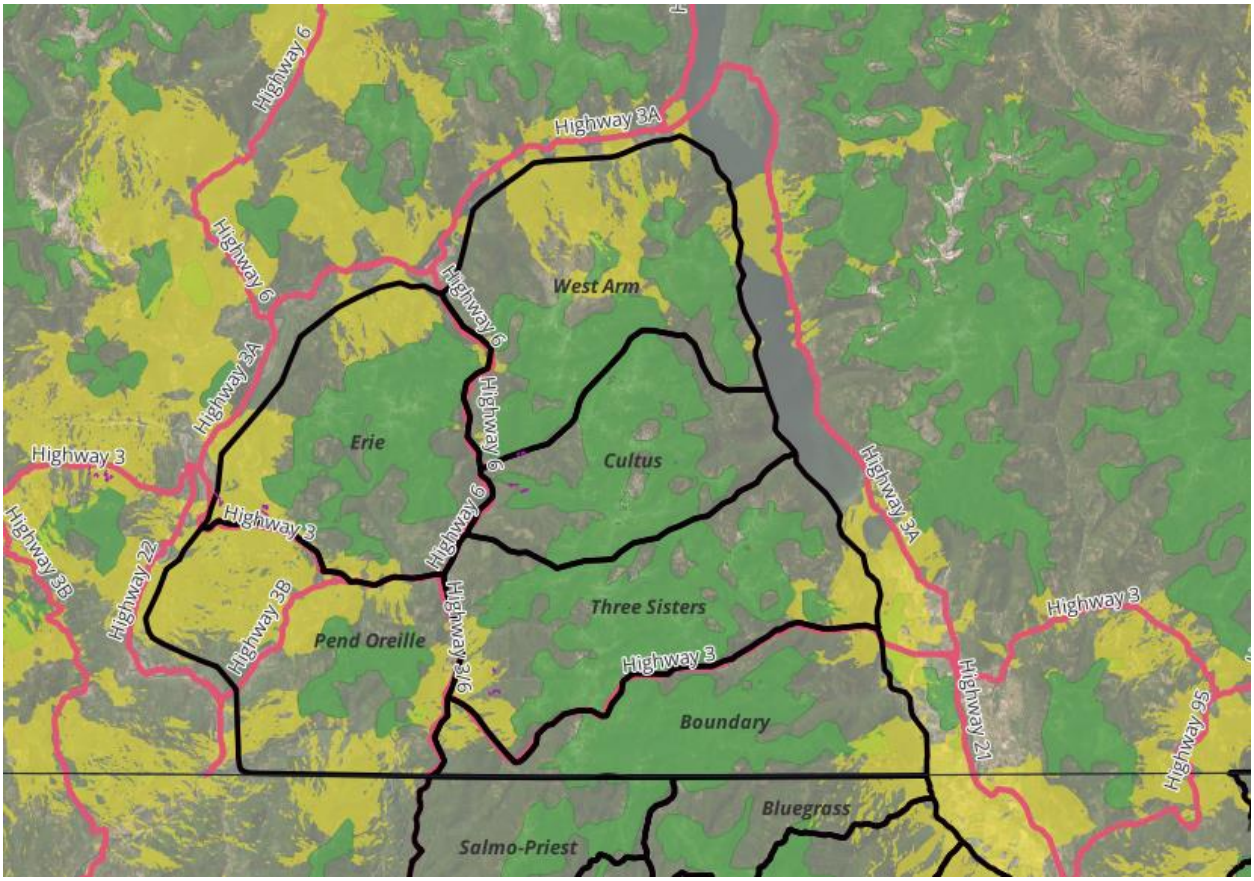
Krosby et al (2015) Least Cost Modeling of black bear habitat (green) and least cost corridors superimposed between the SE and NCE. Blue shades show the least resistance for black bears. While not directly comparable to grizzly habitat connectivity, it does show some potential areas of connectivity in BC and the US with blue shade having the least resistance.

Even though the SE is small, there is no real reason why cooperative recovery areas should not be expanded into BC for the Yaak portion of the CY and NCE like the Selkirks.

Selkirk Ecosystem, B.C. Connectivity

The image below shows the BC highway systems surrounding the British Columbia portion of the SE and crossing the SE interior. Highway 3 is a major east-west route in BC. Proctor's (2015) corridors are shown in yellow. Turnock has the opinion that there is increased immigration across BC highway 3 and 3a. However, use of major highways is also increasing suggesting that wildlife overpasses may be necessary. The Purcell and BC Yaak grizzly population also provides some connectivity between the Selkirk and CYE. Although the BC Yaak area is highly roaded.

"In recent years, natural immigration across Highways 3 and 3 A into the SE and CYE from the Purcell Mountains to the north has increased due in part to habitat conservation and conflict prevention along key migration corridors (Proctor et al. 2018, 2022)." (Turnock et al, 2024)



Connectivity Between the North Cascades and British Columbia

The North Cascades Grizzly Bear Population Unit (GBPU) in Canada is adjacent to the U.S. portion of the North Cascades Ecosystem (NCE) but has seen no confirmed grizzly bear sightings in over a decade and lacks known reproduction (NCE Experimental Population, 2024, p. 37). The nearest viable grizzly population in Canada is in the Stein-Nahatlatch GBPU, which has very low estimated bear density and genetic diversity (see map below and the Sincgleton connectivity map in the SE section.)

In British Columbia, the Fraser River Valley, Trans-Canada Highway, and railways serve as major barriers limiting grizzly bear movement from the Stein-Nahatlatch GBPU into the North Cascades GBPU (NCE Experimental Population, 2024, pp. 37-38). The Canadian government is considering augmenting the grizzly bear population in the

Canadian portion of the NCE, which could improve cross-border connectivity (NCE Experimental Population, 2024, p. 38).

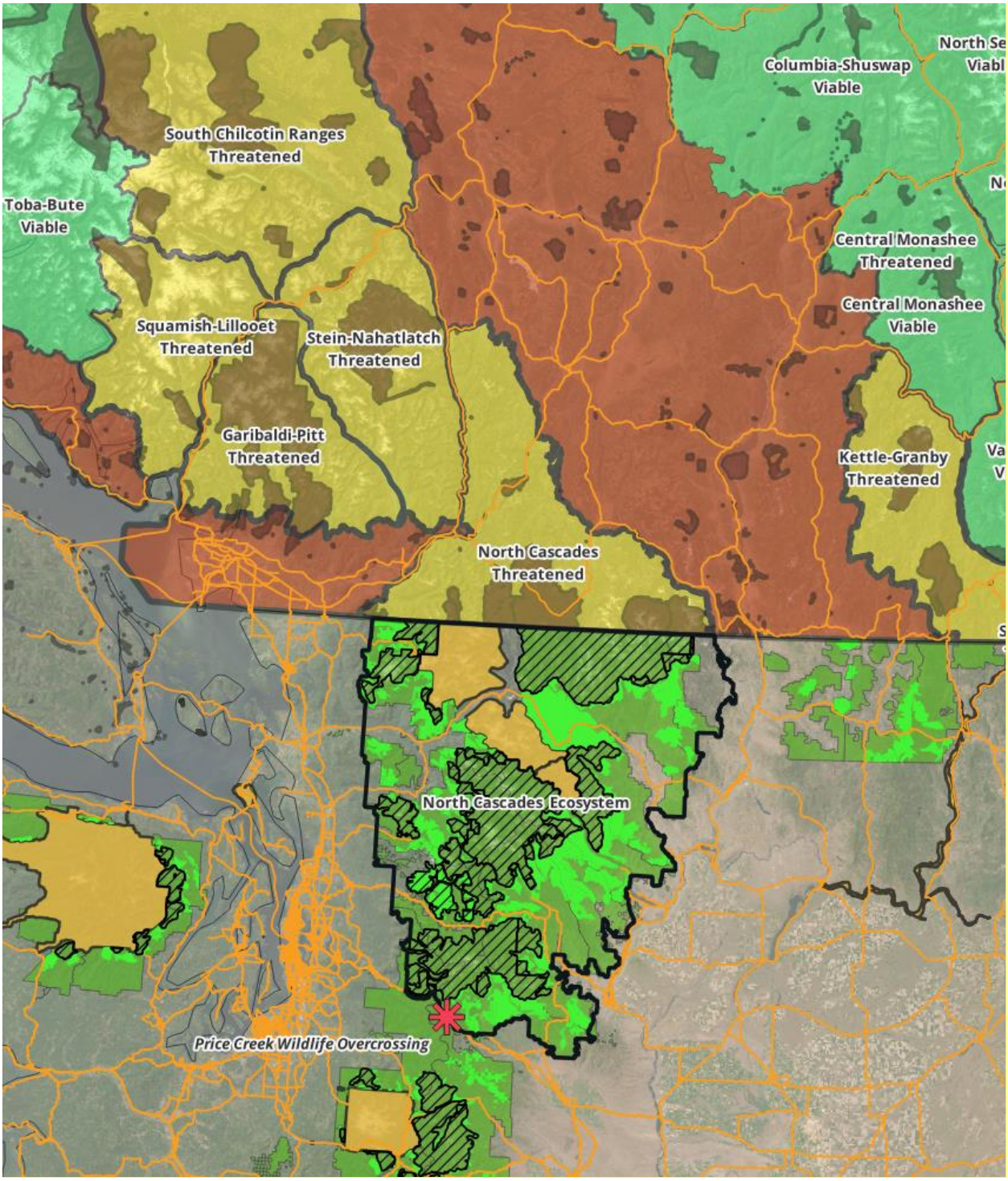
Connectivity South Across I-90 at Snoqualmie Pass

High traffic volumes on I-90 present a significant barrier to wildlife movement, particularly for species with large home ranges like grizzly bears. Research has shown that grizzly bear crossings significantly decline when highway traffic exceeds 100 vehicles per hour (Mattson Report, p. 61). The majority of successful wildlife crossings on I-90 in Idaho and Montana occur during low-traffic periods, primarily between 2 AM and 6 AM, which suggests limited opportunities for grizzly bears to cross safely (Mattson Report, p. 62). The Snoqualmie Pass wildlife bridge on I-90 (Price Creek Wildlife Crossing) is designed to facilitate safe passage for wildlife.

Habitat Fragmentation and Road Density in the North Cascades

Human Activities and Fragmentation: The North Cascades Ecosystem has been heavily impacted by human developments, including road building, recreation, and increasing motorized access (Grizzly Bear Revised Listing Rule, p. 141). Rising recreational use in the North Cascades, particularly in high-traffic areas like Ross Lake, Cascade Pass, and the Enchantments, can lead to habitat displacement and increased mortality risk (Grizzly Bear Revised Listing Rule, p. 131).

Livestock Grazing and Grizzly Bear Conflicts could occur. As of 2023, there are 24 cattle and 9 sheep allotments on the Okanogan-Wenatchee National Forest in the North Cascades Recovery Zone (Proposed Rule, Federal Register, p. 4254). Livestock allotments increase the risk of depredation conflicts, which often result in lethal removal of grizzly bears.



The map above shows connectivity for the NCE north into the BC North Cascades Grizzly Management Unit where it is listed as threatened and south of I-90. Brown polygons in BC are parks, reddish areas are where grizzlies are extirpated. In the US, National Parks are tan, USFS land is dark green and roadless areas are bright green. Wilderness areas are black hatched.

