**Whitebark Objection**

We wrote in our comments:

Page 7. W. Please disclose how often the Project area has been surveyed for wolverines, pine martins, northern goshawks, monarch butterflies, grizzly bears, whitebark pine and lynx.

Page 8. X. Is it impossible for wolverines, pine martins, monarch butterflies, northern goshawks, grizzly bears, whitebark pine and lynx to inhabit the Project area?

 Y. Would the habitat be better for wolverines, monarch butterflies, pine martins, northern goshawks, grizzly bears, whitebark pine and lynx if roads were removed in the Project area?

 Z. What is the U.S. FWS position on the impacts of this Project on wolverines, pine martins, monarch butterflies, northern goshawks, grizzly bears, whitebark pine and lynx? Have you conducted ESA consultation?

 AA. Please provide us with the full BA for the wolverines, monarch butterflies, pine martins, northern goshawks, grizzly bears, whitebark pine and lynx.

Page 9. AA. Please provide us with the full BA for the wolverines, monarch butterflies, pine martins, northern goshawks, grizzly bears, whitebark pine and lynx.

 EE. Please disclose what is the best available science for restoration of whitebark pine.

Pages 83-88. Page 29 of the Draft Revised EA states: ***The proposed project incorporates at-risk plant design features that would limit negative effects to at-risk plant populations, consistent with Plan standard FW-STD-PRISK 01. Three at-risk plant species would have the potential to be affected by project activities, one of which is whitebark pine; whitebark pine is the only known at-risk plant that occurs in the project area. The botanist would survey potential treatment units before treatments are applied and if new populations of at- risk plants are found, then specific protection measures would be implemented to protect population persistence on the landscape. The proposed project is not likely to jeopardize whitebark pine because few mature trees exist in treatment units and these would be re-tained per project Design Features. Some immature trees may be lost, but this would not result in a trend toward federal list-ing. The Forest Botanist would evaluate and sign a resource review checklist at every new phase or sale of the project, and add additional mitigation measures if warranted by changing conditions.***

Not all ecosystems or all Rocky Mountain landscapes have experienced the impacts of fire exclusion. In some wilderness areas, where in recent decades natural fires have been allowed to burn, there have not been major shifts in vegetation composition and structure (Keane et al. 2002). In some alpine ecosystems, fire was never an important ecological factor. In some upper subalpine ecosystems, fires were important, but their rate of occurrence was too low to have been significantly altered by the relatively short period of fire suppression (Keane et al. 2002). For example, the last 70 to 80 years of fire suppression have not had much influence on subalpine landscapes with fire intervals of 200 to several hundred years (Romme and Despain). Consequently, it is unlikely that fire exclusion has yet to significantly alter stand conditions or forest health within Rocky Mountain subalpine ecosystems. Whitebark pine seedlings, saplings and mature trees, present in subalpine forests proposed for burning, would experience mortality from project activity. Whitebark pine is fire intolerant (thin bark). Fire favors whitebark pine regeneration (through canopy opening and reducing competing vegetation) only in the presence of adequate seed source and dispersal mechanisms (Clarks Nutcracker or humans planting whitebark pine seedlings). White pine blister rust, an introduced disease, has caused rapid mortality of whitebark pine over the last 30 to 60 years.

Keane and Arno (1993) reported that 42 percent of whitebark pine in western Montana had died in the previous 20 years with 89 per-cent of remaining trees being infected with blister rust. The ability of whitebark pine to reproduce naturally is strongly affected by blister rust infection; the rust kills branches in the upper cone bearing crown, effectively ending seed production. Montana is currently experiencing a mountain pine beetle epidemic. Mountain pine beetle prefer large, older whitebark pine, which are the major cone producers. In some areas the few remaining whitebark that show the potential for blister rust resistance are being attacked and killed by mountain pine beetles, thus accelerating the loss of key mature cone- bearing trees. Whitebark pine seedlings and saplings are very likely present in the subalpine forests proposed for burning and logging. In the absence of fire, this naturally occurring white- bark pine regeneration would continue to function as an important part of the subalpine ecosystem.

