



WILDERNESS WATCH

Keeping Wilderness Wild

February 1, 2021

Board of Directors

Louise Lasley, NM
President

Marty Almquist, MT
Vice President

Gary Macfarlane, ID
Secretary

René Voss, CA
Treasurer

Talasi Brooks, ID

Franz Camenzind, WY

Mark Peterson, WI

Cyndi Tuell, AZ

Howie Wolke, MT

Executive Director

George Nickas

Advisory Council

Magalen Bryant

Dr. Derek Craighead

Dr. M. Rupert Cutler

Dr. Roderick Nash

Minneapolis, MN Office

2833 43rd Avenue South
Minneapolis, MN 55406

Moscow, ID Office

P.O. Box 9765
Moscow, ID 83843

Public Comments Processing

Attn: FWS–R6–ES–2019–0054
U.S. Fish and Wildlife Service,
MS: BPHC, 5275 Leesburg Pike
Falls Church, VA 22041– 3803.

Sent via US Mail and the Internet

RE: Listing Proposal for Whitebark Pine

These are comments on the proposal to list whitebark pine as threatened under the Endangered Species Act. Wilderness Watch is a national nonprofit wilderness conservation organization dedicated to the protection and proper stewardship of the National Wilderness Preservation System. Wilderness Watch appreciates the concern for long-term viability of whitebark pine expressed by this proposal, however the listing materials must recognize that this proposed threatened species, in part, lives in an endangered landscape, that of Wilderness. Neither Wilderness nor whitebark pines will be served by an experiment that destroys Wilderness in an attempt to propagate whitebark pine. Rather, allowing Wilderness to be untrammled as the Wilderness Act directs, is perhaps the best way to protect whitebark. While we support strong protections for whitebark pine and its habitat, any decision in the listing rule for both the species and any critical habitat designated must be clear that interventions and manipulations are not appropriate in Wilderness.

Introduction

We see two primary problems with the approach suggested in the listing proposal's supporting materials, most specifically the Special Status Assessment Report for the Whitebark Pine, *Pinus albicaulis* (hereinafter SSA). They are the approach to recovering whitebark pine, especially as it relates to Wilderness, and the failure to face the overriding threat to the species, global warming.

The supporting materials' approach to recovering whitebark pine involves heavy-handed manipulation, including in Wilderness, where such an approach is anathema. The habitat protection measures that Wilderness provides—the kind of protection the USFWS recognizes for other

species—is rejected for an artificial and experimental approach that amounts to literal gardening of the species, including spraying of insecticides, breeding and/or genetic manipulation, planting, and seed collection. This approach divorces the species from its habitat and various stressors that, in the short-term, may have impacts on the species but in the long-term would allow for adaptation and evolution. If this gardening approach is to be used, it must not be done in Wilderness.

Further, nature has a far better track record in dealing with adaptation and evolution of species than do humans. The unintended consequences emanating from the gardening approach could be more harmful to whitebark pine in the long run than allowing evolution to play out in Wilderness, as the Wilderness Act requires.

Of the threats facing whitebark pine, the all-encompassing threat is global warming. However, nothing in the listing proposal discusses actions to be taken to address this threat, specifically in terms of whitebark pine. The Special Status Assessment Report for the Whitebark Pine, *Pinus albicaulis*” (hereinafter SSA) states:

Whitebark pine survives at high elevations already, so there is little remaining habitat for the species to migrate to higher elevations in response to warmer temperatures. Adaptation in response to a rapidly warming climate could also be unlikely as whitebark pine is a long-lived species with a long generation time. Climate models suggest that climate change is expected to act directly and indirectly to significantly decrease the probability of rangewide persistence in whitebark pine within the next 100 years. This time interval is less than two generations for this long-lived species. In addition, projected climate change is a significant threat to whitebark pine, because the impacts of climate change interact with other stressors such as mountain pine beetle epidemics and wildfire, resulting in habitat loss and population decline.