III. *We agree that individual populations are not valid DPS's, but the Service must expand the boundaries of its proposed DPS.*

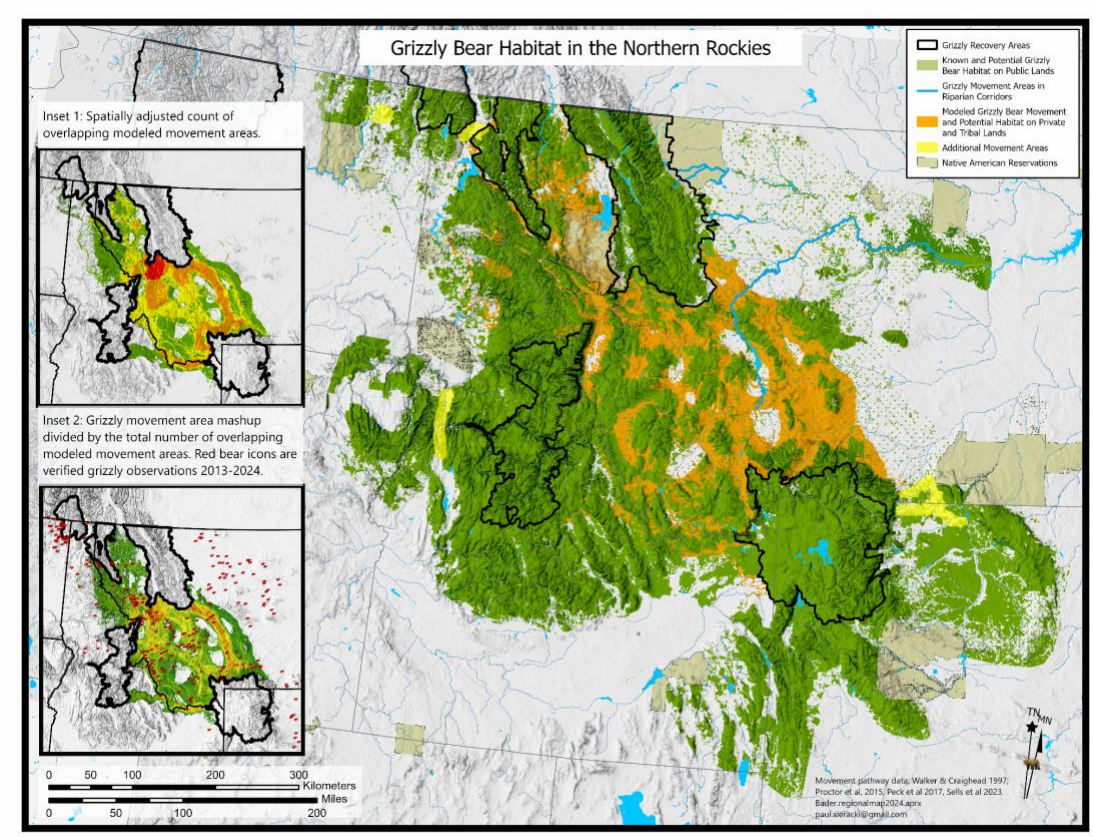
We agree with the Service's determination that the petitioned GYE and NCDE grizzly bear populations are not valid listable entities on their own, and we support the Proposed Rule's focus on recovering a unified population in the Northern Rockies and Washington. The Proposed Rule's conclusion that the lower-48 is a DPS is also supported by the Service's five-year status review in 2011, where the Service concluded that an analysis of the best scientific and commercial data available demonstrated that "the lower 48 State grizzly bear population is discrete and significant, [and thus] warrants recognition as a DPS under the ESA." USFWS SSA 2011, p. 12.

However, the proposed DPS is inadequate. It leaves out critical areas which are suitable grizzly bear habitat and where they might naturally occupy in the future. Further, all grizzlies in the lower-48 should be protected regardless of where they roam. It is nonsensical for a grizzly bear to lose protection because they wander over an invisible line. Therefore, the DPS boundary must provide abundant room for grizzlies to roam well beyond where the Service currently posits they might occur or might soon occur.

To protect all grizzly bears in the lower-48, the Service should have considered changing the listing to "wherever found," as it did for Canada Lynx. Alternatively, the Service should have also considered listing a 'western DPS,' encompassing the entire historic range of the grizzly bear in the lower-48.

A. *The DPS boundaries should encompass currently suitable and potentially suitable habitats.*

The Service failed to include several areas of habitat in the lower-48 that are suitable for grizzly bears. For example, the northeast corner of Oregon contains potential grizzly bear habitat on public lands, indicated by the color green on the map below:



Bäder M, P Sieracki. 2024b. Spatiotemporal Dimensions of Grizzly Bear Recovery. Technical Report 02-24. Missoula, MT. 37p. Available here. The green coloring indicates 'known and potential grizzly bear habitat on public lands.'

The Proposed Rule explains that the Service drew the new DPS boundary lines to encompass all grizzly bears where they are now and where they are likely to be in the near future based on habitat suitability and food availability (Proposed Rule, pp. 37-8). Therefore, the Service should extend the final DPS boundary line beyond what is proposed, because the Service left out suitable habitat. The proposed DPS inappropriately rules out natural recolonization of grizzly bears into prime areas of habitat including the Uinta Mountains and northeast Oregon, specifically Hells Canyon, the Blue Mountains, and the Greater Wenaha-Tucannon areas. We urge the Service to expand the final DPS boundary to include all suitable habitat on the map above.

Another issue with the proposed DPS boundaries is that the Service discounts some historic habitat because native prey have been replaced with domestic livestock, and therefore determined that this land is no longer suitable (Proposed Rule, p. 38). First, grazing on public lands is a privilege, not a right. So habitat that would be suitable but for the presence of domestic livestock should absolutely not be discounted as unsuitable. Second, other domestic livestock like chickens can be protected through a variety of non-

lethal coexistence measures, and so this type of land should also not be discounted. See more in section IV on grizzly-livestock coexistence.

B. *The DPS boundaries must be expanded well beyond where the Service currently believes grizzlies may occur.*

The Proposed Rule explains that the Service is adjusting the DPS boundaries because the current "broadly described listing created confusion because it includes areas outside of the historical and current range of the grizzly bear." Proposed Rule, p. 37. The Proposed Rule also explains that the Service evaluated potentially suitable habitats based on a variety of factors including the "potential to maintain a self-sustaining population." Proposed Rule, p. 39.

First, expanding the DPS boundaries beyond what is currently proposed would not create confusion. In fact, expanding the boundaries to align with state boundaries, for example in Idaho and Wyoming, would be less confusing than the boundary lines chosen. Second, a grizzly bear's protected status should not depend on if that grizzly bear moves into potentially suitable habitat where it would have "the potential to maintain a self-sustaining population." A grizzly bear is a grizzly bear, and should remain protected regardless of where it goes. If the Service is truly just clearing up confusion with the new DPS boundaries, then it must be incredibly cautious to make sure that the boundaries will encompass all bears now and into the future. On top of that, bears on the periphery of ecosystems and populations are essential for genetic and demographic connectivity. Refer to section II on natural connectivity. These dispersing bears have an outside role in the population because they are crucial for achieving connectivity. Peck et al 2017.

C. *The Service lacks the authority under the ESA to delist the GYE or NCDE from the current DPS or future DPS's, and allowing for such authority would undermine the procedural process created by the ESA.*

Carving out subpopulations, such as the GYE or NCDE, and delisting them individually is arbitrary and illegal because the Service cannot "delist" a grizzly bear population segment that was never previously listed. *Cf. Humane Soc'y*, 76 F. Supp. 3d at 113; *Kempthorne*, 579 F. Supp. 2d at 17. For a distinct species to be delisted from the ESA, they first must be listed as a threatened or endangered species. 16 U.S.C. §§ 1536(a)(1), 1538(a)(1); *Humane Soc'y of the U.S. v. Jewell*, 76 F.Supp. 3d 69, 110-13 (D.D.C. 2014), *aff'd and rev'd in part by* 865 F.3d 585 (D.C. Cir. 2017). The Service only ever listed grizzlies in the lower 48 as a distinct species protected by the ESA. There was no determination that the grizzlies specifically and solely inhabiting the GYE were a distinct species; therefore, that specific segment of grizzlies was never separately listed as a threatened or endangered species.

Additionally, distinct population segments cannot be *implicitly* listed or delisted under the ESA. An illegitimate defense to this argument is that ESA listings of a particular taxon include all lower taxonomic levels, and that the Service implicitly listed a Yellowstone grizzly segment as part of the lower 48 state listing. 865 F.3d at 597 (citing 50 C.F.R. § 17.11(a) and 2008 Solicitor's Opinion citing the regulations). This argument is flawed in its use of "taxon" versus "segment."

First, the ESA and other relevant policies contain no mention of implied listings. *Humane Soc'y*, 76 F. Supp. 3d at 113. Second, and unlike the scientific basis behind taxonomy, the term "segment" is derived from statute. ER 437. Not all segments qualify as populations because a population must be discrete and significant "to the taxon as a whole." Id. Grizzly bears in the GYE do not meet this standard. *See*, *e.g.*, Proposed Rule, p. 17-18 (explaining that the GYE and NCDE grizzly bear populations are not valid listable entities because populations have expanded outside of the estimated occupied ranges). Third, and finally, allowing for implicit delisting of segments would undermine the ESA and its notice and comment requirements. *Humane Soc'y*, 76 F. Supp. 3d at 113. Concluding such an interpretation would allow the Service to implicitly delist any species they simply designate as a "segment." *Greater Yellowstone*, 672 F. Supp. 2d at 1125 n.9.

IV. *The proposed 4(d) take exemptions do not provide for the conservation of the species and therefore violate the ESA.*

For threatened species, Section 4(d) of the ESA provides that the Service shall promulgate regulations they deem "necessary and advisable to provide for the conservation of such species," including regulations that apply some or all of the Section 9 prohibitions on take. Ctr. for Biological Diversity v. Salazar, 695 F.3d 893, 910 (9th Cir. 2012) (emphasis added) (citing 16 U.S.C. § 1533(d)); see also 16 U.S.C. § 1538(a)(1)(G) (making it unlawful for any person to violate regulations promulgated under Section 4(d) for threatened species).

Section 4(d) gives the Service broad discretion to promulgate regulations for threatened species, including provisions pertaining to the amount and types of take allowed. But such discretion is not absolute: it "is limited by the requirement that the regulations [the Secretary] is to issue. Must provide for the conservation of threatened species." Sierra Club v. Clark, 755 F.2d 608, 612-13 (8th Cir. 1985); see also Fund for Animals, Inc. v. Turner, 1991 WL 206232, at *3 (D.D.C. Sept. 27, 1991) (noting the same).

To provide for the "conservation" of the species means "to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter

are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking." 16 U.S.C. § 1532(3). The term "conservation" is broader than merely providing for the survival of a threatened species. *Gifford Pinchot Task Force v. USFWS*, 378 F.3d 1059, 1070 (9th Cir. 2004). Conservation means the species recovers to the point where it may be delisted. Id.

The Proposed Rule violates the ESA because it does not provide for the conservation of the species. Here, the Proposed Rule expands the already expansive means by which grizzly bears can be killed, particularly on livestock allotments and in areas the Service does not deem to be 'important for recovery or connectivity.' Management removals for livestock conflict are already a leading cause of death for grizzly bears under the current 4(d) rule. Increasing the number of bears that can be killed, and allowing states and individuals to kill them in addition to the federal government, will simply lead to more dead bears. This is the opposite of conserving the species.

A. *The Proposed Rule further liberalizes lethal removal for livestock conflict and fails to adequately incorporate nonlethal methods of reducing conflict and promoting coexistence.*

1. *Proposed 4(d) Rule and SSA downplay previous impacts from livestock and fail to adequately address increased mortality under the new rule.*

In an apparent attempt to provide detail on the full causes of grizzly bear mortality, both the SSA and the Proposed Rule obscure the high percentage of dead grizzly bears that result from management removals carried out at the behest of livestock producers. See 90 FR 4250, Table 1. From 2002 through November 2024 there have been at least 195 grizzly bear deaths due to livestock conflict in the GYE. USGS 2024 (see chart & table below).[1] Lethal management removals due to livestock conflict – authorized under the existing 4(d) rule – have consistently been a leading source of human-caused mortality for grizzlies in the GYE. Including available data from 2024 – now the deadliest year on record for GYE bears – mortality due to livestock conflict represents nearly 45% of all management removal bear deaths in the GYE.[2] Notably, in the record-breaking 2024 season, lethal

[1] This figure is derived from combining those provided in the Proposed Rule and USGS data available for most of 2024.

[2] Similar numbers are found in the NCDE, where roughly 41% of all lethal management removals from 2002 to 2023 were due to livestock conflict.

management removals as a result of livestock conflict were *double the ten-year average* for this pervasive and persistent cause of grizzly mortality.

Fig. 1. GYE grizzly bear mortality by cause. (Data from USGS, 2015-Nov. 20, 2024).