Since 2005, rust resistant seed sources have been identified in the Northern Rockies (Mahalovich et al 2006). Due to the severity of blister rust infection within the region, natural whitebark pine regeneration in the project area is prospective rust resistant stock. Although prescribed burning can be useful to reduce areas of high-density subalpine fir and spruce and can create favorable ecological conditions for whitebark pine regeneration and growth, in the absence of sufficient seed source for natural re-generation maintaining the viability and function of whitebark pine would not be achieved through burning. Please find Keane and Arno attached. Planting of rust-resistant seedlings would likely not be sufficient to replace whitebark pine lost to fire activities. What surveys have been conducted to determine presence and abundance of whitebark pine re-generation?

From page 29 of the Draft Revised EA, it appears that you won’t do surveys until after the decision is signed in violation of NEPA, NFMA and the APA. If whitebark pine seedlings and saplings are present, what measures will be taken to protect them? Please include an alternative that excludes burning in the presence of whitebark pine regeneration (consider ‘Daylighting’ seedlings and saplings as an alternative restoration method). Will restoration efforts include planting whitebark pine? Will planted seedling be of rust-resistant stock? Is rust resistant stock available? Would enough seedlings be planted to replace whitebark pine lost to fire activities? Have white pine blister rust surveys been accomplished? What is the severity of white pine blister rust in proposed action areas?

Pages 88-90: Does the Custer Gallatin N.F. have any forest plan biological assessment, biological opinion, incidental take statement, and management direction amendment for whitebark pine? Please see the attached paper by Six et al 2021 Whitebark Genetics 2021. Six et at found: ***Anthropogenic change is creating or enhancing a number of stressors on forests. To aid forests in adapting to these stressors, we need to move beyond traditional spacing and age-class prescriptions and take into account the genetic variability within and among populations and the impact our actions may have on adaptive potential and forest trajectories. Because so little is known about the genetic diversity in most forest trees, and because it is key to effective conservation, studies of genet-ic diversity and structuring in forest trees should be a top priority in forest adaptation and conservation efforts.*** The project is not following the best available science and is not meeting the purpose and need.

Since Whitebark pine are now proposed to be listed under the ESA, you must formally recon-sult with the FWS on the impact of the project on whitebark pine. To do this the Forest Service will need to have a complete and recent survey of the entire project area for whitebark pine and consider planting whitebark pine as the best available sci-ence by Keene et al. states is the only way to get new whitebark pine to grow. The Forest Service is incorrect when it states that the project will have ***“No significant effects would result from this project or cumulatively with other activities on National Forest or adjacent lands that would affect at-risk plant species’ ability to persist on the landscape.***” Since you have done no surveys of whitebark pine what is the basis of the “No effect” statement? Please formally consult with the FWS on the impact of the project on Whitebark pine. Since whitebark pine are very slow growing trees and take years to mature, what scientific evidence to you have to back up the following statement on page 29? “***Some immature trees may be lost, but this would not result in a trend toward federal listing.”***

Pages 90-93: The agency is violating the NEPA by promoting fuel reduction projects as protection of the public from fire, when this is actually a very unlikely event; the probability of a given fuel break to actually have a fire in it before the fuels reduction benefits are lost with conifer regeneration are extremely remote; forest drying and increased wind speeds in thinned forests may increase, not reduce, the risk of fire. The agency is violating the NEPA by providing false reasons for logging to the public by claiming that insects and disease in forest stands are detrimental to the forest by reducing stand vigor (health) and increasing fire risk. There is no current science that demonstrates that insects and disease are bad for wildlife, including dwarf mistletoe, or that these increase the risk of fire once red needles have fallen. The agency is violating the NEPA by claiming that logging is needed to create a diversity of stand structures and age classes; this is just agency rhetoric to conceal the real of logging to the public.