SSA at 54 and 55. The threats facing whitebark pine are daunting, yet even more endangered is America’s Wilderness. The lack of commitment to doing something about global warming and the emphasis on trammeling Wilderness (and other wildlands) as the cure for whitebark pine are little more than rearranging the deck chairs on the Titanic, and while in the process of doing so, deliberately throwing Wilderness overboard.

Given these concerns, we strongly recommend:

- The listing rule make clear that interventions and manipulations (e.g. agency-ignited fire, genetic selection and seedling planting, and chemical applications) are not appropriate in designated Wilderness as protected under the 1964 Wilderness Act. Instead, natural processes and natural selection must be protected and valued in the broader effort to protect whitebark pine.
- Any critical habitat listing rule must make clear that interventions and manipulations are not appropriate activities in Wilderness. If this assurance cannot be made, designated Wilderness should not be included in the critical habitat designation.
- If the proposed experimental manipulation and gardening measures go forth, the “control” for the experiment should be Wilderness. Wilderness must be protected as an important unmanipulated and untrammled baseline and as a place for whitebark pine to make its own evolutionary move free from our fallible tinkering.

Wilderness and Whitebark pine

Howard Zahniser, the author of the Wilderness Act, put it best in 1963 when he penned an editorial on Wilderness entitled *Guardians Not Gardeners*. Some of the listing proposal documents talk extensively about literal gardening, which is contrary to the Wilderness Act. In other places the documents recognize the importance of natural fire in maintaining whitebark pine. It should be emphasized that most of the large Wildernesses where whitebark pine is present are administered under policies that allow natural fire to play a role in the Wilderness, and have done so for a considerable amount of time.¹ Also, since Wilderness encompasses 29 percent of whitebark pine habitat, a logical approach would be allow nature to roll the dice in Wilderness, as the Wilderness Act requires, and leave any manipulative experimenting to areas outside of Wilderness. Such an approach is essential for Wilderness preservation, and it would provide a valuable comparative baseline for whitebark pine manipulations elsewhere.

The analysis and recommendations in the SSA are of particular concern. Rather than viewing Wilderness as a place where whitebark pine habitat is protected from most human perturbations, page 126 lists Wilderness as the first subheading under the heading, “*CHALLENGES TO RESTORATION*.” The rest of the discussion then engages in a misinterpretation of the plain language of the Wilderness Act in an effort to conflate restoration with manipulative human actions, while disregarding natural processes like lightning and seed dispersal by birds and mammals.

The Wilderness Act militates against the kind of manipulation discussed in the section—agency-ignited fire, planting of seedlings, or applying of verbenone--regardless of how well-intended they may be. The SSA suggests that the Act can be interpreted in many ways and that there is a conflict or “debate” between “natural conditions” and “untrammelled” Wilderness. The rule of statutory construction does not allow this kind of misinterpretation of the Act.² These are not in conflict; rather, natural conditions are what flow from an untrammelled environment. Put another way, where in the Wilderness Act is active human manipulation (so-called restoration) valued above the untrammelled nature or process of wilderness? On the contrary, the Wilderness Act’s prime directive is to preserve wilderness character *from* human manipulation.

The Wilderness Act charges administering agencies, as federal stewards of Wilderness, with a duty to preserve the “natural,” “untrammelled” conditions that define the area as wilderness. Section 2(a) of the Wilderness Act is clear. So is the definition of Wilderness in section 2(c). Wilderness and the processes that define it are to be “untrammelled” by humans. The Wilderness Act, by intent, restricts intentional human manipulation in Wilderness, regardless of the purpose. Exceptions are specifically addressed and narrowly defined. The Wilderness Act did not prescribe management that would maintain pre-Columbian flora and fauna, as desirable as that may seem to some. The Wilderness Act did not prescribe a pre-settlement vegetative condition, as desirable as that may seem to some. It did not prescribe that man-made artifacts be protected from natural processes. There is no charge to manage for specific end points. Management is very carefully used in the Wilderness Act and mainly in conjunction with

¹ This is not necessarily an endorsement of the fire regime analysis in the “Special Status Assessment Report for the Whitebark Pine, *Pinus albicaulis*” as there are other studies that suggest fire in whitebark pine habitat was a rare rather than common event.

