



PO Box 9254
Missoula, MT 59807

August 15, 2026

Comments on Selkirk-Cabinet-Yaak Draft Conservation Strategy

Submitted to: Interagency Grizzly Bear Committee

<https://igbconline.org/selkirk-cabinet-yaak-draft-conservation-strategy-feedback-opportunity/#more-13008>

https://publicinput.com/igbc2026_comments

Introduction

These comments are submitted on behalf of the Flathead-Lolo-Bitterroot Citizen Task Force. In general, while we appreciate the effort put into the Draft Conservation Strategy (DCS) there are several components that are lacking in adequacy and clarity and many others missing entirely. Critical factors are not included, and in many cases, the DCS does not comport with the best available scientific information as required by the Endangered Species Act (ESA), the National Environmental Policy Act, the National Forest Management Act and the Administrative Procedure Act. Since this strategy defines the standards, objectives, methods and procedures intended to effect recovery of the grizzly bear, it must comply with these laws.

The most recent Species Status Assessment (SSA) for Grizzly Bear (Service 2024) states: “*After evaluating threats to the species and assessing the cumulative effect of the threats under the Act’s section 4(a)(1) factors, **we conclude that the grizzly bear DPS is at increased risk of extinction within the foreseeable future.***” (emphasis provided).

Population Estimate

The estimate of a minimum of 120 bears relies on Canada and is not realistic. The DCS states that it does not include Canada: “*The DMA for this Strategy does not include any area in Canada. Although individual grizzly bears home ranges may span the international U.S.-Canada boundary, grizzly bears in Canada have never been ESA-listed, and grizzly bears and their habitat are not subject to comparable levels of monitoring or management direction by Canada’s or British Columbia’s government in Canada.*” But the DCS includes bears in Canada towards the population estimate. The DCS can’t have it both ways.

The Service previously said it included Canada in the Selkirk Recovery Area because the Selkirk couldn't meet its recovery objective of 90 bears within the U.S. *"Because the Selkirk Range in the United States was unlikely to support a minimum recovery objective of 90 grizzly bears, the FWS added an additional 1,000 mi² in British Columbia when identifying the Selkirk recovery zone in the 1993 Recovery Plan."* This of course was not credible since Canada is a separate nation that does not have an Endangered Species Act and the ESA is a U.S. law that has no force of law within Canada. The DCS now recognizes this fact but still wants to use grizzly bears in Canada to reach a recovery goal under U.S. law. In reality there are likely significantly less than 120 grizzly bears within the SCY recovery areas and DMA.

For the Cabinet-Yaak there is no recovery plan target for a specific population size (Kasworm 2024) and the strategy must provide one or it cannot be measured and monitored for success.

There are certainly not 40 independent adult females south of Canada in the SCY. In the Cabinet-Yaak there were 3.5 females with cubs over a six-year average while the recovery goal is 6.0 (Kasworm 2024). Given the breeding interval, there would be no more than 10 adult females south of Canada in the CY. In the Selkirks there were 3.3 females with cubs on a running six-year average or less than 10 based on the breeding interval. That adds up to less than 20 independent adult females, 16.6% of the population estimate, compared to 27% for stable populations https://kevintshoemaker.github.io/NRES-470/PVA2_421.html. For the NCDE it is estimated to be 25-30% (Mace et al. 2012). Based on 2018 data, a rough estimate is that about 37% of the total population were females > equal to 4 years of age (Costello, pers. comm. 2026).

The DMA for the SCY and Zone A connect to the NCDE DMA. The DCS should be consistent with the NCDE Conservation Strategy (NCDE CS) but it is not in several respects. For example, the NCDE CS does not include bears in Canada for population goals, demographic objectives and monitoring. The numbers in the DCS including population estimate, growth rate and trend include bears in Canada.

The best science on population viability is as follows: Reed et al. (2003) define viability as a 99% chance of survival for 40 generations, approximately 400 years for grizzly bears which have a generational time of ≈ 10 years (Miller and Waits 2003). Traill et al. (2007) reported mean Minimum Viable Population (MVP) for 212 species was 4169 individuals. Reed et al. (2003) recommend that conservation programs for wild populations be designed to conserve habitat capable of supporting ≈ 7000 adult vertebrates. Allendorf and Ryman (2002) estimated as many as 5,000 grizzly bears are required in a single population or connected meta-population.

By contrast, the SCY is not viable and should be considered critically endangered and in fact was found by the Service to be warranted for up-listing to endangered status. This finding was reinstated by federal court order in *Alliance for the Wild Rockies v. Zinke* 265 F. Supp. 3d 1161 (D.Mont.).

Mortality Rate

The NCDE CS also has a different sustainable annual mortality limit for female grizzly bears. The DCS at page 72 proposes sustainable annual female mortality of 9%. *"Known fate monitoring with radio collars indicates that a 9% mortality rate for independent females and independent males is currently supporting a slightly increasing population in both areas"*

(Kasworm et al. in prep 2025a and b). Because of the functional importance of females to the population, the agencies identify an initial threshold based on 9% rates for independent females using the latest minimum population size for conservatism.” And, “These projections applied an independent female mortality of 9% and independent male mortality rates ranging from 9-15% (table 6). These projections indicate a 15% male mortality level is sustainable while maintaining the functional importance of females.”

This is excessive and unsustainable mortality, particularly for a small population. The mortality rate for males is also too high. Shaffer and Samson (1985) reported that 58% of their simulated grizzly bear populations went extinct due to loss of adult males.

These rates for mortality are way too high and are not conservative. The Recovery Goal is less than or equal to 4% for the total population and less than or equal to 1.2% for females (Kasworm 2024).

The Recovery Plan Supplement for the GYE reduced the sustainable female mortality objective from 9% to 7.6% (Service 2017). The demographic objective for the NCDE CS is 93% female survival or 7% annual mortality. Both of these populations are estimated at $N > 1,000$ and can recover losses more readily than the tiny SCY populations.

Mattson (2023) wrote: *“More specifically, a 7.6% and 15% mortality rate for females and males, respectively (cf., Interagency Grizzly Bear Study Team 2012, Greater Yellowstone Subcommittee 2016), will likely not maintain a stable population, but rather yield unintended declines.” “...recommend that benchmark mortality rates used for monitoring and management be revised downward by several percentage points to acknowledge and account for the prospectively liberal bias of rates currently in use—for example, from 7.6% down to 5.6% for females at a population size of ≤ 674 .*

Where population objectives have not been met, any human-caused mortality is excessive. Kendall et al. (2015) showed that the loss of just one adult female in the Cabinet-Yaak can result in population decline. Recovery coordinator Wayne Kasworm said mortality is too high. *“Our mortality in terms of total numbers is high,” Kasworm told the Cabinet-Yaak subcommittee the last time it met, in May 2025. He added those grizzly deaths have been exceeding federal recovery goals.* Missoulian 8/3/26.

https://missoulian.com/news/state-regional/article_1e1fc755-8a4d-4da8-b3bd-858ba5100af2.html?utm_campaign=snd-

[autopilot&utm_medium=social&utm_source=twitter_missoulian](https://missoulian.com/news/state-regional/article_1e1fc755-8a4d-4da8-b3bd-858ba5100af2.html?utm_campaign=snd-autopilot&utm_medium=social&utm_source=twitter_missoulian)

This situation has not magically changed in one year.

The DCS claims population growth of 1% to 2% which does not square with the data or any acceptable methodology. For example, growth rate for the CY was reported as 1.7% with just a 72% probability of being stable to increasing, well below the scientific standard of a 95% Confidence Interval. An annual growth rate of 2.9% is claimed for the Selkirks but with just an 82% probability of stable to increasing. This includes bears in Canada.

