

July 9, 2018

Randy Moore, Regional Forester
Reviewing Officer
USDA Forest Service, Pacific Southwest Region
Attn: Strategic Community Fuelbreak Improvement Project Objection
1323 Club Drive
Vallejo, CA 94592
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Re: Objection to the Draft Record of Decision and Final Environmental Impact Statement for the Strategic Community Fuelbreak Improvement Project

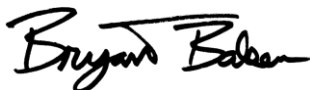
Pursuant to 36 CFR § 218, Los Padres ForestWatch and Wilderness Watch object to the draft Record of Decision ("DROD") and final Environmental Impact Statement ("FEIS") for the Strategic Community Fuelbreak Improvement Project on the Monterey Ranger District, Los Padres National Forest.

Los Padres ForestWatch is a local, independent nonprofit organization dedicated to protecting and restoring wildlife and wilderness landscapes in the Los Padres National Forest through law, science, education, and community involvement. Wilderness Watch is a national wilderness conservation organization focused on the protection of the entire national Wilderness Preservation System. This includes the Ventana Wilderness.

Pursuant to 36 CFR § 218.8(d)(3), Los Padres ForestWatch is the lead objector. The contact person is Bryant Baker. The full objection and exhibits are included below. Documents referenced in the objection are being submitted via email.

Los Padres ForestWatch and Wilderness Watch filed timely, project-specific comments on the scoping letter and draft Environmental Impact Statement ("DEIS"). We would welcome the opportunity to discuss the issues raised in our objection further.

Sincerely,



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Strategic Community Fuelbreak Improvement Project Objection

We support the maintenance of defensible space immediately around structures, along with programs to promote the construction and retrofitting of homes with fire-safe materials and design, as the most effective ways to protect communities from wildfire. The Strategic Community Fuelbreak Improvement Project (“Project”) — which would establish a massive system of fuelbreaks in and around wilderness and miles away from structures — would do little to prevent wildfire impacts to surrounding communities while significantly impacting the biological and scenic resources of the Ventana Wilderness and the Monterey Ranger District.

Described in more detail below, Los Padres ForestWatch and Wilderness Watch specifically object to:

1. The Forest Service’s approval of fuelbreaks in the Ventana Wilderness, which is inconsistent with the Wilderness Act.
2. The FEIS and DROD conflate legislation with congressional reports when justifying the establishment of fuelbreaks in the Ventana Wilderness.
3. The FEIS and DROD fail to differentiate between portions of the Ventana Wilderness that may have special provisions regarding pre-suppression of fire.
4. The Project violates the National Environmental Policy Act due to an inadequate range of reasonable alternatives.
5. The Project violates the National Environmental Policy Act due to information missing from the DROD.
6. The Forest Service failed to reinitiate consultation with the U.S. Fish and Wildlife Service over new information that may impact endangered species.

Project Summary

Alternative 4 was selected in the DROD. This alternative would use a combination of treatments, including mastication, prescribed burning, and herbicide application, to establish 24 miles (approximately 542 acres) of fuelbreaks on the Monterey Ranger District of the Los Padres National Forest. Approximately 10.4 miles (169 acres) of these fuelbreaks would be established in the Ventana Wilderness. The Project would include the use of handheld motorized tools for cutting vegetation in the Ventana Wilderness.

1. Fuelbreaks and roads are inconsistent with the Wilderness Act.

Wilderness Watch’s DEIS comments dated March 13, 2017 noted:

[T]he primary directive of the Wilderness Act requires the Forest Service to preserve the wilderness character of the Ventana Wilderness.

2. Alternative 1 best protects the wilderness character of the Ventana

Wilderness. This alternative best protects the wilderness by allowing the old firelines to heal over time. Permanently maintaining artificial firelines within the Wilderness significantly degrades wilderness conditions, even if the special provisions give the Forest Service the pre-suppression authority that the agency believes they provide. ...

Wilderness Watch believes that the preferred alternative in the DEIS is not “consistent with wilderness values.”

The FEIS supports our contention that this is not allowed in wilderness. Indeed, in response to our comments, the FEIS states, “[t]ypically, a proposal to construct fuelbreaks in wilderness is not consistent with wilderness values.” The DROD alleges the fire prone nature of the Ventana Wilderness is “why Congress provided legislative special provisions allowing for wildfire pre-suppression and suppression measures in subsequent Ventana Wilderness additions.” This is a tacit admission that the Wilderness Act does not allow for pre-suppression manipulation of wilderness.¹ The FEIS also notes that there would be serious damage to wilderness character from this proposal. It admits “there will be ongoing manipulation of the vegetation” in the Ventana Wilderness under the action alternatives.

Section 4(d)(1) of the Wilderness Act, while allowing broad measures to “**control**” fire (which would include detection), does not address the issue of pre-suppression manipulation of wilderness prior to a fire.² This is a misreading of the Act. It also conflicts with the Forest Service Manual which delegates to the Regional Forester motorized equipment use for “fire suppression” (see FSM 2326.1 part 1) and also recognizes there is no broad discretion to even light fires in wilderness (see FSM 2324.22 parts 6, 7 and 8), let alone cut fire lines in wilderness prior to a fire.³ There is no authority to conduct pre-suppression manipulation of wilderness. Rather, the broad provision in 4(d)(1) is about fire control and relegated to suppressing (including detecting) of fire. Indeed, such a broad reading of the Act as the Forest Service alleges would render wilderness meaningless.

In other words, the Wilderness Act in section 4(d)(1) uses control rather than prevention

¹ The issue of special provisions that may apply to some portions of the Ventana Wilderness are addressed in objection point 3

² We address the specific issue of special language in legislation, committee reports, which are not statute, in point 2 of this objection.

³ That said, while the Forest Service Manual puts constraints on the use of management-ignited prescribed fire — we would note that manager-ignited prescribed fire is at odds with the Wilderness Act, regardless of Forest Service Manual direction.

or pre-suppression of fire. Pre-suppression manipulation is inconsistent with the Act. One cannot control something that does not (yet) exist. Indeed, the Forest Service Manual provides no provision regarding pre-suppression of fires.

While the status quo may affect wilderness via firefighting, Section 4(d)(1) of the Wilderness Act was written, for better or worse, to address this issue of fire suppression control when Congress felt pre-suppression actions were warranted; it approved those activities in specific legislation. These specific issues are addressed in objection points 2 and 3.⁴

Court decisions regarding this kind of activity in *Sierra Club v. Lyng* 662 F.Supp. 40 (D.C.C. 1987) 663 F.Supp. 556 (D.C.C. 1987) point to the need for a comprehensive plan before action like this can be taken in wilderness. The FEIS and DROD do not detail the kind of actions that could be taken outside of wilderness that may be equally (or even more) effective in attaining Project objectives. Without this information, the proposal cannot proceed.

Section 4(c) of the Wilderness Act outright prohibits “permanent roads.” The establishment of permanent fuelbreaks and associated roads (*see* FEIS, page 24, purporting to show roads in the Ventana Wilderness) is prohibited. Permanent fuelbreaks are roads by another name.

Howard Zahniser, drafter of the Wilderness Act, stated that “[a] wilderness is an area where the earth and its community of life are untrammelled by man. (Untrammelled — not untrampled — untrammelled, meaning free, unbound, unhampered, unchecked, having the freedom of the wilderness.)” While the Forest Service is rationalizing prophylactic mechanical manipulation, “[t]hese threats do not justify further interventions into the natural processes within wilderness areas. These projects, whose purposes are to restore (or redirect) natural processes through the exercise of human agency, are precisely the intrusions of human culture that the Wilderness Act meant to exclude from these special places.”⁵

The fundamental tenet of wilderness stewardship — its untrammelled condition or wildness — 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

⁴ By way of analog, the use of packstock is permitted in Wilderness even though the Forest Service might argue that helicopters have less physical impact because they don’t require trails or leave a trail of tracks.

⁵ *See* Exhibit 1. Kammer, S. 2013. Coming to Terms with Wilderness: The Wilderness Act and the Problem of Wildlife Restoration, 43 Environmental Law 83, 86.

in wilderness. As the Pinchot report stated, “Protection of the natural wild, where nature is not controlled, is critical in ensuring that a place is wilderness....[s]ince 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.”⁶

Indeed, the FEIS confuses untrammelled with natural. The FEIS, Table 15 page 53, states:

Approx. 169 fuelbreak acres. Site-specific short-term moderate negative impacts on untrammelled quality as a result of removing medium and heavy fuels and ongoing maintenance. ***the design criteria will minimize the evidence of this moderate trammeling to the visitor.*** During future fire suppression operations, more extreme vegetation removal by bulldozers (Alternative #1) will be reduced or eliminated (Emphasis added).⁷

The truth, as the FEIS admits, is that trammeling will be ongoing. The point is not what the impacts look like to a visitor, which is a reflection of what may appear to be natural.⁸ Rather trammeling is confining or manipulating natural processes. That is precisely what the ongoing maintenance of fuelbreaks does to the Ventana Wilderness; this action trammels wilderness permanently. Again, the agency obviously has confused or conflated these two points.

The terms “natural” and “untrammelled” are complimentary (and not to be conflated). The canons of statutory construction dictate that natural conditions be in harmony with wildness (untrammelled).⁹

Thus, what is natural for the area necessarily flows from what is untrammelled.

⁶ See Exhibit 2.

⁷ Emphasis added. See objection point 4. There is no guarantee fuelbreaks would reduce bulldozer use. Past experience suggests that they will not.

⁸ For example, a grassy meadow where herbicides are continually sprayed to prevent forbs, shrubs or other trees from growing may appear to be natural to a visitor, but such an area would be heavily manipulated and trammelled.

⁹ *United States v. Powell*, 6 F.3d 611, 614 (9th Cir. 1993) (“It is a basic rule of statutory construction that one provision should not be interpreted in a way which is internally contradictory or that renders other provisions of the same statute inconsistent or meaningless”); see also *Wilderness Society*, 353 F.3d at 60 (“a fundamental canon that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme”); *Kmart Corp. v. Cartier, Inc.*, 486 U.S. 281, 291 (1988) (“In ascertaining the plain meaning of [a] statute, the court must look to the particular statutory language at issue, as well as the language and design of the statute as a whole.”); *United States v. Lewis*, 67 F.3d 225, 228-29 (9th Cir. 1995) (“Particular phrases must be construed in light of the overall purpose and structure of the whole statutory scheme.”).

Otherwise, the default position will always be to trammel wilderness to comport with a land manager's notion of what is natural, or how it appears to visitors, even though various complicated factors — many of which we do not fully understand and cannot control — are always necessarily at play in shifting natural conditions.

Thus, the Forest Service's ongoing attempts to resist natural processes and change through active manipulation of the wilderness are at odds with the Wilderness Act and the Forest Service's own management guidance. Vegetation changes, fire interval and intensity, and wildlife disbursement attributable to a changing climate cannot logically represent degradation of wilderness character.¹⁰ The Forest Service Manual directs the Forest Service to "[m]aintain wilderness in such a manner that ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces."¹¹ Thus, if there are actions the Forest Service may take to reduce impacts to the wilderness without manipulating natural processes (e.g. practices on private land that reduce structure flammability), it must take those measures and allow natural processes to take it from there. Wilderness is "in contrast" to areas where our actions and decisions dominate the landscape. Nature should roll the dice in wilderness, not managers.¹²

Inclusion of these issues in our previous comments:

We have commented on these issues in our previous comments on the Project. Please see Los Padres ForestWatch's scoping comments on page pages 2 – 3, Wilderness Watch's comments on the DEIS on pages 2 – 4, and Los Padres ForestWatch's comments on the DEIS on pages 2 – 6.

Resolution/Remedy:

- Withdraw the FEIS or exclude the fuelbreaks inside the Ventana Wilderness.

2. The FEIS and DROD conflate legislation with congressional reports when justifying the establishment of fuelbreaks in the Ventana Wilderness.

Wilderness Watch specifically asked in comments on the DEIS for the agency to distinguish between areas where special provisions (those in the actual legislation) and other areas of the Ventana Wilderness. "Some of the proposed fuelbreaks may be in the original Ventana Wilderness or other sections of the Ventana Wilderness that do NOT

¹⁰ See 36 CFR § 293.2(a) (dictating that, in wilderness, "[n]atural ecological succession will be allowed to operate freely to the extent feasible").

¹¹ FSM 2320.2

¹² See Exhibit 3, a critique by wilderness professionals, which is a rejection of the reductionist approach to Wilderness taken by the FEIS (including the MRDG) and the misuse of the KIW2 protocol in administrative decisions.

have the same or any special fire pre- suppression language.” Instead, the agency is conflating a committee report with actual legislation.

Indeed, the FEIS (page 34) refers to the “House Report 98-40 to the Committee on Interior and Insular Affairs, to accompany the California Wilderness Act of 1984” as if it were a legislative special provision. This is inaccurate. Neither of the houses of congress vote on those reports, rather they vote on legislation. Even the agency materials that deal with fire issues have this to say about that specific committee report:

Remember, Congressional reports may shed light on what Congress was considering at the time, but it is the language that is included in the law that counts as law.¹³

There was no language in the Wilderness Act or the California Wilderness Act of 1984 that allow for pre-suppression.¹⁴

Simply put, stating that a committee report is a legislative special provision is wrong. The only time a committee report is legislation is when it is specifically incorporated into legislation. With the exception of the grazing guidelines, this is, at best, a very infrequent occurrence.¹⁵

Inclusion of these issues in our previous comments:

We have commented on these issues in our previous comments on the Project. Please see Wilderness Watch’s comments on the DEIS on page 3.

Resolution/Remedy:

- Withdraw the FEIS or exclude the fuelbreaks inside the Ventana Wilderness.

3. The FEIS and DROD fail to differentiate between portions of the Ventana Wilderness that may have special provisions regarding pre-suppression of fire.

As noted earlier, the DROD alleges the fire prone nature of the Ventana Wilderness is “why Congress provided legislative special provisions allowing for wildfire pre-suppression and suppression measures in subsequent Ventana Wilderness additions.” Wilderness Watch’s comments on the DEIS addressed this question in detail:

¹³ See Exhibit 4. On the web at <https://www.wilderness.net/toolboxes/documents/WC/Wilderness%20Character%20Webinar,%20Session%203,%20QA,%205.2.12.pdf>

¹⁴ The issue of specific language in legislation is addressed in the next point.

¹⁵ This has occurred very infrequently with this specific committee report in other legislation. Regardless, the area of concern in this committee report seems to be in southern California, which would seem to suggest the Ventana Wilderness is too far to the north.

3. The DEIS does not adequately delineate which segments of the proposed fuelbreaks are subject to which special pre-suppression language in the various pieces of legislation that added areas to the Ventana Wilderness.

Some of the proposed fuelbreaks may be in the original Ventana Wilderness or other sections of the Ventana Wilderness that do NOT have the same or any special fire pre- suppression language. Until the public knows specifically which segments of proposed fuelbreaks are subject to which, if any, special provisions, we do not have the ability to adequately assess whether some or any segments of fuelbreaks are legally allowed. The Final EIS must contain this analysis.

The agency failed to provide such information in the FEIS. Special provisions for the Ventana Wilderness only apply to that specific area and not the whole Wilderness. It may be instructive to look at these provisions.

PL-95-237, the first addition to the Ventana Wilderness (approximately 61,000 acres) states, “the management plan” that was to be created “following designation as wilderness shall authorize the Forest Service to take whatever appropriate actions are necessary for fire prevention and watershed protection including, but not limited to, acceptable fire pre-suppression and fire suppression measures and techniques.” The words “appropriate” and “acceptable” in context of wilderness would seem to preclude the heavy-handed manipulation the Forest Service is proposing. The FEIS and DROD do little to explain these concerns.

PL 102-301 has similar language but uses the term “acceptable” and states the Secretary “may take such measures as are necessary for fire prevention and watershed protection” in the Ventana Wilderness addition of approximately 38,000 acres.

PL-107-370 states (designating an addition of 37,110 acres):

The Secretary of Agriculture shall, by not later than 1 year after the date of the enactment of this Act, amend the management plans that apply to each of the Ventana Wilderness and the Silver Peak Wilderness, respectively, to authorize the Forest Supervisor of the Los Padres National Forest to take whatever appropriate actions in such wilderness areas are necessary for fire prevention and watershed protection consistent with wilderness values, including best management practices for fire presuppression and fire suppression measures and techniques.

What this does is apparently amend the earlier Acts by making the management plan for the entire Ventana Wilderness subject to being “consistent with wilderness values.” As such, the fuelbreaks are not consistent with wilderness as the FEIS and DROD themselves recognize. Even if that does not amend the earlier Acts (including the original legislation for the area), special provisions would only apply to the acreage

under PL 95-237 and PL 102-301.

Inclusion of these issues in our previous comments:

We have commented on these issues in our previous comments on the Project. Please see Wilderness Watch's comments on the DEIS on page 3.

Resolution/Remedies:

- Withdraw the FEIS or exclude the fuelbreaks inside the Ventana Wilderness.
- Alternatively, exclude any fuelbreaks in the portions of the Ventana Wilderness not designated under PL 95-237 or PL 102-301.

4. The Project violates the National Environmental Policy Act due to an inadequate range of reasonable alternatives.

The National Environmental Policy Act of 1969 ("NEPA") requires the Forest Service to "[s]tudy, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."¹⁶ As part of this alternatives analysis, the EIS must "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."¹⁷ Furthermore, the alternatives analysis "is the heart of the environmental impact statement."¹⁸

Additionally, the Forest Service's Wilderness Management Manual states:

Where there are alternatives among management decisions, wilderness values shall dominate over all other considerations except where limited by the Wilderness Act, subsequent legislation, or regulations....

Where a choice must be made between wilderness values and visitor or any other activity, preserving the wilderness resource is the overriding value. Economy, convenience, commercial value, and comfort are not standards of management or use of wilderness.¹⁹

¹⁶ 40 CFR § 1501.2(c)

¹⁷ 40 CFR § 1502.14(a)

¹⁸ 40 CFR § 1502.14

¹⁹ FSM 2320.3, 2320.6

Reasonable alternatives are those that are viable, feasible, meet the stated goals of the project, or are reasonably related to the purposes of the project.²⁰ An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action, sufficient to permit a reasoned choice.²¹

It is important to note that “[t]he existence of a viable but unexamined alternative renders an [EIS] inadequate.”²² It is therefore not only the responsibility of the Forest Service to follow NEPA regulations when exploring reasonable alternatives but also to ensure that “selection and discussion of alternatives fosters informed decision-making and informed public participation.”²³

In Los Padres ForestWatch’s scoping comments dated February 11, 2013, we requested that the Forest Service evaluate the following alternatives:

- Protection of wilderness values by limiting clearing to hand tools inside wilderness, or adjusting the fuelbreak boundaries so that fuelbreaks are located outside of wilderness;
- Reduction in the length and/or width of fuelbreaks in a way that would still achieve Project objectives; and
- A focus on providing grants and other assistance to promote and encourage private landowners to establish and maintain adequate defensible space immediately surrounding structures.

Of these alternatives, only an alternative that limited wilderness treatments to use of hand tools was considered in detail in the DEIS. An alternative that would locate all proposed fuelbreaks outside of wilderness was considered but eliminated from detailed study. An alternative with shorter and/or narrower fuelbreaks was not considered in any capacity as all alternatives evaluated in the FEIS include the same dimensions of proposed fuelbreaks. No alternative focusing on providing assistance to homeowners to establish and maintain defensible space around their homes was considered, either.

The FEIS includes a response to Los Padres ForestWatch’s comments on the DEIS dated March 13, 2017 regarding the lack of an alternative involving shorter and/or narrower fuelbreaks in the DEIS. The response states:

²⁰ *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519 (9th Cir. 1992); *City of Carmel-By-The-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997); *Trout Unlimited v. Morton*, 509 F.2d 1276, 1286 (9th Cir. 1974)

²¹ *Idaho Conservation League*, 956 F.2d at 1520.

²² *Natural Resources Defense Council v. U.S. Forest Service*, 421 F.3d 797, 813 (9th Cir. 2005) [quoting *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985)]

²³ *California v. Block*, 690 F.2d 753, 767 (9th Cir. 1982)

The prescribed maximum widths were determined by the interdisciplinary (ID) team members and contributors (see FEIS Chapter 4) with support from additional fire management staff on the Los Padres National Forest. Primary factors in determining width were fuel type (and the corresponding flame lengths), topography, and historic fireline footprint (and its historical effectiveness). An effectiveness analysis is in the FEIS on pages 59-61.

Under the Proposed Action, the term “maximum” widths of fuelbreaks is used to allow the interdisciplinary monitoring team flexibility to adapt the width, i.e. smaller, to site specific conditions while maintaining sufficiency for suppression activity.²⁴

The response inadequately addresses how prescribed maximum widths were determined by the interdisciplinary team and contributors, especially considering that we specifically requested in our DEIS comments that the Forest Service provide a description of how the maximum width for *each proposed fuelbreak* was determined. As we pointed out in our DEIS comments, the MRA for the Project states in regard to the bulldozer lines already existing along the ridges where fuelbreak establishment is being proposed in the Project:

The lines range in width from 40 to 80 feet with associated disturbances along the edges.²⁵

These existing lines are significantly narrower than the proposed 150-foot fuelbreaks, yet no other information was provided about their effectiveness or how they were used. Figure 7 in the FEIS is a photo depicting a burn-out operation in the Ventana Wilderness. We were able to determine the location depicted in the photo using Google Earth. The area is actually mostly outside of the Ventana Wilderness (and the national forest), near the eastern boundary of the wilderness area along Ponciano Ridge. The photo was likely taken during the 2008 Basin Complex Fire. The bulldozer line constructed along the ridge during the fire indeed ranged from 40 – 80 feet wide and was utilized for burn-out operations according to the photo. If a 40-foot wide dozer line from which to conduct a burn-out operation was all firefighters needed for fire suppression efforts in wilderness, then such a width might reasonably act as the amount needed to meet the purpose and need of the Project.

Moreover, the fuelbreak effectiveness analysis provided in the FEIS relies heavily on a

²⁴ USDA Forest Service. 2018. Final Environmental Impact Statement — Strategic Community Fuelbreak Project. Monterey Ranger District, Los Padres National Forest.

²⁵ Kwasny, J. 2016. Minimum Requirements Decision Guide Workbook, Strategic Community Fuelbreak Improvement Project. Los Padres National Forest.

study conducted by Syphard et al. (2011)— the results of which are misrepresented in the FEIS. The study found that fuelbreaks in the Los Padres National Forest were only effective at helping stop the spread of wildfire approximately 46% of the time, primarily when they provided access for firefighting activities. Thus, at best fuelbreaks may only improve fire suppression efforts less than half of the time. During extreme weather conditions — when fires are most likely to be large and cause destruction of life and property — firefighting can be dangerous, due to the rapid expansion of fire. The proposed fuelbreaks will have limited effectiveness during these conditions. Interestingly, the FEIS acknowledges that “in remote parts of a forest where access is limited, fuelbreaks are unlikely to serve the objective of protecting communities at the wildland-urban interface.” However, most of the proposed fuelbreaks in wilderness would not be constructed at or near the wildland-urban interface, but rather 2 – 3 miles away from the nearest WUI. Syphard et al. (2011) concluded:

...this study strongly supports the notion of constructing fuel breaks along the wildland–urban interface where firefighters will have better access to the fuel breaks, and where the fuel breaks will provide an immediate line of defense adjacent to homes that are at risk.²⁶

Syphard et al. (2011) also stated that “fuel treatments can lead to ecological degradation because they often involve complete removal of vegetation, facilitate the spread of exotic species, and may thus indirectly contribute to increased fire frequency in a region where recurrent fire already threatens the native shrublands.”²⁷ Thus, the establishment of fuelbreaks may even contradict the Project’s purpose and need.

It should also be noted that the Forest Service seeks to reduce the use of bulldozers to re-open firelines through the establishment of the proposed fuelbreaks. However, the use of other fuelbreaks across the Los Padres National Forest would indicate that bulldozers would still be used along ridgelines with established fuelbreaks. For example, the Camino Cielo Fuelbreak that has been in place above Santa Barbara for decades has been repeatedly cleared to bare soil with bulldozers throughout the past 10 – 12 years. We used Google Earth to analyze satellite imagery of various sections of the Camino Cielo Fuelbreak to determine how often these areas were bulldozed since 2006. We found that many sections of the fuelbreak were bulldozed within three years of being previously bulldozed (Figures 1 – 3).

²⁶ Syphard, A.D, J.E. Keeley, and T.J. Brennan. 2011. Comparing the role of fuel breaks across southern California national forests. *Forest Ecology and Management*, 261:2038-2048.

²⁷ *Id.*



Figure 1. A section of the Camino Cielo Fuelbreak near West Camino Cielo Road (approx. 34.515852°, -119.891759°) that was bulldozed between 2015 (A) and 2016 (B), presumably due to emergency suppression efforts during the 2016 Sherpa Fire, which stopped nearly 6.5 miles west of the area.