² Regardless of its good intentions, the Leopold report on ecological intervention in Wilderness is based on the major flaw that natural conditions are in conflict with wild or untrammelled Wilderness.

managing human actions that could harm the wilderness and its wild processes. Wilderness is about process, not an end point. This is the great promise of Wilderness.

Blister rust, like climate change, acid-rain deposition, even light or sound pollution, is an unintended introduction, not an overt trammeling of Wilderness. It would take a deliberately conscious act to confine, tether, or trammel something. Regardless, trying to correct trammeling through more trammeling renders the Act meaningless.³

The fundamental tenet of wilderness stewardship, its untrammeled nature or its wildness,⁴ was reiterated in a program review initiated by the four federal agencies and conducted by the Pinchot Institute for Conservation in 2001. The purpose of the study was to examine the critical management issues facing Wilderness. One of the eight “fundamental principles” for stewardship emphasized the need to preserve the wildness in Wilderness, or its untrammeled nature. As the Pinchot report stated, “Protection of the natural wild, where nature is not controlled, is critical in ensuring that a place is wilderness. ... Since wild is a fundamental characteristic of wilderness that is not attainable elsewhere, if there is a choice between emphasizing naturalness and wildness, stewards should err on the side of wildness.” (See attached).

The SSA suggests trammeling actions in Wilderness *may* occur in Wilderness, using the minimum requirements of section 4(c). Section 4(c) of the Wilderness Act is directed at prohibited uses, such as the use of motor vehicles or structures, that may only occur under very limited circumstances for the **singular** purpose⁵ of wilderness preservation. That is a high bar and given the fact that 71% of whitebark pine habitat is found outside of Wilderness, manipulation that may involve prohibited means would not be allowed.⁶

The listing documents are not clear as to whether or to what degree the agencies would or could propose using means that are prohibited by the Wilderness Act for so-called whitebark pine restoration activities in Wilderness. The SSA admits:

In concert with the wilderness issue, the remote and challenging terrain in which whitebark pine frequently exists presents numerous logistical challenges for accessing sites for restoration. In non-wilderness roadless areas, much effort and/or costs may be required to transport equipment, seedlings, and personnel to work sites, whether by foot, livestock, or aerial means. Seasonal access to many sites is likely to be brief due to

³ The SSA refers to fire exclusion as trammeling. There are two points to consider. It is scientifically questionable whether fire exclusion had an effect on the high-elevation habitat of whitebark pine. See footnote 1. Further, fire suppression, though not desirable in Wilderness, is allowed through a special provision in section 4(d)(1). The specific allowance of a particular trammeling action does not suggest that any sort of trammeling action is therefore allowed. Quite the contrary.

⁴ Untrammeled reflects what should be our relationship to a Wilderness; wild is the essence of the Wilderness.

⁵ The singular purpose of the Wilderness Act is not to be confused with the public purposes in Section 4(b). Securing the benefits of an enduring resource of wilderness through the establishment of the National Wilderness Preservation System, which is to be administered to protect its wilderness character for the future use and enjoyment as wilderness of the American people, **is the singular and overriding purpose for the Wilderness Act**. The public purposes, enumerated above, are the uses to which wilderness areas are devoted, provided the primary and overriding purpose is met.

⁶ See the attached law review article by Sean Kammer.

abbreviated snow-free conditions at high elevations, which often coincides with summer wildfire seasons. As the level of accessibility to whitebark pine stands decreases, so does the number of available restoration options (Keane *et al.* 2012, p. 89), meaning fewer options to treat impacted stands in more difficult-to-access sites.