Mattson (2019) wrote, and this still applies: *“Use of a 2.1% per annum growth rate to project total size of the Cabinet-Yaak population from the Kendall et al. (2016) 2012 point estimate, as was done by Kasworm et al. (2018), is not defensible. Such use is, moreover, guaranteed to*

produce spurious results that cannot legitimately be used to reach conclusions of management relevance. There are several unambiguous reasons. First, the estimated 2.1% per annum growth rate only applies to an unknown fraction of the total Cabinet-Yaak grizzly bear population. Vital rates used to estimate this growth rate were based solely on “native” or “natural” research-trapped bears, and expressly excluded bears captured because of conflicts or part of the augmentation program (Kasworm et al. 2018:10). The growth rate, moreover, applies almost exclusively to the Yaak portion of the population given that 95% of the data used to estimate survival rates and 85% of the data used to estimate reproductive rates came from this subpopulation.”

“Put another way, management-trapped bears, augmentation bears, and males would need to be represented in a modeling framework if any estimated population growth rate were to be prima facie representative of the total population. Moreover, if the fates of all such bears were to be considered, estimated population growth rate would almost certainly be lower given that survival rates of males, augmentation bears, and management bears are substantially less than survival rates of the females used to estimate the 2.1% per annum growth rate.” (emphasis added).

Mattson wrote: “Small sample sizes impose very real constraints on the precision and accuracy of all demographic rates being used by Cabinet-Yaak researchers and managers. These constraints follow ineluctably from the small size of the Cabinet-Yaak grizzly bear population, which is a non-negotiable feature of this ecosystem. The upshot of all this is that there is no legitimate basis for estimating current population size (e.g., 55-60) by applying a biased 1983-2017 growth rate—based on high-graded data representing only a fraction of the population—to a point population estimate made during 2012.”

Refer to Mattson (2019, 2020) for a robust examination of the faulty methodology used to reach a conclusion that the grizzly bear population has shown significant growth.

The growth rate is unstable and is highly variable. The population is so small that the loss of just a few bears can change the growth rate. The loss of just of just one or two adult females can change the growth rate to negative within the same year. An adult female grizzly bear was illegally killed in the CYE near the Montana-Idaho border in October 2025 which has likely affected population trend.

On page 20 the DCS states: *Sustainable mortality levels will be estimated using population modeling and observed vital rates.* Then why set it at 9%? That is an excessive rate.

At page 71 the DCS states in regard to mortality thresholds: *“It should be stressed that these thresholds are not objectives...”* Why not? Does this mean the annual mortality rate for adult females can exceed 9% and still comply with the strategy? This wording must be removed.

At page 11 the DCS states: *Given small population sizes, there has been documented inbreeding based on parentage analysis (Turnock 2024). An evaluation of genetic status in 2012 found low genetic diversity in the Selkirk PCA (and adjacent British Columbia) than elsewhere in the lower-48 states and Canada, likely the result of a bottleneck effect, although no deleterious effects were observed (FWS 2024; Turnock et al. 2024).* Low genetic diversity and bottleneck effects are deleterious, particularly to

small, isolated populations. The fact they were not observed does not mean they do not exist because the number of bears monitored is a small sample in the context of regional populations. For example, one male bear was responsible for parenting over 30 individuals. (Kasworm 2024).

O’Grady et al. (2006) found that inbreeding depression as measured by lethal equivalents (LE) is much greater in wild populations ($LE \approx 12$) than it is in captive populations ($LE \approx 4$). This can lead to the Extinction Vortex, particularly in small populations like the SCY.

Page 21 of the DCS states that if genetic health is insufficient due to low population size, it will simply turn to augmentation of the SCY rather than natural immigration through protected habitat connectivity areas. As stated below, the Service concluded there are no regulatory mechanisms or mortality limits for connectivity areas that would promote natural immigration. Augmentation is an excuse for not providing adequate habitat security.

Milligan et al. (2018) found translocations in Alberta were only 30% successful with a weak definition of success (survival for one year without returning to trap site).

The Service has used faulty methods to calculate the success rate of translocations into the CY by excluding relevant data from the sample size. For example, four translocated bears that died within one year of translocation were excluded from the sample size (Kasworm 2024), artificially inflating the success rate to 61%. Death is a failed translocation result and cannot be viewed any other way. Any bears that remained in the transplant area for at least one year were regarded as a success even if they left the area after 12 months and never contributed any offspring. When adjusted, the success rate for 22 translocations drops to 50%, at best, since a bear only had to stay in the area for at least one year. Any bear that left after 12 months was not considered a failure, even if it made no contribution to the population. If the fates of all bears are considered, the success rate is more similar to that reported by Milligan et al. (2018).

During the test period of 1990-1995, 3 of 4 females remained for at least one year. But one of these females who produced a cub died, as did the cub. One female left the area but was captured and returned. No further results are provided for that bear. This means that at best, half of the female translocations resulted in failure and did not contribute any offspring to the population and at worst, the success rate was only 25%.

For all 22 bears during both phases 1990-2023, 5 bears left the target area and did not return, 6 were known killed, resulting in a success rate of no more than 50%. Thus, habitat connectivity is a better solution to the problem of isolation.

Reporting Rate for Mortalities

The DCS assumes that for every reported grizzly bear mortality there is one that is unreported stating at page 71: “*The unreported mortality rate conservatively assumes one unreported individual for each reported mortality...*” This not conservative and it does not match with the best available peer-reviewed

published science which shows that reported mortality is far lower than the actual number of mortalities. McLellan et al. (2018) found just 12% of unpermitted grizzly bear mortalities are reported to authorities. Costello et al. (2016) estimated just 19% were reported while Lamb et al. (2022) estimated just 32%. The average of these three published studies is about 21% or 1:5, not 1:1.

As a practical matter, only 12% of unpermitted grizzly bear killings are actually reported (McLellan, et al. 2018). This data shows that trappers who find grizzly bears in their traps are highly unlikely to call a government agent. Rather than immobilization drugs, trappers are most likely carrying firearms to dispatch grizzly bears in their traps so they can safely remove the traps. (2nd Declaration of David J. Mattson, Flathead-Lolo-Bitterroot Citizen Task Force, et al. v. State of Montana CV 23-101-M-DWM).

Distribution of Females With Cubs

The DCS objective for distribution is weak. Just 11 of 15 distribution units in the Cabinet-Yaak PCA (Recovery Zone) over 6 years. This does not include areas within the DMA, compared to the NCDE CS which does. The DCS objective is 73% compared to the NCDE CS objective of 91% in the PCA and 86% in Zone 1. Rather than have occupancy objectives for unit areas within Zone A, it assigns any females with cubs in Zone A to areas within the PCA, which is not comparable to the NCDE CS methods and masks failed occupancy objectives within the PCA. There need to be occupancy objectives for the PCA and Zone A independent of each other.

Another major difference from the NCDE CS methods is that in the SCY, distribution units are used rather than BMUs. By combining BMUs into Distribution Units, it further masks deficiencies in occupancy since if BMUs were used, some would not meet objectives but by measuring over a larger area, it lowers the bar and the number and density of females with cubs is lowered, resulting in a weaker standard and measure of true biological recovery. Put another way, females with cubs up to 10 miles outside the PCA are assigned to meeting objectives within the PCA. Locations at the periphery of a female's home range would be counted even though most of the home range would be more than 10 miles outside the PCA and perhaps 15 miles or more. One foray within 10 miles of the PCA would skew the accuracy of this data.

Page 20 of the DCS indicates that reliance on these faulty methods could be used as an indicator of habitat sufficiency when it is not.