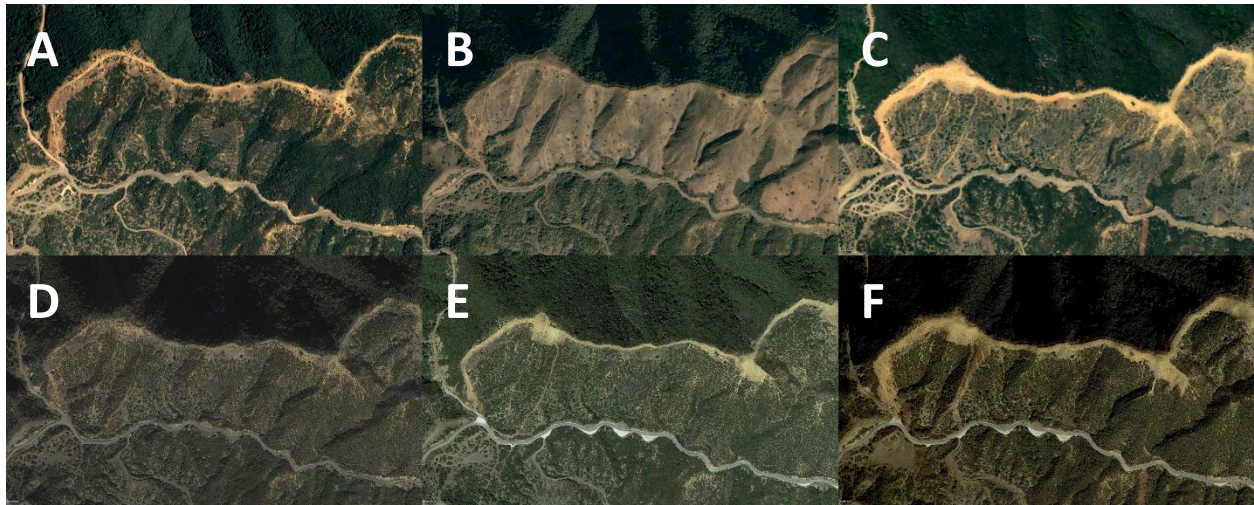


Figure 2. A section of the Camino Cielo Fuelbreak near Angostura Pass (approx. 34.496389°, -119.695877°) that was bulldozed just prior to 2003 (A), entirely cleared in 2006 (B), and then bulldozed again in 2009 during the Jesusita Fire (C). Between 2014 (D) and 2017 (E), the fuelbreak was bulldozed before being bulldozed once more between April, 2017 and January, 2018 (F).

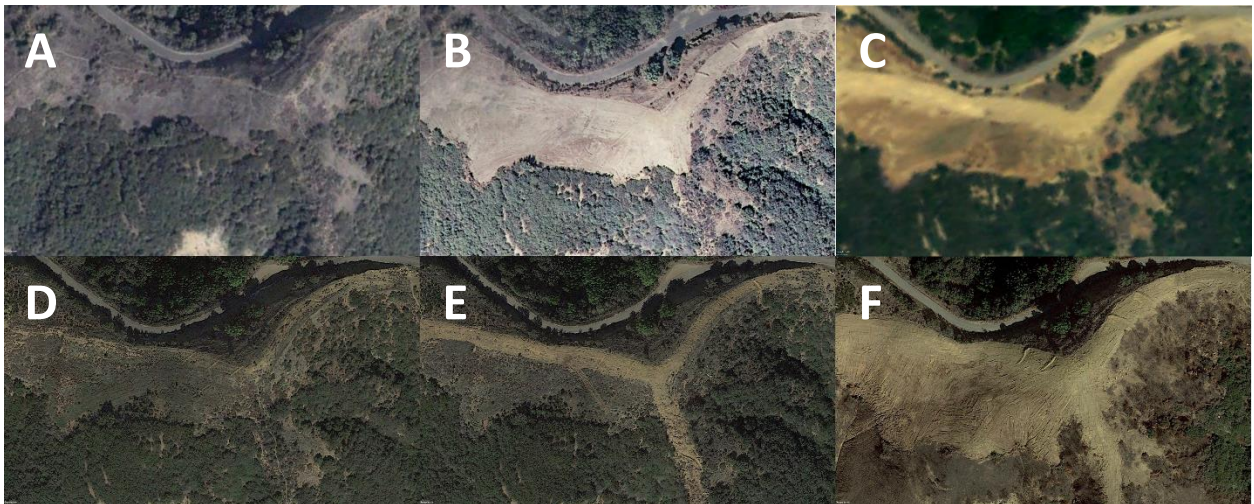


Figure 3. A section of the Camino Cielo Fuelbreak east of Angostura Pass (approx.. 34.483432°, -119.636671°) that was bulldozed between January, 2007 (A) and September, 2007 (B), and then bulldozed again between 2007 and 2009, likely during the Jesusita Fire (C). The fuelbreak was bulldozed between 2014 (D) and 2016 (E) before being bulldozed once more between 2016 and January, 2018 (F), likely during the 2017 Thomas Fire.

These examples — which are not exhaustive of the issue in the Los Padres National Forest — demonstrate that fuelbreaks are often susceptible to repeated bulldozing during emergency suppression activities. In fact, the 2015 Fuels Report for the Project even points out that fuelbreaks facilitate bulldozer work:

Increased firefighter access and production rates – Both aerial and ground-based firefighters have improved fireline construction rates in the lighter fuels associated with fuelbreaks. Hand crew fireline construction rates can increase up to six times when working in grass dominated fuels rather than in chaparral. *Dozers have similar increases in production rates* and air tankers can reduce coverage levels in lighter fuels; allowing their retardant to be effectively spread over a greater distance during a single drop (NWCG, 2004).²⁸

Thus, establishment of fuelbreaks is unlikely to decrease the use of bulldozers in these areas during emergency suppression activities. At the very least, an alternative that explored locating fuelbreaks outside of wilderness should have been considered. The FEIS disingenuously states:

The No Action Alternative may not result in any immediate impacts to wilderness character, but when bulldozers are needed to suppress wildfire, moderate to severe site-specific impacts will occur and persist...

In wilderness, the action alternatives will result in short-term minor to moderate impacts during treatments but result in long-term benefits relative to the No Action Alternative *from reduced bulldozer use*.²⁹

The FEIS does not contain a realistic analysis of the assumed reduction in bulldozer use despite the evidence of bulldozer use on other fuelbreaks across the national forest. Because of this, the action alternatives are contrived with an assumption that may be invalid and therefore alternatives that may meet the purpose and need of the Project are not considered in detail or at all.

The Forest Service also responded to our request to consider an alternative that would explore working with landowners to establish and maintain defensible space through grants or other programs. The response to our 2013 scoping comments was included in the FEIS:

The U.S. Forest Service is authorized to provide funds to be spent on non-

²⁸ Metzger, T. 2015. Los Padres National Forest Strategic Community Fuelbreak Improvement Project, Fire/Fuels Report. (emphasis added)

²⁹ USDA Forest Service. 2018. Final Environmental Impact Statement — Strategic Community Fuelbreak Project. Monterey Ranger District, Los Padres National Forest.

federal lands through cooperative agreements with willing participants for 'Hazard Mitigation Treatments on Non-Federal Lands'. Agreements can either be made directly with the landowner or indirectly through agreement with a State, local or tribal government, other public entity, educational institution or private nonprofit organization. Since 2014, the Los Padres National Forest has provided funds to the Cachagua Fire Protection District and Mid Coast Fire Brigade for WUI projects immediately adjacent to planned wildfire risk reduction projects on National Forest System lands, i.e. the community fuelbreak project. The Forest Service-funded projects have extended and filled in the gaps between federal and private land along the proposed Hennicksons Ridge fuelbreak and provided an additional layer of protection for the community of Palo Colorado. The Forest Service-funded fuel treatments in Palo Colorado saved a significant number of homes during the Soberanes Fire. Forest Service personnel are available to visit private land owners adjacent to National Forest System land to discuss firewise practices.³⁰

The alternative was considered "out of scope" for the Project. However, improving defensible space immediately around structures is considered one of the most effective approaches to protecting homes and other structures from the effects of wildfire. Indeed, the FEIS acknowledges "that effective mitigating actions must focus on the home and its immediate surroundings." Studies have shown the importance of defensible space in protecting residential structures from a wildfire. A 2014 study found that:

In terms of actionable measures to reduce fire risk, this study shows a clear role for defensible space up to 30 m (100 ft)....Results here suggest the best actions a homeowner can take are to reduce percentage cover up to 40% immediately adjacent to the structure and to ensure that vegetation does not overhang or touch the structure.³¹

Improving defensible space around structures would be in line with the purpose and need for the proposed fuelbreaks as illustrated in the FEIS:

1. There is a need for increased wildland fire suppression efficiency near communities and infrastructure....
2. There is a need to reduce the wildfire risk to life and property in

³⁰ USDA Forest Service. 2018. Final Environmental Impact Statement — Strategic Community Fuelbreak Project. Monterey Ranger District, Los Padres National Forest.

³¹ Syphard, A.D., T.J. Brennan, and J.E. Keeley. 2014. The role of defensible space for residential structure protection during wildfires. *International Journal of Wildland Fire*, 23: 1165-1175.

the communities of Big Sur, Palo Colorado, Cachagua, and Jamesburg....

3. There is a need for reduced suppression costs within the WUI....
4. There is a need to minimize adverse impacts from fire suppression activities on the landscape....³²

As the purpose and need for the Project would be satisfied by focusing on structure resilience and defensible space within the WUI, an alternative that would promote this aspect of protecting communities rather than requiring a massive undertaking on public land and within wilderness areas is reasonable and should have been considered.

Inclusion of these issues in our previous comments:

We have commented on these issues in our previous comments on the Project. Please see Los Padres ForestWatch's scoping comments on pages 4 – 5 and Los Padres ForestWatch's comments on the DEIS on pages 7 – 9.

Resolution/Remedy:

- Withdraw the FEIS or exclude the fuelbreaks inside the Ventana Wilderness.

5. The Project violates the National Environmental Policy Act due to information missing from the DROD.

The DROD does not “[s]tate whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not.”³³

Mitigation measures that were outlined in the FEIS and supporting documents were not incorporated into the DROD. Regarding the federally endangered Smith's blue butterfly, both the Biological Evaluation and Biological Assessment state:

In all units, or portions of units, that are at or below 2,300 feet in elevation and less than approximately 5 miles from the coastline, a botanist or other trained personnel will survey for Smith's blue butterfly host plants, seacliff buckwheat (*Eriogonum parvifolium*) and coast buckwheat (*Eriogonum latifolium*); if either species is found, it will be identified and flagged prior to implementation so that no plants of either

³² USDA Forest Service. 2018. Final Environmental Impact Statement — Strategic Community Fuelbreak Project. Monterey Ranger District, Los Padres National Forest.

³³ 40 CFR § 1505.2

species will be crushed, buried, burned, mowed, removed or treated with herbicide, in order to prevent potential impacts to Smith's blue butterfly. *Where found, no ground disturbing or herbicide treatments will occur within 10 feet of the individual plants.*³⁴

The DROD then states:

To prevent potential impacts to Smith's blue butterfly, in all or portions of the above fuelbreak segments that are at or below 2,300 feet in elevation and less than approximately 5 miles from the coastline, a botanist or other trained personnel will survey for Smith's blue butterfly host plants seacliff buckwheat (*Eriogonum parvifolium*) and coast buckwheat (*Eriogonum latifolium*). If either species is found, it will be identified and flagged for avoidance.

The mitigation measure of avoiding ground disturbance and herbicide treatment within 10 feet of individual plants has been omitted without explanation. The DROD does state elsewhere that "[n]o herbicide application will occur within 10 feet of any documented Forest Service sensitive plant species populations or host plants for the endangered Smith's blue butterfly." Again, this mitigation measure would allow for ground disturbance within 10 feet of host plants. The Forest Service does not explain why this mitigation measure was omitted from the DROD despite recognizing its importance in the FEIS and supporting documents.

There are also mitigation measures to protect California spotted owls that are missing from the DROD. The DROD only states:

Maintain a limited operating period prohibiting activities within approximately .25 miles of California spotted owl nest site, or known activity center where nest site is unknown, during the breeding season (February 1 through August 15), unless surveys confirm that the owls are not nesting. Land Management Plan (S19, S20).

However, there is no indication of whether and how surveys will be conducted prior to the Project's implementation. This was a point that we made in our previous comments on the DEIS:

It should be noted that California spotted owl is described as being subject to survey conducted within the project area in Appendix A of the Biological Evaluation, but no other information regarding this survey is provided.³⁵

³⁴ 2016 Biological Evaluation, page 36 and 2016 Biological Assessment, page 2. Emphasis added.

³⁵ Los Padres ForestWatch's comments on the DEIS, page 12 – 13.

Specificity regarding California spotted owl surveys should be incorporated into the ROD, and these surveys should be conducted according to protocols detailed in the Forest Service's *Protocol for Surveying for Spotted Owls in Proposed Management Activity Areas and Habitat Conservation Areas* (1993). The final ROD should also contain a requirement that the Project will be fully consistent with the Forest Service's *California Spotted Owl Conservation Strategy* (which requires that surveys be performed to protocol, and includes protective measures extending 1.5 miles from nest sites, not the ¼ mile referenced in the EA).

The DROD also omits an important mitigation measure for endangered California condors. The Biological Evaluation and Biological Assessment state:

No activities will take place within a 0.5 mile of condor roosting areas, or other areas where condors are congregating, during implementation as per Forest Plan direction (S28, S24, S11).³⁶

However, the DROD does not contain this mitigation measure, nor does it contain an explanation for why the mitigation measure was omitted. As roosting and other congregation areas are vitally important to California condor recovery (the Land Management Plan even includes a 0.5-mile buffer design criterium), the omission of this mitigation measure is also critically important. The ROD should contain this mitigation measure to ensure that the Project does not cause deleterious impacts to roosting or congregating condors.

Inclusion of these issues in our previous comments:

We have commented on these issues in our previous comments on the Project. Please see Los Padres ForestWatch's comments on the DEIS on pages 12 – 13.

Resolution/Remedy:

- Include the Smith's blue butterfly mitigation measure as stated in the Biological Evaluation and Biological Assessment in the final ROD.
- Include a requirement for pre-implementation California spotted owl surveys consistent with the Forest Service's *Protocol for Surveying for Spotted Owls in Proposed Management Activity Areas and Habitat Conservation Areas* in the final ROD.
- Incorporate California spotted owl mitigation measures consistent with the Forest Service's *California Spotted Owl Conservation Strategy*.

³⁶ 2016 Biological Evaluation, page 35 and 2016 Biological Assessment, Appendix A, page 1.

- Include the California condor roosting and congregation area mitigation measure as stated in the Biological Evaluation and Biological Assessment (Project-Wide Design Feature #3 in both documents) in the final ROD.

6. Reinitiation of consultation with the U.S. Fish and Wildlife Service is required.

The Forest Service initiated informal consultation with the U.S. Fish and Wildlife Service by requesting a concurrence on the agency's determination that the Project "may affect but is not likely to adversely affect" the California condor, California red-legged frog, Smith's blue butterfly, marbled murrelet, and California tiger salamander. This request for concurrence was submitted in February, 2016, and the U.S. Fish and Wildlife Service submitted a concurrence letter in June, 2017. However, new condor tracking data provided by the Ventana Wildlife Society has indicated that an active roost is present within the Project area, specifically within the proposed fuelbreak at Partington Ridge. We identified this roost site using the methods described in Cogan et al. (2012).³⁷ This new information indicates that the proposed action is likely to adversely affect the California condor. Reinitiation of consultation with the U.S. Fish and Wildlife Service must occur according to the Endangered Species Act:

Reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and:

- (a) If the amount or extent of taking specified in the incidental take statement is exceeded;
- (b) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
- (c) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or
- (d) If a new species is listed or critical habitat designated that may be

³⁷ We used condor telemetry data provided by the Ventana Wildlife Society for the period of July 1 to September 30, 2017. The two event IDs used to infer a roost are 3492060286 and 3492060287. For methods of roost identification, see Cogan, C.B., J. D'Elia, K. Convery, J. Brandt, and T. Bulgerin. 2012. Analysis of California condor (*Gymnogyps californianus*) activity using satellite telemetry data. *The Open Ornithology Journal*, 2012(5):82-93.

affected by the identified action.³⁸

Additionally, the U.S. Fish and Wildlife's concurrence letter dated June 13, 2017 was based on information provided in the FEIS and supporting documents. As detailed above, the FEIS and supporting documents (specifically the Biological Evaluation and Biological Assessment) contained mitigation measures to avoid disturbance to California condors and Smith's blue butterfly, yet some of these mitigation measures were omitted in the DROD. As the Project would now be conducted without these specific mitigation measures, the Forest Service must reinitiate consultation with the U.S. Fish and Wildlife Service, as that agency will need to reexamine the mitigation measures selected to determine whether they would result in impacts to Smith's blue butterfly.

Inclusion of these issues in our previous comments:

We have commented on these issues in our previous comments on the Project. Please see Los Padres ForestWatch's scoping comments on pages 5 – 6 and Los Padres ForestWatch's comments on the DEIS on pages 9 – 13.

Resolution/Remedy:

- Reinitiate consultation with the U.S. Fish and Wildlife Service.

Conclusion

The objections detailed above require the Forest Service to make several changes to the FEIS and the DROD or withdraw them. Primarily, the fuelbreaks proposed in the Ventana Wilderness should be excluded from the Project, or the FEIS be withdrawn in its entirety. The Forest Service also failed to fully comply with NEPA in its production of the FEIS. Additionally, the Forest Service must reinitiate consultation with the U.S. Fish and Wildlife Service due to new and altered information that may significantly impact endangered species such as the California condor and Smith's blue butterfly.

We support methods of mitigating the effects of wildfire on communities that are supported by the best available science. These methods include establishing and maintaining defensible space immediately around structures and constructing or retrofitting structures with fire-safe materials. The Project would utilize neither of these methods, instead establishing fuelbreaks in remote areas within the Ventana Wilderness — an approach unsupported by current science.

³⁸ 50 CFR § 402.16

COMING TO TERMS WITH WILDERNESS:
THE WILDERNESS ACT AND THE PROBLEM
OF WILDLIFE RESTORATION

BY
SEAN KAMMER*

The Wilderness Act of 1964 calls for the preservation of certain areas in their natural, untrammelled condition. Even as wilderness preservation continues to be among the most popular of environmental causes, federal land management agencies have encountered various dilemmas in fulfilling their preservationist obligations. The Wilderness Act was designed to protect these areas from direct and immediate human disturbances, but serious questions are raised about the legal meaning of “wilderness” when the areas are deemed threatened by human-induced changes occurring on a much wider, or even global, scale. Some have advocated for increased interventions into the natural ecologies of wilderness areas, including an emphasis on restoring wildlife populations, in order to preempt or counteract such changes. This Article contends, however, that whatever “wilderness” is, it cannot be something that depends upon the active manipulation of humans for its continued existence. While it is commendable to strive to restore ecosystems that have been unduly degraded due to human behaviors, the Wilderness Act recognized the value of keeping some areas beyond humans’ manipulative reach altogether—even if such interference is well-meaning.

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I. INTRODUCTION

With its passage of the Wilderness Act¹ in 1964, Congress formally recognized as a policy of the United States the preservation and protection for present and future Americans "the benefits of an enduring resource of wilderness."² To fulfill this basic purpose, Congress established a National Wilderness Preservation System (NWPS) composed of congressionally designated wilderness areas, to be administered to ensure "the preservation of their wilderness character."³ Using poetic language atypical of congressional legislation, Congress defined "wilderness"—a term with much historical and cultural baggage—as "an area where the earth and its community of life are *untrammeled by man*, where man himself is a visitor who does not remain," as opposed to those areas "where man and his own works dominate the landscape."⁴ Since the passage of the Act, federal land agencies have particularly struggled to balance the diverse values wilderness areas were meant to promote.⁵ The Wilderness Act was designed to protect these areas from human "trammeling" primarily on a local scale by minimizing direct, *intentional* physical disturbances. Yet, serious questions are raised about the Act's conception of wilderness and its mandate to preserve "wilderness character" when the communities of life within the areas are deemed threatened not by direct and immediate human impacts,

¹ Pub. L. No. 88-577, 78 Stat. 890 (1964) (codified as amended at 16 U.S.C. §§ 1131–1136 (2006 & Supp. II 2008)), *amended by* Pub. L. No. 111-11.

² 16 U.S.C. § 1131(a)(2006).

³ *Id.*

⁴ *Id.* § 1131(c) (emphasis added).

⁵ As early as 1973, the U.S. Forest Service (USFS) recognized the need for comprehensive guidance on the question of wilderness management. In that year, USFS sponsored a study to outline wilderness management issues and to provide systematic guidance on its resolution. The results of this study were published as JOHN C. HENDEE, GEORGE H. STANKEY & ROBERT C. LUCAS, U.S. FOREST SERV., *WILDERNESS MANAGEMENT* (1st ed. 1978). The authors emphasized the increasing importance of wilderness management based on the "growing pressures of wilderness use and man's indirect impacts on all lands." *Id.* at 1.

but by human-induced changes—such as climate change or habitat loss—occurring on a much wider scale.⁶

Interventions to restore wildlife populations in wilderness areas have incited much controversy in recent years. Each instance has exemplified the dilemmas facing land managers (and wilderness advocacy groups) as they attempt to address the apparent tensions embedded in the legal regime of wilderness preservation. In one recent case, for example, Wilderness Watch and other environmental groups challenged the construction of water tanks in the Kofa Wilderness Area of Arizona.⁷ Because the tanks were meant to rehabilitate and stabilize populations of bighorn sheep (*Ovis canadensis*) in the area, the U.S. Fish and Wildlife Service (FWS) defended its action as necessary for the conservation of that species, which it held to be an important purpose of that particular wilderness designation, if not of wilderness protection generally.⁸ Wilderness Watch and the other plaintiffs took a different view, contending that the structures, rather than preserving wilderness character of the area, in fact—represented an intentional manipulation of the area’s natural conditions—just the sort of management activity Congress intended to prohibit.⁹ The court thus faced the apparent paradox between wildness and pristine naturalness. It had to choose between allowing land managers to deliberately manipulate the ecology of the area in order to preserve their view of what was “natural” to it—thereby depriving the area of its wildness—or restricting the ability of land managers to preserve their view of the “natural” in order to maintain the area’s wildness or freedom from human control.

⁶ In 1999, David Cole and W.E. Hammitt presented a paper at a forest management conference in which they pointed to this problem as one to which research attention should be devoted, articulating the dilemma in their abstract as follows: “Increasingly, wilderness managers must choose between the objective of wildness (‘untrammelled’ wilderness) and the objectives of naturalness and solitude.” David N. Cole & William E. Hammitt, *Wilderness Management Dilemmas: Fertile Ground for Wilderness Management Research*, in 1 WILDERNESS SCIENCE IN A TIME OF CHANGE CONFERENCE (May 23–27, 1999), USFS RMRS-P-15-VOL-1, at 58, 58 (David N. Cole et al. eds., 2000), available at http://www.fs.fed.us/rm/pubs/rmrs_p015_1/rmrs_p015_1_001_004.pdf. Nathan Stephenson and Constance Millar recently pointed to the wildness versus naturalness debate as a key predicament facing wilderness managers. They stated the question this way: “If untrammelled was meant to refer to an absence of intentional human influences, what are we to make of pervasive *unintentional* human influences, like anthropogenic climatic change?” Nathan L. Stephenson & Constance I. Millar, *Climate Change: Wilderness’s Greatest Challenge*, PARK SCI., Winter 2011–12, at 34, 34. Daniel T. Spencer recently explored this dilemma as an ethical one: “As human-induced pressures on ecological integrity increase . . . so too will the opportunities for and pressures to carry out ecological restoration in wilderness. Yet such actions constitute a dilemma for wilderness managers and the interested public, as restoration necessarily entails the deliberate manipulation of ecosystems and ecological processes—even if only short-term—that violate the spirit and perhaps the law as embedded in the Wilderness Act.” Daniel T. Spencer, *Recreating [in] Eden: Ethical Issues in Restoration in Wilderness*, in PLACING NATURE ON THE BORDERS OF RELIGION, PHILOSOPHY AND ETHICS, at 45, 63 (Forrest Clingerman & Mark H. Dixon eds., 2011).

⁷ *Wilderness Watch, Inc. v. U.S. Fish & Wildlife Serv.*, 629 F.3d 1024, 1026 (9th Cir. 2010).

⁸ *Id.* at 1031–32.

⁹ Plaintiffs-Appellants’ Opening Brief at 13, *Wilderness Watch*, 629 F.3d 1024 (9th Cir. 2010) (No. 08-17406), 2009 WL 3172210.

This same sort of dilemma has also arisen in two other legal disputes—one involving the use of helicopters (generally forbidden in wilderness areas) to target and collar reintroduced gray wolves (*Canis lupus irremotus*) and their offspring in the Frank Church-River of No Return Wilderness Area in central Idaho,¹⁰ and the other involving the use of chemicals to eradicate certain species of trout in order to restock streams in the Carson-Iceberg Wilderness of California with Paiute cutthroat trout (*Oncorhynchus clarkii seleniris*).¹¹ In each of these cases, the species being restored was regarded as “native” to the area and therefore essential to its “naturalness,” a fact used by land managers to justify their ecological interventions, despite the corresponding loss of wildness and the harm to recreationists’ “opportunities for solitude” in encountering the projects during their implementation.¹²

This Article contends that, whatever “wilderness character” means, it cannot be something that depends upon the active manipulation of humans. While ecological interventions have been rationalized based on the threats posed to ecosystems and their constituent species from human-induced changes on a regional, national, or global scale, these threats do not justify further interventions into the natural processes within wilderness areas. These projects, whose purposes are to restore (or redirect) natural processes through the exercise of human agency, are precisely the intrusions of human culture that the Wilderness Act meant to exclude from these special places.¹³ One of the often-overlooked anthropocentric purposes that motivated the protection of wilderness areas was that they were essential to inspiring humility—thought to be an endangered virtue in modern society—among human visitors. Land managers should exercise this same humility in dealing with wilderness areas, lest they lead us down a path to where there are no longer any places that are truly “wild,” no places beyond the control of human institutions and cultural imperatives.