The agency is violating the NEPA by using vague, unmeasureable terms to rationalize the proposed logging to the public. How can the public measure “resiliency?” What are the specific criteria used to define resiliency, and what are the ratings for each proposed logging unit before and after treatment? How is the risk of fire as affected by the project being measured so that the public can understand whether or not this will be effective? How is forest health to be measured so that the public can see that this is a valid management strategy? What specifically constitutes a diversity of age classes, how is this to be measured, and how are proposed changes measured as per diversity? How are diversity measures related to wildlife (why is diversity need-ed for what species)? If the reasons for logging cannot be clearly identified and measured for the public, the agency is not meeting the NEPA requirements for transparency.

The agency will violate the Forest Plan by logging riparian areas; almost all wildlife species will be harmed by this treatment. The agency will violate the NFMA by failing to ensure that old growth forests are well-distributed across the landscape. The Revised Forest Plan has not standards for old growth lodgepole forests in violation of NEPA and NFMA. The project is in violation of NEPA for not informing the public of this. The Revised Forest and the project are in violation of NFMA and the ESA for not insuring viable populations of natives species including grizzly bears, lynx, and wolverines.

*Whitebark pine, a proposed species for federal listing under the Endangered Species Act, is found at higher elevations. Whitebark pine in the Greater Yellowstone Area exhibits lower blister rust infection than other ecosystems, such as the Northern Continental Divide. The Custer Gallatin National Forest cooperates with other agencies in the Greater Yellowstone Coordinating Committee to coordinate land management on over 15 million acres of federal land in the Greater Yellowstone Area.* Custer Gallatin NF Land Management Plan (CGLMP)(January, 2022) p. 14

**Objection:** Whitebark pine is a listed species with full ESA protection. The Custer Gallatin NF was so anxious to inject into this project, under the provisions of Revised Forest Plan and the NFMA 2012 Forest Planning Rule. Well, now the Plan is outdated, and needs to be amended. New management standards must be added based upon USFWS consultation, a new biological opinion (BO) and terms and conditions designed to mandate forest management standards that **contribute to the recovery** of the listed whitebark pine in the SPLAT project area, and forest-wide. Emphasis added. Anything less is unacceptable under the legal requirements of the ESA and NEPA.

***At-Risk Plant Species (PRISK)***

*Introduction*

*This section addresses plant species that are recognized as at-risk species. This includes species recognized as threatened, endangered, proposed, or candidate species under the Endangered Species Act by the U.S. Fish and Wildlife Service and species identified by the regional forester as species of conservation concern.* ***Species of conservation concern are species other than federally recognized species that are known to occur in the plan area*** *and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species’ capability to persist over the long term in the plan area (36 CFR 219.9; FSH 1909.12.52).* Emphasis added.

*The regional forester’s list of plant species of conservation concern for the Custer Gallatin National Forest and associated species-specific evaluation of distribution, abundance, population trends, habitat trends, habitat attributes, and relevant threats are found at the Northern Region land management planning webpage. Forest Service Manual 2670 provides additional at-risk species management direction.*

*In addition to plan components outlined below, meeting or moving towards the desired conditions outlined for each of the broad potential vegetation types found in the terrestrial vegetation and invasive species sections are intended to also provide for long-term persistence of at-risk plant species.*

*Desired Conditions (FW-DC-PRISK)*

***01*** *Habitat conditions support the recovery and persistence of plant species that are recognized as at-risk species. Ecological conditions and processes that sustain the habitats currently or potentially occupied by these species are present.*

***02*** *Whitebark pine promotes community diversity and community stability in high mountain ecosystems. Ecological conditions and processes lead to an increase in cone-bearing trees, particularly in areas projected to be suitable under future climates, and a decrease in susceptibility to succession to more shade tolerant conifers, mountain pine beetle, wildland fire and blister rust.*

*Goals (FW-GO-PRISK)*

***01*** *The Custer Gallatin National Forest cooperates with the Greater Yellowstone Coordinating Committee-Whitebark Pine Subcommittee on whitebark pine conservation strategies and adaptive management of habitat.*

*Chapter 2. Forestwide Direction*

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***02*** *The Custer Gallatin National Forest works with other agencies and landowners to expand inventories, identify potential habitat for at-risk species, and promote protection and restoration of associated habitats.*