Secure Core

The DCS uses a different definition of secure core than the NCDE CS. There is no minimum size identified for secure core habitat in the DCS. The NCDE CS defines secure core as a minimum of 2500 contiguous acres (10km²) at least 500 meters from motorized routes. At page 31 the DCS states: "*Secure core is defined as an area of habitat within a BMU that contains no motorized travel routes during the non-denning season and is more than 0.31 miles (500 meters) from a drivable road.*" This definition does not include motorized trails which are included in Open Motorized Route Density (OMRD) in the NCDE. It also does not include high use non-motorized trails.

At page 22 the DCS states: *Maintaining sufficient secure core habitat in the PCAs such that population stability or growth would be expected to occur*; How would this be done without a minimum size for secure core?

High use non-motorized trails are not buffered to 500m on either side as they should be as the use displaces grizzly bears similar to motorized use. A growing impact on habitat security are high-use non-motorized trails. 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. Thompson, et al. (2024) found there were strong displacement effects on grizzly bears from trails up to 267m and effects extended up to 1.8km.

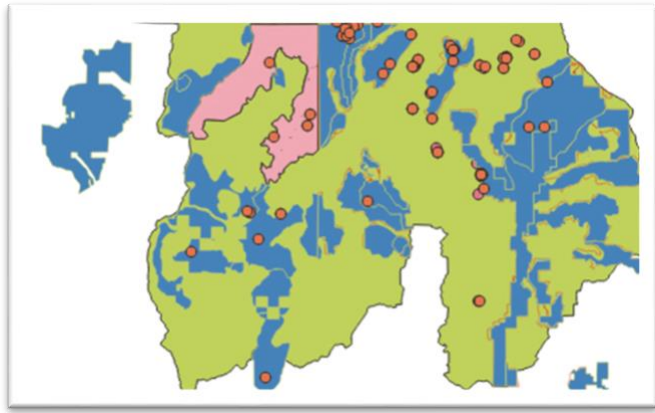
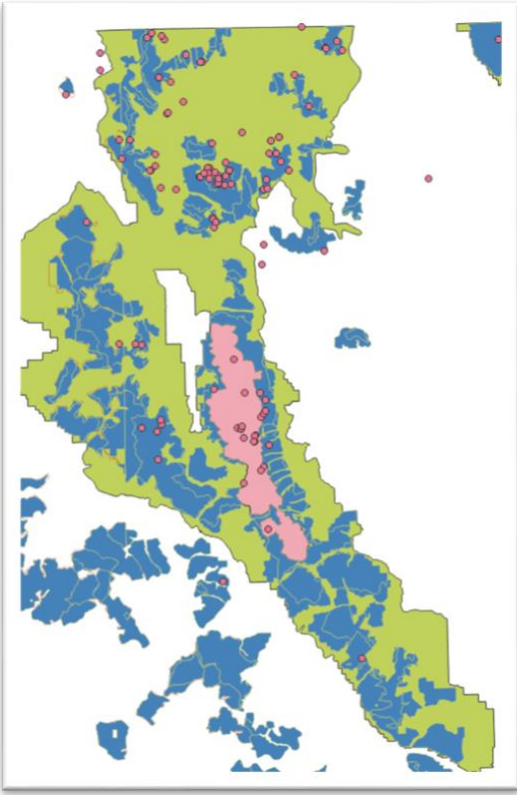
New science also indicates that even the 1mi/mi² (0.6km/km²) OMRD standard may be too high. For example, Proctor et al. (2023) presented several models and their best model score indicated female grizzly bears best tolerated open motorized route density less than or equal to 0.3 km/km² (0.5mi/mi²). This is half of what is allowed in the DCS. Data from McGloughlin and Stenhouse (2021) suggests OMRD in secondary conservation areas such as Zone A in the DCS, should be no more than 0.75km/km² (1.2mi/mi²).

As the table below shows, den selection is also impacted by OMRD. Bader and Sieracki (2022) found that 362 grizzly bear den sites were a mean distance 1.96km away from open roads and downhill ski areas.

Road density (km/km ²)	Adult female survival rate	Population growth rate	Density bears/1000 km ²	Den selection probability
0	≈100%	Positive	30	N/A
0.6	95%	Static	≈ 30	70%
1.2	85%	Negative	10	30%
1.4	75%	Rapid decline	Lower	N/A
1.6	< 75%	Rapid decline	Lower	N/A
2.0	Lower	Rapid decline	Very low	≈ 0%

Sources: Boulanger and Stenhouse (2014); Pigeon et al. (2014); Proctor et al. (2019).

Within the SCY, Wilderness and Inventoried Roadless Arras account for 22.8% of the DMA. Yet, in the Cabinet-Yaak, 70% of den sites were within Wilderness/IRA and 58% in the Selkirks (insert maps). If non-Wilderness/IRA secure core were included (areas with gated roads), these percentages would be significantly higher.



Verified Grizzly Bear Den Sites in Cabinet-Yaak and Selkirk. Green = Recovery Zone (PCA); Pink = Designated Wilderness; Blue = Inventoried Roadless Areas.

BMU 22 in the CY does not meet standards and unsurprisingly, is not within the estimated occupied habitat area.

The DCS at page 22 states in regards to habitat monitoring and secure core: *“The specific methodologies, measures, and metrics that are, and will be, employed to achieve these outcomes... are not included in this Strategy.”* This is unacceptable. A strategy must include the specific methods and metrics that will be used to achieve objectives. This is vague and unclear as to when the specifics will be developed and what they will be. A wait and see approach for recovery of a threatened species that the Service found is warranted for endangered status is not adequate Adaptive management to adjust existing objectives, monitoring techniques and habitat protections may be appropriate, but having no objectives, techniques or protections in place is not.

The DCS at page 23 states: *“Managing motorized access (allowed use of motor vehicles in areas officially designated for motorized travel) to maintain large blocks of secure core (areas where there is no motorized access leading to displacement) in the PCAs is important to the survival and reproductive success of grizzly bears, especially adult female grizzly bears (Mattson et al., 1987; IGBC 1994, Wakkinen et al. 1997; Schwartz et al. 2010; Boulanger et al., 2014; Proctor et al. 2020).”* Yet the DCS has no specific or standards that would achieve this requirement. Moreover, the Service (2024) has concluded that extra-limital areas outside the PCAs are necessary for connectivity and recovery.

At page 29 the DCS states that: *“Land management plans are revised periodically, may be amended at any time, and are prepared in compliance with the National Environmental Policy Act (NEPA), which requires significant public involvement.”* This is not true. Plan amendments may be negative and provide for more habitat alteration and destruction including new road construction as has occurred and will continue through plan amendments and Emergency Situation Determinations. Many of these actions streamline or eliminate NEPA requirements including public comment and the objection process.

The DCS states that Inventoried Roadless Areas provide significant habitat protections and security but neglects to mention or consider that the Department of Agriculture has proposed to rescind the Roadless Area Conservation Rule which would open these areas to roadbuilding, logging and motorized recreation on 24% of the land area covered by the PCAs. The DCS inaccurately states on page 31 that *“federal activities will not result in a permanent net decrease in the amount of secure core in any BMU.”* But rescinding the Roadless Area Conservation Rule, a federal action, would blow a hole in that claim.

In the Proposed 4(d) Rule for additional take exemptions, Tier 1 applies to areas with a Conservation Strategy in areas where population objectives have not been met, such as the SCY. The DCS does not account for this source of increased grizzly bear take and its effect on the SCY populations.

At page 40 under conflict management the DCS states: *“This approach prioritizes biologically and socially suitable habitat.”* What is the definition of “socially suitable habitat”? Where is the “socially suitable habitat” located? What provision of the ESA contains “socially suitable habitat”?