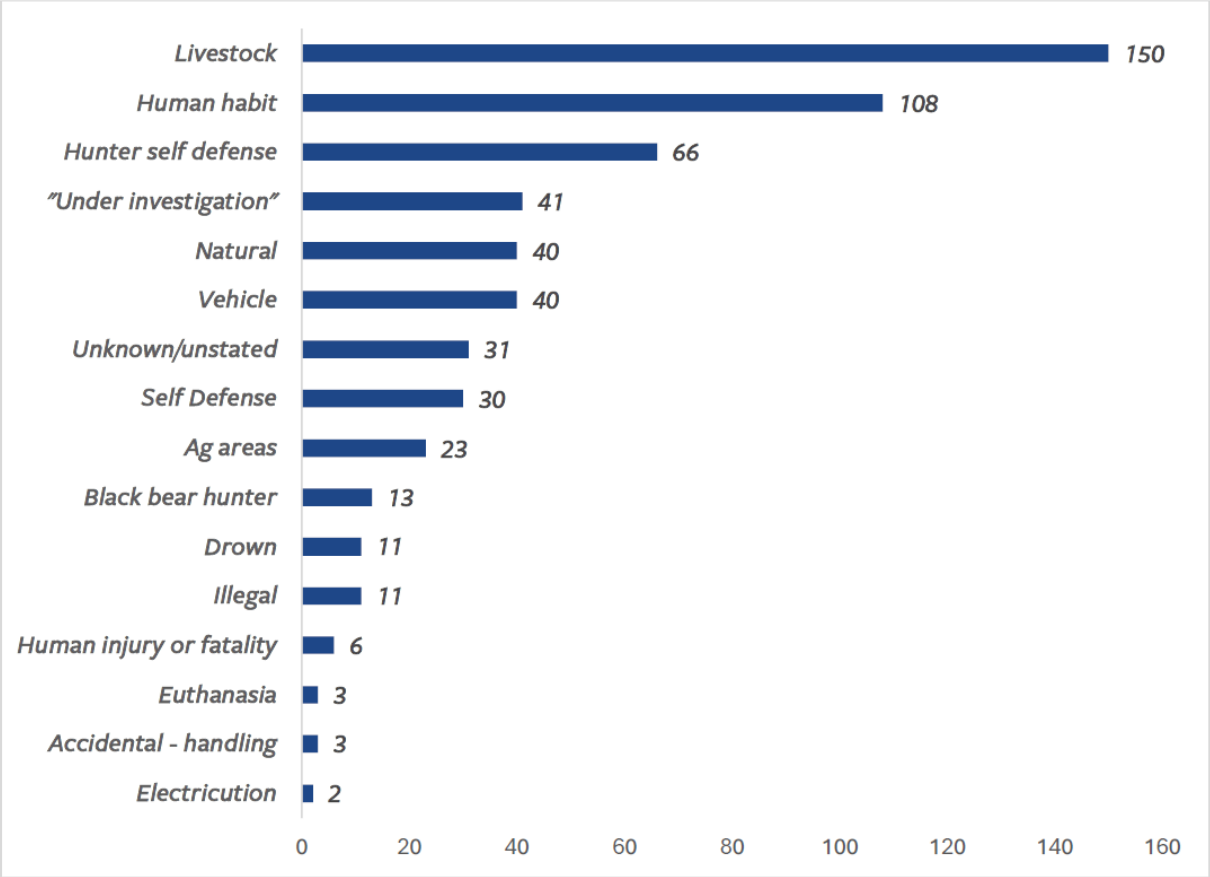


Fig. 2. Table of grizzly bear mortalities in the GYE.

Grizzly bear mortalities/removals. USGS data 2015 to Nov. 5, 2024																	
	Livestock	Human habit	Hunter self defense	"Under investigation"	Natural	Vehicle	Unknown/unstated	Self Defense	Ag areas	Black bear hunter	Drown	Illegal	Human injury or fatality	Euthanasia	Accidental - handling	Electrocution	Total
2015	15	12	12	0	3	4	5	2	0	2	0	2	3	0	1	0	61
2016	14	9	7	0	7	9	2	4	0	1	3	2	0	0	1	0	59
2017	8	9	13	0	8	3	6	5	0	2	0	2	0	0	0	0	56
2018	18	16	6	5	6	2	1	7	3	1	1	0	2	1	0	0	69
2019	15	6	8	2	2	4	1	0	1	2	0	0	0	0	1	0	42
2020	14	14	5	4	0	5	3	3	0	2	0	1	0	0	0	0	51
2021	20	13	11	3	3	3	7	1	3	0	3	2	1	1	0	0	71
2022	6	15	2	1	6	2	2	6	5	3	0	0	0	0	0	0	48
2023	12	8	2	7	3	6	4	1	3	0	1	2	0	0	0	0	49
2024	28	6	0	19	2	2	0	1	8	0	3	0	0	1	0	2	72
Total	150	108	66	41	40	40	31	30	23	13	11	11	6	3	3	2	578

Despite these sobering statistics on livestock-related management removals, both the Proposed Rule and the SSA largely downplay the impacts this major source of mortality has had on the species. In its discussion of livestock allotments and their effects on grizzly bear populations, the SSA states, without adequate elaboration, that "conservation strategies have minimized the negative impact of increased grizzly bear mortality from conflicts with livestock on public land allotments in the GYE and NCDE." USFWS 2024, p.

129. Given that under the current 4(d) rule livestock related deaths constitute roughly 45% and 41%, respectively, of all lethal management removals in the GYE and NCDE, it is difficult to see how 1) this level of wholly discretionary mortality translates into "minimized" negative impacts and 2) how the Proposed Rule with more "flexibility" for killing bears involved in livestock conflict will not compromise this supposed minimization. "Flexibility" in this context means only additional discretionary circumstances outside of threats to human life where grizzly bears may be killed and is anathema to management practices that will facilitate the connectivity and protection of the proposed DPS.

Significant downplaying of the impacts from livestock appears elsewhere in the SSA. In summarizing the impacts from livestock allotments, for instance, the Service offers the following claim that is technically correct but potentially misleading to the public: "The expanding populations in the GYE and NCDE indicate that livestock allotments and associated habitat loss are not limiting grizzly bear populations." SSA 129. While this statement may be accurate when 'limiting' is understood as the term is used within the discipline of wildlife biology, it does a poor job of conveying to the non-scientist reader the actual extent of impacts to grizzly bears from lethal management removals due to livestock grazing on our public lands.. At best, the use of this term will mislead many readers and give them the erroneous impression that livestock conflicts are, by and large, not harmful to the grizzly population. At worst, this term is intentionally being used to gloss over or otherwise obfuscate the fact that livestock – as noted above – are already a major source of discretionary management removal mortality under the current 4(d) rule. Furthermore, if the added "flexibility" described in the Proposed Rule is implemented, lethal management removals for livestock conflict will undoubtedly increase, likely to a significant degree. The Service must clarify the distinction between 'limiting' in the biological sense and 'limiting' in the everyday sense in which most readers will understand the term.

The Final Rule must first state clearly that grizzly bear losses due to livestock conflict represent a large contingent of bears annually taken out of the existing population and that, absent these completely discretionary management removals, there would be a much larger population available for dispersal and, ultimately, for recovery. Second, the Final Rule must likewise acknowledge and adequately account for the inevitable increase in bear deaths that will occur across the large proposed DPS due to the restrictions this rule would loosen in order to permit greater lethal action by individuals and federal and state agencies. There are exponentially more active livestock allotments outside of the GYE, NCDE, and other recovery zones which, when considered alongside the liberalized lethal removal provisions of the Proposed Rule, will all but ensure a large increase in grizzly bear mortality. In order for grizzly bears to have the chance to expand and reestablish genetic and habitat connectivity, these impacts must be analyzed and then addressed meaningfully in a finalized 4(d) rule.

At multiple places throughout the SSA and Proposed Rule, the Service highlights the effectiveness of livestock allotment closures, permit retirements, and grazing reductions across USFS and BLM lands within and adjacent to recovery zones. Whether touting the "minimized" negative impacts from livestock, or the general success of "conservation strategies," it is clear that the Service makes a strong connection between these grazing reductions and increased protections for grizzlies. While the level of grazing reductions that have occurred thus far have not proven to be enough to ameliorate the unacceptably high level of grizzly bear deaths still associated with livestock – as the mortality figures attest – these reductions have undoubtedly reduced the number of overall conflicts with grizzly bears. It then follows that if the Service wishes to realize these conflict reductions across the larger area now proposed as a DPS, they must export and implement this grazing reduction strategy on the many active USFS and BLM allotments spread throughout the Northern Rockies region covered by the proposed DPS. Implementing the Proposed Rule without any accompanying allotment closures, permit retirements, and AUM reductions would all but ensure failure, exposing crucial dispersing bears to lethal removal and precluding the possibility of both genetic and habitat connectivity (see sections below for detailed discussion of allotment closure, retirement, etc.).[3]

2. ***The Final Rule must place greater emphasis on coexistence with grizzly bears and conflict prevention and reduction rather than authorizing more liberal killing.***

The Service must address within the Final Rule the multifaceted impacts of livestock grazing on the future of grizzly bears throughout the proposed DPS. More specifically, the Service must incorporate provisions that reduce or eliminate livestock grazing in federally managed grizzly bear habitat and, for areas where livestock grazing will occur, the Final Rule must mandate the inclusion of non-lethal conflict reduction measures in federal grazing permits. Given that livestock conflict continues to be a leading and disproportionate cause of grizzly bear mortality, as discussed above, proactively incorporating these measures into the Final Rule is essential to the return of a healthy, self-sustaining grizzly bear population.

[3] The Proposed Rule parses bears out into classes to essentially delineate which are more or less expendable, with as yet to be defined geographical boundaries in some cases (ex. those bears "outside areas important to recovery and connectivity"). Without those boundaries available to members of the public commenting here, it is difficult to assess specific impacts to connectivity and thus impacts to recovery of the species. It is assumed at this point that those areas deemed "important" will have to include acreage on multiple National Forests and BLM Districts, given the extent of the proposed DPS.

In particular, the Final Rule must make changes to address the following issues regarding livestock grazing and grizzly bears:

- the overlapping ecological niches occupied by livestock and grizzly bears and the impacts of livestock grazing on the availability of food for grizzly bears;
- the changing nature of grizzly bear depredation on cattle during the last twenty years, with the attendant implications for forecasting risk and impacts for grizzly bears;
- the sex-age composition of grizzly bears involved in depredation events and the demographic consequences of lethal management on the population of grizzly bears more broadly; and
- the full range of possible responses to livestock depredation, most notably non-lethal conflict reduction measures and the retirement and/or closure of livestock grazing allotments.

Much of the following discussion incorporates evidence from studies of grizzly bears in the GYE. This research is indicative more generally and must be considered in formulating the Final Rule given the amount and quality of research into grizzlies that researchers have conducted in the GYE for over five decades, the key role that the GYE plays in the proposed DPS, and the potential for bears from the GYE to disperse throughout the DPS in the coming years.

3. *The Final Rule must account for the ecological conflicts between livestock and grizzly bears and not dismiss these conflicts arbitrarily.*

First, the Proposed Rule effectively dismisses without considering the direct competition between grizzly bears and livestock for food sources. The Proposed Rule merely contends that "[t]he effects of displacement and direct competition with livestock for forage are considered negligible to grizzly bear populations because, even with direct grizzly bear mortality, current levels of livestock allotments have not precluded grizzly bear population growth and expansion." 90 FR 4258. That grizzly bears have, to date at least, been able to overcome this competition, and the resulting human-caused and avoidable mortality that it generates, does not mean that the overlap in the ecological niches occupied by livestock and grizzly bears is merely "negligible." Rather it suggests in equal measure that this unnecessary competition and attendant mortality is contributing to the inability of grizzly bears to overcome the connectivity issues posed by human settlement and to naturally recolonize and become self-sustaining.

Grizzly bears eat copious amounts of the same grasses, sedges, and forbs consumed by cattle even as the energetic benefits of this grazing are unclear. Mealey 1975, Mattson et

al. 1991a, Mattson 2000, Mattson et al. 2004. Moreover, grizzly bear exploitation of herbaceous foods is highly sensitive to the density and structure of plants and thus likely to be affected by even modest levels of utilization by cattle. Rode et al. 2001. Cattle grazing can also have negative effects on bear foods, such as the abundance of species like cow-parsnip, with these effects aggravated by cattle grazing in the month of June. Mealey et al. 1977; Irwin & Hammond 1985; Stivers 1988.

Not all bear foods are, in fact, equal. Animals, including vertebrates and insects, are not only 2-4 times more digestible by bears compared to vegetal foods, but also richer in fat and protein. Among the vegetal foods, roots and fruits are more digestible than foliage and offer higher concentrations of starch and sugar. Mattson et al. 2004.