SSA at 127 and 128. This is a tacit admission that even in remote areas not designated as Wilderness, the kind of manipulation contemplated in the listing proposal may not be possible. This lends credence to our suggestions that Wilderness be explicitly off-limits to the kind of manipulation proposed in the SSA.

Other

Regarding blister rust, nature appears to be slowly healing the destruction wrought by humans through natural selection of resistant trees and seedlings. This natural process will provide the most durable and effective resistance to one of the pests (rust). In host-pathogen interactions, when a virulent pathogen first meets its host, it usually kills it quickly. However, this is neither advantageous to the host nor the pathogen. Thus, the relationship evolves over time, and eventually the pathogen does less and less damage to the host, until eventually the relationship may become mutualistic or symbiotic.⁷ Meddling in this natural process by artificially increasing the numbers of some resistant genotypes, is likely to select for virulence in the pathogen and extend the process, or even short-circuit it.

The related white pine (*Pinus monticola*) issue provides an interesting lesson. With the resistant white pine breeding program, ratios of resistant to susceptible F2 progeny are very close to the 3:1 ratio expected with a single dominant resistance gene (Fins *et al.* 2001).⁸ The ability of pathogens to quickly mutate at avirulence loci to overcome resistance genes is well documented in many plant-pathogen interactions. In plants which are re-planted each year, this problem can be managed by monitoring the pathogen genotypes in the field, and then selecting host genotypes for the next year which are resistant to the current pathogen genotypes. Obviously, this is not possible with trees. Apparently, mutation to overcome white pine blister rust resistance has already occurred in California and Oregon (Fins *et al.* 2001). In Idaho there are locations where up to two thirds of the genetically resistant trees have been killed by rust (Fins *et al.* 2001). In spite of the researchers' support for widespread planting of rust-resistant trees, the data in the paper itself suggest a much more cautionary approach.

Similarly, the long time frame—decades for trees with seeds, which is just one generation—in determining whether whitebark pines have recovered makes the proposed interventions extremely risky. Add in global warming, future projections become much less clear. And this is precisely where the value of Wilderness comes into play. We don't know all the variables, and we very often make mistakes. There is immense value in setting aside a few wild places where the land plays the hand it is dealt, and we observe and learn. The hubristic notion that humans are smarter than millions of years of evolution, as represented in the current proposal, is precisely the reason leading conservationists and thinking developed the wilderness idea and promoted our current wilderness law.

⁷ See Sørensen *et al.* 2019 attached.

⁸ Station Bulletin 72, from the Idaho Forest, Wildlife and Range Experiment Station, Moscow, Idaho.

Other questions are posed by possible and heavy-handed restoration actions. For example, are rust-resistant trees more susceptible to mountain pine beetles or less fit in other ways? Is hybridization with other five-needle pines being considered (or gene splicing) and, if so, would the resultant trees be whitebark pines under the ESA?

Summary

While we support strong protections for whitebark pine and its habitat, any decision in the listing rule for both the species and any critical habitat designated must be clear that interventions and manipulations are not appropriate in Wilderness. There is no quick fix, and maybe no “fix” at all, to whitebark pine decline. Sacrificing equally endangered Wilderness is not the solution and probably won’t save whitebark pines, but it will degrade Wilderness for all other species, including humans. Rather than putting all the eggs in one basket, it makes more sense to use designated Wilderness and maybe some other backcountry areas as the scientific control, the places that are not manipulated. It may take centuries for the results of various paths, but nature has a far better track record than does humanity. In any case, the long-term viability of a range-wide actions—an aggressive whitebark planting program, a vegetation manipulation program to reduce other species, and possible genetic altering of whitebark pines--will also take decades if not more to determine their success.

Lastly, the best thing for whitebark pine and Wilderness would be to eliminate fossil fuel emissions. Absent this, all bets are off.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Macfarlane". The signature is fluid and cursive, with the first name "Gary" being more prominent than the last name "Macfarlane".

Gary Macfarlane
Board member
Wilderness Watch
PO Box 9175
Missoula, MT 59807