The DCS makes the same mistake that the Kootenai National Forest has made as noted by Mattson (2019): *“Road density and habitat security standards used by the Kootenai NF are patently deficient, partly because they are based on research that conflates behavioral phenomena such as avoidance and displacement with demographic phenomena, notably survival. The scale is wrong as well, given that exposure to mortality hazards logically accrues over years as a consequence of cumulative annual movements of bears vis-à-vis hazardous environs. As a corollary, the fact that standards on the Kootenai NF are more lax than standards on the Flathead NF is selfevidently nonsensical given that grizzly bears in the Cabinet-Yaak Ecosystem remain in a much more precarious status compared to grizzly bears in the Northern Continental Divide Ecosystem.”*

State Management Programs That Take Grizzly Bears

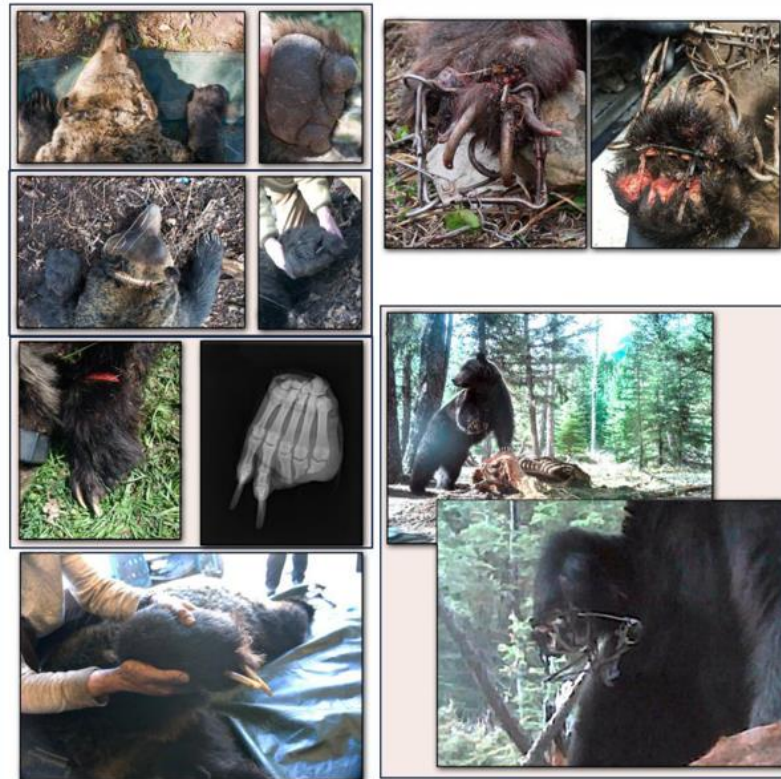
Trapping for Other Species

This issue was litigated for wolf trapping and a specific geography and dates were set for Montana (*Flathead-Lolo-Bitterroot Citizen Task Force, et al. v. State of Montana, CV 23-101-M-DWM*) and also in Idaho (*Center for Biological Diversity et al. v. State of Idaho Case No. 1:21-cv-00479-CWD*). Grizzly bears are known to occur in areas where the state and federal governments claim they are not.

An injunction was issued in *Flathead-Lolo-Bitterroot Citizen Task Force* and upheld by the 9th Circuit Court of Appeals and remains in place. This was based on an extensive administrative record and expert testimony and the established facts that grizzly bear take related to trapping of wolves are not “*de minimus*” and in fact numerous grizzly bears have been caught in traps set for wolves and coyotes and have resulted in death and severe injuries that impede the animals’ ability to forage, hunt, travel, evade predation and dig suitable dens. Grizzlies have also been caught in snares set for wolves in Idaho and two were killed and another likely would have died if not shot by a hunter in a case of mistaken identity.

At least 27 grizzly bears have been reported caught in traps and snares set for wolves and coyotes in Montana (Declaration of Ken McDonald, Montana Fish, Wildlife & Parks *Flathead-Lolo-Bitterroot Citizen Task Force et al. v. State of Montana. CV 23-101-M-DWM*). These are just the reported incidents.

Figure 3. Non-Target Injuries from Traps (from Lamb et al. 2022)



These photos adapted from Lamb et al. (2022) are examples of grizzly bears that lost digits because of injuries from non-target capture by leg-hold and body-gripping traps set to capture other species.

The SSA also states: *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.*

This has been documented numerous times in Montana and other states.



Figure 1. Grizzly missing toes and claws. Tim Manley photo.

► Grizzly bear claws and toes remain in a foot-hold trap in Montana. The bear carried the trap long enough with its claws twisted by the trap that two toes became necrotic and fell off. This illustrates the damage that traps can cause bears that escape wearing such traps.



Credit: J. Jonkel

32 The Wildlife Professional, May/June 2022

In fact, numerous grizzly bears have been caught in traps and snares set for coyotes and coyotes may be trapped year-round in Montana, Wyoming and Idaho. Grizzlies have been caught in coyote and bobcat traps and snares in Montana, and in coyote traps in Wyoming and Idaho.

I also had to drug and release two yearling grizzly bears that had been captured in leghold traps set for a coyote and a bobcat. — Expert report of Timothy Manley. Flathead-Lolo-Bitterroot Citizen Task Force, et al. v. State of Montana. CV 23-101-M-DWM.



Figure 2. Grizzly Bear Caught in Bobcat Trap. Tim Manley photo.

A key study on incidental trap and snare catch of grizzly bears is Lamb et al. (2022) which found that many grizzly bears have been permanently maimed by traps set for marten. Montana trapping regulations for marten traps are less protective than those in British Columbia and trap size opening

is much more likely to catch grizzly bears and especially cubs and subadults.

To prevent bears from having their feet caught in traps set for marten, Lamb et al. recommend that the elevated cubby boxes have openings large enough to pass a marten but too small for a bear to fit a whole foot through. By regulation, in southeast British Columbia this dimension is no larger than 3.5 inches (8.9cm). In Montana, there are no regulations specific to preventing bycatch of grizzly bears. There is a non-binding recommendation that cubby boxes have a closed front with an opening of 2.5 x 2.5 inches to prevent bycatch of fisher but the regulations for ground sets allow openings up to 52 square inches which is many times the recommended opening.

Non-lethal takes also have a low reporting rate. Most injuries are not detected unless the grizzly bear is subsequently trapped for research or management or photographed.

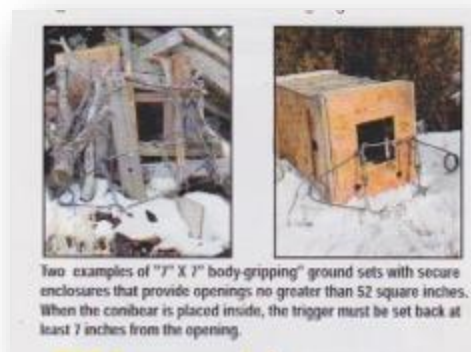


Figure 3. Montana Fish, Wildlife & Parks Trapping Brochure.

The administrative record and expert testimony in *Flathead-Lolo-Bitterroot Citizen Task Force, et al. v. State of Montana. CV 23-101-M-DWM* identified numerous grizzly bears trapped for research and management that were missing claws, toes and even lower limbs. These injuries were believed to be trap-related.

Conibear “body-gripping” traps are allowed in grizzly bear habitat if they have a jaw spread less than or equal to 5” and can be elevated at least 48” above the surface. These are well within the reach of even a subadult grizzly bear and wide enough to catch a front foot.

I and another biologist captured an adult male grizzly at a residence near Glen Lake that was missing an entire front foot and wrist. It is our belief that it had probably been caught in a neck snare set by a trapper in search of bobcats or coyotes. — Expert Report of Timothy J. Manley *Flathead-Lolo-Bitterroot Citizen Task Force, et al. v. State of Montana. CV 23-101-M-DWM*. This is on the boundary of the SCY DMA. Thus, take is not limited to one point in time but can be an unlimited situation lasting over the lifetime of the animal.