These differences in food quality together with landscape-level differences in food quantity and distribution unambiguously affect the fitness, physical condition, and survival of bears. Hilderbrand et al. 1999; Rode & Robbins 2000; Felicetti et al. 2003; Haroldson et al. 2006; Robbins et al. 2007; Erlenbach et al. 2014; López-Alfaro et al. 2015; McLellan 2015; Hertel et al. 2018; Hilderbrand et al. 2018. Cumulatively, these demographic and physiological processes manifest in orders-of-magnitude differences in grizzly bear densities that reflect diets and overall habitat productivity. Mowat et al. 2013.

Although bears are omnivores they are not indifferent to the quality and quantity of available foods. Bears efficiently select diets that optimize energetic gain and intake of seasonally important nutrients while minimizing exposure to perceived risk. Reinhart & Mattson 1990; Mattson 1997a, 2000, 2001, 2002, 2004; Welch et al. 1997; Rode et al. 2001; Mattson et al. 2002; Ben-David et al. 2004; Gende & Quinn 2004; Quinn et al. 2017; Lincoln & Quinn 2019. A handful of high-quality foods consequently dominate the seasonal diets of bears, with exact dietary composition depending on seasonal and regional availability of foods. Among many such examples, huckleberries dominate bear diets in southeast British Columbia and northwest Montana (Proctor et al. 2023); buffaloberries and hedysarum roots dominate diets of bears in Alberta (Munro et al. 2006); and spawning salmonids dominate diets of bears in coastal Alaska (Mowat & Heard 2006).

Differences among foods arise from characteristic densities and architectures at foraging sites, the energetic expenses of extraction, and per gram densities of energy and nutrients—and how all of this varies seasonally and annually. Mattson et al. 2004. Population density, as such, is not a mechanism that directly limits population growth. Krebs 1995, 2002. Instead, nearly all effects of conspecific density are mediated through competition for shared foods, natural mortality caused by starvation or conspecific predation, increases in vulnerability to predators (e.g., humans) caused by conspecific

displacement, and interactions of all with carrying capacity, which axiomatically varies in time and space.

The DPS sought in the Proposed Rule will continue to be hamstrung and connectivity hampered if livestock competition with grizzly bears is allowed to continue unabated. The Final Rule must address this competition with a fresh analysis that takes into account the landscapes that are (or will be) included in the proposed DPS boundary. There are far, far more public lands grazing allotments outside of the GYE & NCDE than there are within these largely protected recovery areas, and it would be unrealistic and unreasonable for the Final Rule not to take this critical difference into account. If bears from these areas are to expand, repopulate areas like the Bitterroot Ecosystem, and establish connectivity with other populations, they will have to run this gauntlet and face even stiffer competition from livestock for forage.

Second, regarding the possibility for conflict with livestock grazing, the Final Rule must account for the potentially substantial importance of meat from vertebrates in grizzly bear diets, the magnitude and contingencies of predation by grizzlies on ungulates of all species, and the relevance of these phenomena to potential depredation of cow-calves within the proposed DPS.

Tissue from large hooved herbivores (i.e., ungulates) is a primary source of energy and nutrients for bears in many ecosystems, especially in colder, less productive, or more open regions where meat accounts for between 50-80% of assimilated nutrients. Jacoby et al. 1999; Mowat & Heard 2006; Vulla et al. 2009; Bojarska & Selva 2012; Milakovic & Parker 2013; Niedziałkowska et al. 2019. In most regions, brown and grizzly bears obtain almost all this meat from native ungulates, whereas in some areas, such as along Montana's Rocky Mountain Front, livestock are the primary source. Aune & Kasworm 1989. Consumption of fat- and protein-rich animal tissue by bears is primarily constrained only by availability and the need to balance nutrients. Rode & Robbins 2000; Robbins et al. 2007; Erlenbach et al. 2014; Nielsen et al. 2017.

Much of the meat obtained from ungulates during late spring and early summer comes from preying on calves, with bear predation often taking a heavy toll on survival and recruitment of moose, elk, caribou, and muskox calves. Ballard et al. 1981, 1991; Larsen et al. 1989; Adams et al. 1995; Bertram & Vivion 2002; Arthur & Del Vecchio 2017; Brockman et al. 2017. Even so, grizzly bears will prey on vulnerable animals of any size during any season, including adult moose and elk. Cole 1972; Ballard et al. 1981; Schleyer 1983; Craighead et al. 1995; Mattson 1997b; Reynolds et al. 2002; Kermish-Wells et al. 2018. Predatory bears clearly optimize to maximize reward while minimizing risk, with vulnerability arising from

several factors, including small size, docile or inattentive conspecifics, lack of vigor, or lack of agility.

Male brown and grizzly bears consistently eat more meat than conspecifics or sympatric black bears. Mattson 1997b, 2000; Hilderbrand et al. 1999b; McLellan 2011; Milakovic & Parker 2013; Schwartz et al. 2014. Even so, diets of male and female grizzlies converge on consuming substantial amounts of meat if alternate high-quality foods are not available. Mattson 1997b; Schwartz et al. 2014. Aside from differences attributable to sex and age, some bears clearly become more proficient than others at preying on larger ungulates such as adult elk and moose weakened by winter weather or the fall rut. Gunn & Miller 1982; Schleyer 1983; Reynolds et al. 2002; Rauset et al. 2012.

Bears are primarily ambush predators that exploit opportunities provided by vegetation and topography to closely approach prey – including livestock – or natural impediments such as snow and water that provide them with comparatively greater mobility. Cole 1972; Gunn & Miller 1982; Bjorge 1983; Schleyer 1983; Mattson 1990; Craighead et al. 1995; Cristescu et al. 2014; Doan-Crider et al. 2017. Consequently, bears tend to preferentially prey on animals such as forest-dwelling moose that are more vulnerable to ambush. Mattson 1997b; Niedziałkowska et al. 2019. Alternatively, bears will use smell and area-intensive searches to seek out very young calves using immobility for their defense. French & French 1990; Gunther & Renkin 1990; Hamer & Herrero 1991; Blanco et al. 2011. Even so, calves are typically vulnerable to bear predation for only about 10-45 days of age largely because neonates of native ungulate species rapidly develop speed and agility. Ballard et al. 1991; Larsen et al. 1989; Adams et al. 1995; Swenson et al. 2007; Griffin et al. 2011; Brockman et al. 2017.

In many respects, cow-calves are ideal prey for brown and grizzly bears, especially prior to mid-July. Optimal-sized prey for grizzly bears of average weight (140-180 kg) is in the range of 95-120 kg – the approximate weight of June cow-calves born during February. Vézina 1985; Bourdon & Brinks 1982; Jakubec 1983. Cow-calves are also likely to be much more vulnerable than even 1-month-old native ungulates simply because they are less agile and, in the case of Angus cows, bred to be docile – a trait accompanied by lessened vigilance and diminished encephalization (i.e., intelligence) compared to wild ungulates. Haskell et al. 2014; Linnell et al. 1999; Kleuver et al. 2008; Flörcke & Grandin 2013; Balcarcel et al. 2021. These characteristics hold not only for cow-calves but also for attendant adults, which renders cow-calves vulnerable to bear predation even among other cattle.

The absolute as well as comparative vulnerability of cow-calves explains the pervasive tendency of bears to kill many more calves than adults on public as well as private rangelands worldwide. Murie 1948; Dorance 1982; Horstman & Gunson 1982; Bjorge

1983; Mattson 1990; Doan-Crider et al. 2017. In the GYE, for instance, calves comprised over 70% of total cattle losses to grizzly bear predation during 2012-2021 – nearly 15-fold more than losses of adult cows present in comparable numbers. Van Manen et al. 2013-2022.

The potential severity of human-perpetrated impacts arising from conflicts over grizzly bear predation on vulnerable cattle is highlighted by both history and current patterns of grizzly bear density and survival. Cattle flooded into California and the Southwest during the 1800s, resulting in heightened levels of grizzly bear predation on livestock, and consequent persecution by local people leading to the extirpation of grizzly bears in these regions. Storer & Tevis 1963; Brown 1985; Mattson 2022. Current distributions and densities of grizzly bears in North America continue to be negatively correlated with cattle densities, consistent with higher mortality rates of GYE grizzly bears on public land grazing allotments. Mowat et al. 2013; Merrill & Mattson 2003.

Grizzly bears in Yellowstone, for instance, have long been known to eat more meat than any other grizzly bear population at mid-latitudes, accounting for >50% of assimilated nitrogen averaged over all bears and >70% of assimilated nitrogen for adult males. Mattson et al. 1991a; Green et al. 1997; Mattson 1997b; Hilderbrand et al. 1999b; Schwartz et al. 2014. Despite preying heavily on elk calves during mid-May to mid-July, most meat obtained by bears from predation historically came from adult ungulates, including bull elk and moose during the fall, and winter-weakened animals during the spring. Mattson 1997b.

This surprisingly heavy predation on vulnerable larger ungulates comports with the tendency of bears to maximize food reward within an acceptable range of risk of injury from prey, and further suggests that cow-calves would be and are optimal prey for adult grizzly bears.

Livestock grazing has been and remains a significant threat to grizzly bears and represents both a leading cause of their mortality and an impediment to achieving the goals set out in the Proposed Rule. Livestock will only create more conflict with grizzly bears as they expand outside the comparatively safe confines of the GYE and NCDE into areas with less protective designations for public lands than wilderness or national park status. The Proposed Rule's tepid attempt to address livestock issues will doom grizzly bears to continued and heightened conflict and mortality. The Final Rule can and must do more to promote the closure of vacant livestock grazing allotments and the voluntary phasing out of other allotments and, at a minimum, should extend the standards that have help to reduce livestock-grizzly bear conflict in the GYE throughout the boundaries of the proposed DPS.

Third, the Proposed Rule does not account for the evolving nature of livestock-grizzly bear conflict and the associated risks and impacts for grizzly bears, including how the human response to depredation shapes the sex-age distribution of the grizzly bear population. The nature and patterns of grizzly bear depredation on livestock has evolved over the last quarter century, and the Final Rule must address this development in the context of the proposed DPS. Livestock grazing is a far more prevalent land use on National Forests and BLM lands outside of the GYE and NCDE than within these recovery zones and the Final Rule must take more affirmative steps to address potential conflicts before they occur than those set out in the Proposed Rule.

Examining longer-term patterns of grizzly bear mortality associated with depredation-related conflicts, removals of grizzly bears in the GYE because of predation on livestock shifted after 1998 from incidents predominantly involving depredation on sheep to incidents almost exclusively (>90%) related to cow-calf depredations. Schwartz et al. 1999-2011, Van Manen et al. 2012-2023. Closing or converting sheep allotments may represent an initial response, but the evidence demonstrates that such moves are not sufficient to address the issues created by the livestock grazing allotments that the federal government has elected to place in grizzly bear habitat.

More important than this shift from conflicts involving sheep to conflicts involving cattle, the sex and age composition of bears killed because of livestock-related conflicts changed from predominantly (>60%) adult male grizzly bears prior to 2018 to predominantly other sex-age classes thereafter. Even more problematic from a demographic perspective, the proportion of female deaths doubled from around 20% prior to 2016 to nearer 40% after 2020. Of these, roughly half were reproductive-aged females. Schwartz et al. 1998-2011, Van Manen et al. 2012-2023. This critical demographic trend has obvious impacts on the future population of grizzly bears that the Final Rule must analyze in the context of the proposed DPS.

This substantial increase in female mortality resulting from retaliations against predation on cow-calves compromises prospects for the grizzly bear population for two key reasons. For one, growth of brown and grizzly bear populations has repeatedly been shown to depend on high survival rates among females – especially reproductive-aged females. Knight & Eberhardt 1985; Wiegand et al. 1998; Schwartz et al. 2006; Mace et al. 2012; Gosselin et al. 2015. And, for another, growth rate of the GYE population substantially declined towards stasis around 2008, concurrent with terminal declines of whitebark pine and marked increases in consumption of meat from anthropogenic sources. Van Manen et al. 2023.

The increasing representation of females among bears killed to prevent or retaliate for livestock depredation is indicative of a convergence of male and female bear diets on meat obtained under risky conditions, all of which reflects major environmental change in the GYE and elsewhere since roughly 2005. More importantly, there is good reason to think that female grizzly bears will continue to comprise a large portion of bears killed because of future livestock-related conflicts, with critical implications for anticipating the composition of grizzly bear deaths throughout the proposed DPS boundaries.