***03*** *The Custer Gallatin National Forest collaborates with Tribes, Federal, and State agencies, and other partners regarding applicable conservation plans in seeking progress towards conservation of at-risk plant species.*

*Objectives (FW-OBJ-PRISK)*

***01*** *Progress towards conservation of an at-risk plant species is made by completing at least two projects per decade with design features that restore habitat or populations of such species.*

***02*** *Treat a minimum of 1,000 acres per decade for the purpose of sustaining or restoring whitebark pine. Achieving this would also contribute to FW-OBJ-VEGF-01.*

*Standards (FW-STD-PRISK)*

***01*** *Management activities that have potential to adversely affect the long-term persistence of at-risk plant populations* ***shall be mitigated with project-level design criteria, or the populations avoided during project implementation****.* (Emphasis added.)

*Guidelines (FW-GDL-PRISK)*

***01*** *To protect at-risk plant species, wildfire control lines and retardant should not be placed within known populations of at-risk plant species with the exception of where they may be allowed for purposes of restoration or being advantageous to the at-risk plant species, or when needed to protect human life or private property or to manage infrastructure. For at-risk plant populations, exceptions will be determined based on the species and habitats that may be affected in specific fire incidents.*

***02*** *To support the recovery or long-term persistence of whitebark pine, when conducting management activities in or near whitebark pine trees or stands identified for collection of scion, pollen, or seed; areas identified as important for cone production or blister rust resistance; and whitebark pine plantations,* ***project-level design criteria or wildland fire management strategies should protect them from potential loss.*** (Emphasis added).

CGLMP (2022), pps. 31-32

**Objection:** Forest Plan Goals, Forestwide Direction, Objectives, Standards and Guidelines listed above are no longer adequate for whitebark pine. The Forest Plan must be amended. Recovery of whitebark pine is the new forestwide management goal. The top priority at the programmatic and project level of Forest Plan implementation.

*Effects on Clark’s nutcrackers would be neutral. Whitebark pine treatments, although highly limited due to the relative scarcity of mature whitebark pine trees and stands of this species in the South Plateau area, would benefit Clark’s nutcrackers in the mid and long term as whitebark pine that are released by removing competing conifers mature. Reduction in conifer trees in other areas may be detrimental to
Clark’s nutcrackers.* South Plateau Fuels and Forest Health Project (SPLAT), Wildlife Report, Randy Scarlett (West Zone Wildlife Biologist), p. 164.

**Objection:** No citation. Will exposing Clark’s nutcrackers to predators by “…removing competing conifers…” increase or decrease the population of Clark’s nutcrackers in the short-term, and/or long-term? The USFS-USDA does not know, it assumes/presumes to know. It “believes,” which is more theology than biology.

The whitebark pine is a keystone species with direct and indirect, **interrelated ecological links** to the health of the ecosystem(s) upon which grizzly bears, squirrels, mountain pine beetle and Clark’s nutcracker depend. Emphasis added.

NEPA and the ESA require that these **“significant” ecosystem relationships between these four species** be maintained and improved in order to recover, and eventually remove from the ESA list whitebark pine and grizzly bears. Emphasis added. “Daylighting” selected whitebark pine using industrial machines and man-induced fire will upset the delicate balance already at play in the ecosystem – with no material assistance from man and man’s “brilliant” imagination. Leave Creation to the ultimate expert, leave it to Mother Nature.

*Red squirrels do not inhabit pure whitebark pine stands. This is because whitebark cone production does not occur on a reliable or predictable basis. Red squirrels, instead, forage in mixed forest
stands that include whitebark pine, where forage opportunities are more reliable. Grizzly bears, therefore, also tend to forage in mixed stands because of their reliance upon red squirrels to obtain and concentrate the whitebark pine nuts.* (SPLAT), Wildlife Report, p. 28.

**Objection:** If you run the squirrels and Clark’s nutcrackers out of the “…mixed forest stands that include whitebark pine…” you lose the squirrels, and the nut cashes. Grizzlies are significantly impacted in a negative way if cashes are lost – a “taking” of grizzlies due to preventable human arrogance and imagining that there is an absolute (scientific) truth, that in fact, more resembles a WAG (“wild ass guess”) than science-based analysis.