Credit: W. Kasworm

◀ A grizzly bear was caught in a neck snare set for wolves in 2020. The bear chewed the cable that attached the snare to a tree and escaped with the snare tightly fettered around its neck. The snare cable was deeply embedded into the neck of the bear and would likely never come off. This grizzly bear was subsequently shot by a black bear hunter in Idaho who mistook it for a black bear. The hunter followed the law and reported this mistaken identification kill to authorities. Most animals that escape wearing snares or foot-hold traps are never found or reported, however. A second grizzly bear was caught in another neck snare set for wolves in northern Idaho in 2020, but that bear died in the snare.

Black Bear Baiting

Black bear hunting with baits is allowed in Idaho. In Idaho, at least two grizzly bears have been shot and killed over baits set for black bears including one in 2007 and one in 2024 and several more have been killed at black bear baits on National Forests in Wyoming. In recent years numerous other grizzly bears have been photographed or filmed in the Greater Bitterroot Ecosystem on game cameras at black bear bait sites.

Three grizzly bears are known to have been killed in the area south of the Selkirks and Cabinet-Yaak since 2007. Two of those bears have been killed at black bear bait sites. — Cabinet-Yaak and Selkirk Mountains Grizzly Bear Monitoring Update 11/8/2018.

There have been a minimum of 25 verified instances of grizzly bears attracted to bear baiting sites in Idaho and Wyoming including 12 who were killed, including 4 in Idaho (List on pages 12-13, Flathead-Lolo-Bitterroot Citizen Task Force comments on Proposed 4(d) Rule, 8/4/26.)

There have likely been more on state, private or other federal lands where data are incomplete. Moreover, the reporting rate for grizzly bear mortality is very low. Many hunters are reluctant to report a mistaken identity killing of a grizzly bear for fear of being prosecuted.

Given the very low density of grizzly bears in the SCY and the high value of each individual grizzly bear to recovery in this ecosystem, these numbers are highly significant.

Hunting With Hounds

Hunting black bears with hounds is allowed in Montana and Idaho. Hunting with hounds exposes grizzly bears to being pursued — which is a taking — and also to being shot by mistaken identity. Chasing grizzly bears also constitutes harassment, which is also a taking.

Hound hunting of black bears where grizzly bears are present will result in unmanageable grizzly bear deaths. — Servheen, et al. (2025).

Servheen (2024) wrote: *Now, FWP and the Commission propose to open the Ninemile area to black bear hound hunting and chasing. Allowing hound hunting and chasing of black bears in this area will put grizzly bears at risk of mortality or injury due to conflicts with hound hunting of black bears which has a known serious conflict potential for grizzly bears. For FWP and the Commission to allow hound hunting and chasing in the Ninemile area violates the purpose and intent of the NCDE Conservation Strategy, which FWP is a signatory to.*

The Ninemile Demographic Connectivity Area is occupied grizzly bear habitat that is inhabited by females with cubs (Jonkel 2026). There have been more than 20 verified observations of grizzly bears in this area in recent years including female/cub groups. The DCA is the most likely source of grizzly bears moving from the NCDE to the SCY.

Servheen and Smith (2024) wrote: *Hound hunting black bears anywhere in grizzly range is potentially deadly because the risk of encountering a grizzly instead of a black bear. When hound hunters encounter an agitated grizzly killing their dogs, they will likely want to try and protect their dogs by killing the grizzly, which is illegal. Reporting such encounters by hound hunters will be low because such encounters should result in increased limits on hound hunting.*

Grizzly bears are now found in most of western Montana therefore hound hunting of grizzly bears should be prohibited in all these areas. However, the Montana Fish and Wildlife Commission continues to allow black bear hunting in many areas where grizzlies are present despite repeated requests from many members of the public to curb this practice in grizzly habitat.

Dogs respond to the scents of both black bears and grizzly bears. A female grizzly with cubs may turn and fight and initiate a conflict between the armed hunter and the bears. A grizzly bear, including cubs, chased up a tree by hounds may be shot by mistaken identity.

Illegally Used Roads and Trails

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). <https://www.kpax.com/news/montana-news/appeals-court-u-s-forest-service-must-count-all-roads-in-grizzly-habitat>

The decision in *Center for Biological Diversity* found again the Forest Service was unlawful regarding incorporating illegal road use data in density calculations. On Page 26: *“But here, the only rationale provided in the Amended BiOp for excluding [illegal] motorized access from the calculations is rationale that has been rejected by this Court and the Ninth Circuit.”* And, at page 17: *“But the Court agreed with AWR that temporary road use contemplated by the Access Amendments was different in kind from illegal use precipitated by ineffective closures because the former was regulated, while the latter was not.”*

On page 14, the DCS makes the ludicrous claim there has been no substantial disturbance to grizzly bears from vegetation management. *“Mortality or disturbance has been absent or insignificant on federal lands in the SCY Area related to developed sites, grazing, and other land uses.”*

The massive road network associated with industrial logging and mass loss of secure cover is a major limiting factor on the struggling grizzly bear populations and leading cause of mortality risk. Most bears are limited to secure habitat within Wilderness and IRAs. Bader and Sieracki (2022) found most grizzly bear den sites in the SCY were within roadless areas.

The most recent SSA states that SCY area is not meeting motorized access objectives and there are no standards or mortality limits in connectivity areas (add quotes).

BMU 22 in the CY does not meet access objectives. *“The Service acknowledges that continued implementation of the 1986 Lolo NF Plan would not limit road access or other infrastructure on the Forest outside the Ninemile DCA, NCDE Zone 1, and CYE BMU 22 (i.e., in extralimital areas), and that this lack of security would be “at a level substantially less than is likely needed to successfully support a female grizzly bear with cubs.”* Lolo Plan BiOp at page 16.

The State Land BMU in the Selkirks has no standards and the DCS states at page 23 it: *“consists primarily of state of Idaho endowment lands managed primarily for timber resources.”*

Connectivity Areas Lack Standards Specific to Grizzly Bears

Connectivity with the Ninemile Demographic Connectivity Area is being severed by large-scale projects within Zone A including Wilkes-Cherry which will have new road construction. Zone A has no standards specific to grizzly bears. At p. 10, the DCS states:

In Zone A: Maintain existing resource management and recreational uses and allow the Agencies to respond to human-bear conflict with appropriate management actions. This will continue patterns of habitat fragmentation that are antithetical to connectivity for grizzly bears.

On page 36 the DCS states: *“On federal lands in the SHA, habitat security is and will continue to be maintained to support bear occupancy and connectivity where biologically suitable and socially acceptable.”* There is no socially acceptable component in Section 9 of the ESA.

Connectivity of isolated grizzly bear populations has been required by several Court decisions (*Crow Indian Tribe v United States*, 965 F.3d 662 (9th Cir. 2020); *Western Watersheds Project, et al. v. Schultz*, 2025 WL 2658776, CV22-149-M-DWM (D. Mont. Sept. 17, 2025)).

The ruling in *Western Watersheds* found the EA was insufficient because it did not adequately address habitat connectivity and cumulative impacts to bears. The failure to address connectivity in the EA was arbitrary and capricious “in light of the fact that connectivity is considered one of the “six demographic factors that are important to the resiliency of grizzly bear.” The plan (Recovery Plan) acknowledged that: “linkage, which we also refer to as connectivity, between ecosystems would be necessary for isolated populations to reach and sustain themselves at recovery levels” (Service 1993, pp. 23, 24).