This Article proceeds in four parts. Part II discusses the three controversies introduced above in more detail. Part III analyzes the level of deference courts should grant to agencies in interpreting and implementing the Wilderness Act, concluding that agencies have received (and indeed should receive) much less deference in the wilderness context than in other public land controversies. Part IV examines the substantive standards contained in the Wilderness Act, with particular attention paid to its purposes, its definitions of “wilderness” and “wilderness character,” and its management directives for wilderness areas—directives which avoid the contradictions many scholars, courts, and agencies have pointed to as justifying wider discretion for agencies in implementing the Act. Part V applies these standards contained in the Wilderness Act to the three recent controversies involving

¹⁰ *Wolf Recovery Found. v. U.S. Forest Serv.*, 692 F. Supp. 2d 1264, 1268 (D. Idaho 2010).

¹¹ *Californians for Alternatives to Toxics v. U.S. Fish & Wildlife Serv.*, 814 F. Supp. 2d 992, 997, 1000 (E.D. Cal. 2011).

¹² *See id.* at 1015–16; *Wolf Recovery Found.*, 692 F. Supp. 2d at 1268–69.

¹³ *See* Wilderness Act, 16 U.S.C. § 1131 (2006) (declaring the Act’s purpose and defining the term “wilderness”).

attempts of agencies to intervene into the ecologies of wilderness areas for the purposes of preserving their “wilderness character.”

II. RECENT ECOLOGICAL INTERVENTIONS IN WILDERNESS AREAS FOR PURPOSES OF WILDLIFE RESTORATION

Federal land agencies have struggled to balance the diverse values that wilderness areas have been found to provide (including some perhaps not contemplated by the members of Congress who passed the legislation). In particular, serious questions are raised about the Act’s definition of wilderness and its mandate to preserve the wilderness character when the ecological processes within the areas are deemed threatened, not by the direct and immediate human impacts that Congress intended to exclude from such areas,¹⁴ but by human-induced changes occurring on a much wider scale. Measures that have been taken include the setting or containment of fires to replicate natural processes,¹⁵ the eradication of invasive species with mechanical or chemical treatments,¹⁶ the provision of artificial water supplies to aid certain species,¹⁷ the promotion of native vegetative recovery¹⁸ and curtailment of soil erosion,¹⁹ and the reintroduction of native species.²⁰ Three recent examples of management interventions in wilderness areas to restore species populations perceived to be threatened by broader human-induced changes to the natural environment include: the construction of water tanks in the Kofa Wilderness Area to enhance water supplies for the declining populations of bighorn sheep,²¹ the use of helicopters to aid in the restoration of gray wolf populations in the River of

¹⁴ See *id.*

¹⁵ WILLIAM C. FISCHER, U.S. FOREST SERV., WILDERNESS FIRE MANAGEMENT PLANNING GUIDE 5 (1984) (providing examples of fire management in wilderness areas and defining “wilderness fire management” as “the deliberate response to and use of fire through the execution of technically sound plans under specific prescriptions for the purpose of achieving stated wilderness management objectives”), available at http://www.fs.fed.us/rm/pubs_int/int_gtr171.pdf.

¹⁶ See, e.g., *Californians for Alternatives to Toxics*, 814 F. Supp. 2d at 997 (noting how FWS used poison to eliminate non-native fish species).

¹⁷ See, e.g., *infra* Part II.A (discussing the FWS project to restore bighorn sheep in the Kofa wilderness).

¹⁸ See, e.g., Gary Vequist, *Ecological Restoration of Degraded Wilderness Ecosystems: Removing Exotic Plants and Introducing Prescribed Fire to Restore Natural Diversity in Two National Park Wilderness Areas*, in SCIENCE AND STEWARDSHIP TO PROTECT AND SUSTAIN WILDERNESS VALUES: EIGHTH WORLD WILDERNESS CONGRESS SYMPOSIUM (Sept. 30–Oct. 6, 2005), USFS RMRS-P-49, at 506, 507 (Alan Watson et al. comps., 2007), available at http://www.fs.fed.us/rm/pubs/rmrs_p049.html (describing the exotic plant management component of the Theodore Roosevelt National Park restoration plan).

¹⁹ See, e.g., J. Dan Abbe, *Wilderness Restoration: Bureau of Land Management and the Student Conservation Association in the California Desert District*, in SCIENCE AND STEWARDSHIP TO PROTECT AND SUSTAIN WILDERNESS VALUES: EIGHTH WORLD WILDERNESS CONGRESS SYMPOSIUM, *supra* note 18, at 526 (noting such techniques as erosion control that have been used to rehabilitate hundreds of miles of unauthorized vehicle ways in various California Wilderness Areas).

²⁰ See, e.g., *infra* note 58 and accompanying text.

²¹ See *infra* Part II.A.

No Return Wilderness Area,²² and the use of chemicals to eradicate “non-native” species from streams so as to restore “native” trout in the Carson-Iceberg and Bob Marshall wilderness areas.²³ This Part provides some background material on these interventions.

A. Restoration of Bighorn Sheep in the Kofa Wilderness

In May of 2007, FWS authorized the construction of two water installations in the Kofa Wildlife Refuge and Wilderness Area for the aid of bighorn sheep populations.²⁴ This action was just one in a long line of legal actions taken to protect that species—a line which goes back to at least 1939, when President Franklin D. Roosevelt established the Kofa Game Refuge.²⁵ According to FWS and the Arizona Game and Fish Department (AGFD), bighorn sheep were “a driving factor in the establishment of the refuge,” and maintaining their population numbers has been a management focus ever since.²⁶ In 1976, the Range was incorporated into the wildlife refuge system, and then in 1990, roughly 510,000 acres of the Refuge’s 665,400 acres were designated as a wilderness area, arguably as an effort to give even greater protections for wildlife, including bighorn sheep.²⁷

A sharp decline in bighorn sheep from over 800 in 2000 to fewer than 400 in 2006 prompted FWS’s and AGFD’s heightened concerns for that species. Together, the agencies studied the problem and issued a report with their recommended actions in April of 2007.²⁸ While the drop in population numbers from 2000 to 2006 might seem alarming at first glance—indeed, it was “the first time since 1980 that the population estimate was below 600 bighorn and represents the sharpest drop recorded”—FWS acknowledged that there was “evidence to suggest that this decline may not be unprecedented.”²⁹ Specifically in the 1960s and 1970s, bighorn numbers were between 200 and 375 before “burgeoning into the 800s in the 1980s and 1990s.”³⁰ Still, based on the recent decline in population figures, FWS and AGFD recommended, among other actions, that the agencies begin the

²² See *infra* Part II.B.

²³ See *infra* Part II.C.

²⁴ Plaintiffs-Appellants’ Opening Brief, *supra* note 9, at 9. The McPherson tank was located entirely within the wilderness area; the Yaqui tank, while not itself within the wilderness, used two diversion structures that were. *Id.* at 10 n.12.

²⁵ Exec. Order No. 8,039, 4 Fed. Reg. 438 (Jan. 25, 1939).

²⁶ U.S. FISH & WILDLIFE SERV. AND ARIZ. GAME & FISH DEPT., INVESTIGATIVE REPORT AND RECOMMENDATIONS FOR THE KOFA BIGHORN SHEEP HERD 4 (2007), available at <http://www.fws.gov/southwest/refuges/arizona/kofa/docs/031479%20attachment.Kofa%20NWR-AGFD%20Bighorn%20sheep%2004-17-2007.pdf> [hereinafter KOFA INVESTIGATIVE REPORT].

²⁷ Arizona Desert Wilderness Act of 1990, tit. I, § 101(a), 104 Stat. 4469 (1990) (codified as amended at 16 U.S.C. § 460ddd (2006)).

²⁸ KOFA INVESTIGATIVE REPORT, *supra* note 26, at 4.

²⁹ *Id.* at 6.

³⁰ *Id.*

formal planning process for “major water renovations or new water developments.”³¹

The following month, FWS prepared a “minimum requirements analysis” to determine the legality under the Wilderness Act of constructing two new water structures within the Kofa Wilderness.³² While it found that no emergency made the tanks necessary and could point to no special provision allowing their construction, FWS stated that the project’s purpose was to “restore and maintain” wildlife and the “overall condition of the refuge” such that it would not denigrate the wilderness “as a whole.”³³ Regarding their obligations under the National Environmental Policy Act (NEPA),³⁴ FWS issued a categorical exclusion—essentially a declaration that the action would not significantly affect the human environment, either individually or in the cumulative—thereby allowing the parties to proceed without following NEPA’s prescribed procedures.³⁵ FWS thereafter acted quickly, and on May 30, 2007, it authorized the construction of the two proposed water installations—the McPherson and Yaqui tanks—in the Kofa Wilderness.³⁶ Within a few weeks, FWS, AGFD, and the Yuma Valley Rod and Gun Club had already constructed, using motorized vehicles and other heavy equipment, the 13,000-gallon Yaqui tank, and they were moving to begin on the McPherson tank.³⁷

It was at this point, on June 13, 2007, that Wilderness Watch—a group “dedicated to keeping wild the lands and waters in the nation’s 110 million-acre National Wilderness Preservation System”³⁸—became aware of the Yaqui tank’s construction and the agencies’ plans to construct the second tank.³⁹ The agencies were not the only parties capable of acting swiftly. Two days later, Wilderness Watch joined several other conservation and

³¹ *Id.* at 10. The agencies also recommended the implementation of “predator control actions” on offending mountain lions, the removal of any livestock that stray onto the Refuge to control for disease, and the evaluation of seasonal closures to recreational use of “sensitive areas” to minimize human impacts. They did not recommend discontinuing or even reducing translocations of bighorn sheep from the Refuge to other habitats or cessation of hunting licenses for bighorn sheep. *Id.* at 10–20.

³² U.S. FISH & WILDLIFE SERV., KOFA NATIONAL WILDLIFE REFUGE CATEGORICAL EXCLUSION: YAQUI AND MCPHERSON TANKS REDEVELOPMENT PROJECTS (2007), *available at* http://www.azgfd.gov/pdfs/w_c/bhsheep/YaquiMcPherson-catexMRAMTA.pdf.

³³ Plaintiffs-Appellants’ Opening Brief, *supra* note 9, at 9.

³⁴ National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4347 (2006).

³⁵ According to Public Employees for Environmental Responsibility, “[t]he agency provided no public notice of—or opportunity to comment on—the [categorical exclusion] or the decision to construct the tanks. AGFD and the Yuma Valley Rod and Gun Club partnered with the FWS in . . . building the tanks.” Press Release, Public Employees for Environmental Responsibility, Bighorns Shun Desert Water Tanks: Controversial Artificial Impoundments Failing Their Purpose (Sept. 15, 2009), <http://www.peer.org/news/news-releases/2009/09/15/bighorns—shun-desert-water-tanks> (last visited Feb. 17, 2013).

³⁶ Plaintiffs-Appellants’ Opening Brief, *supra* note 9, at 9–10.

³⁷ *Id.*

³⁸ Wilderness Watch, <http://www.wildernesswatch.org> (last visited Feb. 17, 2013).

³⁹ Plaintiffs-Appellants’ Opening Brief, *supra* note 9, at 11.

wilderness advocacy groups⁴⁰ in filing a lawsuit challenging the activities as violating the Wilderness Act and NEPA, and seeking a temporary restraining order to prevent construction of the McPherson tank.⁴¹ While the agencies engaged in settlement negotiations with Wilderness Watch, the McPherson tank was built.⁴²

All along, FWS insisted that the action was in accordance with its 1997 Operative Management Plan for the Kofa Refuge,⁴³ and with its management obligations both under its unofficial organic acts—the National Wildlife Refuge System (NWRS) Administration Act⁴⁴ and the NWRS Improvement Act⁴⁵—and under the Wilderness Act’s additional requirements and restraints.⁴⁶ The 1997 Plan described the preservation of desert bighorn sheep as the predominant “management theme” of the area.⁴⁷ As to the effect of the Wilderness Act on this primary management goal, the Plan noted that FWS was “responsible to carry out a dual, but nonetheless interrelated, role of managing for bighorn sheep within the context of wilderness,” but it still ultimately concluded that “management of this species remains as one of the princip[al] missions of the Kofa [refuge],” though with additional procedural requirements.⁴⁸

Recognizing it had a duty under the Wilderness Act “to maintain the natural character of the landscape,” by using the “minimum tool” necessary to manage for bighorn sheep restoration, the Plan reasoned that the needs of the sheep and the Wilderness Act’s obligations were complementary rather than in conflict. In short, “the habitat management work done to benefit bighorn sheep, including water development, could have a positive influence on the natural cycles of predation and succession for a diversity of life in the desert without detracting of wilderness attributes and values.”⁴⁹

⁴⁰ The other groups included the Arizona Wilderness Coalition, Sierra Club, Western Watersheds Project, and Grand Canyon Wildlands Council. *Id.* at i.

⁴¹ The NEPA claims, which are beyond the scope of this Article, were based on the issuance of the categorical exclusion and on the agency’s alleged failure to provide public notice or to allow for comment. *Id.* at 11–12.

⁴² *Id.* at 11.

⁴³ U.S. FISH & WILDLIFE SERV. AND ARIZ. FISH AND GAME DEP’T., KOFA NATIONAL WILDLIFE REFUGE AND WILDERNESS AND NEW WATER MOUNTAINS WILDERNESS INTERAGENCY MANAGEMENT PLAN, ENVIRONMENTAL ASSESSMENT, AND DECISION RECORD (1996), available at http://library.fws.gov/CMP/kofa_cmp96.pdf [hereinafter KOFA MANAGEMENT PLAN].

⁴⁴ National Wildlife Refuge System Administration Act of 1966, Pub. L. No. 91-135, 83 Stat. 275 (codified as amended at 16 U.S.C. §§ 668dd, 668ee (2006)), amending Pub. L. No. 89-669, §§ 4, 5, 80 Stat. 926, 927.

⁴⁵ National Wildlife Refuge System Improvement Act of 1997, Pub. L. No. 105-57, 111 Stat. 1252 (codified as amended at 16 U.S.C. §§ 668dd, 668ee (2006)), amending National Wildlife Refuge System Administration Act of 1966, Pub. L. No. 89-669.

⁴⁶ See *Wilderness Watch*, 629 F.3d 1024, 1032 (9th Cir. 2010) (citing to the Wilderness Act’s prohibition on developing “structures or installations” in a Wilderness Area “except as necessary to meet minimum requirements for the administration of the area,” 16 U.S.C. § 113(c).

⁴⁷ KOFA MANAGEMENT PLAN, *supra* note 43, at 2.

⁴⁸ *Wilderness Watch*, 629 F.3d at 1035 (quoting KOFA MANAGEMENT PLAN, *supra* note 43, at 36–37).

⁴⁹ *Id.* at 1035–36 (quoting KOFA MANAGEMENT PLAN, *supra* note 43, at 39–40).

Wilderness Watch and its co-plaintiffs alleged violations of the Wilderness Act based both on the construction of the water tanks (as forbidden “permanent structures”) and the use of backhoes and trucks (generally prohibited as “motorized vehicles”) in constructing them.⁵⁰ In particular, they contended that the structures, instead of preserving the area’s wilderness character, in fact “modif[ied] natural conditions in the wilderness and were built to artificially inflate populations of bighorn sheep.”⁵¹ FWS admitted that the water tanks constituted a “structure or installation” generally prohibited by the Wilderness Act,⁵² but contended that the water tanks fit within the exception allowing such developments when “necessary to meet minimum requirements for the administration of the area for the purpose of the [Wilderness Act].”⁵³ The structures fell within this exception, FWS claimed, because conserving bighorn sheep populations was within a “purpose” of the Act and these structures were necessary for achieving that purpose.⁵⁴

Resolution of this claim would ultimately depend upon the court’s interpretation of Wilderness Act provisions, including the Act’s purpose, its definition of “wilderness character,” and the meaning of the exception allowing for structures where necessary for administering the area for the purpose of the Act.

B. Tracking of Gray Wolves in the River of No Return Wilderness

In December of 2009, the U.S. Forest Service (USFS) issued a special use permit to the Idaho Department of Fish and Game (IDFG), authorizing the use of helicopters in tracking reintroduced gray wolves and their offspring in the Frank Church-River of No Return Wilderness in central Idaho.⁵⁵ Congress designated this area as wilderness in 1980, and at 2.3 million acres in size, it is the largest contiguous wilderness area in the United States outside of Alaska.⁵⁶ For decades, gray wolves had been listed as an endangered species under the Endangered Species Act (ESA).⁵⁷ As part

⁵⁰ *Id.* at 1032–33.

⁵¹ Plaintiffs-Appellants’ Opening Brief, *supra* note 9, at 13.

⁵² *Wilderness Watch*, 629 F.3d at 1032 (citing Wilderness Act, 16 U.S.C. § 1133(c)(2006)).

⁵³ *Id.* (citing 16 U.S.C. § 1133(d)).

⁵⁴ *Id.*

⁵⁵ U.S. FOREST SERV., DECISION MEMO: SPECIAL USE AUTHORIZATION TO IDAHO FISH AND GAME FOR HELICOPTER LANDINGS AND AERIAL DARTING TO SUPPORT GRAY WOLF CAPTURE AND COLLARING IN THE FRANK CHURCH-RIVER OF NO RETURN WILDERNESS 2–3 (2009), *available at* http://wildernesswatch.org/pdf/dm_heli_landings_122209.pdf [hereinafter USFS SPECIAL USE AUTHORIZATION].

⁵⁶ Central Idaho Wilderness Act of 1980, Pub. L. No. 96-312, 94 Stat. 948 (codified as amended at 16 U.S.C. § 1132 (2006)).

⁵⁷ Endangered Species Act of 1973, 16 U.S.C. §§ 1531–1544 (2006 & Supp. II 2008); 39 Fed. Reg. 1171, 1175 (Jan. 4, 1974) (codified as amended at 50 C.F.R. § 17.11) (placing the rocky mountain gray wolf among the first list of species protected under the 1973 ESA); *see also* Roberta A. Klein, *Wolf Recovery in the Northern Rockies*, in FINDING COMMON GROUND: GOVERNANCE AND NATURAL RESOURCES IN THE AMERICAN WEST 88, 88 (Ronald D. Brunner et al. eds., 2002).

of the program for rehabilitating gray wolf populations, thirty-five wolves were reintroduced into central Idaho in the mid-1990s.⁵⁸ Due to the success of this program, in 2009 FWS delisted the wolves in the northern Rocky Mountain region, including not only Idaho, but also Montana, eastern Oregon and Washington, and northwest Utah,⁵⁹ thereby allowing the federal government to turn over wolf management to these states.⁶⁰ Although the species was no longer considered endangered, the ESA required the gray wolf population to be monitored for at least five years to ensure that the state's management plan was effective in ensuring the species' continued recovery.⁶¹ It was ostensibly to fulfill its monitoring obligations under the ESA that IDFG claimed it needed dozens of helicopter landings per year and the use of tranquilizer darts to radio-collar wolves so that it could locate and track their populations within the wilderness area.⁶² Such was necessary, according to IDFG, "to ensure the long-term viability of the gray wolf population."⁶³ For its part, USFS claimed, in issuing the permit in December of 2009, that the information gathered would "further efforts to manage and protect the wilderness character of the area," which it saw as including "the presence of natural predators and predator-prey relationships."⁶⁴

The plan immediately came under fire from environmentalist groups. Less than two weeks after the permit issued, the Wolf Recovery Foundation, an Idaho non-profit group founded two decades earlier for the purposes of protecting wild wolf communities, and the Western Watersheds Project, a group headquartered in Idaho whose purpose is the conservation of watersheds in the American West, filed suit in federal court challenging the use of helicopters in the wilderness area.⁶⁵ They also contested the Department of Agriculture's policy towards livestock grazing in the nearby Sawtooth National Recreation Area and its targeted killings of wolf populations to protect such livestock.⁶⁶ These environmental groups alleged that both the state's and the federal government's purposes in tracking gray wolves were to aid in the killing of wolves to reduce conflicts with grazing and to justify raising the number of authorized takings.⁶⁷ Their specific claims under the Wilderness Act alleged that IDFG had not made a showing regarding either the necessity of helicopter use for the gathering of

⁵⁸ IDAHO DEP'T OF FISH & GAME, IDAHO WOLF POPULATION MANAGEMENT PLAN 2008–2012, at 4 (2008), *available at* <http://fishandgame.idaho.gov/public/docs/wolves/plan08.pdf>.

⁵⁹ Final Rule to Identify the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment, 74 Fed. Reg. 15,123, 15,123 (Apr. 2, 2009) (codified at 50 C.F.R. § 17.11).

⁶⁰ *Id.* For a discussion of the wolf recovery plan under the ESA, see Klein, *supra* note 57.

⁶¹ USFS SPECIAL USE AUTHORIZATION, *supra* note 55, at 2.

⁶² *Id.* at 1–2.

⁶³ IDAHO DEP'T OF FISH & GAME, *supra* note 58, at 19.

⁶⁴ USFS SPECIAL USE AUTHORIZATION, *supra* note 55, at 2.

⁶⁵ First Amended Complaint at 2, Wolf Recovery Found. v. U.S. Forest Serv., 692 F. Supp. 2d 1264 (D. Idaho 2010) (No. 09-CV-686-BLW), 2010 WL 1861698.

⁶⁶ *Id.*

⁶⁷ *Id.* at 20–21.

information on wolf populations, or that such information was necessary for the preservation of wilderness values.⁶⁸

Resolution of this claim would ultimately depend upon the court's interpretation of Wilderness Act provisions, including the Act's purpose, its definition of "wilderness character," and the meaning of the exception allowing for helicopter use where necessary for administration of the wilderness area.

C. Restoration of Paiute Cutthroat Trout in the Carson-Iceberg Wilderness

In May of 2010, FWS approved a plan by the California Department of Fish and Game (CDFG) not just to protect or to restore a particular species, but to do so by killing others.⁶⁹ This plan called for the eradication of non-native trout species and the restocking of native Paiute cutthroat trout (PCT) in the Silver King Creek watershed of Carson-Iceberg Wilderness Area of California, a 160,000 acre area south of Lake Tahoe along the crest of the Sierra Nevada mountain range.⁷⁰ Unlike the bighorn sheep at issue in the Kofa Wilderness or the gray wolves in the River of No Return Wilderness, however, the restored Paiute cutthroat trout were a listed species under the ESA.⁷¹ The project's goal was not just to raise the species' population numbers to carrying capacity, but to prevent the sub-species from going extinct and ultimately to restore it to a level that would justify its removal from the Federal threatened species list.⁷²

This plan was far from unprecedented. The CDFG had for decades engaged in the stocking of non-native trout in streams and lakes throughout the state.⁷³ Ironically, the endangerment upon which FWS attempted to justify the eradication and restocking was arguably caused by the stocking of the Silver King Creek with rainbow trout (*Oncorhynchus mykiss*), Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*), and California golden trout (*Oncorhynchus mykiss aguabonita*), all of which threatened native trout through increased competition for resources and interbreeding.⁷⁴ The CDFG had also previously used rotenone (a naturally occurring broad-spectrum piscicide, herbicide, and insecticide used in fisheries management) to poison non-native trout so that native trout could be restored in stream and lake systems throughout the state, including in other stretches of the

⁶⁸ *Id.* at 20.

⁶⁹ U.S. FISH & WILDLIFE SERV., RECORD OF DECISION: PAIUTE CUTTHROAT TROUT RESTORATION PROJECT 2 (2010) [hereinafter PCT ROD].

⁷⁰ U.S. FISH & WILDLIFE SERV. AND CAL. DEP'T OF FISH & GAME, PAIUTE CUTTHROAT TROUT RESTORATION PROJECT: FINAL ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT at 1-2 (2010) [hereinafter PCT FEIS]. The area was designated a part of the NWPS as part of the California Wilderness Act of 1984, Pub. L. No. 98-425, § 101(2), 98 Stat. 1619 (codified as amended at 16 U.S.C. § 1132 note).

⁷¹ See 50 C.F.R. § 17.11 (2011) (Endangered and Threatened Wildlife).

⁷² PCT FEIS, *supra* note 70, at 1-1.

⁷³ *Id.* at 2-8.

⁷⁴ Complaint for Declaratory and Injunctive Relief at 7, *Californians for Alternatives to Toxics*, 814 F. Supp. 2d 992 (E.D. Cal. 2011) (No. 2:10-CV-01477-FCD-KJM), 2010 WL 2963020.

Silver King system.⁷⁵ Indeed, even this particular project had been proposed a number of times in the past decade.⁷⁶

During the comment period prior to issuing the Final Environmental Impact Statement and Record of Decision, many commenters objected to the project on the grounds that the use of rotenone was inconsistent with the Wilderness Act and would adversely affect wilderness values.⁷⁷ In approving the plan, FWS and CDFG indeed acknowledged that the project would negatively impact wilderness character, at least in the short term.⁷⁸ First, they admitted that the action “would impair the untrammeled quality of wilderness,” since it was “an intentional human caused manipulation of ecological systems inside wilderness.” Second, they recognized that it would “impair the natural quality of wilderness,” both due to the level of human occupation required to implement it, and the effect of the rotenone on the appearance of the water.⁷⁹ In addition, they indicated that the project would “impair the undeveloped quality of wilderness” with its use of motorized equipment, including the use of motorized volumetric augers to dispense the neutralizing agent downstream.⁸⁰ The sights and sounds of such equipment, all “associated with civilization,” would impair the area’s opportunity for solitude, while the eradication of non-native trout would result in “short-term impacts on solitary fishing opportunities.”⁸¹ However, the agencies concluded that the eradication of non-native trout and the restocking of a native species would be “consistent with wilderness values,”⁸² and would indeed “improve the naturalness of the Wilderness area” in the long term.⁸³

A number of environmental groups, including Californians for Alternatives to Toxics, Wilderness Watch, and the Friends of Silver King Creek, instituted an action for an injunction against the eradication and restocking.⁸⁴ Their action included claims under NEPA, the California Environmental Quality Act (CEQA),⁸⁵ and the Wilderness Act.⁸⁶ Their allegations echoed some of what the agencies admitted in their decision

⁷⁵ PCT FEIS, *supra* note 70, at 2-2.