*Most of the project area is heavily forested (primarily lodgepole pine) and consists mostly of mid-seral stands dominated by lodgepole pine. Small patches of Douglas-fir are found in the lower elevations near the valley bottom. Subalpine fir, Engelmann spruce, and whitebark pine are relatively scarce at mid and low elevations; they are restricted to a relatively small proportion of the landscape along the Idaho-Montana border and in the northwestern portion of the project area.*  (SPLAT), Wildlife Report, p. 29.

**Objection:** This description is inadequate and fails to disclose the location, amount (neither patch size, acres, or individuals in a specific location, habitat condition, nor distribution).

There is no site-specific map for whitebark pine. There must be a detailed, “fine-filter” scale map of whitebark pine added to the NEPA analysis, public disclosure and project record. NEPA and ESA require an inventory and map to demonstrate the “site-specific,” “fine-filter” data and analysis required of a project-level NEPA process. Neither the public, nor the USFS-USDA have any clue as to where or how many, nor the abundance and distribution of whitebark pine groups and individuals in the project area. No disclosure is a “no-go,” deal-breaker extraordinaire. This is a significant, unresolved issue, which requires an EIS, an updated SPLAT BA (biological assessment), a Forest Plan amendment and a new project-level and forestwide BO to include the significant new information of the ESA listing, and subsequent management guidance issued by the USFWS.

The SPLAT BA in the record is outdated (pre-listing), issued before the whitebark pine was listed (December, 2022) as a threatened species with full ESA protection. Apparently, neither the project, nor the Forest Plan, has a biological opinion (BO) which reflects in the project record the proper, current status for whitebark pine. The NEPA and ESA process must be supplemented post-listing. Before proceeding, update the listed whitebark pine BA, conduct the necessary “consultation” with the USFWS and supplement the record with the appropriate Section 7 “terms and conditions,” if and when an incidental take statement is issued by USFWS.

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5.d. Forest (Vegetation) Management Actions

*Forest (vegetation) management includes a variety of methods and techniques used to manage healthy forests, and known previous projects that fall within this action type are summarized in Table D of Appendix C. These types of forest management activities include timber harvest (using chainsaws and using machinery which may create skid trails) and management/hazardous fuels reduction (using chainsaws and using machinery which may create skid trails, to remove dead and dying trees and understory vegetation that may carry wildfire), salvage harvest (removing dead trees either by hand or using machinery which may create skid trails), pest control (use of Verbenone or Carbaryl insecticide), precommercial thinning (thinning trees that are too small for a commercial timber harvest), silviculture stand improvement projects (using a planned set of treatments such as thinning, harvesting, planting, pruning, prescribed burning, and site preparation designed to change the current stand structure and composition to one that meets a management goal), and silvicultural reforestation activities (planning for natural regeneration or tree planting).*

*Forest management related road construction, maintenance, and use may also be part of vegetation management projects. Harvest of WBP has not been well tracked as records often group it with other species and incorrectly identify it as another species. Silviculture approaches create a system that excludes regeneration opportunities and increases competition by planting faster-growing species, and consequently, stands that contain WBP prior to harvest are not routinely replanted with WBP.*