The Proposed Rule (Service 2025) states: “Therefore, in the absence of measures to allow for connectivity, habitat fragmentation would continue to be a threat to the grizzly bear DPS.” (emphasis provided). “The lack of mortality thresholds in connectivity areas may result in a contraction of estimated occupied range, which could decrease the likelihood of successful immigration. Therefore, in the absence of conservation measures, connectivity and genetic health would continue to be a threat to the grizzly bear DPS.” (emphasis provided).

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.**”

In fact, BMU 22 does not meet standards and is not within the estimated occupied habitat area. Thus, connectivity between the CY and Ninemile DCA is severely impacted.

Also, “In addition, **there are no regulatory mechanisms to facilitate natural connectivity between grizzly bear populations,** which could reduce the potential to improve long-term genetic health of small or isolated populations and natural recolonization of the unoccupied ecosystems. Therefore, without adequate conservation measures, human-caused mortality would continue to be a threat to the grizzly bear DPS.” (emphasis provided).

“Therefore, **in the absence of measures to allow for connectivity, habitat fragmentation would continue to be a threat to the grizzly bear DPS.**” (emphasis provided).

“The lack of mortality thresholds in connectivity areas may result in a contraction of estimated occupied range, which could decrease the likelihood of successful immigration. Therefore, in the absence of conservation measures, connectivity and genetic health would continue to be a threat to the grizzly bear DPS.” (emphasis provided).

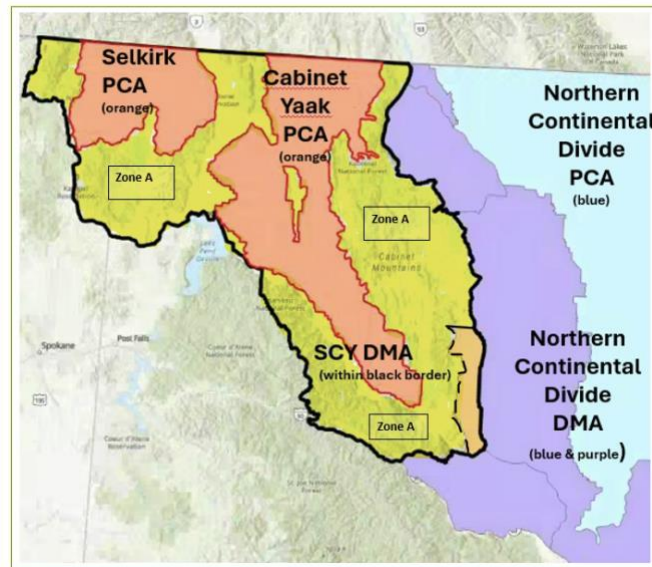
“Further, **the lack of regulatory mechanisms to address the threats of human-bear conflicts, human population growth, and potential reductions in connectivity further increases the risk of a possible reduction in the resiliency of the grizzly bear populations in the grizzly bear DPS within the foreseeable future.**” (emphasis provided).

The Lolo Plan BiOp at page 29:

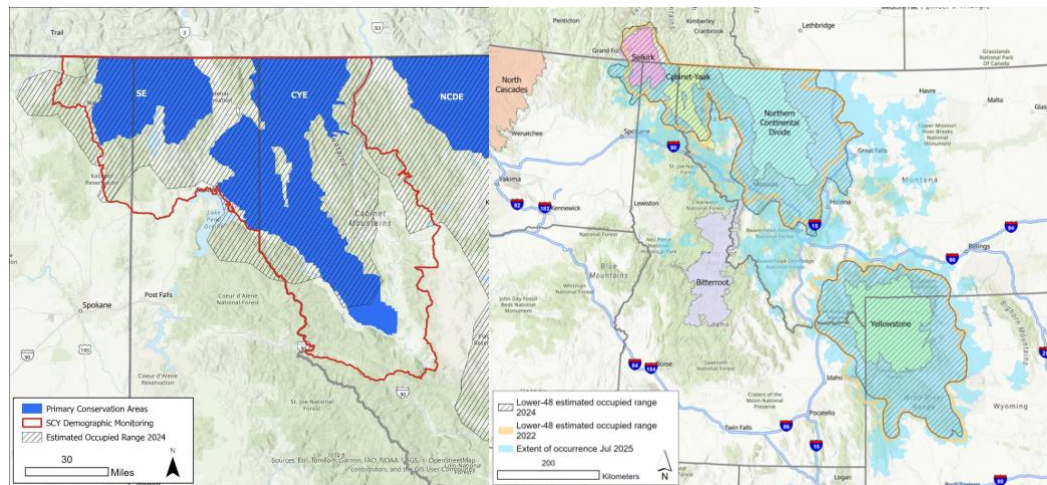
“The Forest Plan does not have specific direction to coordinate vegetation management with grizzly bear conservation in the CYE, recovery zones or outside of the recovery zones.”

DMA Boundaries

The DMA boundaries are not based on the best available science as required by the ESA. On page 16 the DCS states: “*The DMA boundaries were also adjusted to use political boundaries, roadways and rivers for ease of communication.*”



As the map below shows, the extent of where grizzly bears may be present in the SCY extends south to I-90. The DMA does not include the entire estimated occupied area.



Climate Change — The “Bear Year” Is Now Longer — Other Effects

The ruling in *Center for Biological Diversity et al. v. U.S. Forest Service* (No. 23-2882 D.C. No. 9:22-cv-00114-DWM) found in the CY that the Kootenai National Forest failed to analyze climate change.

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.”* (emphasis added)

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).

Due to climate change effects and warmer, shorter winters, the “bear year,” the time that bears are out of their dens has significantly increased. Old data on denning that pre-dates climate change effects cannot be relied on (Declaration and Expert Report of David J. Mattson, *Flathead-Lolo-Bitterroot Citizen Task Force, et al. v. State of Montana. CV 23-101-M-DWM*). An injunction was issued in *Flathead-Lolo-Bitterroot Citizen Task Force* and upheld by the 9th Circuit Court of Appeals and remains in place. The injunction against wolf trapping in this case limits the trapping season to January 1-February 15 when most grizzly bears are in their dens.

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.

In the winter of ’23-’24 female grizzly bears with cubs were out at the end of December and into January (Montana Fish, Wildlife & Parks 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. Grizzly bears were still out in both the NCDE and GYE in December 2025, including two females with cubs in the Swan Valley in the NCDE.

The Lolo Forest Plan and Travel Plan/MVUM leave grizzly bears exposed to oversnow motorized use, including off-trail, cross-country use, for from 8 weeks to 21.5 weeks when they are out of their dens. The Lolo National Forest says there are 628 miles of snowmobile routes and 66% of the Forest is open to oversnow cross-country motorized use. *“Over-snow vehicles are authorized to travel off of designated routes and to travel cross-country in specific areas on the Forest. Cross-country travel with over-snow vehicles is allowed on about 66 percent of the Forest, either all winter or seasonally.”*

Similar issues are associated with the Travel Plans for the Kootenai, Idaho Panhandle and Colville National Forests.

The Lolo Plan BiOp at page 25 states:

“•About 206,000 acres of cross-country over-snow vehicle use on the Forest could occur within grizzly bear denning habitat during the denning period, with about 205,100 of these acres open to cross-country over-snow vehicle use during the den emergence period.” (emphasis provided).

Under the Court ordered denning dates, the amount of acreage open to designated snowmobile routes and cross-country snowmobile use during the den emergence period is far greater. The resulting impacts have not been analyzed.

There is no mention or specifics in the DCS related to grizzly bear denning and denning habitat including disturbance from open roads and motorized trails including winter use and off-trail snowmobile use, which is a large problem particularly in the Selkirks including the State Land BMU.