⁷⁶ In May of 2002, the CDFG proposed the plan and the USFS (which has jurisdiction over the Wilderness Area) approved the project, but a lawsuit prompted the USFS to withdraw the approval pending a full NEPA review. Complaint for Declaratory and Injunctive Relief, *supra* note 74, at 8-9. Two years later, the USFS approved the same plan with an Environmental Assessment (EA) and a “finding of no significant impact”; this decision was also challenged, and after a court issued a preliminary injunction against the project, the USFS again withdrew its approval. *Id.* at 9-10. All of this led the USFS and CDFG to institute a full EA under NEPA and the California Environmental Quality Act (CEQA), the result of which was the approval of the project in May of 2010. See *Californians for Alternatives to Toxics*, 814 F. Supp. 2d at 999.

⁷⁷ See PCT FEIS, *supra* note 70, at 2-7 to -9, app. F at F-32, -105, -117.

⁷⁸ *Id.* at 5.7-2.

⁷⁹ *Id.* at 5.7-3.

⁸⁰ *Id.*

⁸¹ *Id.* at 5.7-3 to 5.7-4.

⁸² *Id.* at 5.10-6.

⁸³ PCT ROD, *supra* note 69, at 11.

⁸⁴ Complaint for Declaratory and Injunctive Relief, *supra* note 74, at 2.

⁸⁵ California Environmental Quality Act, CAL. PUB. RES. CODE §§ 21000-21181 (West 2007).

⁸⁶ See *Californians for Alternatives to Toxics*, 814 F. Supp. 2d 992, 996-98 (E.D. Cal. 2011).

documents, particularly that the occupation of the wilderness area by up to fifty people at a time would detract from its naturalness, as would the eradication of non-native trout and restocking actions themselves, however it was done.⁸⁷ They also argued, however, that the agencies failed to consider the negative impacts on other non-target species, including the “potential extinction of other species, [some] as rare and unique as PCT.”⁸⁸ The plaintiffs contended that the loss of non-target species, together with the “alteration of terrestrial and aquatic food webs” and “indelible changes” to the composition of the community of life, were antithetical to the “natural conditions” that the Wilderness Act requires USFS to maintain.⁸⁹ Finally, they alleged that the restocking was unnecessary for the protection of PCT, since the sub-species had already been established in other portions of the stream system to an extent already exceeding its historic range, and that doing so could prove to be ineffective because restocking does not prevent reintroduction of non-native trout, whether through fish migration from downstream or illegal restocking.⁹⁰

As with the other two controversies discussed above, resolution of this claim would ultimately depend upon the court’s interpretation of Wilderness Act provisions, including the Act’s purpose, its definition of “wilderness character,” and the meaning of the exception allowing for motorized vehicles and equipment where necessary for administering the area for the purpose of the Act.

III. LEVEL OF JUDICIAL DEFERENCE OWED TO AGENCY INTERPRETATIONS OF THE WILDERNESS ACT

As noted in the previous Part, resolving each of the controversies regarding ecological interventions in wilderness depends upon the proper interpretation of certain provisions of the Wilderness Act. However, whether courts have the power to overturn the interpretations of land management agencies also depends upon the standard of review to be applied in such instances. That is the subject of this Part.

In determining the standard of review to be applied to agency decisions, courts must look first to the statutes under which the challenges to those decisions are brought. Because the Wilderness Act itself provides no private right of action, claims alleging violations of the Act are typically brought under the Administrative Procedure Act (APA),⁹¹ which prescribes the scope and standard of judicial review for challenges to agency actions.⁹² Under the APA, the standard of review depends first upon whether the challenged

⁸⁷ See Complaint for Declaratory and Injunctive Relief, *supra* note 74, at 22.

⁸⁸ *Id.* at 14.

⁸⁹ *Id.* at 22.

⁹⁰ *Id.* at 8.

⁹¹ 5 U.S.C. §§ 551–559, 701–706, 1305, 3105, 3344, 4301, 5335, 5372, 7521 (2006).

⁹² See, e.g., *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 375 (1989); *Clouser v. Espy*, 42 F.3d 1522, 1527 n.5 (9th Cir. 1994), *cert. denied*, *Clouser v. Glickman*, 515 U.S. 1178 (1995).

decision is one of law, of fact, or of policy.⁹³ While courts review factual determinations under a “substantial evidence” standard⁹⁴ and policy questions under an even more lenient “arbitrary and capricious” standard,⁹⁵ the APA mandates that reviewing courts “shall decide all relevant questions of law, [and] interpret constitutional and statutory provisions.”⁹⁶ Thus, it would seem that courts could overturn an agency’s interpretation of the Wilderness Act based simply on the court’s disagreement with it.

While the APA seems to direct courts to review agency interpretations of law de novo, courts have largely disregarded this provision as it applies to agency interpretations of statutes. The Supreme Court, for instance, in its 1984 decision in *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.* (*Chevron*),⁹⁷ faced the question of the appropriate level of deference to be given to the U.S. Environmental Protection Agency’s definition of a statutory term in the Clean Air Act.⁹⁸ It resolved the issue without even citing to the APA, instead relying upon common law doctrines to establish a new two-part framework.⁹⁹ Under this test, a court must first ask whether the statutory language in question is ambiguous in regards to the challenged agency decision.¹⁰⁰ If not—i.e., if Congress has already unambiguously answered the question—then “that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.”¹⁰¹ In other words, if the agency’s interpretation is consistent with the unambiguous statutory language, then it must be upheld; if inconsistent, it must be set aside. If, however, the court finds a statute to be ambiguous as to the challenged agency interpretation, the court must uphold it so long as it is “based on a permissible construction of the statute.”¹⁰² The Supreme Court went on to define a “permissible construction” as one which is “reasonable.”¹⁰³

⁹³ See 5 U.S.C. § 706(2) (Scope of Review).

⁹⁴ *Id.* § 706(2)(E).

⁹⁵ *Id.* § 706(2)(A); *Am. Paper Inst., Inc. v. Am. Elec. Power Serv. Corp.*, 461 U.S. 402, 412 n.7 (1983).

⁹⁶ 5 U.S.C. § 706. The APA essentially codified the standard of review promulgated by the Supreme Court decades earlier in *Interstate Commerce Comm’n v. Illinois Cent. R.R. Co.*, 215 U.S. 452 (1910). In that case, Justice Edward White, writing for the Court, held that in reviewing administrative orders, courts must look only at whether the agency had the necessary constitutional authority, whether Congress had delegated the appropriate powers, and whether the action constituted a reasonable exercise of its power. *Id.* at 470.

⁹⁷ 467 U.S. 837 (1984).

⁹⁸ *Id.* at 840.

⁹⁹ *Id.* at 842–45.

¹⁰⁰ *Id.* at 842.

¹⁰¹ *Id.* at 842–43.

¹⁰² *Id.* at 843. The Court elaborated that, while “[t]he judiciary is the final authority on issues of statutory construction and must reject administrative constructions which are contrary to clear congressional intent,” the court “need not conclude that the agency construction was the only one it permissibly could have adopted to uphold the construction, or even the reading the court would have reached if the question initially had arisen in a judicial proceeding.” *Id.* at 843 nn.9 & 11.

¹⁰³ The Court actually provided two different tests, one for when Congress “explicitly left a gap for the agency to fill,” and the other for when delegation is merely implicit. If Congress left

Many commentators criticized the Supreme Court's opinion in *Chevron* for abdicating the judiciary's role in interpreting legislation.¹⁰⁴ Years later, the Supreme Court itself seemed to reconsider the merits of affording agencies such wide deference regarding legal questions. In the case of *United States v. Mead Corp.*,¹⁰⁵ the Supreme Court drastically limited the reach of its *Chevron* holding. It explained that an agency's implementation of a statutory provision qualifies for *Chevron* deference only "when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law, and that the agency interpretation claiming deference was promulgated in the exercise of that authority."¹⁰⁶ In *Mead*, the Court ultimately refused to apply the *Chevron* standard of review based on the lack of explicit congressional delegation of authority to make rules, the lack of precedential impact, and the nonbinding effect of the action on third parties.¹⁰⁷

Having decided that *Chevron* represented only the highest level of judicial deference, reserved for situations where Congress expressly delegated to the agency the power to make law through formal adjudications or rulemaking, the Court in *Mead* explained that some level of deference may still be warranted in the absence of such express authorizations from Congress.¹⁰⁸ The court reasoned that this lesser deference, often referred to as *Skidmore* respect,¹⁰⁹ applies where "the regulatory scheme is highly detailed," and where the agency "can bring the benefit of specialized experience to bear on the subtle questions."¹¹⁰ In such cases, the degree of deference to the agency determination depends upon "the thoroughness evident in its consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control."¹¹¹ In all other situations (e.g., where the regulatory scheme is not highly detailed or the legal question does not implicate the specialized experience of the administrators), the agency's

a gap, the court must defer to an agency's interpretation unless it is "arbitrary, capricious, or manifestly contrary to the statute"; where delegation is implicit, courts must defer to agency interpretation so long as it is "reasonable." Because "arbitrary and capricious" is normally defined as lacking reasonableness, these standards are essentially the same. *See id.* at 843–44.

¹⁰⁴ Peter A. Appel, *Wilderness and the Courts*, 29 STAN. ENVTL. L.J. 62, 97 (2010) [hereinafter *Wilderness and the Courts*] (citing Mark Seidenfeld, *A Syncopated Chevron: Emphasizing Reasoned Decisionmaking in Reviewing Agency Interpretations of Statutes*, 73 TEX. L. REV. 83 (1994)); Thomas W. Merrill & Kristin E. Hickman, *Chevron's Domain*, 89 GEO. L.J. 833, 859 (2001)). *But see* Jack L. Landau, *Chevron, USA v. NRDC: The Supreme Court Declines to Burst EPA's Bubble Concept*, 15 ENVTL. L. 285, 288 (1985) (celebrating decision as a "welcome development" due to both "the approval of the bubble concept and the affirmation of the agency's discretion to develop such cost-minimizing reforms").

¹⁰⁵ 533 U.S. 218 (2001).

¹⁰⁶ *Id.* at 226–27.

¹⁰⁷ *Id.* at 231–34.

¹⁰⁸ *Id.* at 234.

¹⁰⁹ The standard was stated in the case of *Skidmore v. Swift & Co.*, 323 U.S. 134, 139–140 (1944).

¹¹⁰ *Mead*, 533 U.S. at 235.

¹¹¹ *Skidmore*, 323 U.S. at 140; *see also* Christensen v. Harris Cnty., 529 U.S. 576, 587 (2000) (holding that the level of deference depends on whether the agency decision has the force of law).

interpretation is to receive no deference.¹¹² While the Supreme Court was criticized for abdicating its judicial responsibilities after its decision in *Chevron*, its opinion in *Mead* has been attacked for unduly complicating the law of judicial deference.¹¹³

Courts differ in how they apply the *Chevron-Mead* framework in the public lands context.¹¹⁴ Most have granted great deference to agencies, so long as they stay within their often broadly conceived statutory mandates, while others have shown a greater willingness to scrutinize agency decisions.¹¹⁵ Even as the majority of courts employ a deferential standard of review, environmental and conservationist groups have still enjoyed relatively high success rates in challenging land management decisions. Indeed, one study of cases from the 1970s to 1992 found that the rate of success was about 37% for challenges under USFS's principal management statute, the National Forest Management Act (NFMA),¹¹⁶ and about 45% for challenges under NEPA.¹¹⁷ That study also showed that environmental groups enjoyed greater success rates in challenging USFS decisions than

¹¹² See, e.g., John S. Kane, *Refining Chevron—Restoring Judicial Review to Protect Religious Refugees*, 60 ADMIN. L. REV. 513, 553, (2008) (noting that when agency expertise is not necessary to fully consider and understand an issue, “ground for deference is lacking”).

¹¹³ See, e.g., William S. Jordan III, *United States v. Mead: Complicating the Delegation Dance*, 31 ENVTL. L. RPTR. NEWS & ANALYSIS 11,425, 11,425 (2001); Lisa Schultz Bressman, *How Mead has Muddled Judicial Review of Agency Action*, 58 VAND. L. REV. 1443, 1464 (2005). Criticisms are not limited to the academic realm. More recently, Justice Scalia, who dissented in *Mead*, characterized the legal holding in *Mead* as “inscrutable,” “irrational,” “misguided,” and ultimately “incomprehensible.” *Coeur Alaska, Inc. v. Se. Alaska Conservation Council*, 557 U.S. 261, 295–96 (2009) (Scalia, J., concurring). Justice Scalia concluded by emphasizing that, while he favored overruling *Mead* altogether, he was “pleased to join an opinion that effectively ignores it.” *Id.* at 296.

¹¹⁴ As Peter A. Appel noted, even in cases decided after *Chevron* and *Mead*, “courts often do not discuss which standard of review applies to the administrative decision, and in some instances leave it up in the air exactly what standard of review or principle of deference applies to the given controversy.” Peter A. Appel, *Wilderness, the Courts, and the Effect of Politics on Judicial Decisionmaking*, 35 HARV. ENVTL. L. REV. 275, 299 (2011).

¹¹⁵ MARTIN NIE, *THE GOVERNANCE OF WESTERN PUBLIC LANDS: MAPPING ITS PRESENT AND FUTURE* 72–73 (2008). The Ninth Circuit seems to be a prime example of the latter group. In a 2003 opinion involving public land management, for instance, the Ninth Circuit reasoned that the APA, while prohibiting courts from substituting their judgments for those of agencies, means that the judiciary must “carefully review the record to ensure that agency decisions are founded on a reasoned evaluation of the relevant factors, and may not rubber-stamp . . . administrative decisions that [we] deem inconsistent with a statutory mandate or that frustrate the congressional policy underlying a statute.” *Friends of Yosemite Valley v. Norton*, 348 F.3d 789, 793 (9th Cir. 2003) (quoting *Pub. Citizen v. Dep’t of Transp.*, 316 F.3d 1002, 1020 (9th Cir. 2003)), *clarified by* 366 F.3d 731 (9th Cir. 2004). The Ninth Circuit continues to follow that standard. See, e.g., *Wilderness Watch*, 629 F.3d 1024, 1032 (9th Cir. 2010).

¹¹⁶ National Forest Management Act of 1976, 16 U.S.C. §§ 472a, 521b, 1600, 1611–1614 (2006) (amending Forest and Rangeland Renewable Resources Planning Act of 1974, Pub. L. No. 93-378, 88 Stat. 476 (1974)).

¹¹⁷ Elise S. Jones and Cameron P. Taylor, *Litigating Agency Change: The Impact of the Courts and Administrative Appeals Process on the Forest Service*, 23 POL’Y STUD. J. 310, 323 (1995).

pro-development litigants.¹¹⁸ While USFS has still won more than it has lost, conservationist challengers have succeeded more than one might expect, given the deferential standards purportedly employed.

Courts appear to be even more favorable to environmentalist or conservationist litigants bringing claims under the Wilderness Act. As scholar Peter Appel recently demonstrated, courts have recognized the uniqueness of wilderness areas within the federal government's land portfolio and have seemingly asserted a substantial role in ensuring that the wilderness resource is protected.¹¹⁹ In his review of judicial decisions regarding management of wilderness areas, Appel found that in cases where wilderness or environmental advocates have challenged agency decisions as not being sufficiently protective of the wilderness, agencies win only about 44% of the time.¹²⁰ This stands in marked contrast to those cases where agency actions are challenged for being too protective of wilderness, where agencies have been upheld roughly 88% of the time.¹²¹ In summarizing the data, Appel found that "courts apply much more rigorous scrutiny of agency determinations that arguably detract from wilderness protection than the scrutiny they might apply in other contexts both within and outside of environmental law, and courts overwhelmingly vote to affirm agency actions that protect wilderness more than they might in other contexts."¹²²

To explain why "agencies tend to receive unexpectedly high scrutiny of their decisions in the wilderness context,"¹²³ Appel cited a number of factors. First, he argued that the Wilderness Act seems to invite strict judicial construction through its absolutist definition of wilderness.¹²⁴ Second, wilderness protection has enjoyed overwhelming popular and political support.¹²⁵ Third, judges might be especially averse to the risk of losing a resource, such as wilderness, that can never be regained.¹²⁶ Fourth, wilderness advocacy groups are relatively well-funded and have retained excellent legal representation to pursue and argue their claims.¹²⁷ Finally,

¹¹⁸ *Id.* at 324–27. For a discussion of this and other studies and the role of the judiciary in overseeing, and thereby influencing, the decision-making of USFS, see NIE, *supra* note 115, at 199–204.

¹¹⁹ *Wilderness and the Courts*, *supra* note 104, at 66–67.

¹²⁰ *Id.* at 66.

¹²¹ *Id.* at 66–67. Like this author, Appel lamented the lack of scholarly attention to "the legalistic niceties of defining wilderness," or to the "permitted and prohibited activities in wilderness." Instead, scholars have focused more on the need for preservation areas and on specific debates over adding new lands to the wilderness preservation system. *Id.* at 69.

¹²² *Id.* at 96.

¹²³ *Id.* Appel's research also suggests that the political or ideological affiliation of judges has been largely insignificant in determining results in the wilderness context. *Id.* at 118–19; Appel, *supra* note 114, at 311. This differs from studies regarding environmental and public lands litigation more generally. See NIE, *supra* note 115, at 204 (noting that in the context of NEPA litigation, "[j]udges appointed by a Democratic president are much more likely to rule in favor of environmental plaintiffs . . . than Republican-appointed judges").

¹²⁴ *Wilderness and the Courts*, *supra* note 104, at 119–20.

¹²⁵ *Id.* at 120–21.

¹²⁶ *Id.* at 121–22.

¹²⁷ *Id.* at 122.

agencies might just be wrong more often in this context, perhaps due to their hostility toward the mandates of the Wilderness Act.¹²⁸

Appel's points are well taken, but his analysis only takes us so far. He assessed why courts *have* asserted such an active role in ensuring wilderness protection, but he offered little rationale for why they *should* do so—that is, why a stricter standard of review (even if unspoken) is indeed appropriate in this context. To answer this question, one must first look to the legal and policy bases for courts to defer to agencies' statutory interpretations—traditionally the province of the judicial rather than the executive branch.¹²⁹ Scholars have advanced several legal and policy arguments in favor of administrative interpretation of statutes, including that such questions (though legal) often require a level of expertise held by administrators but not by judges; that the administration of statutes requires a level of flexibility not possible once a court assumes the role of interpreting statutory provisions; and that such interpretations typically involve the resolution of policy questions which are best left to the more politically accountable branches—to Congress, where it has spoken, and to agencies, where Congress has left a gap or ambiguity.¹³⁰

None of the rationales for according agencies deference to interpret statutory provisions apply generally in the wilderness context. A basic premise of the Wilderness Act was that the value of wilderness areas, unlike other natural resource values, depended upon their being beyond human control or manipulation—their being *wild*.¹³¹ In contrast to other public land management statutes, which typically authorize agencies to consider and

¹²⁸ See *id.* at 123.

¹²⁹ See *Marbury v. Madison*, 5 U.S. 137, 177 (1803) (“It is emphatically the province and duty of the judicial department to say what the law is.”).

¹³⁰ Kane, *supra* note 112, at 552–53, 561–71; David M. Hasen, *The Ambiguous Basis of Judicial Deference to Administrative Rules*, 17 YALE J. ON REG. 327, 363 (2000) (citing Russell L. Weaver, *A Foolish Consistency is the Hobgoblin of Little Minds*, 44 BAYLOR L. REV. 529, 558 (1992); Kenneth W. Starr, *Judicial Review in the Post-Chevron Era*, 3 YALE J. ON REG. 283, 312 (1986)). Maureen B. Callahan considered *Chevron* to be an exercise in judicial self-restraint, like other prudential standing doctrines, based on the judiciary's competence (or lack thereof) to decide particular questions. Maureen B. Callahan, *Must Federal Courts Defer to Agency Interpretations of Statutes?: A New Doctrinal Basis for Chevron* U.S.A. v. Natural Resources Defense Council, 1991 WIS. L. REV. 1275, 1289–90 (1991). These arguments seem to be supported by the Court's opinions in *Chevron* and *Mead*. In *Chevron*, the Court reasoned that, “The responsibilities for assessing the wisdom of [certain] policy choices and resolving the struggle between competing views of the public interest are not judicial ones . . .” *Chevron*, 467 U.S. 837, 866 (1984). In *Mead*, the Court repudiated *Chevron*'s blanket legal “presumption about Congressional intent” to delegate statutory interpretation authority to agencies, replacing it with the traditional presumption in favor of judicial interpretation. This presumption is rebutted where Congress's intent to delegate interpretive authority to agencies is explicit (in which case *Chevron* deference applies), and where courts lack the resources or expertise to define and evaluate complex statutory or regulatory schemes (in which case *Skidmore* respect applies). *Mead*, 533 U.S. 218 at 229–30 & n. 11; *c.f.* Kristin E. Hickman, *The Need for Mead: Rejecting Tax Exceptionalism in Judicial Deference*, 90 MINN. L. REV. 1537, 1553–54 (2006).

¹³¹ Wilderness Act, 16 U.S.C. § 1131 (2006) (“A wilderness, in contrast with those areas where man and his own works dominate the landscape, is . . . an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.”).

weigh diverse values through exercise of their scientific and policy expertise,¹³² the Wilderness Act required certain areas to be managed predominantly for one use: wilderness preservation.¹³³ This legislation, therefore, reflected a distrust of agencies' abilities (especially that of USFS) to protect wilderness values if allowed any discretion to consider other values.¹³⁴ This distrust was based in part on USFS's perceived unreliability in protecting even its own administratively designated wilderness areas, beginning with the establishment in 1924 of the Gila Wilderness in New Mexico.¹³⁵ In an influential 1953 dissertation, for instance, Dr. James P. Gilligan called for the statutory protection of wilderness, reasoning that USFS was an untrustworthy ally of preservationists, given that even its administrative wilderness system was motivated primarily by a desire to protect its lands from being transferred to the National Park Service and that "it was never intended to reserve specified areas permanently from development."¹³⁶ Unlike all other land-management statutes, the Wilderness Act's basic purpose was not to delegate authority to expert agencies, but rather, to exclude certain lands from the application of the agencies' specialized expertise, to restrain agency flexibility, and to protect (with limited, narrow exceptions) certain lands from the impact of the sort of policy choices land managers typically make.¹³⁷

Another limitation in Appel's analysis of Wilderness Act decisions is that it seemingly assumes an objective "wilderness" by which agency decisions are challenged as being either too protective of that wilderness or not protective enough. His analysis thus conforms to a continuum of wilderness management with industrial/extractive uses on one end, and

¹³² See, e.g., National Forest Management Act of 1976, Pub. L. No. 94-588, § 6(g)–(h), 90 Stat. 2952, 2952–55 (codified as amended at 16 U.S.C. §§ 1600–1610 (2006)).

¹³³ 16 U.S.C. § 1131(a) (2006).

¹³⁴ Tony Arjo, *Watershed and Water Quality Protection in National Forest Management*, 41 HASTINGS L.J. 1111, 1113 (1990); HAROLD K. STEEN, *THE U.S. FOREST SERVICE: A HISTORY* 313–14 (1976); Michael McCloskey, *The Wilderness Act of 1964: Its Background and Meaning*, 45 OR. L. REV. 288, 298 (1966).

¹³⁵ In 1951, Howard Zahniser, who drafted the bill that would become the Wilderness Act, argued that statutory protection of wilderness was necessary in order "to stabilize the system and prevent successive administrative decisions to decrease the size of the [administrative wilderness] system." McCloskey, Zahniser, and others also feared that the USFS would be influenced by "pressure from commodity interests." McCloskey, *supra* note 134, at 297. In an influential 1953 dissertation, James P. Gilligan called for statutory protection of wilderness, reasoning that the "Forest Service wilderness reservation policy in western states may have been sincerely inaugurated to meet preservation sentiment which began developing over one hundred years ago. . . . However, the application of the policy in many cases developed into political maneuvers to thwart the Department of the Interior and the National Park Service. . . . The policy was not the result of a "grass roots" movement. . . . It was never intended to reserve specified areas permanently from development." James P. Gilligan, *The Development of Policy and Administration of Forest Service Primitive and Wilderness Areas in the Western United States* 221–22 (1953) (unpublished Ph.D. dissertation, University of Michigan), *quoted in* David Gerard, *The Origins of the Federal Wilderness System*, in *POLITICAL ENVIRONMENTALISM: GOING BEHIND THE GREEN CURTAIN*, 211 (Terry L. Anderson ed., 2000).

¹³⁶ Gilligan, *supra* note 137, at 222.

¹³⁷ See McCloskey, *supra* note 134, at 298, 305–06.

preservation values on the other. However, this misses a crucial point. Agency management decisions are often challenged not just as being too strict or too lax in the agencies' protection of wilderness as against detrimental uses of the area's natural resources, but as protecting one set of supposed "wilderness values" or uses at the expense of others. Appel is right in showing that courts have indeed asserted a strong role in protecting wilderness values in defined wilderness areas.¹³⁸ The question still remains, however, what the "wilderness" required to be protected even is. To answer that question, we must turn to the Wilderness Act, its substantive definitions, and its substantive requirements for managing agencies, the subject of the following Part.