A considerable body of scientific evidence demonstrates that increasing human activity, whether near or far, has predictable, negative effects on grizzly bears. Accordingly, the Final Rule must account for the cumulative and increasing impacts on grizzly bears attributable to changes in the natural and human environments, including the effects of livestock grazing.

4. ***The Final Rule Must Account for and Address the Critical Implications of the Unavoidable Conflict between Livestock Grazing and Grizzly Bears for the Future of the Species Throughout the Proposed DPS.***

Accounting for and responding to the impacts of livestock grazing is critical for the survival of grizzly bears as a species and in the proposed DPS in particular. The human response to the unavoidable conflicts between livestock and grizzly bears will be pivotal in determining whether this species recovers a viable population or resumes its prior decline.

According to the current scientific consensus, long-term viability of populations is best defined in terms of conditions required to achieve roughly 99% probability of persistence for a period of approximately 40 generations. Reed et al. 2003; Frankham & Brook 2004; Reed & McCoy 2014. For grizzly bears, with average generation lengths of approximately 10 years, this time frame equates to around 400 years.

Given this definition, current research suggests that for a species such as the grizzly bear, with a low reproductive rate and a low ratio of effective to total population size, around 2,500-9,000 animals in a contiguous inter-breeding population are needed to attain long-term evolutionarily meaningful viability. Lande 1995; Reed et al. 2003; Cardillo et al. 2004, 2005; Frankham 2005; Brook et al. 2006; O'Grady et al. 2006; Traill et al. 2007; Frankham et al. 2014.

We are still far from reaching this benchmark for grizzly bears in the contiguous United States. Even the most optimistic estimates for total numbers of grizzly bears in the contiguous United States are in the range of 2,100 animals, and the SSA adopts this more rosy figure. SSA 61. Yet, as the Proposed Rule acknowledges, these bears are distributed

among four isolated or partially isolated populations within the proposed DPS. Even the largest of these in the Northern Continental Divide and Greater Yellowstone Ecosystems number no more than about 1,000 bears. US Fish & Wildlife Service 2021; Van Manen et al. 2023. Achieving meaningful viability for grizzly bears in the contiguous United States will require genetic and demographic connectivity among existing populations along with full colonization of areas such as the Bitterroot Ecosystem and North Cascades Ecosystem, entailing the vigorous functioning of connectivity pathways.

The failure to adequately account for livestock grazing conflicts in the Proposed Rule will harm individual grizzly bears and adversely affect prospects for meaningful recovery of grizzly bears in the contiguous United States, primarily by impairing prospects for colonization of additional habitat and connectivity between existing populations and elsewhere in the Northern Rockies and the Pacific Northwest.

In particular, the Final Rule must address the importance of meat in grizzly bear diets, the historical reliance of immigrant grizzly bears on meat from ungulates, the extent to which grizzly bears can be formidable predators, and the vulnerability of cow-calves to bear predation. All of these factors make grizzly depredation on cow-calves in the proposed DPS likely, and the Final Rule must therefore closely consider alternatives that attempt to mitigate livestock conflict through non-lethal measures and take steps to significantly reduce or eliminate all livestock grazing in potential areas of conflict.

5. ***The Final Rule must support and encourage the closure and voluntary retirement of livestock grazing allotments.***

There is definitive evidence from the GYE demonstrating that retirement of livestock grazing allotments is the best means of eliminating or reducing depredation-related conflicts with bears. The superiority of this approach is shown by lack of depredations on retired allotments throughout the GYE (Wells 2017; Wells et al. 2019), including a cessation of depredations after retirement of the Blackrock-Spread Creek allotment on the Bridger-Teton NF, where conflicts had been chronic since before the 1930s (Murie 1948; Knight & Judd 1983; Anderson et al. 2002), and a similar ending of depredations on retired sheep grazing allotments with long histories of chronic conflict (Johnson & Griffel 1982; Knight & Judd 1983; Jorgensen 1983; Van Manen et al. 2021). The Proposed Rule recognizes the success of these measures in terms of curtailing unnecessary grizzly bear mortality in the GYE but fails to take steps to encourage the retirement of grazing permits more widely as a means of reducing livestock conflicts and fostering the population growth of grizzly bears. Though the effectiveness of permit retirement is clear, the best way to meaningfully minimize grizzly bear deaths due to livestock conflict would be to ramp up the scale and scope of retirements and closures across the proposed DPS. As

noted above, the rate of annual bear losses due to livestock is unacceptably high and constitutes one of the major causes of management removal mortality in the GYE (around 45%). Though the small amount of permit retirements and allotment closures have undoubtedly prevented some bear deaths, this tool has been grossly underutilized. At this crucial juncture, the Service must double down on the use of this tool in order to ensure the long term success and eventual recovery of grizzly bears.

Mechanisms that will reduce overall grazing throughout the DPS, particularly in the already identified recovery zones, should be a priority in the Final Rule. When opportunities arise to reduce overall grazing activity on National Forests and within BLM Field Offices in and around these areas, the managing agencies should have policies and mechanisms already established through the Final Rule to make sure these opportunities are utilized. This approach would further reduce the potential for grizzly mortality due to livestock conflicts, thus setting up the grizzly population for long-term success. There are a few ways that the Final Rule should promote this outcome.

i. Vacant Allotment Closure

As a first step, all currently vacant livestock grazing allotments within and adjacent to the recovery zones and connectivity pathways should be closed to reduce the potential for future conflict. Administrative closure of vacant allotments is an option readily available to all National Forests and BLM Field Offices operating within the area. This action could be implemented immediately on many Forests within the proposed DPS, including the Bitterroot, Lolo, Nez Perce-Clearwater, and Beaverhead-Deerlodge. For instance, the Bitterroot National Forest has 9 vacant grazing allotments, all of which could be administratively closed with minimal effort and little, if any, impact to existing permittees.[4] Likewise, the Nez Perce-Clearwater National Forest has 7 vacant grazing allotments, all of which could also be administratively closed with minimal impacts.[5] Finally, the Lolo National Forest currently has 1 vacant grazing allotment (Knowles Creek) that could be administratively closed in preparation for returning grizzly bears. All of these Forests represent areas into which grizzly bears must successfully migrate in order for their population to recover and achieve long-term evolutionarily meaningful viability.

ii. Allotment Retirement and Closure

[4] For the Bitterroot NF, the vacant allotments are: Ambrose, Gold Creek, Little Sleeping Child, Trapper Peak, Bertie Lord, Piquett Creek, Warm Springs, Waugh Gulch-Andrews, and Coal Creek allotments.

[5] For the Nez Perce-Clearwater NF, the vacant allotments are: Blacktail, Newsome, Elk/Lick Creek, East Fork, Kirks Fork, Mallard Creek, and Florence allotments.

The Final Rule should also incorporate provisions that facilitate permanent retirement of livestock grazing allotments for conflict reduction purposes. The National Forests and BLM Field Offices within and around the proposed DPS should incorporate a provision requiring that grazing permits that are lost, relinquished, waived, or canceled, will have their attached AUMs held for watershed protection and wildlife habitat in perpetuity. Having provisions in place to take advantage of these opportunities when they arise would be an essential tool for conflict reduction and prevention that does not result in the lethal removal of grizzly bears.

iii. Active Allotments and Demographic Connectivity Areas

The Final Rule must also devote special consideration to currently active allotments that straddle or are adjacent to high value areas for grizzly bear demographic connectivity. For instance, the Ninemile Demographic Connectivity Area (DCA), a large portion of which is managed by the Lolo NF, represents a crucial linkage between the as-yet unpopulated Bitterroot Ecosystem and grizzly populations to the north in the NCDE and Cabinet-Yaak. Bader & Sieracki, 2024. In order to facilitate movement and subsequent genetic exchange between populations in these three ecosystems, it is crucial to remove barriers to grizzly bear dispersal in areas rated as high probability connectivity pathways. Sells et al. 2023. The Ninemile DCA is highly rated for connectivity and contains several active grazing allotments.[6] Given the presence of these active allotments in the Ninemile DCA, the potential for livestock-grizzly bear conflict is high and would likely increase grizzly mortality risk, while also blocking the genetic exchange and migration needed for grizzly bear recovery. In addition to incorporating required non-lethal conflict reduction measures into the grazing permits in the Ninemile DCA and other similar connectivity pathways, a high priority should be placed on actively seeking out and working with willing permittees on buyouts for allotment retirement.

6. *The Final Rule must require non-lethal conflict deterrence measures on federal lands where permitted livestock grazing occurs.*

Non-lethal conflict deterrence measures have been most successful in reducing conflict between livestock and grizzly bears. Selective removal of a few depredating grizzly bears can resolve conflicts for a short period of time (e.g., one to three years), contingent on specific circumstances. Anderson et al. 2002; Miller et al. 2016; Morehouse et al. 2018;

[6] These active allotments in the Ninemile DCA are: Upper Ninemile, Edith-Sixmile, Four Mile, Tamarack Creek, Henry Creek, Swamp Creek, McGinnis, Little Thompson, and Thompson River.

Swan et al. 2017; Lennox et al. 2018; Proulx 2018. However, Murie (1948) and Linnell et al. (1999) cast doubt on the efficacy of such removals to abate depredations in the long-term.

In contrast, there is both correlational and causational evidence suggesting that non-lethal measures can reduce levels of depredation for sustained periods of time, including: guardian dogs; selective deployment of electric fence and other deterrents; change in species, sex, and age of grazed livestock; closer guarding; relocation of pastures during key periods of livestock vulnerability; and removal of livestock carcasses. Bjorge 1983; Wilson et al. 2005, 2006, 2014; Karlsson & Johansson 2010; Miller et al. 2016; Treves et al. 2016; Eklund et al. 2017; Moreira-Arce et al. 2018; Khorozyan & Waltert 2019a, 2019b; Wells et al. 2019; Wilson 2023.

For example, in 2020, the Yellowstone Ecosystem Subcommittee's Technical Team produced a report detailing the leading causes of mortality for grizzly bears within the GYE. Pils et al. 2020. This report found that, as already mentioned above, "outside the Recovery Zone (RZ) but within the Demographic Monitoring Area (DMA), mortalities from livestock conflicts and self-defense kills are the primary sources of documented mortalities. Outside the DMA, livestock and site conflicts are the primary sources of mortalities." Pils et al. 2020. From 1999-2008, there was an average of one grizzly bear killed per year due to livestock depredations outside the RZ and inside the DMA, with 0.3 grizzlies killed per year outside of the DMA following conflicts with livestock. From 2009-2018 the mortality rate increased significantly, with an average of 5.4 grizzly bears killed per year due to livestock depredations outside of the RZ and inside of the DMA, with 3.1 per year outside of the DMA. This marked increase reflects an expanding grizzly population in the GYE and serves as a valuable learning opportunity for the agencies in charge of managing the return of grizzlies throughout the proposed DPS. While there may be a lower likelihood of livestock conflict during the initial stages of grizzly bears returning to other areas of the DPS, it is important to outline requirements for non-lethal conflict prevention measures *prior* to any issues arising. To that end, the GYE technical team report recommended that the "highest" priority be placed on "emphasizing prevention vs. reaction" when it comes to livestock conflicts and producer outreach. Pils et al. 2020. The agencies now involved in planning for grizzly bears throughout the DPS can benefit from these lessons and recommendations and must take full advantage of the valuable guidance the GYE experience has provided.

There are a variety of ways to incorporate the use of proactive, non-lethal conflict deterrence measures, and one of the most effective would be to incorporate standards into Forest Plans, Resource Management Plans, and grazing permits that provide clear instructions to grazing permittees. The sooner this can be implemented the better, so that livestock loss to grizzly bears, and the subsequent killing of grizzly bears, does not become

the norm. With active federally permitted grazing on Forests and BLM lands throughout the proposed DPS, it is crucial that grazing permits and livestock programs on each Forest and in each BLM Field Office are updated to prevent these allotments from becoming grizzly bear population sinks.