Linnell, et al. (2002) report that bears generally select dens 1-2km from human activity. Ciarniello, et al. (2005) found grizzly bears avoid roads when selecting den sites. Bader and Sieracki (2022) found grizzly bears selected dens 1.96km away from open motorized routes. Pigeon, et al. (2014) found den selection dropped by 30% at road density 1mi/mi² (0.6km/km²); reduced by 70% at $\approx 2\text{mi/mi}^2$ (1.2km/km²) and reduced to $\approx$ zero at 3.2mi/mi² (2km/km²).

Activity within 200m can cause den abandonment leading to increased cub mortality. Impacts short of den abandonment include physiological changes such as increased heart and breathing rate and wakefulness (Fortin, et al. 2016).

According to Parks Canada and the province of Alberta, at least six denned grizzly bears have been disturbed by recreationists in parks with one human injury and elsewhere in Canada a person was killed in an encounter with a denning bear that was disturbed by human activity. A female grizzly bear and her cubs were killed by an avalanche set off by a snowmobile (Hilderbrand et al. 2000).

Any additional loss of available denning habitat would be a limiting factor on the ability of connectivity habitat areas to support residential occupancy by grizzly bears, including females with cubs.

The DCS has no standards or objectives pertaining to winter use including snowmobiles which are allowed during the non-denning seasons.

There must be a new assessment of grizzly bear denning chronology. The problem with the government analyses is they base denning dates that rely on data as far back as 40 years.

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. Vital Ground published a report that quoted the SCY Recovery Coordinator: “Wayne Kasworm, a biologist for the U.S. Fish and Wildlife Service’s [Grizzly Bear Recovery Program](#), has been monitoring grizzly activity, including denning behavior, since the 1980s. “I can’t say this unequivocally, but it certainly appears over time that we are getting earlier den exit than maybe we have in the past,”... he is concerned that early den departure might affect the health of

grizzly cubs. *If that timing were to be cut short, Kasworm worries that we might see an increase in cub mortality.*” <https://www.vitalground.org/climate-change-grizzly-hibernation-research/>

If plant phenology cannot adapt quickly enough, bears, especially in late fall/early winter and late winter/early spring, 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.

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. Other impacts include 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 (Montana Fish, Wildlife & Parks 2026; Jonkel, Montana Fish, Wildlife & Parks annual data). With climate change, such failures will become more common.

These impacts are not hypothetical or predictions of the future. Montana Fish, Wildlife & Parks issued a public announcement on July 29, 2026 titled *Berry Crops Are Struggling, Bear Conflicts Are On The Rise* which includes these statements:

Montana Fish, Wildlife & Parks specialists around the state are seeing similar behavior – bears that should be foraging for berries in the mountains are getting into trouble around homes and communities looking for something to eat.

Jamie Jonkel is FWP’s long-time bear conflict specialist in the Missoula area. He’s experienced this cycle of behavior time and again when natural food sources aren’t available.

“This year is panning out to be one of the worst natural food failures on record,” said Jonkel.

Hungry bears – both black bears and grizzlies – can be attracted to a variety of things around homes. “In general terms, this is not a very good year,” said Wayne Kasworm, a grizzly bear biologist for the U.S. Fish and Wildlife Service who tracks huckleberry production in the Selkirk, Cabinet and Yaak mountain ranges. With a changing climate, scientists like him increasingly are tracking huckleberries that are an important food source for grizzly bears and other wildlife and coveted by people as well. <https://www.oregonlive.com/environment/2022/09/scientists-study-climate-changes-effect-on-huckleberries-a-key-food-source-for-grizzly-bears.html>

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).

“Shifts in bear habitat availability and quality are projected to continue in the face of climate change” (Kurth et al. 2024) (emphasis provided).

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).

Marshall et al. (2026) wrote: *“We find that a snow drought this severe [as in 2026] across the western United States was approximately 4.4 times more likely in the current climate than in the preindustrial period.”*

Mining

Mining is also a persistent threat to the Cabinet Mountains with two major proposed mines. This tiny population of grizzly bears could be heavily impacted. Kendall, et al. (2015) found the loss of just one adult female can create population decline to even more critically low levels.

Grazing

There are no habitat objectives in the DCS specific to grazing (p. 33) even though there are 43,000 acres within the PCA open to grazing and more within the DMA. This is significant in relation to the small PCAs. The final Strategy should include recommendations for retiring grazing leases and non-renewal for those that are expiring. Additionally, allow for leases to be bought out from willing sellers. All existing leases should have terms and conditions that include protective measures including range riders and strict standards for removal and disposal of deceased livestock.

Enforcement and Monitoring

On page 65 the DCS states in regards to monitoring and evaluation: *“Available effort is influenced by funding, number of personnel available, area(s) of emphasis and other circumstances.”*

Compounding nearly every issue and threat is a lack of enforcement, research and management as budgets have been reduced and patrols are fewer. The DCS does not account for this. The current round of cuts in federal government positions in the U.S. Forest Service, National Park Service, Bureau of Land Management and the Service are having a widespread effect on enforcement, management, research and monitoring. According to the Center for Biological Diversity, more than 530 of the Service’s positions that have been terminated were biologist positions part of the 20% of total Service losses

<https://oregoncapitalchronicle.com/briefs/u-s-fish-and-wildlife-sees-nearly-20-drop-in-staff-since-trump-took-office/#:~:text=By:%20Mia%20Maldonado%20%2D%20December%2016%2C%202025%202:21%20pm&text=Nearly%201%2C800%20U.S.%20Fish%20and,to%20cut%20the%20federal%20workforce>

The Service lost the assistant National Grizzly Bear Recovery Coordinator and the Recovery Coordinator (Cooley 2025) said this would affect what the Service can do on monitoring of grizzly bear populations including May Be Present mapping. A grizzly bear recovery position in the CYE and SE was lost and monitoring in the SE has been halted (Service 2025).

The main deterrent to illegal behavior on National Forest lands is the visible presence of Forest Service personnel whether research, trail crews, wildlife, fisheries, restoration and campground staff, including fee collection and hosts. These positions have been cut the deepest and there is a dearth of visual presence of Forest Service employees on National Forest lands. Food storage orders are almost impossible to enforce with the lack of staff. Thus, deterrence has been significantly reduced, changing conditions significantly on the landscape and significantly increasing the potential for unauthorized taking of grizzly bears.

There are simply not enough enforcement staff to patrol the millions of acres of National Forests with grizzly bear habitat and its tens of thousands of miles of roads and motorized trails. Illegal mortality of grizzly bears is certain to increase under this scenario.

Submitted by:

Mike Bader

Mike Bader, independent consultant
on behalf of Flathead-Lolo-Bitterroot Citizen Task Force

Literature Cited

Bader M, P Sieracki. 2022. Grizzly Bear Denning Habitat and Demographic Connectivity in Northern Idaho and Western Montana. *Northwestern Naturalist* 103(3):209-225.

Boulanger J, GB Stenhouse. 2014. The Impact of Roads on the Demography of Grizzly Bears in
Ciarniello LM, MS Boyce, DR Seip, DC Heard. 2005. Denning behavior and den site selection of
grizzly bears along the Parsnip River, British Columbia, Canada. *Ursus* 16(1):47-58.

Coleman TH, CC Schwartz, KA Gunther, S Creel. 2013. Influence of overnight recreation on grizzly bear movement and behavior in Yellowstone National Park. *Ursus* 24(2):101-110.

Corradini A, MA Haroldson, F Cagnacci, CM Costello, DD Bjornlie, DJ Thompson, JM Nicholson, KA Gunther, KR Wilmot, FT van Manen. 2023. Evidence for density-dependent effects on body composition of a large omnivore in a changing Greater Yellowstone Ecosystem. *Global Change Biology* 29:4496–4510.