IV. THE WILDERNESS ACT'S SUBSTANTIVE REQUIREMENTS AND PROHIBITIONS

Congress defined the Wilderness Act's purpose as "assur[ing] that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition," and "secur[ing] for the American people of present and future generations the benefits of an enduring resource of wilderness."¹³⁹ Many have interpreted this grandiose statement of purpose not as establishing a unified mission for wilderness areas, but rather as suggesting a management dilemma for land managers between managing for preservation and managing for human use and enjoyment.¹⁴⁰ Indeed, this tension seemingly manifests itself all throughout the Act. For instance, the Act requires that wilderness areas be "administered for the use and enjoyment of the American people," while also being left "unimpaired for future use and enjoyment as wilderness."¹⁴¹ Further, the Act defines wilderness areas in part as areas of federal land "protected and managed so as to preserve [their] natural conditions," while also having "outstanding opportunities for solitude or a primitive and unconfined type of

¹³⁸ See *Wilderness and the Courts*, *supra* note 104, at 110–11 (explaining that courts apply a stricter review for wilderness decisions).

¹³⁹ Wilderness Act, 16 U.S.C. § 1131(a) (2006).

¹⁴⁰ See, e.g., McCloskey, *supra* note 134, at 309–10. Some scholars have emphasized the first purpose—to ensure that some lands remain in an undeveloped condition—in an effort to use the Act as a tool for protecting the integrity of ecosystems and promoting biodiversity. In their influential 1988 article on wilderness management, for instance, Dan Rohlf and Doug Honnold contended that the stated purpose of protecting some lands in their natural condition "suggests that the lawmakers . . . believed that natural communities have an inherent right to exist." Daniel Rohlf & Douglas L. Honnold, *Managing the Balances of Nature: The Legal Framework of Wilderness Management*, 15 *ECOLOGY L.Q.* 249, 255–56 (1988). However, while it is certainly plausible that a concern for the intrinsic value of nature informed some of the decisions which led to the legislation's enactment, the Act itself shows that the primary impetus for preserving wilderness was its value for recreational, scientific, and other human endeavors. Human "use and enjoyment" is the singular rationale for wilderness protection in the Wilderness Act, and preservation of the area's naturalness is the precondition.

¹⁴¹ 16 U.S.C. § 1131(a) (2006).

recreation.”¹⁴² Finally, it makes each managing agency “responsible for preserving the wilderness character of the area,” while also requiring that such areas also “be devoted to the public purposes of recreational, scenic, educational, conservation and historical use.”¹⁴³ A paradox seems to be presented in that the recreation opportunities afforded by protected wilderness attract human visitors whose very presence threatens the area’s naturalness. Human impacts such as campsites, trails, and garbage must have been what led historian Roderick Nash to lament in 1982 that we are “loving our wilderness to death.”¹⁴⁴

This paradox did not originate with the Wilderness Act, but rather has roots going back to the very beginnings of the preservationist movement in the late nineteenth century. Since that time, the predominant justification for preservation has tended to emphasize the value of wilderness as a source of unique recreation opportunities, whether as places where American men could test, validate, exhibit, and fortify the masculine qualities of “hardihood, self-reliance, and resolution,”¹⁴⁵ or merely as places where Americans could escape from the problems of everyday life and the “tyranny of wires, bells, schedules and pressing responsibility.”¹⁴⁶ Although rooted in the value of wilderness as an experience, this perspective emphasized far more than merely providing a forum for enjoyable activities; it also stressed the importance of perpetuating what was thought to be a crucial component of America’s development: the frontier experience. Wilderness advocate Wallace Stegner encapsulated this view when he emphatically insisted that wilderness must be preserved because “it was the challenge against which our character as a people was formed.”¹⁴⁷ Just as the frontier was thought to have instilled in Americans the virtues of self reliance, moral fortitude, and resolute determination, and just as it had served as a necessary vent for those disillusioned or disadvantaged by the emerging world of industrial

¹⁴² *Id.* § 1131(c).

¹⁴³ *Id.* § 1133(b).

¹⁴⁴ Mark Woods, *Federal Wilderness Preservation in the United States: The Preservation of Wilderness?*, in THE GREAT NEW WILDERNESS DEBATE 131, 146 (J. Baird Callicott & Michael P. Nelson eds., 1998) (citing RODERICK NASH, WILDERNESS & THE AMERICAN MIND 317–19 (2d ed. 1982)).

¹⁴⁵ See Theodore Roosevelt, *The American Wilderness: Wilderness Hunters and Wilderness Game*, in THE GREAT NEW WILDERNESS DEBATE 63, 74 (J. Baird Callicott & Michael P. Nelson eds., 1998); see also Aldo Leopold, *Wilderness as a Form of Land Use*, 1 J. LAND & PUB. UTIL. ECON. 398 (1925), reprinted in THE RIVER OF THE MOTHER OF GOD: AND OTHER ESSAYS BY ALDO LEOPOLD 134, 137–138 (Susan L. Flader and J. Baird Callicott eds., 1991).

¹⁴⁶ Sigurd Olson, *Why Wilderness?*, 44 AM. FORESTS 395, 397 (1938); see also JOHN MUIR, OUR NATIONAL PARKS 1–2 (1901) (“Awakening from the stupefying effects of the vice of over-industry and the deadly apathy of luxury, [thousands of tired, nerve-shaken, over-civilized people] are trying as best they can to mix and enrich their own little ongoings with those of Nature” by “wander[ing] in wilderness.”).

¹⁴⁷ Letter from Wallace Stegner to David E. Pesonen (Dec. 3, 1960), quoted in Plaintiffs-Appellants’ Opening Brief, *supra* note 9, at 1. Stegner also cited to the other experiential values of wilderness, namely its importance for “our spiritual health” due to the “incomparable sanity it can bring briefly, as vacation and rest, into our insane lives.” *Id.*

capitalism, protected wilderness areas would now have to suffice as a symbolic substitute.¹⁴⁸

Still, the Wilderness Act provides guidance to managers in resolving this apparent paradox. Even if the primary goals of wilderness protection were entirely anthropocentric—that wilderness be used and enjoyed—those goals require there to be, in fact, a *wilderness* to use and enjoy. Wilderness must first be preserved. Thus, the Act must be read as directing agencies to allow for recreational and other uses to the extent consistent with wilderness preservation, while also requiring agencies to curtail or even prohibit human activities which impair the “wilderness character” of the protected areas.¹⁴⁹ When use conflicts with the preservation of this “wilderness character,” preservation trumps use. Of course, this only begs the question of what “wilderness character” even is.

A. Proposing an Internally Consistent Definition of “Wilderness Character”

The Wilderness Act provides a legal definition of “wilderness” as “an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain,” as opposed to those areas “where man and his own works dominate the landscape.”¹⁵⁰ This definition identifies the central characteristic of “wilderness,” namely that it be “untrammelled.” At the same time, it indicates something which “wilderness” does not require: a complete exclusion of humans. It explicitly allows for humans to be “visitors” within areas of wilderness without impacting their wilderness character. This is important to note in drawing the lines between “untrammelled” and “trammelled” and, in turn, between “wilderness” and “non-wilderness.”

Congress followed that definition with a second one which delineated more specific and concrete criteria for agencies to determine which areas should be included in the National Wilderness Preservation System. It provided that a wilderness area is:

¹⁴⁸ These arguments can be seen as a secularization of the more spiritually centered arguments of the Transcendentalists of the mid-nineteenth century, which emphasized the value of Nature as a place to experience Eden and the presence of God. John A. Muir, who many consider the founder of the American preservationist movement, valued wilderness for both its spiritual and social values. *See, e.g.*, MUIR, *supra* note 146; JOHN MUIR, MY FIRST SUMMER IN THE SIERRA 153 (Houghton Mifflin Co. ed., 1979) (1911) (describing the wilderness of the Sierra as containing “window opening[s] into heaven” and “mirror[s] reflecting the creator”); JOHN MUIR, THE YOSEMITE 261–62 (1912) (comparing the damming of Hetch Hetchy to the destruction of a temple and calling, sarcastically, for the building of dams to continue with the damming of “the people’s cathedrals and churches, for no holier temple has ever been consecrated by the heart of man”).

¹⁴⁹ This view is in accord with the USFS’s official interpretation of the Wilderness Act’s requirements. USFS regulations provide that “[w]ilderness will be made available for human use to the optimum extent consistent with the maintenance of primitive conditions,” and that “[i]n resolving conflicts in resource use, wilderness values will be dominant.” 36 C.F.R. § 293.2(b)–(c) (2011).

¹⁵⁰ Wilderness Act, 16 U.S.C. § 1131(c) (2006).

[A]n area of undeveloped Federal land retaining its *primeval character and influence*, without permanent improvements or human habitation, which is protected and managed so as to preserve its *natural conditions* and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.¹⁵¹

This list of wilderness criteria used for NWPS designation provides further insights into what Congress intended to be preserved. Taking these definitions together, scholars generally concur that “wilderness character” includes notions of both “untrammeled”-ness (or wildness) and “natural conditions” (or pristineness).¹⁵²

Much debate has ensued over the relationship between these two definitions of wilderness. In the influential treatise *Wilderness Management*,¹⁵³ John C. Hendee and Chad P. Dawson contended that the Wilderness Act's definition of wilderness as being “untrammeled by man” represented the ideal of wilderness rather than a management requirement.¹⁵⁴ According to Hendee and Dawson, Congress's second (and more concrete) definition, rather than clarifying or supplementing the first, was meant in fact to qualify the first one—it was meant to be a “working definition based on reality,” while the first definition merely represented an ideal that Congress recognized would be far too restrictive if actually required by the Act.¹⁵⁵ Under this model, while managers should strive to

¹⁵¹ *Id.* (emphasis added); see also *Wilderness and the Courts*, *supra* note 104, at 76–78, for additional discussion of the legislative language.

¹⁵² See, e.g., Sandra Zellmer, *Wilderness, Water, and Climate Change*, 42 ENVTL. L. 313, 322–25 (2012); Gordon Steinhoff, *Interpreting the Wilderness Act of 1964*, 17 MO. ENVTL. L. & POL'Y REV. 494, 497–98 (2010); Peter Landres, *Developing Indicators to Monitor the “Outstanding Opportunities” Quality of Wilderness Character*, INT'L J. WILDERNESS, Dec. 2004, at 8, 9. It should be noted that these two features are sometimes referred to in other terms. Greg Aplet, for instance, saw wildness as the umbrella term, which incorporated notions of freedom (or untrammeled-ness) and naturalness, while David Cole saw naturalness as the umbrella term, with it being comprised of untrammeled-ness and pristineness. See Gregory H. Aplet, *On the Nature of Wildness: Exploring What Wilderness Really Protects*, 76 DENV. U. L. REV. 347, 353 (1999); David N. Cole et al., *Naturalness and Beyond: Protected Area Stewardship in an Era of Global Environmental Change*, 25 GEO. WRIGHT F., no. 1, 2008, at 36, 42, 47. I prefer using “untrammeled-ness” and naturalness, since those are the terms used throughout the Wilderness Act, though for reasons of style I occasionally use “wildness” to mean “untrammeled-ness” and “pristineness” or “naturalness” instead of “natural conditions.” Regardless of the terminology, the analysis is the same. Though each of these characteristics will be considered in turn, it is important to remember that these characteristics, as historical and social constructs, are deeply interconnected.

¹⁵³ JOHN C. HENDEE & CHAD P. DAWSON, *WILDERNESS MANAGEMENT: STEWARDSHIP AND PROTECTION OF RESOURCES AND VALUES* (3d ed. 2002).

¹⁵⁴ See *id.* at 110.

¹⁵⁵ *Id.*; accord *Wilderness and the Courts*, *supra* note 104, at 74, 77 (stating that the “actual statutory definition of wilderness” contains both “congressional definitions” and “aspirations,” and identifying the “untrammeled” characteristic as an “ideal of wilderness”); Stephenson &

preserve actual natural conditions and to prevent human control and manipulation of natural processes, they are not actually required to do so.

The legislative history offers some support for this position. For instance, in the final Senate hearing in 1963, the Wilderness Act's principal architect, Howard Zahniser, testified that the first definition's function was to make "plain the character of lands with which the bill deals, *the ideal*," while the second definition was intended to describe "the areas to which this definition applies."¹⁵⁶ According to Zahniser, "The first sentence defines the character of wilderness, [and] the second describes the characteristics of an area of wilderness."¹⁵⁷ Similarly, Senator Clinton P. Anderson, a lead sponsor of the bill and chairperson of the Senate Committee on Interior and Insular Affairs, explained that the Act contains two distinct definitions: the first is a definition of "pure wilderness areas" which "states the ideal," while the second "defines the meaning or nature of an area of wilderness as used in the proposed act."¹⁵⁸ This explanation was repeated two years later by John P. Saylor, another sponsor of the wilderness bill, as he introduced what would become its final version in November of 1963: "The first states the nature of wilderness in an ideal concept," while "[t]he second sentence describes an area of wilderness as it is to be considered for the purposes of the act—areas where man's works are substantially unnoticeable."¹⁵⁹

However, these characterizations of the first definition as an "ideal" refer to the question of wilderness designation, rather than to the "wilderness character" to be preserved once an area is designated. Zahniser's statement, for instance, was made in the context of advocating for a third definitional sentence, one which would clarify that the definition of "wilderness" includes areas designated as wilderness.¹⁶⁰ He was concerned that some areas "worthy of preservation as wilderness" might be excluded from the system based on their having, "at the outset of such handling," some "inconsistent features."¹⁶¹ In other words, when Zahniser referred to the first definition as representing the *ideal*, he meant that it would be

Millar, *supra* note 6, at 2 (identifying Zahniser's first definition of wilderness as being "untrammelled" as stating "the idealized concept of wilderness"); *c.f.* Douglas W. Scott, "Untrammelled," *Wilderness Character, and the Challenges of Wilderness Preservation*, WILD EARTH, Fall/Winter 2001–2002, at 72, 75–76 (contending that "Congress (and Zahniser) intended each sentence to have a distinct definitional purpose—the first states the *ideal* while the second is the more *practical* characterization"). Scott rightly distinguishes between past and future conditions. The first definition represented an "ideal" as far as past conditions, but it still defined the "essence" of the wilderness character which land managers were bound to protect in the future.

¹⁵⁶ *National Wilderness Preservation Act: Hearings on S. 4 Before the S. Comm. on Interior & Insular Affairs*, 88th Cong. 68 (1963) (statement of Howard Zahniser, Exec. Dir., Wilderness Society) (emphasis added).

¹⁵⁷ *Id.*

¹⁵⁸ *The Wilderness Act: Hearings on S. 174 Before the S. Comm. on Interior & Insular Affairs*, 87th Cong. 2 (1961) (statement of Sen. Clinton P. Anderson, Chairman, S. Comm. on Interior & Insular Affairs).

¹⁵⁹ 109 CONG. REC. 21,431 (1963).

¹⁶⁰ *See National Wilderness Preservation Act Hearings*, *supra* note 156.

¹⁶¹ *Id.*

impractical and unwise to require that lands be completely untrammelled prior to being designated, but he fully expected wilderness areas, once designated, to be untrammelled into the future. The first definition represented an ideal as far as past conditions, but it still delineated the essence of the wilderness character which land managers were bound to protect into the future.¹⁶²

Even though the term “untrammelled” is unquestionably central to the “wilderness character” intended to be preserved and protected, the Wilderness Act itself offers no definition of the term. We thus must presume the term to have its “ordinary or natural meaning,”¹⁶³ which is to be free of restraint, unhindered, unimpeded, unencumbered, or unrestricted.¹⁶⁴ Such a definition, with its emphasis on freedom, makes great intuitive sense, as it essentially makes “untrammelled” a legislative proxy for the term “wild”—the root of “wilderness”—commonly (and similarly) conceived of as meaning free, untamed, undomesticated, uncultivated, unrestrained, or unregulated.¹⁶⁵ It also parallels how the legislation’s chief author, Howard Zahniser, defined “untrammelled,” as it was used in the Act. He defined it as being not subject to “human controls and manipulations that hamper the *free* play of natural forces.”¹⁶⁶

Not all have accepted this definition of “untrammelled,” however. In the years following the Wilderness Act’s passage, USFS, for instance, took what many consider to be a “purist” view of wilderness and the “untrammelled” requirement in order to support the exclusion of areas from consideration for the NWPS.¹⁶⁷ In his 1968 testimony before Congress, the USFS’s chief, Edward P. Cliff contended that a particular area was already trammelled, and hence unfit for wilderness protection, based in large part on it being

¹⁶² See Scott, *supra* note 155, at 78. That Zahniser intended the first definition to apply to the future management of wilderness areas can be seen in his explanation for why he chose the term “untrammelled” over the term “undisturbed”: “the problem with the word ‘Disturbed’ (that is, ‘Undisturbed’) is that most of these areas can be considered as disturbed by the human usages for which many of them are being preserved.” Letter from Howard Zahniser, Exec. Dir., Wilderness Soc’y, to C. Edwards Graves (Apr. 25, 1959), *quoted in* Scott, *supra* note 155, at 75. Courts have generally agreed that wilderness managers are required to preserve wilderness areas as “untrammelled.” See, e.g., *Parker v. United States*, 448 F.2d 793, 795 (10th Cir. 1971) (“We have no difficulty in recognizing the general purpose of the Wilderness Act. It is simply a congressional acknowledgment of the necessity of preserving one factor of our natural environment from the progressive, destructive and hasty inroads of man A concerned Congress, reflecting the wishes of a concerned public, did by statutory definition choose terminology that would seem to indicate its ultimate mandate.”).

¹⁶³ *Smith v. United States*, 508 U.S. 223, 228 (1993).

¹⁶⁴ WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY, UNABRIDGED 2513 (1971) (defining trammel as “to prevent or impede the free play or exercise of,” and defining untrammelled as “not confined or limited: not hindered,” or “being free and easy”); Wordsmyth, *Trammel*, <http://www.wordsmyth.net/?level=3&ent=trammel> (last visited Feb. 17, 2013) (defining trammel as “a restraint or impediment to free movement”).

¹⁶⁵ WEBSTER’S NINTH NEW COLLEGIATE DICTIONARY 1349 (1983).

¹⁶⁶ Letter from Howard Zahniser to C. Edwards Graves, *supra* note 162 (emphasis added).

¹⁶⁷ Scott, *supra* note 155, at 74–75. It did so in order to restrict the amount of land eligible to be included in the NWPS. See *id.*

extensively used by hikers and campers.¹⁶⁸ In so doing, Cliff appeared to confuse “untrammelled” with “untrampled,” a common mistake.¹⁶⁹ Determining whether an area is trampled and whether it is trammelled are two distinct inquiries, in that a ground can be trampled without the area’s community of life being subject to human manipulations and without natural forces being hindered.¹⁷⁰ More recently, one prominent wilderness scholar, David Cole, advocated another view of the untrammelled requirement by defining “untrammelled” as being entirely free from deliberate human control and manipulations.¹⁷¹ As environmental philosopher Gordon Steinhoff recently pointed out, however, this definition—though not as “purist” as USFS’s initial definition—is also too strong in that it “does not allow *any* deliberate control or manipulation of untrammelled wilderness, even that which does not hinder natural processes.”¹⁷² To be “trammelled,” there must both be deliberate control or manipulation by humans, *and* this control or manipulation must be of the character and scope to hinder natural ecological processes.¹⁷³

Still, most who have analyzed the meaning of “untrammelled” agree with Zahniser’s definition. Unfortunately, while courts have often acknowledged the importance of “untrammelled” to wilderness character, they rarely

¹⁶⁸ *Hearings on S. 2751 Before the S. Subcomm. on Public Lands, Committee on Interior & Insular Affairs*, 90th Cong. 11–12, 17, 23–24 (1968) (statement of Edward P. Cliff, Chief, U.S. Forest Serv.) (citing Marion Lake’s “significant recreation and scenic importance” as cause for continued Forest Service management under a scenic area concept rather than designating it as a wilderness area).

¹⁶⁹ Scott, *supra* note 155, at 74; *see also*, Katherine Daniels Ryan, Note, *Preservation Prevails over Commercial Interests in the Wilderness Act: Wilderness Society v. United States Fish & Wildlife Service*, 32 *ECOLOGY L.Q.* 539, 546–47 (2005) (arguing that the definition of wilderness “emphasizes that human influence is to be kept to a minimum”).

¹⁷⁰ As Douglas W. Scott pointed out, a “trammeling” occurs only when an area’s ecological processes are subjected to the deliberate control and manipulation of humans; the focus of inquiry for whether a “trammeling” has occurred is not the ground itself, but the area’s community of life. *See* Scott, *supra* note 155, at 78.

¹⁷¹ David N. Cole, *Management Dilemmas that Will Shape Wilderness in the 21st Century*, *J. FORESTRY*, Jan. 2001, at 4, 6.

¹⁷² Steinhoff, *supra* note 152, at 499.

¹⁷³ *Id.* at 498–99. For its part, USFS now defines an untrammelled area as one where “human influence does not impede the free play of natural forces or interfere with natural processes in the ecosystem.” U.S. FOREST SERV., FOREST SERVICE MANUAL § 2320.5(2) (2006), *available at* <http://www.fs.fed.us/im/directives/fsm/2300/2320.doc> (approved December 26, 2006, but effective January 22, 2007). Just as Cole’s definition suffered from its omission of the second component of “untrammelled,” however, the USFS’s definition is flawed in that it ignores the first. Under the USFS’s definition, any human influence which hinders natural processes is a “trammeling,” even if that influence is through human actions not constituting deliberated efforts at controlling or manipulating those natural forces. The Bureau of Land Management, in the context of conducting wilderness inventories of lands not already designated as wilderness areas or Wilderness Study Areas pending before Congress, defines “untrammelled” as “unhindered and free from modern human control or manipulation.” U.S. BUREAU OF LAND MGMT., WILDERNESS 6301 – CHARACTERISTICS INVENTORY (PUBLIC), at § 6301.2 (2011), *available at* http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.34706.File.dat/MS-6301.pdf. This is similar to Cole’s definition, but with the addition of the word “modern,” apparently allowing unfettered manipulations of humans not considered “modern.”

engage in any meaningful analysis of the term.¹⁷⁴ The Wilderness Act includes in its conception of “wilderness character” a notion that lands retain their “natural conditions.” Though not included in the general definition of wilderness, the term “natural conditions” was included in two other provisions of the Act—its statement of purpose and its criteria for designating wilderness areas. In the first provision, Congress stated its purpose as assuring that “an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas . . . , leaving no lands designated for preservation and protection in their *natural condition*.”¹⁷⁵ In the second provision, the Act defines an area of wilderness as “an area of undeveloped Federal land retaining its *primeval character and influence*, without permanent improvements or human habitation, which is protected and managed so as to preserve its *natural conditions*.”¹⁷⁶ These provisions suggest that “natural conditions” are a crucial part of the “wilderness character” to be protected.

In determining what “natural conditions” means as used in the Wilderness Act, we must look not to the evolving scientific understandings of natural ecology, but rather—as was the case with “untrammeled”—to “the language employed by Congress” and to “the ordinary meaning of the words used.”¹⁷⁷ In general, “natural” means wild, formed by nature, and not artificially made or cultivated.¹⁷⁸ Unfortunately, while the plain meaning of “untrammeled” offers much guidance to land managers in preserving wildness, the plain meaning of “natural” raises as many questions as it answers. In particular, it fails to indicate the line between something “form[ing] by nature” and something being “artificially made”—the line between humans acting *within* nature and acting outside of or *upon* nature. This line is crucial to identifying which activities are allowed and which are forbidden. To determine the statutory meaning of “natural conditions,” therefore, we must look beyond that term’s plain and ordinary meaning and consult additional rules of statutory construction.

Many, however, do not see any questions being raised in the plain meaning of “natural” given their seemingly hard-line rule that all human actions are outside of nature, and that nature is the state of things absent human influence.¹⁷⁹ Given the pervasiveness of human-induced changes to the environment occurring on a global scale, this conception has led some to argue that deliberate human manipulations are required to restore certain wilderness areas to the hypothetical conditions which would exist if they

¹⁷⁴ See *supra* note 97–103 and accompanying text (describing judicial deference to Congress and agency interpretation of statutory language).

¹⁷⁵ Wilderness Act, 16 U.S.C. § 1131(a) (2006) (emphasis added).

¹⁷⁶ See Appel, *supra* note 104, at 98 n.137.

¹⁷⁷ *Immigration & Naturalization Serv. v. Phinpathya*, 464 U.S. 183, 189 (1984).

¹⁷⁸ See BLACK’S LAW DICTIONARY 1026 (6th ed. 1990); see also WEBSTER’S NEW INTERNATIONAL DICTIONARY OF THE ENGLISH LANGUAGE (1960) (defining “natural” as 1) (“Of, from, or by, birth; natural-born;” 5) “In accordance with, or determined by, nature;” and 9) “Not artificial”); MERRIAM-WEBSTER, *Natural*, <http://www.merriam-webster.com/dictionary/natural> (last visited Oct. 30, 2012).

¹⁷⁹ See Rohlf & Honnold, *supra* note 140, at 254–55.

had been left completely free of human influences.¹⁸⁰ They contend that we are obligated to intervene in order to compensate for these human influences, so that we may preserve (as much as possible) or restore the natural conditions of such areas.¹⁸¹

Those who have advocated for a definition of “nature” as being entirely free from human influence, however, have in practice excluded from “naturalness” only a certain subset of human activities performed by so-called “modern” people, often citing to the “primeval character and influence” language for support. For instance, in one of the first scholarly articles substantively analyzing “wilderness” as a legal category, Daniel Rohlf and Douglas L. Honnold contended that one key ingredient of “wilderness” is that it “possess[es] an ecology that functions as it did for thousands of years prior to the arrival of *nonaboriginal* humans.”¹⁸² More recently, David N. Cole, a research biologist for USFS’s Aldo Leopold Wilderness Research Institute, summarized what he saw as the most common definition of “naturalness” as being those “conditions that are similar to what would have existed in the absence of *post-aboriginal* humans.”¹⁸³ This explains why a 1983 historical work by William Cronon demonstrating that New England Indian peoples not only inhabited, but in fact exploited and transformed their lands prior to European settlement,

¹⁸⁰ See *id.* at 271–73.