*Projects that implement resetting the successional stage of the forest stands need to be carefully thought out and planned to increase WBP recruitment. Campbell and Antos (2003) noted that successional patterns in WBP forests are more complex than others have reported, finding that subalpine fir readily established after fire in their British Columbia study areas, and although subalpine fir density was increasing in older WBP stands with relatively open canopies, they estimated that succession to subalpine fir would take more than 500 years. Campbell and Antos (2003) reported that WBP in their study area was stress-tolerant (able to persist under conditions that restrict production), was capable of surviving long periods of suppressed growth, and was able to release upon reaching the main canopy after more than 150 years of low growth rates. The results of these studies indicate that the loss of WBP due to succession to subalpine fir and Engelmann spruce in some areas may be an extremely slow process and that WBP may be more shade-tolerant and resilient to suppression than previously suggested. Further, thinning and timber harvest projects intended to improve WBP recruitment may increase WBP susceptibility to mountain pine beetle infestation, if the beetles do not have their preferred food sources during outbreak years. The densification of and succession of subalpine fir and Engelmann spruce co-occurred with WBP mortality caused by bark beetle outbreaks and/or blister rust; therefore, disentangling the effects of blister rust- and bark beetle-mortality on succession from the effects of fire suppression in these studies is difficult (Hartwell et al. 1997; Arno et al. 1993 in Keane et al. 1994; Flanagan et al. 1998).*

*Projects including those in WUI, salvage harvests, and pest control efforts remove dead and diseased trees, and may encourage natural WBP recruitment. In large acreages of dead trees, salvage harvest and firewood cutting projects can be designed to avoid damaging or killing live*

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*WBP, which may be resistant to blister rust. Projects where the removal of surface and ladder fuels through hand cutting, piling of project generated materials, and burning the piles with the purpose of increasing stand resilience to fire may also be beneficial for the recruitment of WBP. Felling trees and creating skid trails for salvage harvests may damage or kill WBP seedlings and saplings and compress the soil and undetected seeds. Implementation of the conservation measures (e.g., CM 1-10, 12-14, and 16-21) in the project design that avoid impacts to WBP seedlings, saplings, and live mature trees, and that minimizes soil disturbance and compaction that may destroy microsites for cached seeds, interrupts drainage, and limits tree rooting will have beneficial long-term impacts to WBP.*

*Vegetation management includes many project types (e.g., WUI, salvage harvest of dead trees, harvest of Christmas trees, pest control, firewood collection) and sizes (less than 1 acre to thousands of acres). In this SA, we evaluated the effects of smaller forest management projects that damage or kill fewer than 125 live WBP of all age classes. Effects of larger project will be addressed by a standalone consultation or may be covered by a future standing analysis. We have elected to use a limit of 125 WBP of all age classes as a threshold for forest (vegetation) management projects, based on our understanding of the stressors to WBP, the level of ongoing restoration efforts, and our commitment to track and re-evaluate project impacts and restoration efforts for the life of this SA. While forest management projects will result in adverse effects to WBP, these should not result in population level effects for the reasons described above.*

*5.e. Recreation Development and Activities*

*The following recreational activities commonly occur in WBP habitat: construction and maintenance of hiking trails and roads (analyzed in the Infrastructure section); motorized use of trails year-round; (snow machines, all-terrain vehicles (ATV), utility task vehicles (UTV), motorcycles, electric bikes, and mountain bikes); operation of facilities (snow making, lift chairs analyzed in the Infrastructure section); firewood consumption; special use permits (hunting, photography); and horseback riding.*

*There are 91 recreation sites within WBP habitat in the action area, including developed campsites, horse corrals, trail heads, parking areas, toilets, staging areas, scenic overlooks, and primitive campsites. Back country campers and hikers may burn WBP for campfires, cause ground compression, climb on trees, or remove WBP when clearing trails. Motorized recreation activities, hiking, use of pack animals, and construction equipment used for trail maintenance and construction, may cause soil disturbance and compaction, destroy microsites for cached seeds, interrupt drainage, limit tree rooting, and damage seedlings. Over snow vehicles (OSV) could break the tops of trees or could damage branches or seedlings and saplings. We acknowledge that there may be some damage and death to WBP seedlings and saplings from authorized and unauthorized off-road motorized recreation activities which could affect individuals or local areas. Overall, impacts from all recreation activities could affect less than one percent of the species wide range (based on IUCN threats summary for WBP in Canada) (USFWS 2021) and are not considered a significant threat to WBP.*

*We conclude that, while not all adverse effects can be avoided, the implementation of the conservation measures (e.g., CM 1-14, and 16-21) will minimize impacts to WBP and that*