One example of a National Forest taking proactive steps to address grizzly bear-livestock conflict is the Flathead National Forest in Montana. In its recently revised forest plan, the Flathead National Forest adopted several standards aimed at mitigating these conflicts. One standard provides that "new or reauthorized livestock grazing permits and annual operating plans shall incorporate requirements to reduce the risk of grizzly bear-human conflicts [and] include a clause providing for modification, cancellation, suspension, or temporary cessation of activities, if needed, to resolve a grizzly bear-human conflict situation." Flathead National Forest Land Management Plan, 2018. Additional standards require that permittees promptly report and properly dispose of livestock carcasses, prohibit a net increase in the number of active sheep allotments on National Forest System (NFS) lands, prohibit an increase in the number of active cattle grazing allotments above the baseline on NFS lands, and provide that temporary permits for grazing by small livestock "shall not result in an increase in bear-small livestock conflicts." Flathead National Forest Land Management Plan, 2018.

It is essential to ensure adequate mechanisms are in place on federal grazing allotments to prevent conflict, as opposed to hastily reacting to it. Instead of waiting to take any action until a grizzly bear is already frequenting a grazing allotment, land management agencies must proactively collaborate and come up with uniform requirements for non-lethal conflict deterrence measures on public lands. Some examples of successful non-lethal deterrence measures are range-riding programs, carcass removal and disposal programs, and active monitoring for the presence of grizzly bears. Since poor livestock surveillance is strongly associated with livestock losses, experts recommend maintaining regular and frequent human presence to detect and reduce carnivore-livestock conflict on grazed lands. Trained individuals can closely monitor livestock and carnivore behavior, detect sick or dead livestock so that they can be promptly removed or properly managed, and keep herds or flocks together in defensible spaces. Parr et al., 2017; Barnes, 2015; Musiani et al., 2004. This approach, along with electric fencing around calving or lambing areas, guard dogs, securing livestock feed, and carcass removal and sanitation have all proven effective in reducing livestock-grizzly conflicts.[7] An example of this success

[7] The Proposed Rule defines "working dog" as "a herding or guard dog that is actively herding or guarding in close proximity to human-occupied areas or to lawfully present livestock." (90 FR 4275). This definition should be clarified in the Final Rule to make plain that "guarding" in this context refers only to a dog actively guarding livestock and does not

when applied consistently across the landscape can be found with the Blackfoot Challenge in Montana. Given that conflict prevention techniques work best when applied uniformly across the landscape, the Final Rule must require that all agencies within the proposed DPS that have public lands grazing allotments work together to develop a list of non-lethal deterrence measures that can be incorporated into grazing permits.

While the example of the Flathead National Forest provides a good starting point, there are additional measures that can and should be implemented. The following should be considered as a minimum for what should be incorporated into grazing permits for National Forests and BLM Field Offices throughout the proposed DPS:

- require the immediate removal and composting of livestock carcasses found on grazing allotments;
- require removal of sick or injured livestock from the allotments, so they are not targeted;
- delay turnout until at least after mid-June, so that native ungulate young can provide a food source;
- in the event of a depredation, if future depredations are feared or anticipated, livestock should be moved to private pastures;
- keep livestock in open, defensible spaces to reduce opportunities for ambush predation;
- prohibit the turnout of young calves and lambs under 200 pounds in weight to reduce depredation potential, and protect calving and lambing areas with deterrents such as electric fencing; and
- require range riders and guard animals along with frequent and consistent monitoring of livestock.

In order to ensure a future for grizzly bears, the Final Rule must actively promote the reduction and elimination of federally permitted livestock grazing within the proposed DPS. In areas where federally permitted grazing will continue, the Final Rule must require that proactive, non-lethal conflict reduction measures be included in grazing permits as a mandatory term. At the current juncture, the Service has the benefit of a substantial body of recent research demonstrating the efficacy of grazing allotment closure and non-lethal conflict prevention measures. Studies have clearly established that non-lethal methods are more effective than lethal control measures for preventing livestock depredation by large

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refer to hunting or other domestic dogs not trained in such a task or any dog not immediately guarding livestock. The repeated use of the permissive "or" in the current definition suggests that a dog serving some other guard purpose in a human-occupied area, such as against intruders in a junkyard, would qualify as a working dog.

carnivores. Shivik et al., 2003; Lance et al., 2010; Breck et al., 2011; Stone et al., 2017; Barnes, 2015. Researchers have also found that, "[b]ecause wolves co-occur across most of the grizzly bear range in the American West, many practices useful for managing wolf conflict also work for grizzly bears," and that "carcass removal, electric fencing, human presence, range riders, and livestock guardian dogs are effective ways to deter both wolf and grizzly bear predation." Western Landowners Alliance, 2018. Additionally, studies show that the effectiveness of non-lethal tools is enhanced when several types are used in combination on an adaptive basis. Bangs et al., 2006; Sime et al., 2007; Breck et al., 2012. This research comes from places where public land managers and users have had to adapt after conflict occurred (e.g. GYE). However, the Service has the opportunity and the obligation to implement the lessons from this research to ensure that grizzly bears, livestock, and people do not suffer in the same manner in the future as they have in some ecosystems in the past.

B. *The Final Rule should uniformly, and to the maximum extent possible, protect grizzly bears from take across the DPS.*

Grizzly bears should be protected from take to the maximum extent possible to provide for their conservation. Instead, the Service has provided a ladder of decreasing protection based on identified land uses and designations: public land grazing allotments outside recovery zones, private land livestock operations outside recovery zones, private lands outside recovery zones, and outside of areas important for recovery or connectivity. The Service has not adequately explained how liberalizing take exemptions for commercial livestock owners and private landowners or in areas deemed unimportant will provide for the conservation of the species.

Additionally, the Service has not explained how allowing additional people to take grizzly bears, including 'authorized agents' and 'individuals' will provide for the conservation of the species. As discussed below, increasing opportunities to kill a species has shown to increase illegal killing of that species. Chapron and Treves (2016). Further, although the Proposed Rule describes that the Service or 'authorized agencies' may issue "time-limited, conditioned lethal take" authorization or permits to kill grizzly bears in various circumstances, the Proposed Rule is unacceptably vague. Proposed Rule, pp. 153-55. Is the time limit one day, or one year? Is the time limit always the same, or would it be context dependent? How does the Service plan to analyze cumulative effects of take permits issued, or even keep track of cumulative take allowed by these permits or authorizations, particularly if states are authorizing them without the involvement or approval of the Service?

The Proposed Rule is also unacceptably vague when discussing the "flexible management" that will be allowed in areas "deemed less important for recovery within the

proposed DPS." Proposed Rule, p. 154. While the Rule lists a few of these places: "portions of Wyoming outside the DMA," and areas that "do not have the potential to provide for connectivity," the lack of detail is unacceptable. The Species Status Assessment provides little additional detail or mapping to support, or even *show*, the Service's where flexible management would apply or how that provides for the conservation of the species.

Further, allowing states to kill conflict bears without first trying to relocate them is absurd. Conflict bears include a bear that has "obtained anthropogenic foods." Proposed Rule, p. 162. Allowing states, or unknown individuals authorized by states, to kill bears who have one time obtained anthropogenic foods without first relocating it or even securing the source of the anthropogenic foods will create population sinks. And, hostile state governments could easily take advantage of this vague allowance to keep bears in small areas where the states will tolerate them.

The mosaic of liberalized take exemptions within the DPS boundary creates a self-fulfilling prophecy—the take exemptions will have the effect of stopping any bears who may naturally move toward and outside the DPS boundary. It is easy for the Service to draw this DPS boundary based on areas where it thinks grizzlies may be in the future when it authorizes hostile state governments to kill bears *within* the DPS before they even approach the boundary with no requirements to address the root causes of conflict. Therefore, the Service is *ensuring* that grizzly bears are unlikely to be found outside the proposed boundary in the future

C. *The Service should not consider including incidental take from legal trapping for other species as an exemption from the prohibitions in the proposed 4(d) rule.*

The Service should not create an exception to the take prohibition for "incidental take resulting from legal trapping for other species conducted consistent with State and Tribal trapping rules or guidelines that contain steps to minimize the potential for capture and injury of grizzly bears." Proposed Rule, p. 8. So long as traps are on the landscape while grizzly bears are out of their dens, particularly when traps and snares are set with bait, grizzly bears will be attracted to them and will be injured or killed by them. Creating an exemption for such incidental take is not necessary or advisable for the conservation of the species.

Grizzly bears have an acute sense of smell and can detect bait and scent lures from great distances, meaning they will be attracted to traps and snares set with bait. Gittleman 1991, Green et al 2012, Van Valkenburgh et al. 2011, 2014; Bird et al 2014; Lamb et al. 2016. Additionally, grizzly bear denning season is getting shorter because of a changing climate

causing changes to seasonal conditions on the ground like snow pack, meaning that trapping seasons for other animals are more and more likely to overlap with the time periods that grizzlies are out of their dens. Lamb et al. 2022; Haroldson et al. 2002, Kasworm et al. 2021; Pigeon et al. 2016, Krofel et al. 2017, Delgado et al. 2018, Johnson et al. 2018, Fowler et al. 2019, Bojarska et al 2019, González-Bernardo et al. 2020. Additionally, grizzly bears have recently been documented not denning at all. Zuckerman 2015, Kearse 2019, Heinz 2022, Sherer 2021. This means that the already present threats posed by traps and snares set for other species will only increase in the coming decades. Take caused by traps and snares set for other species must be accounted for and limited to the greatest extent possible.

Trapping for other species is already a threat to the conservation of grizzly bears. Montana, for example, passed wolf trapping and snaring regulations starting in 2021 which posed threats to grizzly bears despite assurances that the regulations were designed to minimize accidental capture of grizzly bears. Contrary to Montana's vociferous defense of the regulations as being safe for grizzlies, the District Court of Montana determined that baited traps and snares set for other species in Montana and across the region captured and injured grizzly bears. Traps can "cause toe fractures and toe amputations, . . . spiral fractures to front limb bones, sprains, dislocations, strain myopathy, tooth and gum damage from biting the traps and snares, hypothermia, hyperthermia, and dehydration." *Flathead-Lolo Bitterroot Citizen Task Force v. Montana*, Case 9:23-cv-00101-DWM (D. Mont. Nov. 21, 2023), at 5-6. *See also* Lamb et al 2022, McKim 2017 (showing injuries to bears from traps). A similar case, with a similar result curtailing wolf trapping and snaring in grizzly bear habitat, occurred in Idaho. *Center for Biological Diversity v. Little*, Case 1:12-cv-00479-CWD (D. Idaho Feb. 4, 2025), at 21 (upholding injunction limiting recreational gray wolf trapping to a period when almost all bears will be in dens to reduce the likelihood of incidental take causing harm to grizzly bears).

D. *The Service should not, under any circumstances, consider including take from regulated grizzly bear hunting as an exception from the prohibitions in the Proposed Rule.*

The Service should not create an exception to the take prohibition for "take from regulated State or Tribal grizzly bear hunting in areas where grizzly populations are expanding." Proposed Rule, p. 8. Hunting grizzly bears, especially grizzly bears in areas of expansion, is not necessary or advisable to provide for the conservation of grizzly bears, and therefore this exemption would violate section 4(d). In fact, hunting grizzly bears in these—or any—areas will work directly against the conservation of the species because it decreases chances that grizzlies will establish natural connectivity, is likely to lead to unsustainable female mortality and decreased fecundity, will not reduce conflicts, does not

contribute to human safety, and would not increase social tolerance. This section discusses why the Final Rule should not, under any circumstances, establish regulated hunting as an exception to the take prohibition: it would be unnecessary and inadvisable for the conservation of the species, and therefore a violation of the ESA.

1. ***Hunting grizzlies in areas where they are expanding would work against natural connectivity because dispersing bears will be the primary targets.***

Hunting grizzlies in areas where they are expanding would not be necessary or advisable for contributing to the conservation of the species. Grizzly bears in areas of population expansion are likely to be dispersing bears, which are responsible for establishing natural connectivity between population cores and for establishing new population cores in areas like the Bitterroot Ecosystem. Allowing a hunt would work directly against grizzly bears' ability to establish natural connectivity—and establishing natural connectivity among populations is critical for eventual species recovery. See section II on connectivity; See also SSA 2024 p. 183-84 ("Natural connectivity between grizzly bear populations will benefit long-term grizzly bear conservation through potential genetic exchange and demographic augmentation of smaller isolated or female-fragmented ecosystems."), and id. at 103-4 (discussing the importance of connectivity for the resiliency of ecosystems, and the importance of ecosystem resilience for the entire lower-48 grizzly population). Already, "[n]o effective migrants into the GYE have been detected to date," SSA 2024 at 188, and establishing a hunt in areas where bears are expanding, i.e., connectivity areas, will only make this less likely to happen in the future. See also Case 9:23-cv-00010-DLC ("The [Service] also recognized that to ensure the species' long-term viability and restore populations to areas like the Bitterroot, where local populations had been extirpated, it needed to facilitate grizzly bear movement and "connectivity" between recovery zones.").