¹⁸¹ See *id.*

¹⁸² *Id.* at 255 (emphasis added).

¹⁸³ David N. Cole, *Ecological Manipulation in Wilderness—An Emerging Management Dilemma*, INT’L. J. WILDERNESS, May 1996, at 15, 15 (emphasis added). In a later article, Cole stated that “[n]atural is usually taken to mean that the influence of *post-Columbian peoples* should be generally absent.” David N. Cole, *Soul of the Wilderness: Natural, Wild, Uncrowded, or Free?*, INT’L. J. WILDERNESS, August 2000, at 5, 5 (emphasis added); accord Gregory H. Aplet & David N. Cole, *The Trouble with Naturalness: Rethinking Park and Wilderness Goals*, in BEYOND NATURALNESS: RETHINKING PARK AND WILDERNESS STEWARDSHIP IN AN ERA OF RAPID CHANGE 12, 13 (David N. Cole & Laurie Yung eds., 2010) (“For many people, naturalness implies a lack of human effect. Natural areas should be pristine, uninfluenced by humans, or at least modern technological humans. This means ensuring that the current composition, structure, and functioning of ecosystems are consistent with the conditions that would have prevailed in the absence of humans (either all humans or post-aboriginal ones).”). Further, managers normally conceive of “naturalness” as a particular ordering of conditions, relationships, and/or processes, such that only those human influences which move an ecosystem further away from this “natural order” can be said to constitute unnatural intrusions. For instance, in 2000, one group of prominent wilderness managers, including Peter Landres, pointed to the dilemma in managing wilderness both for naturalness and wildness as arising from the awareness that the naturalness of virtually all areas (including protected wilderness areas) has been “compromised by . . . human actions,” such that “some form of manipulation . . . is proposed to restore this naturalness.” Peter B. Landres et al., *Naturalness and Wildness: The Dilemma and Irony of Managing Wilderness*, in 5 WILDERNESS SCIENCE IN A TIME OF CHANGE CONFERENCE (May 23–27, 1999), USFS RMRS-P-15-VOL-5, at 377–78 (David N. Cole et al. comps., 2000), available at http://www.fs.fed.us/rm/pubs/rmrs_p015_5/rmrs_p015_5_377_back.pdf; see also Aplet, *supra* note 152, at 365. Their conception of “naturalness,” therefore, excludes those human actions which impair (or “compromise”) naturalness, but not those human influences—including the actions of managers to intervene into ecological relationships—which are deemed supportive, beneficial, or restorative.

caused such a panic among the wilderness community, even leading to what has been hailed as “The Great New Wilderness Debate.”¹⁸⁴

The above interpretations of “natural conditions” require the perpetuation of false stereotypes of Indians as living in balance with nature—if not living entirely within nature—rather than being able to act *upon* it, the essence of “human-ness” in the nature-human duality.¹⁸⁵ If the Wilderness Act, including its “primeval character and influence” provision,¹⁸⁶ is interpreted as requiring restoration of wilderness areas to some past set of conditions—rather than merely being free from certain human influences in the present and future—then the historical target cannot be 1803 or 1492, or any other date signifying the arrival of Euro-Americans. Rather, because humans have manipulated and controlled this continent since they truly discovered it, the target conditions must be those at a point in time before the arrival of humans. This would be an impossible management directive.¹⁸⁷

Beyond the internal problems with interpretations of “natural conditions” as meaning the absence of human influence, however, such interpretations also violate a fundamental rule of statutory construction, namely that words should be interpreted in light of the entire statute and so that “no clause, sentence, or word [is rendered] superfluous, void, or insignificant.”¹⁸⁸ The

¹⁸⁴ See generally WILLIAM CRONON, CHANGES IN THE LAND: INDIANS, COLONISTS, AND THE ECOLOGY OF NEW ENGLAND (1983); J. Baird Callicott & Michael P. Nelson, *Introduction*, in THE GREAT NEW WILDERNESS DEBATE, *supra* note 144, at 11–12 (crediting—i.e., blaming—Cronon’s work for sparking the whole debate in the first place).

¹⁸⁵ From the colonial era through the mid-nineteenth century, white Americans typically conceived of wilderness not only as being consistent with Indian presence, but as being essentially defined by it. In short, as Mark David Spence summarized this point of view in his influential work, *Dispossessing the Wilderness*, “forests were wild because Indians and beasts lived there, and Indians were wild because they lived in the forests.” MARK DAVID SPENCE, DISPOSSESSING THE WILDERNESS: INDIAN REMOVAL AND THE MAKING OF THE NATIONAL PARKS 10 (1999). While most white Americans through the mid-nineteenth century viewed “wilderness” as a negative to be eradicated, some lamented the destruction of “natural” landscapes as well as the peoples seen as living within such a “nature.” See RODERICK FRAZIER NASH, WILDERNESS AND THE AMERICAN MIND 96–107 (4th ed. 2001). This perspective was perhaps best represented by the writings and artwork of George Catlin, who in 1832 advocated government protection of large portions of the Great Plains in its “pristine beauty and wildness,” a wilderness that would feature, “for ages to come, the native Indian in his classic attire, galloping his wild horse with sinewy bow, and shield and lance, amid the fleeting herds of elks and buffaloes.” Letter No. XXXI, Mouth of Teton River, Upper Missouri, in GEORGE CATLIN, 1 LETTERS AND NOTES ON THE MANNERS, CUSTOMS, AND CONDITIONS OF THE AMERICAN INDIANS 376, 397 (1857). The idea of an “Indian wilderness” appeared to give way to the notion of a historically uninhabited wilderness by the turn of the century, primarily as a justification to remove Indians from national parks. See SPENCE, *supra*, at 56–60 (discussing displacement and removal of Indians from National Parks). But clearly the idea of an “Indian wilderness” persists to today.

¹⁸⁶ Wilderness Act, 16 U.S.C. § 1131(c) (2006).

¹⁸⁷ At least one group, led by field ecologist Josh Donlan, has advocated that this should indeed be a goal of land managers in their restorative efforts. See EMMA MARRIS, RAMBUNCTIOUS GARDEN: SAVING NATURE IN A POST-WILD WORLD 61–65 (2011).

¹⁸⁸ *TRW Inc. v. Andrews*, 534 U.S. 19, 31 (2001) (citation omitted); *accord* *Deal v. United States*, 508 U.S. 129, 132 (1993) (holding it to be a “fundamental principle of statutory construction (and, indeed, of language itself) that the meaning of a word cannot be determined in isolation, but must be drawn from the context in which it is used”); *Smith v. United States*, 508 U.S. 223, 229 (1993) (explaining that the “meaning of a word that appears ambiguous if

above conception of “natural conditions” violates this rule in several ways. First, it subsumes (and thereby renders insignificant, if not superfluous) the primacy of “untrammeled” in the definition of wilderness. In this clause, use of the word “untrammeled” means that only those human influences resulting from deliberate manipulations of nature are prohibited, not all human influences. If the statute is then interpreted as also requiring the elimination of *all* human influences, that would render the conscious use of “untrammeled” rather than “unimpacted” or “unimpaired” in the definition of wilderness meaningless. Moreover, such a reading contradicts other provisions of the statute which explicitly allow human influences, including those which manifest one of the statute’s underlying rationales behind preserving these areas in the first place, namely human use and enjoyment.¹⁸⁹ Finally, to the extent that the directive to preserve “natural conditions” is interpreted to allow, if not require, interventions into a wilderness area’s natural processes, this outright contradicts the “untrammeled” requirement, as managers and scholars have recognized.¹⁹⁰ Such interventions are by their nature exercises in human manipulation and control that deprive an area’s “community of life” of its freedom and wildness.

Terms in a statute should not be interpreted so as to create contradictions with other terms—although this does make for interesting scholarly debate—whenever it is possible to avoid them using another reasonable interpretation based on a plain reading.¹⁹¹ Instead of assuming any of the above conceptions of “natural conditions,” we must analyze the term as supplementing—rather than contravening—the requirement that lands retain their wildness. This can easily be done. The term was used in the statement of purpose as a contrast to those conditions arising from lands being occupied and modified by humans. It was used in the definition of wilderness areas as a contrast to the state of being “developed” by humans, such as through the construction (or imposition) of “permanent improvements” or settlements. In neither case was the mandate to preserve “natural conditions” meant to exclude all human influences from wilderness areas. As courts have acknowledged, “Congress did not mandate that the [agencies] preserve the wilderness in a museum diorama, one that we might observe only from a safe distance, behind a brass railing and a thick glass

viewed in isolation may become clear when the word is analyzed in light of the terms that surround it”); *Textron Lycoming Reciprocating Engine Div., AVCO Corp. v. United Auto., Aerospace and Agric. Implement Workers of Am.*, 523 U.S. 653, 657 (1998) (quoting *Deal*, 508 U.S. at 132).

¹⁸⁹ 16 U.S.C. § 1133(b) (2006) (“Except as otherwise provided . . . wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.”).

¹⁹⁰ See generally Sandra Zellmer, *A Preservation Paradox: Political Prestidigitation and an Enduring Resource of Wilderness*, 34 ENVTL L. 1015, 1041–42 (2004); Aplet, *supra* note 152, at 355; Cole, *Ecological Manipulation in Wilderness*, *supra* note 183, at 15–18.

¹⁹¹ *Fed. Power Comm’n v. Panhandle E. Pipe Line Co.*, 337 U.S. 498, 514 (1949) (“If possible all sections of [an act] must be reconciled so as to produce a symmetrical whole.”).

window.”¹⁹² Considering the naturalness and wildness requirements together, managing agencies must seek to keep areas untrammelled, both by visitors and by themselves (through the exercise of self-restraint), and they must also restrict or prohibit certain other uses which might not constitute “trammeling” but do impair “natural conditions” as defined, such as the construction of roads or structures, the establishment of commercial enterprises, or the use of motorized transportation. This is the mandate, and it is singular and without contradictions.

Whatever can be said regarding the continued merits of preserving the wildness or natural autonomy of protected areas at the expense of certain environmental values (such as biodiversity, ecological integrity, or resilience) which may be threatened by pervasive human influence—this is precisely what the Act requires. As Peter Landres and others wrote in 2000, the Act codified a strict nature-culture duality, one that strictly prohibits injections of culture into nature, such as those embodied in so-called “ecological interventions” undertaken for the purpose of “redress[ing] some of the ‘sins’ of culture” and “mak[ing] things right in our relationship with nature.”¹⁹³ This is why Gordon Steinhoff recently concluded that “[t]he Wilderness Act does not present managers with conflicting requirements,” and that “[t]he dilemma [managers find] within the Act—to either maintain wildness or restore naturalness—arises only because ‘natural conditions’ has been misinterpreted.”¹⁹⁴

B. Management of Wilderness

To ensure that an area, once designated, retains its wilderness character, Congress defined its basic management mandate, in section 4(b) of the Wilderness Act, as being to “preserv[e] the wilderness character of the area.”¹⁹⁵ This section also provided that each wilderness area be managed for “such other purposes for which it may have been established” and that all wilderness areas also be “devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.”¹⁹⁶ These additional obligations, however, are made contingent upon the agency also preserving the wilderness character of the area. As to the “other purposes” for which an area has been established, Congress reiterated that managers

¹⁹² *Wilderness Watch*, 629 F.3d 1024, 1033 (9th Cir. 2010), *cited in* *Wilderness Watch, Inc. v. U.S. Bureau of Land Mgmt.*, 799 F. Supp. 2d 1172, 1177 (D. Nev. 2011); *Californians for Alternatives to Toxics*, 814 F. Supp. 2d 992, 1017 (E.D. Cal. 2011). This quote has been used in support of active management practices, including ecological interventions. Yet Congress’s allowance of some human influences does not mean that it also intended to permit managing agencies to intervene into the ecological relationships within wilderness areas, thereby “trammeling” the community of life and sacrificing wildness for the sake of promoting a particular view of what is “natural.”

¹⁹³ Landres et al., *supra* note 183, at 379–80.

¹⁹⁴ Steinhoff, *supra* note 152, at 521.

¹⁹⁵ Wilderness Act 16 U.S.C. § 1133(b) (2006).

¹⁹⁶ *Id.*

must do so while also “preserv[ing] its wilderness character.”¹⁹⁷ As to the other “public purposes,” the Act directed managers to take actions in furtherance of these purposes “except as otherwise provided in this Act.”¹⁹⁸ This includes the requirement—twice stated in the Act’s preceding sentence—that wilderness character be preserved. In short, managers should allow for and even promote these public uses of wilderness, but they cannot allow such uses to detract from the wilderness resource itself. Preservation of wilderness is the paramount obligation.

In addition to the affirmative obligations in section 4(b), Congress also specified in section 4(c) a number of uses and activities that were prohibited. Most notably, the Wilderness Act generally bans commercial enterprises, motorized access, roads, structures, and installations in wilderness areas.¹⁹⁹ While the Wilderness Act restricts management activities (as well as those of users) far more than any other federal law, these prohibitions are subject to several exceptions.²⁰⁰ Two exceptions are especially important in the context of ecological restoration efforts. The first allows temporary roads, motorized vehicles, equipment, or boats, aircraft, mechanical transport, or human installations where “necessary to meet minimum requirements for the administration of the area for the purpose of [the Wilderness Act].”²⁰¹ It is often referred to as the “minimum requirements” exception. The second exception allows land managers to take any measures (even generally non-conforming ones) that are “necessary” for the control of fire, insects, and disease.²⁰² This provision was most assuredly a compromise to alleviate fears among the USFS and timber industry representatives that wilderness areas, if left unmanaged as to fire, insects, or disease, would pose a threat to the surrounding lands and their resources.²⁰³

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

¹⁹⁹ *Id.* § 1133(c).

²⁰⁰ For one, all were made subject to preexisting grazing or mining rights. *Id.* § 1133(d)(3)–(4). In an obvious compromise with the mining industry, the ability to obtain new rights under the U.S. mining laws and laws regarding mineral leasing was not terminated immediately as applied to designated wilderness areas, but rather was extended to the end of 1983. *See id.* § 1133(d)(3). Additionally, commercial services may be authorized if “necessary . . . for realizing the recreational or other wilderness purposes of the areas.” *Id.* § 1133(d)(6). The use of aircraft or motorboats may be allowed where such uses “have already become established,” within the discretion of the Secretary of Agriculture. *Id.* § 1133(d)(1). Another exception that has yet to be utilized is one which allows the President to authorize the construction and maintenance of permanent roads within wilderness areas for the purposes of building or maintaining reservoirs, water-conservation works, power projects, transmission lines, or other facilities, based solely on his determination that such uses “will better serve the interests of the United States and the people thereof than will its denial.” *Id.* § 1133(d)(4).

²⁰¹ *Id.* § 1133(c).

²⁰² *Id.* § 1133(d)(1).

²⁰³ *See, e.g., McCloskey, supra* note 134, at 310 (arguing that these measures were “authorized with the thought in mind that it would often be necessary to protect adjacent land outside of wilderness from the spread of fire and disease within wilderness boundaries”); Rohlf & Honnold, *supra* note 140, at 269–70 & n. 124 (“Commercial interests opposed to wilderness legislation feared that restrictions on federal authority to control fire, insects, and diseases within wilderness might threaten nearby resources.”).

In one of the few legal opinions directly interpreting this exception, the district court for the District of Columbia, in 1987, considered a challenge to USFS's use of extensive tree harvests and chemical spraying to prevent beetle infestations from spreading to adjacent timberlands.²⁰⁴ In issuing a preliminary injunction against the program, the court held that the program was "wholly antithetical to the wilderness policy established by Congress."²⁰⁵ While the court acknowledged that the Wilderness Act allowed for such actions to be taken for purposes of protecting "outside commercial and other private interests," even when contrary to wilderness preservation, the Secretary's discretion in such instances is limited; the activity must be shown to be "necessary to effectively control the threatened outside harm that prompts the action being taken."²⁰⁶ USFS complied with the court's order and greatly curtailed its proposal to call only for "spot-control" cutting in and around a wilderness area. The court upheld this proposal even though it "[f]ell short of full effectiveness,"²⁰⁷ finding that the proposal was "reasonably designed" to control the beetle infestation and limited to areas necessary to protect endangered woodpeckers and other valuable resources.²⁰⁸ The court also based its decision on USFS's adoption of a monitoring program to guarantee a project's effectiveness at each control site and the agency's demonstration that the program was designed to protect wilderness resources (rather than to benefit outside commercial interests).²⁰⁹

There has been much more case law regarding the allowance for certain non-conforming uses when "necessary to meet minimum requirements for the administration of the area for the purpose of [the Wilderness Act]"—sometimes referred to as the "minimum requirements" exception.²¹⁰ As one federal court recently noted, these cases show that courts "have construed this phrase narrowly."²¹¹ First, courts have rightly interpreted the use of the singular "purpose" in this provision, despite there being other secondary purposes embedded in the Act, as referring to the purpose of preserving the wilderness character of such areas, including the opportunity for solitude or primitive recreation (but not any particular type of recreation) found there.²¹² Moreover, the words "necessary" and "minimum requirements" together

²⁰⁴ *Sierra Club v. Lyng (Lyng I)*, 662 F. Supp. 40, 41 (D.D.C. 1987).

²⁰⁵ *Id.* at 43.

²⁰⁶ *Id.* at 42–43.

²⁰⁷ *Sierra Club v. Lyng (Lyng II)*, 663 F. Supp. 556, 560 (D.D.C. 1987).

²⁰⁸ *Id.*

²⁰⁹ *Id.* at 558–60.

²¹⁰ Wilderness Act, 16 U.S.C. § 1133(c) (2006).

²¹¹ *Wolf Recovery Found. v. U.S. Forest Serv.*, 692 F. Supp. 2d 1264, 1267 (D. Idaho 2010) (quotations omitted).

²¹² *Id.* at 1268; *Wilderness Watch v. Mainella*, 375 F.3d 1085, 1093 (11th Cir. 2004) (striking down the National Park Service's use of vans to transport tourists across a wilderness area based on it not serving "the purpose" of the Act, which the court defined as being the preservation of wilderness areas so that they can provide "opportunities for a primitive and unconfined type of recreation"); *High Sierra Hikers Ass'n v. U.S. Forest Serv.*, 436 F. Supp. 2d 1117, 1134 (E.D. Cal. 2006) ("[I]t is not possible to infer from this language that establishment (much less enhancement) of opportunities for a particular form of human recreation is *the* purpose of the Wilderness Act." (emphasis added)).

seem to require both that the goals of the activity be integral to the wilderness character of the area, and that the activity be the “minimum tool” (least disruptive of the wilderness) for achieving those goals.²¹³

V. RESOLVING THE PROBLEM OF WILDLIFE RESTORATION IN WILDERNESS AREAS

Resolution of each of the cases discussed in Part II ultimately depended upon the respective court’s interpretation of the Wilderness Act’s purpose, its definition of “wilderness,” and the scope of the “minimum requirements” exception. Each case forced the court to determine whether the purported conservationist purpose of the agency action was consistent with preserving wilderness character, and in each case, the court failed to offer an internally consistent framework to guide agency decisions in the future.

A. Restoration of Bighorn Sheep in the Kofa Wilderness

In September 2008, the federal court for the District of Arizona upheld the construction of water tanks and the use of motorized equipment in the Kofa Wilderness Area.²¹⁴ Wilderness Watch, and the other co-plaintiffs,²¹⁵ appealed that decision, and just over two years later the Ninth Circuit Court of Appeals reversed and held that the construction violated the Wilderness Act.²¹⁶ Whereas the district court had given *Chevron* deference to the FWS’s interpretation of that statute,²¹⁷ the Ninth Circuit held that it was instead entitled only to the lesser *Skidmore* respect, based on the observation that the relevant interpretation, contained in a management plan, did not carry the “force of law.”²¹⁸ Nonetheless, finding that the plan was subject to public review and comment and that the legal interpretations of the Wilderness Act’s requirements were consistent with past agency interpretations, the court concluded that it should defer to the agency’s interpretation, particularly its conclusion that the conservation of bighorn sheep is consistent with the Wilderness Act.²¹⁹ That the court still invalidated the action once again

²¹³ The Wilderness Society has advanced this view, arguing that, “[t]he fundamental guiding principle for administrative activities should be whether, given the conditions specific to that site, the action is necessary to protect physical and biological resources or enhance wilderness attributes of naturalness and solitude. If the action is deemed necessary then it should make use of methods and equipment which will accomplish the task with the least impact on the physical, biological and social characteristics of wilderness . . .” WILDERNESS SOC’Y, THE WILDERNESS ACT HANDBOOK 44 (1984); *see also Wilderness Watch*, 629 F.3d 1024, 1037 (9th Cir. 2010) (finding that the Act “requires the agency to make a finding of necessity,” for an exception to apply, and that “a *generic* finding of necessity does not suffice”); *High Sierra Hikers Ass’n*, 436 F. Supp. 2d at 1134 (reasoning that opportunities for recreation, such as fishing, though a part of the wilderness experience, are not a “necessary duty of wilderness area management”).

²¹⁴ *Wilderness Watch, Inc. v. U.S. Fish and Wildlife Serv.* at *12 (D. Ariz. 2008), No. CV-07-1185-PHX-MHM, 2008 WL 4183040, *rev’d*, 629 F.3d 1024 (9th Cir. 2010).

²¹⁵ *See supra* note 40 and accompanying text.

²¹⁶ *Wilderness Watch*, 629 F.3d at 1040.

²¹⁷ *Wilderness Watch*, 2008 WL 4183040, at *8.

²¹⁸ *Wilderness Watch*, 629 F.3d at 1035.

²¹⁹ *Id.* at 1035–36.

confirmed Appel's analysis that courts scrutinize more heavily decisions affecting the wilderness resource than decisions in other contexts.²²⁰

In striking down the construction of water tanks, the court analyzed the prohibition on structures and the "minimum requirements" exception. The court reasoned that the Act, taken "as a whole," gives "conflicting policy directives to the [FWS] in administering the area," including the mandates to preserve its wilderness character, to provide opportunities for recreation, to manage fire and insect risks, and to facilitate mineral extraction.²²¹ Considering that the historical purpose of the refuge was to preserve wildlife, including bighorn sheep, and that "conservation" was an explicit purpose in the Act, the court accepted the FWS's contention that efforts to restore bighorn sheep populations could include activities explicitly prohibited by the Act, so long as the agency "made an adequately reasoned determination of necessity."²²² However, the court found that FWS had failed to provide adequate reasoning in that it seemingly assumed the proposed actions were necessary without considering whether other potential measures would have sufficed.²²³

While the court was correct in its conclusion that FWS had not met its burden in showing that the construction of water tanks was necessary, its holding that the restoration of bighorn sheep populations was a purpose which triggered the exception in the first place was flawed. The court misconstrued the "minimum requirements" exception. That exception allows for motorized vehicles and human installations not when necessary to achieve a purpose of the Wilderness Act, but when necessary to achieve *the* purpose—namely, preserving the wilderness character of the area.²²⁴ Both FWS and the court rightly reasoned that the conservation of bighorn sheep was a principal motivation behind the area's initial establishment as a game refuge in 1939, and then as a wildlife refuge in 1976.²²⁵ However, once Congress designated most of the refuge as a wilderness area in 1990,²²⁶ the purpose of bighorn sheep conservation became one of many secondary purposes—along with recreation, aesthetics, science, education, and historical use—which were made subject to the Act's primary purpose of preserving the area's wilderness character. In creating the wilderness area, Congress could have provided an additional exception for structures or installations necessary for bighorn sheep conservation, but it did not do so.²²⁷

²²⁰ *Wilderness and the Courts*, *supra* note 104, at 111.

²²¹ *Wilderness Watch*, 629 F.3d at 1033.

²²² *Id.* at 1035–36.

²²³ *Id.* at 1037–38 ("[T]he Service's own documentation strongly suggests that many other strategies could have met the goal of conserving bighorn sheep without having to construct additional structures.").

²²⁴ Wilderness Act, 16 U.S.C. § 1133(c) (2006).

²²⁵ *See Wilderness Watch*, 629 F.3d at 1035.

²²⁶ Arizona Desert Wilderness Act of 1990, Pub. L. No. 101-628, § 301(a)(3), 104 Stat. 4469, 4478; *Wilderness Watch*, 629 F.3d at 1027.

²²⁷ *See, e.g.*, Arizona Desert Wilderness Act of 1990, Pub. L. No. 101-628, § 101(f)–(g), (i), (j), 104 Stat. at 4473 (showing Congressional intent to except from the wilderness designation certain water and livestock grazing rights, military activities and mineral exchanges).

Although the court did not directly connect bighorn sheep conservation with the purpose of preserving the area's wilderness character, the State of Arizona, which had intervened on the side of FWS, contended that maintaining and restoring the bighorn sheep population furthered the purpose of the Wilderness Act to preserve the area's wilderness character.²²⁸ However, evidence indicated that bighorn sheep populations in fact had varied considerably prior to the establishment of the wildlife refuge in 1976, with the population in the 1970s ranging from 200 to 375 sheep, less than the reported population of 390 sheep in 2006 that prompted the restoration plan.²²⁹ Given that fact, there is little support for the contention that a population of between 600 and 800 sheep (the area's "carrying capacity," according to FWS²³⁰) is any more "natural"—or renders the area any more of a "wilderness"—than a lesser population. This was not an attempt to save a species from extinction, but rather, part of a broader effort to enhance the population of a species desired for its recreational and cultural importance. This conclusion is shown by the fact that hunting permits were not restricted even after the drop in population, and by the fact that one of the solutions was the removal of members of another species, the mountain lion.²³¹ These purposes, while legitimate outside of wilderness areas, should not be used to justify interventions into the natural processes inside of these areas.