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*recreation activities will not have population level effects. Agencies should educate the public about the role of WBP in the high elevation forest community, minimize (and prevent where possible) damage and removal of WBP by backcountry recreationists, and allow trees to continue to produce seed and propagate seedlings. We have elected to use a limit of 125 WBP of all age classes as a threshold for recreation activities, namely off highway and OSV trail upgrades, replacement or new construction outside of existing disturbance, as well as existing recreation development areas (ski resorts and campgrounds). The maintenance of existing hiking and biking trails and the outfitter and guide permitting program may be implemented regardless of the anticipated damage and removal of any age class of WBP. Based on our understanding of the stressors to WBP, the level of ongoing restoration efforts, and our commitment to track and re-evaluate project impacts and restoration efforts for the life of the SA, the impacts from the projects described above should not result in population level effects for the reasons described above.* Memorandum

To: Assistant Regional Director, U.S. Fish and Wildlife Service, Ecological Services, Lakewood, Colorado

From: *for* Field Supervisor, U.S. Fish and Wildlife Service, Wyoming Field Office, Cheyenne, Wyoming

Subject: Standing Analysis for Effects to Whitebark Pine (*Pinus albicaulis*) from Low Effect Projects and Whitebark Pine Restoration and Recovery Activities within Montana and Wyoming, January 17, 2023

**Objection:** There is no cumulative effects analysis in the Final EA, and no disclosure of the number of individual, stands, acres or any other estimate of the number of whitebark pine that will be killed in the project area. There is no estimate of the number of whitebark pine killed in previous logging projects, including those permanently lost to clearcutting and permanent and temporary roads over decades of active timber management. These cumulative effects are significant, and yet, unquantified and undisclosed.

This is a violation of NEPA, NFMA, the APA and the ESA, 16 U.S.C. §§ 1531 et seq., to ensure that its actions do not adversely affect whitebark pine and that their actions promote conservation and

recovery of these species. The federal agencies’ (USFS-USDA and USFWS) mandate is to protect and recover imperiled species and their habitats.

The project will harm whitebark pine in unknown numbers, with unknown adverse cumulative impacts.

**Remedy:** Choose the No Action alternative or pull the draft decision and write an EIS that follow all laws and requirements in the Forest Plan, as amended to reflect the listed status of whitebark pine.

Since Whitebark pine are now listed under the ESA, the USFS-USDA must formally reconsult with the USFWS on the impact of the project on whitebark pine. To do this the Forest Service will need to have a complete and recent survey of the entire project area for the presence of whitebark pine and consider planting whitebark pine as the best available science. Keene et al. states that the only way to get new whitebark pine is to grow (seedlings) them (submitted in our DEA comments).

Hundreds of acres of clearcutting and burning threaten individual whitebark pine trees in the project area, including miles and miles of new roads, and including clearings around individual whitebark pines. The Forest Service fails to disclose the level of “take” and the incredibly high failure rate of these practices as a technique for natural restoration, regeneration and recovery of whitebark pine under these conditions.

The Forest Service does not disclose or address the results of its only long-term study on the effects of tree cutting and burning on whitebark pine. This study, named "Restoring Whitebark Pine Ecosystems," included prescribed fire, “thinning”, “selection cuttings,” and “fuel enhancement cuttings” on multiple different sites. The results were that “[a]s with all the other study results, there was very little whitebark pine regeneration observed on these plots.” See U.S. Forest Service, General Technical Report RMRS-GTR- 232 (January 2010). These results directly undermine the representations the Forest Service makes in the Project EIS. More specifically, the Forest Service’s own research at RMRS-GTR-232 finds: “the whitebark pine regeneration that was expected to result from this [seed] caching [in new openings] has not yet materialized. Nearly all sites contain very few or no whitebark pine seedlings.” Thus, even ten years after cutting and burning, regeneration was “marginal.” Moreover, as the Forest Service notes on its website: “All burn treatments resulted in high mortality in both whitebark pine and subalpine fir (over 40%).” Accordingly, the only proven method of restoration of whitebark pine is planting: “Manual planting of whitebark pine seedlings is required to adequately restore these sites.”

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