2. **A *grizzly bear hunt would likely lead to unsustainable female mortality and decreased fecundity.***

Hunting is likely to disrupt the sex structure of grizzly bear populations and lead to unsustainable female mortality, which could negatively impact the entire population. Killing females is problematic for myriad reasons. For example, the Cabinet-Yaak 2021 annual grizzly report showed the significance of females, stating that a decline of female mortality between 2007-2021 was "largely responsible for improving the population trend." (Kasworm et al., 2021). Additionally, the 2025 SSA lists "adult female survival" as one of six needs for an ecosystem to be resilient. P. 103, explaining that "Adult female survival influences abundance and population trends more than survival rates of males or

dependent young." Id. The SSA also explains that "to enhance or re-establish female connectivity, female occupancy of connectivity areas is necessary to facilitate inter-generational connectivity." SSA p. 141. Thus, female survival and dispersal is key to population health, and hunting in expansion zones creates undue risks to female survival.

Further, since grizzly bear hunting is trophy hunting, hunters may be more likely to go after dominant males. If that occurs, it will negatively impact female bears. Research shows that for large carnivore species that practice sexually-selected infanticide (SSI) like grizzly bears, hunting predominantly targeting males has negative consequences for females and cubs. (Milner et al. 2007). Mature resident males play a significant role in upholding the social structure of the grizzly bear population. When they are removed by sport hunting, the resulting "influx of non-sire males" would likely kill even more cubs and yearlings (Mattson 2020). This, in turn, would mean that reproductive females are even less likely to spend time in "the most secure and best food patches," which would decrease fecundity.

Mattson (2020) points out the "overwhelming empirical support" in over 20 publications (Bellemain et al. 2006, Gosselin et al. 2015, 2017, Bischof et al. 2018), (showing that SSI is amplified by sport hunting); (Stringham 1980, Swenson et al. 1997, Wielgus et al. 2013, Gosselin et al. 2015, Frank et al. 2017, Bishof et al. 2018) (showing that sport hunting causes dispensatory effects on birth and death rates; (Swenson et al. 1997, Wielgus et al. 2001, Ordiz et al. 2011, 2012, Gosselin et al. 2017, Leclerc et al. 2017, Bishof et al. 2018, Frank et al. 2018) (showing deleterious social restricting occurs from sport hunting, "including an influx of potentially infanticidal males); (Wielgus and Bunnell 2000, Ordiz et al. 2011, 2012, Hertel et al. 2016, Bishof et al. 2018) (and that "foraging efficiencies of adult females decrease); and (Bourbonnais et al. 2013 and Støen et al. 2015) showing that in tandem, sport hunting also causes "increased physiological stress on females," showing that SSI is amplified by sport hunting. Increased SSI would not contribute to the conservation of the species.

Killing any females via hunting could have significant consequences to the population. And, hunters are likely to kill females even if there were regulations in place to limit or prohibit it because hunters won't likely be able to differentiate them unless the female is clearly lactating or the bears stand up such that their genitals are visible. A female may have cubs that a hunter cannot see, which upon her death become orphaned and are almost certain to die, adding to overall mortality. Second, females of reproductive age are a "critical segment" of the population (Greer 1972). Killing even one female is a major setback. Because of their slow maturity, late age for first litter, and time between litters, each one plays a crucial role in the recovery and viability of the population. And killing females in areas where grizzly populations are expanding would be particularly problematic because

grizzly bears, especially females, are slow to expand across the landscape and expansion is key to recovery.

3. *Hunting grizzly bears does not reduce human-bear conflicts.*

Several studies focused on the effects of hunting various bear species consistently determined that hunting did not reduce conflicts (Strong 2020). See Artelle et al. 2016 (grizzly bears in British Columbia); Sagør et al. 1997 (brown bears in Norway); Treves et al. (American black bears in Wisconsin and Ontario); Huygens et al. 2004 (Asiatic black bears in Japan). Artelle et al. suggested that hunting did not reduce conflicts because hunter-killed bears were usually not the same bears involved in conflicts, as they tended to live farther from humans and were older than conflict bears. Treves et al. and Huygens et al. suggested that hunting did not reduce conflicts because after hunting seasons, new bears took the place of killed bears, causing new conflicts.

The conclusions of Treves et al. and Huygens et al. also resonate with the idea of ecological traps, which Mattson (2020) defines as "areas where bears are attracted into lethal environments by the free availability of anthropogenic foods." In other words, even when conflict bears are successfully targeted and killed either by hunters (which is unlikely), it will not reduce conflicts as long as the attractants engendering the conflicts remain unsecured. Geospatially, conflicts usually occur where unsecured anthropogenic attractants exist adjacent to vegetation cover, providing food near forest edges where grizzly bears prefer to be. Mattson (2020) citing Elfström et al. (2014), Graham (1978), Mattson (1997b), and Fernandez et al (2012). Research done in Montana similarly showed that most conflicts occurred near riparian areas with nearby agricultural attractants (calving pastures, beehives, boneyards, sheep). Wilson et al (2005, 2006), Wilson et al (2014), and Mattson (2019a). Temporally, conflicts increase when natural food abundance is low. Natural food abundance is generally decreasing, therefore increasing the likelihood of conflicts, as cutthroat trout, whitebark pine, and army cutworm moths, among other major food sources, disappear. Additionally, conflicts are more likely on a yearly basis during hyperphagia, when bears prepare for hibernation.[1]

The best way to reduce conflicts is to secure human attractants, not to establish regulated State or Tribal grizzly bear hunting. For example, in 2021, Montana Fish, Wildlife and Parks (FWP) noted that conflict prevention is the "primary strategy" to reduce conflicts on the Rocky Mountain Front, and that prevention is "fundamentally necessary . . . to build or maintain tolerance for grizzly bear coexistence[.]" (Rocky Mountain Front Grizzly Bear Management Program Annual Report 2021). Further, the studies discussed above demonstrate that establishing a hunt would not contribute to the conservation of the species. Conflict prevention would. Hunting would in fact detract from the possibility that

the species will ever recover by killing dispersing bears, killing females and reducing fecundity, all the while failing to address the root causes of human-bear conflicts.

4. ***Hunting grizzly bears would not contribute to human safety.***

Scientific literature shows that improving interactions between bears and humans is not done by fear conditioning, but habituation through benign experiences. Although grizzly bears are more likely than other bears to respond aggressively to perceived threats, research by behavioral ecologist Steve Herrero showed that grizzly bears "that have interacted enough with benign humans to internalize a less fear-based response" can "exhibit a high degree of tolerance for humans." Mattson (2020), discussing Herrero (2002) and (1972). Therefore, members of the public stalking grizzlies and shooting at them is not likely to condition bears to fear or avoid humans.

Further, there are extremely low odds of a person being attacked by a grizzly bear; thus, using a hunt to achieve a 'public safety' outcome is not only unreasonable but unnecessary. People have a 0.3-0.6% chance of being attacked during 'close encounters' with grizzlies, defined as a distance of 50-120 yards (Mattson 2020). And this is limited to situations where people were aware they had a close encounter at all. Almost all of the time, bears either flee or don't react. Bombieri et al. (2019) found no significant difference in the number of grizzly attacks in countries with a legal brown bear hunt compared to those without. Grizzly attacks on humans are tragic, and they are incredibly uncommon. Other methods are proven to reduce the already small chances of an attack, like traveling in groups and carrying bear spray when in grizzly country.

5. ***Establishing a grizzly bear hunt would not increase social tolerance of grizzly bears.***

Although there is little research on whether legal recreational killing of grizzlies increases social tolerance, research on other carnivores shows that it does not. Such research on wolves "found little change in attitudes towards wolves among Wisconsin residents with increased legal killing of wolves, and "among certain people they found less tolerance and a greater proclivity to poach wolves, especially among hunters and male residents." Mattson (2020) discussing Treves et al. (2013), Hogberg et al. (2015) and Brown-Nuñez et al (2015). Additionally, Chapron and Treves (2016) found indications that poaching in Wisconsin and Michigan increased after legal culling of wolves was instituted. Based on the available research, Mattson (2020) concluded that it's unlikely that a sport hunt will increase acceptance of grizzly bears among "most back-country users, hunters, and rural residents," but that it's more likely that establishing a hunt will be "understood by rural

residents . . . who resent the presence of grizzly bears as tacit or even explicit commitment by FWP" to kill bears.

In sum, the Service should not consider an additional exception from the prohibitions in the proposed 4(d) rule for take from regulated State or Tribal grizzly bear hunting in areas where grizzly bear populations are expanding. For the myriad reasons discussed above, a sport hunt would not be advisable, and certainly would not be necessary, to provide for the conservation of the species. A sport hunt would work against the conservation of the species, and get grizzly bears farther from recovery.

V. *The Service should designate Critical Habitat for grizzly bears since the Proposed Rule is a new listing.*

Although the 1975 grizzly bear listing predated the ESA's critical habitat requirement, the new listing now requires the agency do so here. The Service proposed to establish critical habitat for the grizzly bear in 1976, but no final rules were ever published because this predated the 1978 amendments to the ESA. Grizzly Bear 5-Year Review (2011). Those amendments, for the first time, required that critical habitat be designated concurrently with a species listing. Since grizzly bears were already listed when the 1978 amendments were finalized, there was no requirement to designate critical habitat for grizzly bears, and thus critical habitat was never designated.

However, because the Proposed Rule is effectively a new listing, the ESA requires that the Service designate critical habitat concurrently with the Proposed Rule. 16 U.S.C. 1533(a)(3)(A)(i) (requiring that the Secretary "shall, concurrently with making a determination . . . that a species is an endangered or threatened species, designate any habitat of such species which is then considered to be critical habitat"). Critical habitat is defined as occupied areas at the time of listing "on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protections. 16 U.S.C. § 1532(5)(A)(i). Critical habitat also includes areas that are not occupied at the time of listing, but which are still essential for the conservation of the species. *Id.* at (ii). The Service must designate critical habitat accordingly.

VI. *The Service should update the grizzly bear Recovery Plan.*

The Act requires that the Secretary develop and implement recovery plans for the conservation of threatened species unless she finds that such a plan "will not promote the conservation of the species." 16 U.S.C. § 1533(f). Further, the ESA directs that, to the maximum extent possible, the Secretary "give priority" to those threatened species that are

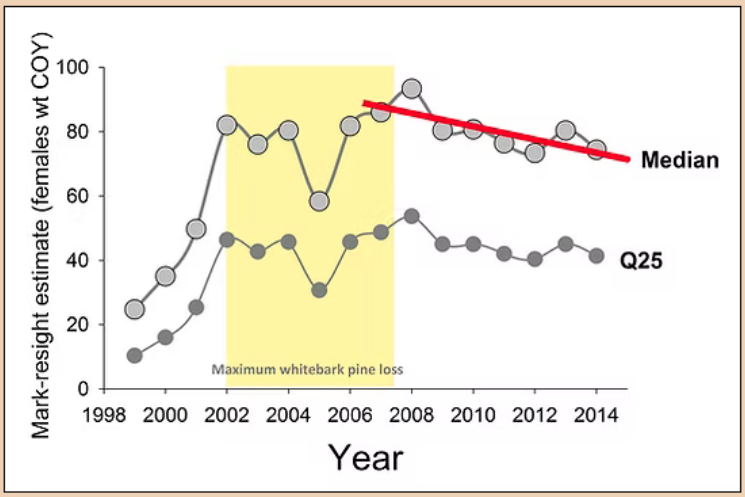
"most likely to benefit" from recovery plans, "particularly those species that are, or may be, in conflict with construction or other development projects or other forms of economic activity." 16 U.S.C. §1533 (f)(1)(A).

Therefore, the Service is required to develop and implement a new recovery plan for the new listed entity (which adopts an entirely different and new recovery vision). This means the Service must develop and implement new delisting criteria along with the other requirements of Section 4(f) of the ESA. And this new criteria must be based solely on the best available science.