B. Tracking of Gray Wolves in the River of No Return Wilderness

In early 2010 the federal court for the District of Idaho upheld the use of helicopters and radio collars in tracking reintroduced gray wolves and their offspring in the Frank Church River of No Return Wilderness.²³² Under the Wilderness Act and the Central Idaho Wilderness Act,²³³ aircraft landings are strictly prohibited in the wilderness area, except at designated landing strips that were in regular use at the time of the wilderness designation or where meeting the "minimum requirements" exception.²³⁴ The court upheld the permit for helicopter flights and landings based on their being necessary "to improve the understanding of the character of the wilderness prior to man's

²²⁸ State of Arizona's Cross Motion for Summary Judgment and Response to Plaintiffs' Motion for Summary Judgment at 7, *Wilderness Watch, Inc. v. U.S. Fish & Wildlife Serv.*, No. CV-07-1185-PHX-MHM (D. Or. Feb. 1, 2008), 2008 WL 760740.

²²⁹ Plaintiffs-Appellants' Opening Brief, *supra* note 9, at 5.

²³⁰ *Wilderness Watch*, 629 F.3d at 1028–29.

²³¹ KOFA INVESTIGATIVE REPORT, *supra* note 26, at 13–14, 19–20; *see also* Spencer, *supra* note 6, at 57 (arguing that the reason for bighorn sheep restoration was that it was "[h]ighly valued as both a trophy hunting animal that brings in a significant amount of revenue to state agencies through the sale of hunting licenses, as well as an iconic species that symbolizes wildness in the desert southwest").

²³² *Wolf Recovery Found.*, 692 F. Supp. 2d, 1264, 1265–66 (D. Idaho 2010). The court did not address the standard of review for the agency's interpretation of the Wilderness Act. *See also* USFS SPECIAL USE AUTHORIZATION, *supra* note 55, at 2 (authorizing "helicopter landings and aerial darting necessary to support . . . wolf collaring efforts").

²³³ Central Idaho Wilderness Act of 1980, Pub. L. No. 96-312, 94 Stat. 948.

²³⁴ Wilderness Act, 16 U.S.C. §§ 1133(c) & (d)(1) (2006); Central Idaho Wilderness Act of 1980, § 7(a)(1), 94 Stat. 948, 950.

intervention and the predator/prey relationship that existed in the past,” as well as their importance to the “long-term viability” of the gray wolf population and “a balance among prey and predator.”²³⁵ The court concluded that “the collaring project and its use of helicopters is sufficiently limited and focused on restoring the wilderness character of the area that it falls within the phrase ‘necessary to meet minimum requirements for the administration of the area.’”²³⁶ This decision was flawed in its conclusion that helicopters were necessary for the gathering of information on wolves and in its conclusion that a human-regulated population of gray wolves was integral to wilderness character.

Serious questions were raised regarding the necessity of helicopter use for achieving the purpose of acquiring information on wolf populations and their movements. In requesting the permit, Idaho Department of Fish and Game Director Cal Groen stated that “[f]ourteen years of efforts to trap and collar wolves in wilderness areas on foot and by horseback have proved largely unsuccessful,” implying that the use of helicopters to hover above the ground and land in the wilderness area was necessary.²³⁷ The USFS’s decision memorandum granting the permit merely repeated the IDFG’s claims that past efforts to trap and collar wolves in the wilderness had been unsuccessful and thus, the use of helicopters was necessary.²³⁸

USFS did not disclose, much less discuss, the fact that the Nez Perce Tribe, in its management of wolves after their reintroduction in the 1990s, had managed to trap and collar approximately thirty wolves within the Frank Church Wilderness without using helicopters.²³⁹ According to the plaintiffs, this reveals that the use of helicopters to capture and collar wolves is “*not* the ‘minimum tool’ necessary for wolf monitoring or research,” and therefore, such action “violates the express mandates of the Wilderness Act.”²⁴⁰ The court found the plaintiffs’ claim unpersuasive, however, based on the fact that USFS considered the alternative of using leg-hold traps—the method the Nez Percés used—rather than radio-collaring, but rejected the use of these traps because USFS found them to be less effective, more dangerous and intrusive to human users, and less humane to the wolves than using helicopters and aerial darting.²⁴¹ This was quite a sleight of hand. The importance of the Nez Percés’ experiences was not that they used leg-hold traps rather than radio-collaring, but that they were able to do so without the aid of helicopters. While USFS considered following the

²³⁵ *Wolf Recovery Found.*, 692 F. Supp. 2d at 1268 (internal quotation marks and citations omitted).

²³⁶ *Id.*

²³⁷ Jon Duval, *Feds OK Helicopters in Frank Church: Plan to Collar Wolves Angers Conservationists*, IDAHO MOUNTAIN EXPRESS, http://www.mtexpress.com/story_printer.php?ID=2005129301#1 (last visited at *12 (D. Ariz. 2008)).

²³⁸ First Amended Complaint, *supra* note 65, at 18–19.

²³⁹ *See id.* at 9, 18–19.

²⁴⁰ *See id.* at 25 (emphasis added).

²⁴¹ *Wolf Recovery Found.*, 692 F. Supp. 2d at 1268 (“Scattering leg-hold traps about the wilderness area, with their associated signage and trapper presence, would . . . denigrate the wilderness experience as much as a helicopter.”).

Nez Perces in using leg-traps rather than radio-collaring, both it and the court failed to consider the alternative of using radio-collaring *without* helicopters—something the Nez Perces’ track record suggests was feasible.

Another question is whether the purposes of the project were indeed consistent with preserving the area’s wilderness character. In issuing the permit, USFS insisted that “[b]ecause of the importance of wolf recovery to enhancement of wilderness character, the high public interest in the recovery of wolves and the desire for knowledge about wolves in central Idaho, it is important that IDFG obtain accurate wolf population data for [the] central Idaho wilderness.”²⁴² The agency, in other words, claimed that collecting information on wolves was necessary for the protection of the gray wolf, and that gray wolves themselves were a crucial component of the area’s wilderness character. However, due to the success of the wolf reintroduction of the 1990s, the gray wolves of Idaho were no longer threatened or endangered,²⁴³ and no showing was made that any affirmative steps on the part of USFS was needed to ensure the continued viability of the gray wolf population. Indeed, the IDFG collaring program was more likely meant to allow more wolf killings, given Idaho’s official policy of removing wolves from the state.²⁴⁴

To be sure, the radio-collaring project could aid in human scientific understanding of “wolf movement, distribution, behaviors, and rendezvous and denning sites,” as USFS claimed, and this information would also serve the legitimate purpose of managing the recreation aspects of the wilderness resource by allowing USFS to make better decisions regarding “outfitter camp locations and trail routings, and for use in visitor education efforts.”²⁴⁵ However, while wilderness areas were set aside in part for their scientific and recreational value, and while land managers were directed to administer these areas for “such other purposes,” the Wilderness Act required that these values be furthered only as consistent with the preservation of the “wilderness character” of such areas—not as countervailing purposes which might allow for a balancing of wilderness preservation with these other anthropocentric values of wilderness.

Furthermore, even if the gathering of information on gray wolves was necessary to preserve gray wolf populations, it would not necessarily further the goal of preserving the area’s wilderness character. This is measured not by the extent to which certain configurations of wildlife match the conditions which may have existed without “post-aboriginal” settlement, but by the extent to which “the earth and its community of life”

²⁴² *Id.* at 1266.

²⁴³ Final Rule to Identify the northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and To Revise the List of Endangered and Threatened Wildlife, 74 Fed. Reg. 15123 (Apr. 2, 2009) (codified at 50 C.F.R. § 17.11) (removing gray wolves within the “eastern one-third of Washington and Oregon, a small part of north-central Utah, and all of Montana [and] Idaho,” but not in Wyoming).

²⁴⁴ See Letter from Gary McFarlane, Board Member, Wilderness Watch, to William Wood, Forest Supervisor, Salmon Challis Nat’l Forest at 2 (Oct. 16, 2009), available at <http://www.wildernesswatch.org/pdf/RONRWHeliwolfesscope09.pdf>.

²⁴⁵ USFS SPECIAL USE AUTHORIZATION, *supra* note 55, at 1–2.

remains wild or untrammelled and the extent to which an area remains uninhabited, unimproved, and unsettled by humans. While wildlife is indeed a crucial component of wilderness, a particular ecological composition of wildlife is not.

Gray wolves were certainly at one time a critical part of the naturally functioning ecosystems in central Idaho, but their existence and population characteristics there today cannot be said to be “natural.”²⁴⁶ Whatever the merits of preserving viable populations of gray wolves, the success of this project depends less on nature than upon a negotiation among humans and a political balancing of disparate cultural imperatives. On one side are those who favor a thriving population of gray wolves, whether to promote biodiversity or ecosystem services, to gain scientific understanding of a particular ecology, or to promote the recreational benefits of observing or hunting such predators.²⁴⁷ On the other are those who favor restricting their numbers or movements because of their inevitable conflicts with other forms of life, which the vast majority of humans favor as sources of energy consumption or other consumer products.²⁴⁸ While balancing these demands—which are rooted in culture and find expression through the political process—is a legitimate management exercise on public lands outside of wilderness areas, it has little (if any) place inside of them.²⁴⁹

C. Restoration of Paiute Cutthroat Trout in the Carson-Iceberg Wilderness

In September 2011, the federal court for the Eastern District of California struck down the USFS’s authorization for the PCT restoration project as violating the Wilderness Act.²⁵⁰ As in the Ninth Circuit’s resolution of the case involving water installations in the Kofa Wilderness,²⁵¹ the court began by considering the appropriate level of deference to grant an agency’s statutory interpretation. The court formed

²⁴⁶ See Klein, *supra* note 57, at 88–89, 111 (arguing for the reintroduction of gray wolves in central Idaho in order to replace a diminished natural wolf population that could not recover on its own).

²⁴⁷ See, e.g., Robert C. Moore, *The Pack is Back: The Political, Social, and Ecological Effects of the Reintroduction of the Gray Wolf to Yellowstone National Park and Central Idaho*, 12 T.M. COOLEY L. REV. 647, 678–81 (1995) (describing the positions held by opponents and advocates regarding the proposition to restore gray wolves in the northern Rockies).

²⁴⁸ See Klein, *supra* note 57, at 109 (“The interest in avoiding the adverse financial effects of wolf reintroduction on livestock producers has been satisfied to some extent This is a valid interest; wolves do kill livestock and such losses hurt livestock producers financially.”).

²⁴⁹ See *id.* at 88 (arguing that the wolf has become “largely a symbol,” with some seeing the animal as “a threat to the traditional Western rural lifestyle” and others seeing it as “a positive symbol of nature and the last vestiges of wilderness and wildness”). See generally John A. Vucetich et al., *The Normative Dimension and Legal Meaning of Endangered and Recovery in the U.S. Endangered Species Act*, 20 CONSERVATION BIOLOGY 1383 (2006) (arguing for more stringent recovery plans for many species, including the gray wolf, based on the legal meanings of “endangerment” and “recovery,” which require the ESA to incorporate the collective value that U.S. citizens place on nature into recovery plans).

²⁵⁰ *Californians for Alternatives to Toxics*, 814 F. Supp. 2d 992, 996–97 (E.D. Cal. 2011).

²⁵¹ See discussion *supra* Part II.A.

the issue as whether the purpose of wildlife conservation is a purpose of the Act that would allow for non-conforming uses (such as motorized equipment) when found to be necessary for achieving that purpose.²⁵² Because the agency interpretation was included only in a decision approving a particular project, with no binding effect on future decisions, the court rightly reasoned that it was entitled only to *Skidmore* respect based on the persuasiveness of USFS's justification for its decision.²⁵³

Applying the *Skidmore* standard of review, the court agreed with USFS that "reestablishing a native species in a wilderness area, independent of the means for reaching that goal, enhances the primitive character of an ecosystem and serves a conservation purpose (not a recreational purpose), permissible under the Act."²⁵⁴ It then had to determine whether USFS had adequately shown that the program was necessary for conserving the PCT, thereby fitting within the "minimum requirements" exception.²⁵⁵ Like the Ninth Circuit had done in the Kofa case, the court here seemed to ignore that the exception allows for motorized vehicles and other prohibited activities only when necessary to achieve *the* purpose, not when necessary to achieve *any* purpose of the Wilderness Act. In many cases, wildlife conservation will be consistent with "*the purpose*" of the Act—namely, wilderness preservation—but not in all cases. The court should have required the agency to demonstrate not only that the authorized activities were necessary for PCT restoration, but also that PCT restoration, in turn, was necessary for wilderness preservation.

The court, however, correctly construed the exception's requirement for necessity, calling it "one of the strictest prohibitions in the Act."²⁵⁶ It also recognized that when there is a conflict between wilderness preservation and any other purpose, "the general policy of maintaining the primitive character of the area must be supreme."²⁵⁷ The court went on to find that while USFS demonstrated that the use of "motorized equipment was necessary to achieve conservation of the PCT," USFS failed to show that "the extent of the project was necessary," and struck down the project on that basis.²⁵⁸ According to the court, USFS specifically failed to show that the project would improve, as it had claimed, the long-term natural conditions of the area's wilderness character, in that it had failed to consider the potential loss or extinction of other native species.²⁵⁹ Given this failure, and considering the evidence showing that "all living organisms within [the project area] would be eradicated," the court reasoned that "implementat[ion] of this Project would *impede* progress towards preserving the overall wilderness character," and that "[d]espite the benefits gained

²⁵² *Californians for Alternatives to Toxics*, 814 F. Supp. 2d at 1013–14.

²⁵³ *See id.* at 1014.

²⁵⁴ *Id.* at 1016.

²⁵⁵ *Id.*

²⁵⁶ *Id.* (citing *Wilderness Watch*, 629 F.3d 1024, 1040 (9th Cir. 2010)).

²⁵⁷ *Id.* (quoting *High Sierra Hikers Ass'n v. U.S. Forest Serv.*, 436 F. Supp. 2d 1117, 1131 (E.D. Cal. 2006)).

²⁵⁸ *Id.* at 1018, 1019 (emphasis omitted).

²⁵⁹ *Id.* at 1019.

from restoring a PCT population, accounting for the potential loss of endemic species would create a net, *negative* impact.”²⁶⁰ Even though the court suggested that conservation interests can in some cases “trump the preservation of wilderness character”²⁶¹—a position with which this Article disagrees—the court should be commended both for not conflating “wildlife conservation” (or restoration) with “wilderness preservation,” and for placing a very high bar to meet in order to act in contravention of wilderness preservation, even if such actions serve a conservation purpose.

VI. CONCLUSION

It has become fashionable to point to various paradoxes embedded within the Wilderness Act, from the supposed conflict between its multiple justifications (providing for unique recreational opportunities versus preserving their wilderness character), to the purported tensions between the characteristics to be preserved (wildness versus pristine naturalness), to the very paradox of managing wilderness in the first place.²⁶² The notion that the Wilderness Act’s provisions contradict one another has influenced the management of wilderness areas, as well as the judicial branch’s oversight of it. While the judiciary has shown greater inclination to second-guess administrative interpretations of the Act than it has in other contexts, confusion as to the definition of “wilderness,” and what it means to protect or to “preserve” that wilderness, has led to a muddled jurisprudence. For their part, wilderness managers have generally interpreted their mandate to preserve wilderness areas to allow for (if not require) interventions into their ecologies for the sake of protecting ecosystems from both internal and external human threats, even as they recognize the internal contradictions that arise from such an assumption.

This Article contends that the seeming paradoxes embedded in the Wilderness Act arise not from the legislation itself, but rather from how it has been misinterpreted. The fundamental purpose of the Wilderness Act is to preserve the wilderness characteristics of certain areas of the country.²⁶³ That the primary rationale behind this was (at least partly) anthropocentric—to provide a recreational, aesthetic, educational, or scientific resource to the American people²⁶⁴—does not create a conflict with the preservation mandate, for there must in fact be a wilderness preserved for use before it can serve any of these other purposes. The Act should not be seen as presenting a conflicting mandate requiring a balance between

²⁶⁰ *Id.* at 1019, 1020.

²⁶¹ *Id.* at 1021.

²⁶² See Rohlf & Honnold, *supra* note 140, at 271 (arguing that “maintaining the natural ecology of many wilderness areas requires human intervention,” thereby creating a “paradox of human intervention”); Landres et al., *supra* note 183, at 379–80. See generally Cole, *Ecological Manipulation in Wilderness*, *supra* note 183; Stephenson & Millar, *supra* note 6; Zellmer, *supra* note 190.

²⁶³ Wilderness Act, 16 U.S.C. § 1131 (2006).

²⁶⁴ *Id.* § 1131(c).

preservation and utilization. In preserving wilderness areas, management agencies are required to protect both their wildness and their naturalness,²⁶⁵ two concepts that have been construed as creating management dilemmas.²⁶⁶ However, as they were incorporated into the Act, these concepts actually complement each other. Wilderness areas must be managed so as to minimize manipulations of their natural processes (to keep them wild) and to prohibit certain human activities deemed “unnatural”—namely human improvements, inhabitation, and development. Finally, “wilderness management” is only a paradox in itself if that term is interpreted as applying to the natural processes within wilderness areas rather than to certain human activities occurring therein.

It is certainly laudable to seek to protect wilderness areas from perceived degradation at the hands of the modern human societies that surround them. But in all cases, this desire should be balanced with a keen awareness that we are merely one species among many, and we do not (and cannot) know everything. With this in mind, it is still a worthwhile endeavor to seek to restore ecologies which have been unduly degraded through human behaviors, but it is also worthwhile to keep some areas beyond our manipulative reach altogether. This is not just so they can retain their “wilderness character” or the “mood of wild America,”²⁶⁷ but out of proper respect for the natural world of which we are but a small part. This is indeed what Congress mandated with its passage of the Wilderness Act. If America now deems conservation of particular resources—whether conceived of as timber or trees, forage or grass, minerals or rock, or game or wildlife—as being too important to allow for the preservation of small areas of wilderness, a change in law is required to implement that value judgment. And I, for one, look forward to that debate.

²⁶⁵ See Landres et al., *supra* note 183.

²⁶⁶ See Cole & Hammitt, *supra* note 6, at 59.

²⁶⁷ NAT'L RES. COUNCIL, SCIENCE AND THE NATIONAL PARKS 44 (1992) (quoting Memorandum from Stewart Udall, Sec. of the Interior, Dep't of the Interior, to Nat'l Park Service (May 2, 1963)).

Exhibit 2

PINCHOT INSTITUTE
FOR CONSERVATION

Ensuring the Stewardship of the National Wilderness Preservation System

A Report to the

*USDA Forest Service
Bureau of Land Management
US Fish and Wildlife Service
National Park Service
US Geological Survey*

Pinchot Institute for Conservation
September 2001

About the Pinchot Institute for Conservation

Background

Recognized as a leader in forest conservation thought, policy and action, the Pinchot Institute for Conservation was dedicated in 1963 by President John F. Kennedy at Grey Towers National Historic Landmark (Milford, PA), the former home of conservation leader Gifford Pinchot. The Institute is an independent nonprofit organization that works collaboratively with all Americans – from federal and state policymakers to citizens in rural communities – to strengthen forest conservation by advancing sustainable forest management, developing conservation leaders, and providing science-based solutions to emerging natural resource issues. Each year, the Pinchot Institute conducts policy research and analysis; convenes and facilitates meetings, workshops, and symposiums; produces educational publications; and provides technical assistance on issues that affect national-level conservation policies and the management of our national forests and other natural resources.

Current Programs

The Institute's objectives – policy research and analysis, convening and facilitation, and leadership development – are realized annually through the following programs:

Community-Based Forest Stewardship

Restoring and maintaining forest ecosystems for multiple objectives requires a variety of continuing land treatments that can serve as a basis for stable employment and generate income in rural communities. Through technical assistance programs and training sessions, policymakers, federal and state land management agencies, and local practitioners work collaboratively to identify, address, and develop strategies on specific initiatives that sustain and improve the stewardship of such ecosystems.

Conservation Policy and Organizational Change

Much of the effort to date in sustainable forestry has focused on policy development, with far less attention devoted to the mechanisms by which these policies will be implemented. Through independent analysis and facilitation, the Institute develops approaches to natural resource management that integrate political organizational structures and long-established administrative processes with emerging conservation-oriented ideas and policies.

Conservation Leadership Development

Effective natural resource conservation begins with effective leaders. Through leadership workshops and professional development seminars that are based on participatory decision models offered at Grey Towers National Historic Landmark, the Institute helps beginning and mid-career professionals in public agencies, private organizations and conservation NGOs redefine the relationship between land management agencies and the communities they serve.

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EXECUTIVE SUMMARY

America has pioneered many important concepts regarding protection of lands and our national heritage. The passage of the Wilderness Act (PL 88-577) in 1964 created the **National Wilderness Preservation System**, and signaled a commitment to protect in perpetuity a portion of our landscape and its related human heritage. However, to accomplish this requires active stewardship in the face of population growth and environmental change. Active stewardship of the Wilderness System requires that the four Federal agencies that manage portions of the Wilderness System cooperate and collaborate.¹ It requires that they do the best that they can for the land within the limits of their technical and financial resources.

Wilderness management coordinators in the four Federal agencies recognize that improvements are needed in the stewardship of the Wilderness System to sustain it unimpaired into the new century. In 1999, they asked the **Pinchot Institute for Conservation** to empanel a diverse group of individuals from outside of government to examine our stewardship of Wilderness over the past 35 years and to recommend how we might be better stewards in the 21st century. This report speaks to the issues of stewarding the National Wilderness Preservation System of the United States, an idea that is truly American in origin, but that has caught the attention of people around the world. As this report is released, 37 years after the passage of the Wilderness Act, we find that the Wilderness System has grown from 10 million acres in 54 units to nearly 105 million acres in over 600 units. We find also that the National Wilderness Preservation System is more important to the American people than ever before.

The fundamental conclusion of this report is that there is **a need to forge an integrated and collaborative system across the four wilderness management agencies**. Given the importance of wilderness as part of a land use spectrum, its historical, scientific, recreational, philosophical, and spiritual significance, and the lack of a truly systematic approach to protecting and managing Wilderness, the report offers an agenda and specific recommendations to the Secretaries of Agriculture and Interior, the officials designated in the Wilderness Act as primarily responsible for guaranteeing an enduring resource of wilderness.

When an area is designated by Congress as Wilderness, there are myriad responsibilities to maintain and enhance the wilderness character. Many management actions are necessary simply to protect the resource from degradation. Yet the essential character of Wilderness is to be “untrammelled by man,” and many scholars and managers regard “stewardship” as the most appropriate perspective for safeguarding these unique resources in the future. Therefore, this report emphasizes the term wilderness stewardship, rather than wilderness management. Stewardship implies working with Nature to perpetuate wilderness for the future, and any actions to be taken need to be considered from a diversity of philosophical, legal, and technical perspectives.

¹ Portions of the National Wilderness Preservation System are managed by the National Park Service, Bureau of Land Management, and US Fish & Wildlife Service (all in the Department of the Interior), and the US Forest Service (in the US Department of Agriculture).

The Wilderness System is growing in size and complexity, and our understanding of the system is broadening. There are examples suggesting that this growing complexity is understood among the agencies' leaders in wilderness stewardship, but many other examples that suggest it is not. There are issues that exemplify some contemporary dilemmas of stewardship. One of these is ensuring both naturalness and wildness; another is recognizing that wilderness is not isolated from the surrounding landscape. Manipulating wilderness conditions is philosophically and practically problematic, and how we define minimum requirements is important in selecting actions and tools to use. The place of recreational use in the broader spectrum of wilderness values has not been made particularly clear. Agency organization and commitment to stewardship are needed for success, but in many instances they seem lacking. Effectively utilizing modern information technologies to maximize the value of Wilderness and minimize degradation is a major new opportunity. Each of these issues presents significant challenges for how we steward wilderness for the future.

To enable land management agencies to meet the challenges, some principles for stewardship would be very useful, and the following eight are offered for consideration:

- **Adhering to the Wilderness Act is a fundamental principle for wilderness stewardship in the US.**
- **US wilderness is to be treated as a system of wildernesses.**
- **Wildernesses are special places and are to be treated as special.**
- **Stewardship should be science-informed, logically planned, and publicly transparent.**
- **Non-degradation of wilderness fundamentally should guide stewardship activities.**
- **Preservation of wilderness character is a guiding idea of the Wilderness Act.**
- **Recognizing the wild in wilderness distinguishes wilderness from most other land classes.**
- **Accountability is basic to sound stewardship.**

In shaping the future for success in wilderness stewardship, there are several things that the wilderness agencies should do. Implementing these recommendations will assist the Secretaries and the agencies under their purview to better steward our wilderness resources.

- **The four wilderness agencies and their leaders must make a strong commitment to wilderness stewardship before the Wilderness System is lost.**
- **The four wilderness agencies must organize to maximize stewardship effectiveness and to develop a fully integrated stewardship system across the Wilderness System.**
- **Wilderness planning must be accelerated to help guide stewardship activities, to enhance opportunities for evaluation and accountability, and to increase the probability that the Wilderness System will be sustained.**

- **Science, education, and training programs should be enhanced and focused to provide information, professional expertise, and public support for wilderness stewardship.**
- **The four wilderness agencies should create wilderness stewardship positions and career opportunities at all levels and commit adequate financial resources for stewardship and support of wilderness.**
- **Accountability for the maintenance and sustainability of the Wilderness System must be embraced by the four wilderness agencies.**

It is possible to move forward and ensure a National Wilderness Preservation System for the future. It will require building an integrated, collaborative system across the two departments and the four wilderness agencies. To manage the wilderness as a system means that each area is a part of a whole, no matter which agency administers it. It means that all wildernesses are subject to a common set of guidelines, and thus requires that such guidelines be developed.