Costello CM, Mace RD, Roberts L. 2016. Grizzly bear demographics in the Northern Continental Divide Ecosystem, Montana: research results (2004–2014) and suggested techniques for management of mortality. Montana Department of Fish, Wildlife and Parks. Helena, Montana.

- Fortin JK, Rode KD, Hilderbrand GV, Wilder J, Farley S, Jorgensen C. 2016. Impacts of Human Recreation on Brown Bears (*Ursus arctos*): A Review and New Management Tool. PLoS ONE 11 (1): e0141983. doi:10.1371/journal.pone.0141983
- Fowler NL, JL Belant, G Wang, BD Leopold. 2019. Ecological plasticity of denning chronology by American black bears and brown bears. *Global Ecology and Conservation*. 20 (2019) e00750. 10p.
- Gunther K. 1990. Visitor impact on grizzly bear activity in Pelican Valley, Yellowstone National Park. *Bears: Their Biology and Management* (8):73-78. International Conference on Bear Research and Management.
- Hilderbrand GV, LL Lewis, J Larrivee, SD Farley. 2000. A Denning Brown bear, *Ursus arctos*, Sow and Two Cubs Killed in an Avalanche on the Kenai Peninsula, Alaska. *The Canadian Field Naturalist* 114:498.
- Kasworm W, T Radandt, J Teisberg, C Servheen, H Cooley, T Manley, K Annis. 2024. Cabinet Mountains Grizzly Bear Augmentation Monitoring. Interagency Grizzly Bear Committee. 23p.
- Kasworm W, T Radandt, J Teisberg, M Proctor. 2025. Selkirk and Cabinet-Yaak Grizzly Bear Monitoring. 2025. Interagency Grizzly Bear Committee. 19p.
- Kendall KC, AC Macleod, KL Boyd, J Boulanger, JA Royle, WF Kasworm, D Paetkau, MF Proctor, K Annis, TA Graves. 2015. Density, distribution, and genetic structure of grizzly bears in the Cabinet-Yaak Ecosystem. *Journal of Wildlife Management* 80(2).
- Kurth KA, KC Malpeli, JD Clark, HE Johnson, FT van Manen. 2024. A systematic review of the effects of climate variability and change on black and brown bear ecology and interactions with humans. *Biological Conservation* 291 (2024) 110500.
- Lamb C, L Smit, B McLellan, LM Vander Vennen and M Proctor. 2022. Considerations for furbearer trapping regulations to prevent grizzly bear toe amputation and injury. *Wildlife Society Bulletin* e1344.
- Linnell JDC, J.E. Swenson, R. Andrsen and B. Barnes. 2002. How Vulnerable Are Denning Bears to Disturbance? *Wildlife Society Bulletin*.
- Marshall AM, M Cowherd, S Rahimi, Y Ye. 2026. Proceedings of the National Academy of Sciences 123(30). e2612961123.
- Mattson D. 2019. Effects of the Proposed Black Ram Project on Yaak Grizzly Bears. Comments on the Black Ram Environmental Assessment. The Grizzly Bear Recovery Project. 8/6/2019. 23p.
- Mattson DJ. 2020. Objections to the Black Ram Environmental Assessment & Decision Notice Kootenai National Forest. The Grizzly bear recovery Project. Livingston, MT. 53p.

- Mattson DJ. 2023. Flawed Science. A Critique of Science Practices and Products by the Interagency Grizzly Bear Study team 2006-2023. Report GBRP-2023-1. 113p.
- McLellan BN, G Mowat and CT Lamb. 2018. Estimating unrecorded human-caused mortalities of grizzly bears in the Flathead Valley, British Columbia, Canada. PeerJ 6: e5781.
- McLoughlin PD, GB Stenhouse. 2021. Mapping ecological data and status of grizzly bears (*Ursus arctos*) in Canada. Technical Report to NatureServe Canada. 71 p.
- Miller CR, LP Waits 2003. The history of effective population size and genetic diversity in the Yellowstone grizzly (*Ursus arctos*): Implications for conservation. Proceedings of the National Academy of Sciences 100(7): 4334-4339.
- Milligan S, L Brown, D Hobson, P Frame, G Stenhouse. 2018. Factors affecting the success of grizzly bear translocations. Journal of Wildlife Management 82(3):519-530.
- Montana Fish, Wildlife & Parks. 2019.
https://fwp.mt.gov/binaries/content/assets/fwp/commission/2019/jun-19/wildlife/a4_justification-2019-trapping---non-target-captures--excess-take_20190508.pdf?utm_source=chatgpt.com
- O’Grady JJ, Brook BW, Reed DH, Ballou JD, Tonkyn DW, Frankham R. 2006. Realistic levels of inbreeding depression strongly affect extinction risk in small populations. Biological Conservation 133:42-51.
- Pigeon KE, Nielsen SE, Stenhouse GB, Côté SD. 2014. Den selection by grizzly bears on a managed landscape. Journal of Mammalogy 95(3):559–571.
- Pigeon KE, G Stenhouse, SD CÔTÉ. 2016. Drivers of hibernation: linking food and weather to denning behaviour of Grizzly Bears. Behavioral Ecology and Sociobiology 70:1745–1754.
- Proctor MF, BN McLellan, GB Stenhouse, G Mowat, CT Lamb, MS Boyce. 2019. Effects of roads and motorized human access on Grizzly Bear populations in British Columbia and Alberta, Canada. Ursus (30e2):16-39.
- Proctor MF, CT Lamb, J Boulanger, AG MacHutchon, WF Kasworm, D Paetkau, CL Lausen, EC Plam, MS Boyce, C Servheen. 2023. Berries and bullets: influence of food and mortality risk on grizzly bears in British Columbia. Wildlife Monographs. 77p.
- Reed DH, JJ O’Grady, BW Brook, JD Ballou, R Frankham. 2003. Estimates of minimum viable population sizes for vertebrates and factors influencing those estimates. Biological Conservation 113: 23-34.
- Rogers SA, CT Robbins, PD Mathewson, AM Carnahan, FT van Manen, MA Haroldson, WO Porter, TR Rogers, T Soule, RA Long. 2021. Thermal constraints on energy balance, behaviour and spatial distribution of grizzly bears. Functional Ecology. [10.1111/1365-2435.13727](https://doi.org/10.1111/1365-2435.13727)

Shaffer ML, FB Samson. 1985. Population size and extinction: a note on determining critical population sizes. *American Naturalist* 125:144-152.

Thompson PR, J Paczkowski, J Whittington. 2025. Integrating human trail use in montane landscapes reveals larger zones of human influence for wary carnivores. *Journal of Applied Ecology*. 62:344-359.

Traill LW, CJA Bradshaw, BW Brook. 2007. Minimum viable population size: A meta-analysis of 30 years of published estimates. *Biological Conservation* 139: 159-166.

U.S. Fish & Wildlife Service. 2017. Grizzly Bear Recovery Plan Supplement: Revised Demographic Criteria for the Yellowstone Ecosystem. Grizzly bear Recovery Office, Missoula, MT. 16p.

U.S. Fish & Wildlife Service. 2018. NCDE Subcommittee. Conservation strategy for the grizzly bear in the Northern Continental Divide Ecosystem. 170p. + appendices.

U.S. Fish & Wildlife Service. 2023. Biological Opinion on the Lolo National Forest Plan.

U.S. Fish & Wildlife Service. 2024. Species Status Assessment for the Grizzly Bear (*Urus arctos horribilis*) in the Lower-48 States. Version 2.2-October 28, 2024. 398p.

Whitlock C, Cross WF, Maxwell B, Silverman N, Wade AA. 2017. 2017 Montana Climate Assessment. Montana State University and University of Montana, Montana Institute on Ecosystems. 318 p.