Notably, the existing recovery plan (as amended), was developed in 1993 - over thirty years ago. The 1993 recovery plan was determined by the Service in its 2011 five-year status review to be outdated and in conflict with the best available science. The 1993 recovery plan also conflicts with the Service 1996 DPS policy by allowing delisting of subpopulations (in individual recovery zones) below the lower 48 DPS level. Both the 1993 and 1982 recovery plans explained that grizzly bears are a subspecies with "a high threat and a high recovery potential that is or may be in conflict with some form of economic activity." 1982 and 1992 Recovery Plans, at p. ii. This means that the law requires the Service to prioritize this recovery plan.

Further, the Service cannot reasonably assert that developing a recovery plan for grizzly bears will not promote the conservation of the species. The number of grizzly bears has remained static since 2005 despite range expansion and with the exception of a decreasing population in the GYE, which has declined in recent years due to a spike in mortality. See the chart below by Dr. David Mattson about grizzly bear population growth between 1999-2014:

Population Growth 1999-2014



The public has been swamped with misinformation about growth of the Yellowstone grizzly bear population during the last decade, with some agency representatives claiming a doubling of the population during the last handful of years. The graph above shows a 3-year running average of the most reliable estimates (medians and the lower quantile of the estimate) for numbers of females with cubs-of-the-year in the population. Given a 3-year interval between litters, a three year average captures a baseline for numbers of reproductive females, which is relevant because estimates of this cohort undergird all estimates of total population size for the population (the details are beyond what can be treated here).

Bottom line: The population has not increased since around 2002 and has probably declined since 2007, which benchmarks the end of the interval during which we lost most of the cone-producing whitebark pine trees in the Yellowstone ecosystem. The red line is fitted to the data and suggests that we have been losing around 2 females with COY per year, net, since 2007. The trend line is statistically significant (P = 0.027, r2 = 0.54, for those who pay attention to such things).

Grizzly bears now inhabit 4% of their historic range compared to 2% when they were listed; and economic activity, such as natural resource extraction like timber harvest, mining, and oil exploration, and private development, have only intensified. Grizzly bears are still not recovered according to the Proposed Rule, and therefore a new grizzly bear recovery plan still merits the priority status provided by the ESA. The Proposed Rule's vague commitment to "revise the recovery plan for the grizzly bear in the near future" is not enough. Proposed Rule, p. 32.

Additionally, as noted above, the 1993 Recovery Plan is out of date. The 1982 and 1993 recovery plans relied on six to seven recovery areas where grizzlies were thought to occur, or could support a subpopulation. Given the extremely low number of individual grizzly bears (especially females) or their absence altogether, the recovery plan's management directions focused almost exclusively on the recovery areas. Little thought or direction was given for bears that may attempt to extend their home ranges outside the recovery areas, or to ensure grizzly bears had sufficient habitat security between them in both acres and distribution that would provide for demographic and genetic connectivity. Rather, the recovery plan provides nebulous direction for "linkages:"

> One factor that may affect the sustainability of grizzly bear populations in the future is the ability of individual animals to move between ecosystems. Accurate information is necessary to assess the potential for this type of movement in linkage zones between existing adjacent grizzly bear recovery zones.
> --
> In order to adequately assess the capacity for linkage, the Service initiated a 5-year process to assess the linkage potential between the various ecosystems.
> --
> At the completion of the 5-year evaluation effort, a report will be available to the IGBC on the potential for linkage between existing ecosystems. This report will be the basis for future actions regarding the linkage zone question. Linkage zones are desirable for recovery, but are not essential for delisting at this time.

1993 Recovery Plan at 24-25. Clearly the recovery plan was never updated to include those "linkage zones," which is unsurprising given the assertion they were not necessary for "delisting." Even if that were true at the time, connectivity is essential for true recovery. The 1993 Plan provided the following direction during the 5-year evaluation:

> Future land management activities within these areas may be critical to maintaining their utility as linkage zones. It is essential that existing options for carnivore movement between existing ecosystems be maintained while the evaluation of linkage zones is underway.

Id. at 25. We would offer that maintaining movement between the recovery areas was essential well beyond the 5-year evaluation, and the failure to revise the 1993 Recovery Plan to include linkage zones with clear management direction to facilitate bear movements is a major failing that must be addressed in a new plan.

Further, the 1993 plan provides discrete and separate management direction for each recovery zone with individual population objectives, and does so in a vacuum that fails to provide for an interconnected population. Contrary to the 1993 Plan, the Proposed Rule determined that individual populations in Recovery Zones are not valid listable entities. The 1993 recovery plan listed as an objective "delisting each of the remaining populations as they achieve recovery targets." Proposed Rule, p. 25. The Proposed Rule, in contrast, states that "the petitioned GYE and NCDE DPS grizzly bear populations [are] not valid listable entities." Proposed Rule, p. 17.

Thus the outdated approach in the 1993 Recovery Plan fails to reflect the best available science, particularly in regards to the requisite connectivity required to ensure the long-term genetic viability of grizzly bears. Current scientific findings support the need

for a recovery plan that includes a unified Northern Rocky Mountain population that can expand to occupy more of its historic range, including in areas that have the potential to provide suitable habitat.. The Proposed Rule set a new goal of recovering a connected meta-population in the northern Rockies within the proposed DPS boundaries, and the Service must complete an updated recovery plan to reflect this.

VII. *The Service must undertake a NEPA analysis before finalizing a 4(d) rule that increases take exemptions.*

The Service takes the position that undertaking a NEPA analysis — either an EIS, EA, or even a lesser CE - is not required before finalizing the 4(d) rule, presumably because it considers the Proposed Rule a "listing decision" under section 4(a) of the ESA, 16 U.S.C. § 1533(a). The Service insists that this interpretation, which was outlined in a 1983 policy (48 Fed. Reg. at 49, 244) was upheld in *Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995) and *Ctr. for Biological Diversity v. U.S. Fish and Wildlife Service*, 2005 WL 2000928 (N.D. Cal. Aug. 19, 2005). The agency is incorrect.

NEPA is generally required for all "major Federal actions significantly affecting the quality of the human environment," 42 U.S.C. § 4332(2)(c), and the 1983 policy relied on by the Service only pertains to listing decisions made under Section 4(a) of the ESA (which it defines as listings, delistings, reclassifications, and critical habitat designations). *Douglas County*, for example, involved a section 4(a) listing decision (critical habitat).

As explained in *In re Polar Bear Endangered Species Act Listing & 4(d) Rule Litig.*, 818 F.Supp.2d 214, 219 (D.D.C. 2011), while it is undisputed that an exemption from NEPA is necessary and appropriate for listing decisions under Section 4(a), the adoption of special rules under Section 4(d) – which are triggered by, but separate from, listing – are different and not exempt from NEPA as a matter of law. *Id.* at 219. Here, a NEPA analysis must take a hard look at the direct, indirect, and cumulative impacts that the livestock- and conflict-related take exemptions[8] would have on the grizzly bear DPS and evaluate any and all reasonable alternatives to the proposed special 4(d) rule.

VIII. *The Service must engage in Section 7 consultation before finalizing a 4(d) rule that exempts conflict-related take.*

[8] These include take exemptions on: public land grazing allotments outside recovery zones, private land livestock operations outside recovery zones, private lands outside recovery zones, and outside of areas important for recovery or connectivity.

The heart of the ESA is Section 7, which directs all federal agencies to consult with the Service to ensure its actions are "not likely to jeopardize the continued existence of" listed species. 16 U.S.C. § 1536(a)(2). To "jeopardize" means "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02.

When a federal action "may affect" a listed species the agency must formally consult with the Service. 50 C.F.R. § 402.14(a). The Service must then formulate a biological opinion on whether the proposed action is likely to result in jeopardy. *Id.* § 402.14(g). These opinions must use only the best available science, 16 U.S.C. § 1536(a)(2), and take into account the broader "environmental context" for which they are issued. *Appalachian Voices v. U.S. Dept. of Interior*, 25 F.4th 259, 269 (4th Cir. 2022). When formulating its biological opinion, the Service must review all relevant information provided by the Federal agency or otherwise available and then carefully evaluate four different categories of information: status of the species, the environmental baseline, cumulative effects, and the effects of the action. *Id.* at 270 (citing 50 C.F.R. § 402.14(g)(2), (3)).

Here, the Service never initiated and completed intra-agency consultation (either formal or informal) on the special 4(d) rule and its exemptions from take for bears on livestock allotments or which are 'conflict' bears according to the rule. The Service never evaluated how the effects of the action - here, the broad exemptions for bears on livestock allotments, bears outside of areas the Service considers important for recovery or connectivity, or conflict bears - may adversely affect grizzly bears and grizzly bear conservation when added to the other threats grizzlies face, whether natural or human-caused. Nor was a biological opinion obtained. This is a major oversight and violation of Section 7 of the ESA.

IX. *Conclusion*

The best available science and applicable federal law unquestionably demonstrate that grizzly bears must remain protected as a threatened species. Eventual recovery of grizzly bears in the lower-48 requires that the U.S. Fish and Wildlife Service manage and protect them as a unified meta-population across, at a minimum, across the Northern Rockies, Washington, and parts of Oregon. As the Proposed Rule states, population cores within individual recovery zones like the Greater Yellowstone Ecosystem and Northern Continental Divide Ecosystem cannot be individually delisted. However, the take exemptions laid out in the Proposed 4(d) Rule are not "necessary or advisable to provide for the conservation" of the species, in violation of the law and against the best available science.

The grizzly bear population faces grave threats, not all of which were adequately or correctly analyzed in the Proposed Rule. Threats to the population include increasing pressure by hostile state governments in Idaho, Montana, and Wyoming intent on killing carnivores and ignoring science and ethics, human-caused mortality, climate change, changes in food sources, isolation due to lack of genetic and demographic connectivity, habitat fragmentation, human recreation, and the avian flu, among others. Grizzly bears cannot be delisted so long as these threats persist.

The proposed Distinct Population Segment (DPS) boundary is also inadequate. The Proposed Rule must provide recovery for grizzlies as a unified population in the lower 48, which requires that the DPS boundary include all suitable and potentially suitable habitat. However, the Service has failed to include several areas of suitable habitat, such as regions of northeast Oregon. DPS boundaries must be expanded beyond the Service's current listings of where grizzlies occur to include all areas where they might occur in the next 45 years, or even expanded to include their entire historic range.

The take exemptions put forth in the Proposed Rule violate section 4(d) of the ESA because they do not provide for the conservation of the species. Though the Service has discretion in creating take exemptions for threatened species, this power is not absolute and cannot conflict with the duty to conserve species. The Proposed Rule promotes lethal removal to benefit commercial livestock operators, disregarding overwhelming scientific support for nonlethal conflict prevention techniques. The emphasis must not be on increasing liberal killing, but on coexistence and conflict prevention and reduction. The Final Rule must address ecological conflicts and the inevitable conflicts between livestock and grizzlies when they share a landscape, while encouraging allotment retirement and non-lethal conflict deterrents.

The Service cannot under any circumstances exempt incidental takes from the trapping of other species. Additionally, there cannot be take exemptions for any kind of "regulated State or Tribal grizzly bear hunting" in any areas. Allowing recreational hunting would prohibit natural connectivity and lead to unsustainable female mortality; meanwhile, such an exemption would not lower human-bear conflicts, contribute to human safety, or increase grizzly social tolerance. Grizzly bear hunting will directly work against the conservation of the species, and therefore cannot be allowed.

Lastly, the Service failed to comply with legal obligations on multiple additional fronts. The Service must designate critical habitat for grizzlies since this is a new listing, and must update the Recovery Plan. A vague promise to do so at some point in the future is not enough. The Service must also complete a NEPA analysis for the 4(d) rule, and engage

in section 7 consultation prior to finalizing a proposed 4(d) rule that would authorize take exemptions of this magnitude. Formal consultation is required under section 7 when any federal actions "may affect" a listed species. This is required in order to assess the likelihood that such an action will "jeopardize" the continued existence of that species and the Service's obligation in recovering the listed species. Here, the Service has provided no such consultation or biological opinion when clearly the take exemptions will affect grizzlies.

In sum, grizzly bears in the lower 48 must remain listed as a threatened species and must be managed as a connected meta-population, the DPS boundaries must be expanded significantly, and the Proposed 4(d) Rule should be scrapped entirely in favor of the current 4(d) rule, as the proposed take exemptions all work directly *against* the conservation of the species. Thank you in advance for taking the time to consider the issues and concerns raised in this comment letter.

Sincerely,

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