There exist today several system-oriented institutions that can be used to move administration and stewardship of wilderness toward becoming an integrated system. The relatively new Wilderness Policy Council of the four wilderness agencies and the US Geological Survey is one of these. It could be an important body for discussion of leading issues and for making recommendations to the agencies and the secretaries.

The **Wilderness Information Network** (www.wilderness.net) is a tool for compiling and disseminating information about wilderness over the Internet. It draws together the information developed by stewards of individual wildernesses, research by federal agencies, university professors and others, information disseminated in periodicals and other media, and information from groups that care about wilderness stewardship. The **Arthur Carhart National Wilderness Training Center** and the **Aldo Leopold Wilderness Research Institute** are interagency organizations designed to bridge the training and research needs of the four wilderness stewardship agencies.

Collaborative and cooperative activities among federal agencies in Alaska, also are instructive for illustrating possibilities. The Alaska Cooperative Planning Group, the Alaska Issues Group, the Alaska Land Manager's Forum, and the Alaska Public Lands Information Center all are institutions that demonstrate that integrative, collaborative stewardship might be possible.

Combining strong leadership from the Secretaries of Agriculture and the Interior, from the agency heads and their staffs, and the efforts of dedicated wilderness stewards and advocates, the potential exists for bringing all of the pieces together to ensure the continued integrity of the Wilderness System. To this end, **four specific recommendations are offered for consideration by the Secretaries and others responsible for ensuring a continuing resource of wilderness:**

- **The Secretaries should issue joint policies and regulations specifying common interpretations of law, and thus provide broad guidelines for the stewardship of wilderness.**
- **The Secretaries should devise an organizational structure to make stewardship happen across the agencies so that a high quality wilderness system is continued in perpetuity.**
- **The Secretaries should devise monitoring and evaluation systems to ensure that we know how well wildernesses are being stewarded, especially in the context of a system of wildernesses, and they should reinstitute regular reporting of the state of the system.**
- **The Secretaries should develop a means for informing the American people about the National Wilderness Preservation System and about their wilderness heritage.**

It is the view of this panel that implementing these recommendations, and the framework for action prescribed in this report, can lead to more effective stewardship and development of a National Wilderness Preservation System, and ensure that it continues to be a world treasure in centuries to come.

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PREFACE

The National Wilderness Preservation System has rapidly grown from the nine million acres designated by the Wilderness Act in 1964 to 104 million acres of federal land today, well beyond the wildest dreams of early wilderness advocates. The Wilderness Act defines wilderness as “an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain,” but it gave little guidance as to how these lands were to be managed to protect the wilderness character for which they had been recognized. This has posed a major challenge to the four federal agencies charged with managing portions of the Wilderness System, and to their coordination among themselves to manage their respective segments as parts of a single system.

In July of 1999 the Pinchot Institute for Conservation was asked by representatives of these four federal land management agencies to begin a new study into the quality of management of the National Wilderness Preservation System. The agencies are the Forest Service of the Department of Agriculture and the National Park Service, Bureau of Land Management and the US Fish and Wildlife Service of the Department of the Interior. The purpose of the study was to examine the critical management issues facing the four agencies 35 years after the Wilderness Act of 1964, and to develop a common set of wilderness management priorities to ensure the future integrity of the National Wilderness Preservation System.

To accomplish the study, the Pinchot Institute formed an expert panel, subsequently known as the Wilderness Stewardship Panel. Each of the panelists brought significant experience and expertise to the task, and the panel reflected a diversity of values and perspectives regarding wilderness conservation and management. Perry Brown, Dean of the School of Forestry at the University of Montana was the chair of the panel. Other members were Bill Meadows, President of the Wilderness Society; Joe Sax, Professor of environmental regulation at the University of California at Berkeley; Norman L. Christensen Jr. founding Dean of the Nicholas School of the Environment at Duke University; Hanna J. Cortner Professor at Northern Arizona University; Deborah Williams, Executive Director of the Alaska Conservation Foundation; Former Secretary of the Interior Stewart Udall; Thomas C. Kiernan, President of the National Parks and Conservation Association; William Reffalt, retired Chief of Refuges at the National Fish and Wildlife Service; and George Siehl, a retired recreation specialist at the Congressional Research Service. The entire effort was coordinated and managed by James W. Giltmier, a Senior Fellow at the Pinchot Institute for Conservation.

Following several coordinating meetings and conference phone calls at the federal staff level, the panel held their first meeting in December of 1999 at Albuquerque, New Mexico. Subsequent meetings were held in Washington, DC, and Denver, Colorado. Members of the panel heard from federal employees at all levels including those who manage wilderness on the ground. They also heard from a broad spectrum of interest groups that have a stake in the wilderness system, including those who oppose wilderness designation altogether. In July, 2000 the panel participated in the National Wilderness Summit in Washington called by Forest Service Chief Mike Dombeck and facilitated by

the Pinchot Institute. From this summit, a new Wilderness Policy Council was created, consisting of senior executives from each of the four federal agencies whose task it will be to coordinate more closely than in the past on the management of the Wilderness System.

This report is a culmination of the work of the expert panel, which volunteered countless hours of effort over a period of more than a year to thoroughly identify and describe both the challenges and opportunities in wilderness management. These needs include: education, training and outreach; land inventory and monitoring; information management; resource protection; program management and coordination; and leadership. The report also advances specific policy recommendations aimed at addressing these needs. These recommendations are ambitious, but also well-considered and practical. They clearly demonstrate what needs to be done to protect these unique resources for the use and enjoyment of future generations, to increase our scientific understanding of the functioning of natural ecosystems, and to ensure that there will always be wild places “where the earth and its community of life are untrammelled by man.”

V. Alaric Sample
President
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September 28, 2001

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I. INTRODUCTION

Wilderness stewardship has a Zen-like quality that asks us to work ingeniously so that nothing happens that would not happen if we were not there. This is in keeping with the ethic of restraint embodied in the 1964 Wilderness Act and its resolve that our civilization “not occupy and modify all areas of the United States and its possessions.” If our benchmark is the verb *to modify*, it took 100 years—from George Perkins Marsh’s use of that verb in his book *Man and Nature: The Earth As Modified By Human Action*, first published in 1864—for our culture to achieve, as a national policy, this posture of humility toward natural conditions that is explicit in the Wilderness Act. In designated wilderness we are not to manipulate nature, the more-than-human world, but to jealously safeguard their natural conditions and ecological processes.

It is not altogether surprising, then, that it has taken four decades since the passage of the Wilderness Act for the federal land-managing agencies to begin to get the knack of wilderness stewardship, which is the occasion for the work reported here.

It goes against the grain of our species to *not* do: we class ourselves as *Homo faber*, humankind the maker and doer. Freeman Tilden, who taught the art of interpretation of the values of protected public lands and heritage, dramatized this in what he called an un-illustrated lecture, “The Constructive Aspect of Inaction.” For his audience of would-be viewers, Tilden carefully describes the slides he decided not to use to illustrate his lecture—whose point becomes that we humans, *Homo faber*, preserve things best through inaction. Even an old school New Englander like Tilden found it necessary to put a Zen-like twist on advocating the wisdom of humility when it comes to preservation, which is the task of stewardship-in-perpetuity called for by the Wilderness Act.

Aldo Leopold, in *A Sand County Almanac* and other writings, characterized this wisdom of humility toward the land in the vernacular, as “intelligent tinkering.” Its first law, Leopold wrote, is to save all of the parts. On the mere remnant of our federal public lands legacy now represented by designated wilderness, the burden of wilderness stewardship is to save all the parts. The role of humility lies in recognizing, first, that we do not know all the parts, and second, that we do not understand their interrelationships and interpenetrating dynamisms. Nor may this be, as Wendell Berry maintains, a question of our simply not knowing *yet*. We may never fully know. We may never fully understand. Much of today’s challenge with the role of fire in wildlands, for example, results from our having applied in the past the best knowledge and best practices that were our scientific and management knowledge then. So, too, it can be said with predators.

Looked at with increasingly sophisticated analytical tools, the complexity of forest soils seems to spiral inward until it begins to mirror the spiraling outward of the complexity imagined back to our home planet by the Hubble telescope. And soils are but one aspect of the biosphere.

We have traded in the word *holy* for *holistic*, as Wendell Berry observes, but the expansion of knowledge only increases the mystery. We know a great deal about the Earth, but in many ways we *understand* it no better as a biosphere than the biblical writers understood it as “a circle on the face of the deep.” That we will—or even may—one day fully understand “natural

conditions” and “wilderness character” must remain, for now, an article of faith. Or witness, again, the roles of fire and predators in wildlands.

However cautiously, the Wilderness Act seems to suggest that what we as humans know is always bound by time and is true only provided that everything else we know is also true. This is the spirit of restraint born of humility with which wilderness stewardship should be undertaken.

One obstacle to the stewardship of wilderness has been the fact that federal agency cultures have rarely rewarded those within their ranks who have shown the courage of their best professional judgment to do nothing—however great their watchfulness and sensitivity. The workplace cliché of “building empires” encapsulates our culture’s busy bias against what Tilden advocated as the virtues of inaction for preserving things of great value.

Yet it is important to remember how thoroughly infused the very spirit and language of the Wilderness Act are with the attitudes and thinking of employees of the federal land-managing agencies: Benton MacKaye, Bob Marshall, Arthur Carhart, Aldo Leopold, and Bernard Frank in the U.S. Forest Service; Olaus Murie, Rachael Carson, and Howard Zahniser in the U.S. Bureau of Biological Survey/U.S. Fish and Wildlife Service; George Collins, Lowell Sumner, and Adolph Murie in the National Park Service; and Marshall also in the Bureau of Indian Affairs.

We hope that this report appeals to the higher instincts of agency cultures of the US Department of Agriculture’s (USDA) Forest Service, and the US Department of the Interior’s (USDI) Fish and Wildlife Service, the National Park Service, and the Bureau of Land Management (included since 1976). We hope that it sparks the imaginations of a new generation of public servants. We hope that they will again arise within the ranks to chart the land ethic implicit in the Wilderness Act’s call for restrained and humble stewardship. These are the hopes of this panel in offering this report.

II. CONTEMPORARY IMPERATIVE FOR THE WILDERNESS ACT AND ITS IMPLEMENTATION

This report speaks to the issues of stewarding the National Wilderness Preservation System of the United States, a system that is truly American in origin but has caught the attention of many people around the world. With wilderness seemingly more important than ever before, the tasks of the Wilderness Stewardship Panel of the Pinchot Institute for Conservation were to examine stewardship of the wilderness resource over the past 37 years and to suggest how the system might be better cared for in the 21st century.

Wilderness opens windows of understanding about the natural world. It may be seen in the future as one of the most important contributions that societies can make to the health of the global environment, and of humans. Wilderness is a place of spiritual self-discovery, giving each person who experiences it a better perspective of where he or she stands in a larger universe.

Today our burgeoning society has surrounded wilderness. In June of 2000 the Department of Housing and Urban Development reported that "Land is being consumed at twice the rate of population growth." Land use for single-family housing has been growing by 2.3 million acres a year since 1994, much of it for development on lots larger than one acre, the agency reported. Survival of the wilderness -- the places where nature's instincts prevail -- is dependent on the capacity of the American public to renew its commitment to the ideals of wilderness, and its willingness to ensure its preservation. Otherwise the encroachment of development and the trivializing of the wilderness concepts will lead to the dribbling away of all that we value as natural and wild.

In a recent national survey produced by Kenneth Cordell and his colleagues at the Southern Forest Experiment Station it was revealed that 42 percent of Americans rejected the notion that humans were meant to rule over nature; a sizeable majority said they at least generally disagreed with that notion. More than 52 percent indicated that the government has not put enough land into wilderness protection and most Americans suggest that environmental protection laws have not gone far enough. They say that regulation of natural resources -- air quality, protection of wild or natural areas, endangered species and wetlands -- is "just the right amount" or has "not gone far enough." Forty-nine percent say that there is too little spent on the environment. Yet, it has been reported that, until the recent infusion of money after the 2000 fire season, spending for federal natural resource programs, including public land protection and wilderness, was half of what it was in 1962 as a percentage of federal spending.

Why should we protect some federal lands? Seventy-eight percent said it was important to protect wildlife habitat. Seventy-three percent said it was important to preserve natural ecosystems. Seventy-three percent said it was important to protect air and water quality. Seventy-two percent said it was important to provide opportunities to experience peacefulness and the sounds of nature. Seventy percent said it was important to preserve culture and history.

By large margins respondents said people should be more concerned about how our public lands are used, and future generations should be as important as current ones in decision-making about public lands. Seventy-six percent said that people think public lands are valuable even if they do

not actually go there themselves, and 62 percent said that wildlife, plants and humans have equal rights to live and grow. Eighty-nine percent said it was all right to limit visitors to wildernesses if they became too crowded; and 95 percent said it was all right for the government to limit visitors if resources were being harmed by too much visitation.

Despite these sentiments of the American people, there is a lack of official attention to sound wilderness stewardship in America. There is a need make wilderness stewardship an important element of land management among the federal land management agencies and to help the public understand the National Wilderness Preservation System that has been created. Wilderness stewardship involves the regulation of human use and influence in order to preserve the quality, character and integrity of these protected lands. Wilderness stewards manage for future generations to assure that wilderness remains undisturbed for centuries. To meet these goals we need to aggressively focus attention on the goals and processes of stewardship.

We note the need to help people understand the Wilderness Preservation System that has been created. Wilderness stewardship lacks a well-organized national constituency. While polling shows that wilderness is highly valued, the lack of universal understanding and effective organization allows some in government and certain organized interests to attack wilderness and to garner support for repeal of the Wilderness Act.

American environmental pioneer Aldo Leopold wrote this about the values surrounding wilderness:

Wilderness is one part of the "land organism." Wilderness plays a significant role in the overall health of ecosystems. Rare and endangered plant and animal species require habitats that are relatively undisturbed so gene pools can be sustained, adaptations made, and populations maintained. Many rare and endangered species are indicators of ecological health, or they may play key roles in the balance of the ecosystem. Natural disturbance, like floods or fires, maintain natural processes, systems and patterns. Few places are left where rivers flood, and trees are allowed to burn in natural cycles. Wilderness is the heart of the "land organism."

The contemporary imperative for appropriate wilderness stewardship is to fulfill the purpose of the Wilderness Act of 1964, which aimed, "...to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States, leaving no lands designated for preservation and protection in their natural condition."

This report was undertaken to focus attention on improving wilderness stewardship at the beginning of the 21st century. We have been stewards of a formal system of wilderness for nearly 40 years, yet there are those who observe that just now we are beginning to recognize our role as stewards. Just now we are beginning to ask questions that will lead to a true system of wilderness across the federal lands in the United States.

In the next section of this report we highlight some of the issues facing stewardship of our wilderness resources and address the advancement of the notion of stewardship in contrast to management. Following this we outline seven principles we believe should guide those charged

with administering the Wilderness Act and accountable for the sustainability of the National Wilderness Preservation System. This section is followed by six guidelines for ensuring success in wilderness stewardship as we enter the 21st century. The final section addresses the fundamental conclusion of this report, which is **the need to forge an integrated and collaborative system across the four federal wilderness management agencies**. In it we offer an agenda for the Secretaries of Agriculture and Interior and for the newly formed Wilderness Policy Council, which is a body composed of senior administrators of the four wilderness management agencies and senior research administrators of the USDA Forest Service Research Branch and the US Geological Survey. We also offer specific recommendations to the Secretaries of Interior and Agriculture, those officials designated in the Wilderness Act as primarily responsible for ensuring an enduring resource of wilderness, and to others charged with stewardship responsibilities.

III. WILDERNESS STEWARDSHIP

The Management Imperative

When a wilderness area is designated, myriad responsibilities to maintain and enhance the wilderness character are explicit. Management involves facilitating human use, caring for and restoring wilderness resources, developing sound plans based on clearly articulated objectives, monitoring, funding, managing public and business relations, and promoting the continued understanding of an area through research. Management of a wilderness is particularly challenging in that the purposes of such an area include being relatively uncontrolled. Any actions taken need to be understood from myriad philosophical, legal and technical perspectives.

As managers and others have contemplated the management of wilderness, an orientation toward stewardship, rather than management, has emerged as the perspective that best serves Wilderness. Stewarding the resource means ensuring its character and its continuance as wilderness, not just managing it for the goods, services, and opportunities that it provides.

The role of a Wilderness steward has changed considerably over the past 37 years and will continue to do so during the coming decades. The change is flowing on a course from simple to complex, technical to philosophical, and from individual to regional. The factors providing the context for wilderness stewardship include an increasingly complex system of social and biological values, rapid change, increased jurisdictional interest, and an ongoing struggle with the limits of appropriate levels of manipulation. Stewarding this resource is more than managing the resource; it is ensuring its existence through helping others understand and appreciate it and through ensuring its physical and philosophical protection.

The Wilderness System is Growing in Size and Organizational Complexity

Several factors have led to a need for the examination of the state of management in the National Wilderness Preservation System (NWPS). First, the system has grown over 1000 percent in size in its first 37 years. In 1964 there were fewer than 10 million acres allocated to 54 Forest Service units. As of 1999, roughly 4.5 percent of the United States (2.3 percent of the lower 48 states) was designated as Wilderness. The Bureau of Land Management (BLM), the United States Fish and Wildlife Service, the United States Forest Service (USFS), the National Park Service (NPS), in 628 discrete areas, administer the 104,739,168 acres of wilderness. There is designated wilderness in 44 States and over half of the NWPS (58,182,216 acres) is in the state of Alaska.

Rapid rate of growth of the number of areas and acres has led to several challenges for the four federal land management agencies. First, growth itself has consumed the time and attention of wilderness managers. In the exercise of looking forward to an expanding system, it is easy to neglect the estate at hand. Second, the sheer size and spread of responsibility across four agencies add obvious structural demands. For example, if all proposed Wilderness in the National Park Service is designated, the National Park Service will be over 80 percent wilderness. Eighteen percent of US Forest Service administered land currently is designated wilderness. Clearly, the scale of the system requires a substantial investment of resources and consideration, and crossing agency boundaries adds complexity to the interpretation of the Wilderness Act and its role within the respective agency missions. Third, as the system

expanded beyond traditional high mountain landscapes (especially with passage of the Eastern Wilderness Act in 1973 and the addition of the BLM as a wilderness administrator with passage of the Federal Land Policy and Management Act in 1976), stewardship has become more socially and ecologically complex. As a result, the identification of uniform wilderness values and management procedures has become more difficult.

Our Understanding of the System Is Broadening

We now have a much larger and more complex system than in its early days. It includes representation of many of the ecosystems of the country and it exists geographically spaced with several units located very near to urban centers. In addition, as the results of science and scholarship broaden our understanding of the roles and processes of wilderness, stewardship has necessarily become more complex. National wilderness research conferences in 1985 and 1999 each compiled hundreds of studies that document the unique values of wilderness. The roles of wilderness for values focused on biodiversity, recreation, social escape, spirituality, and education continue to grow, as does the value of wilderness to science. With this growth come increasing challenges for stewards to understand and appreciate the values over which they are charged, and to manage in ways that enhance realization of these values while stewarding wilderness into the future.

Embracing Complexity By Leadership Is In Question

For the National Wilderness Preservation System to meet its potential and to fulfill its roles in American society, those responsible for it must embrace the complexity described above. Wilderness and the system in which it is managed have grown from a frontier concept of the Progressive Era to a large and organizationally complex system that reflects our society's responsibility to conserve options for future generations. It is a formidable challenge to manage such a system and it requires enlightened leadership and commitment.

The functioning of such a complex system will encounter problems, but the resolution and minimization of those problems is a fundamental prerequisite to progress in the management of the National Wilderness Preservation System. Demonstrated improvement requires resources, time, investment in expertise, and visible leadership, particularly by the Secretaries of Agriculture and Interior who are statutorily charged with administration of the National Wilderness Preservation System.

The state of wilderness management was assessed and criticized in the 1985 Conference on Wilderness Management. In a 1989 evaluation, the Government Accounting Office recommended that the USFS develop baseline inventory information, evaluate administrative sites for their appropriateness, establish a national policy for outfitter and guide structures and facilities in wilderness, and compile information on the total funding and staffing needed to manage the United States Forest Service wildernesses in a way that will meet the objectives of the Wilderness Act. The 1995 Interagency Wilderness Strategic Plan represents a cooperative effort to manage the system and outlines 26 management strategies to do so.

In assessing of the implementation of this plan, there are some notable successes across agencies, some successes in one or more agency, some failures across agencies, and some complete failures. In terms of managing wilderness within the context of larger landscapes we find that

the agencies all have adopted the concept of ecosystem management for all public lands, including wilderness. However, the assessment points out that most agency wilderness management plans do not reflect an ecosystem approach to management.

An ecosystem approach was taken in development of plans for the Muleshoe Ecosystem. The BLM, Coronado National Forest, Arizona Game and Fish Department, and Arizona Chapter of The Nature Conservancy created a single plan for management of the Muleshoe Ecosystem. This plan directs management of lands and resources for which each organization is responsible, including the adjacent BLM Redfield Canyon and Forest Service Galiuro wildernesses. In contrast, in the Fish and Wildlife Service few wilderness management plans have been updated or written since the 1970's and 1980's, and these first generation plans do not reflect an ecosystem approach to management. Likewise, the majority of Forest Service wildernesses are managed under first generation plans that do not consider wilderness in the context of ecosystem management.

In the area of administrative policy the 1995 Plan calls for maintaining strong and professional leadership in wilderness stewardship at all levels and requiring wilderness stewardship performance elements for those managing wilderness. While each of the agencies has Washington office leadership for wilderness, these leadership positions are not necessarily fully devoted to wilderness stewardship. The existence of wilderness leadership positions at lower levels of the organizations varies considerably and in all agencies there are no expected performance standards for wilderness stewardship.

The BLM and Forest Service are best staffed by people with specific responsibilities for wilderness stewardship. Five BLM states have full time wilderness staff and in the remaining states there is an official with wilderness as a collateral duty. The Forest Service has wilderness staff in each region, and staff with wilderness responsibilities on many forests. In both agencies, however, the level of staffing has decreased in recent years with downsizing due to limited financial resources. Since the National Park Service specifies that all management employees have wilderness responsibilities, if wilderness exists in their unit, responsibility and accountability are diffused throughout the agency. In the NPS there are only three full-time wilderness managers. To help provide a focus for the agency, the NPS has formed a National Wilderness Steering Committee that includes an Associate Director, superintendents, and staff who deal with wilderness in parks. In the Fish and Wildlife Service there is a part-time (usually 5-10 percent of responsibilities) wilderness coordinator in each region and there is only one wilderness specialist at the field level in the whole agency.

These two examples from the assessment of the 1995 Wilderness Strategic Plan illustrate that there is concerted effort to move toward active wilderness stewardship, but that there is a long way to go. Even though progress is being made, this record has left many managers and scholars dissatisfied with the progress in conserving wilderness. The lack of progress is often attributed to agency cultures that view wilderness as a secondary priority and bureaucracies that do not invest in the human resources that will ensure its sound management and perpetuation.

Issues That Demonstrate Some Contemporary Dilemma's Of Stewardship

Wilderness occurs within both social and biological contexts. Over the past 37 years we have learned more about both contexts, and as society has evolved, in an increasingly technological and communicative world, challenges have emerged that confront our sense of what is and is not appropriate in our stewardship of wilderness. We now recognize several dilemmas in the management of wilderness resources, and given the ecological and geographic scope of the system, different issues emerge in different places. In the absence of a system-wide framework for the interpretation of the Wilderness Act or comprehensive regional and system-wide analysis, the potential for incremental site-by-site changes to significantly alter the system is very high. The following issues exemplify the confusion that marks much of today's stewardship dilemma.

Ensuring both naturalness and wildness. It has long been argued that wilderness provides the opportunity for natural processes to proceed relatively undisturbed by humans. To the extent that wilderness areas are untrammeled and relatively uninfluenced by industrial and technological events, this is likely true. Thus, naturalness is one attribute of wilderness. As Robert Marshall indicated, wilderness areas preserve, as nearly as possible, the essential features of the primitive environment. This primitive environment is one that has an attribute of naturalness; that is relatively unaffected by humans. Another attribute of the primitive environment is what might be conceptualized as wild. The primitive or wilderness environment is one where a person might experience a sense of wild. It is the place where Robert Marshall could encounter three grizzlies on the trail in the Arctic and fear for his life, or where one can look over the vast expanse of the valleys from the tops of the Adirondack peaks and visualize the wild and unregulated collage below. Does ensuring the continuation of naturalness ensure the continuation of wildness? Does wilderness offer opportunities for one or the other not offered in other places? Do the various agencies see both attributes within their responsibilities and cultures? Such questions need answers for the system and across the four federal wilderness agencies. The concepts of naturalness and wildness are ones being debated by wilderness stewards and others. In later sections of this report we identify principles for evaluating different answers to these questions, and we make recommendations about processes and institutions for answering them.

Wilderness is not isolated from the surrounding landscape. Wilderness occurs in a mosaic of other land uses. Some wildernesses occur as undisturbed islands surrounded by timber harvesting and others occur on the boundaries of urban areas and residential developments. Others are divided by major highways and are influenced by the access, noise, and pollution of highway use. Many of the most compelling threats to wilderness character flow from surrounding areas. Acid rain and noxious weeds, for example, originate outside of the wilderness and flow inward. What is won or lost in the war against noxious weeds? How aggressive should managers be in fighting these invasions? At what point does the concept of wildness need to give way to maintaining natural processes? Such questions suggest that wilderness cannot be viewed in isolation and that stewards of the resource must confront fairly difficult problems stemming from outside influences. The recognition of an ecosystem approach to management by the agencies, as noted above, is positive, but action must follow that recognition, and to date there has not been sufficient effort to deal with the larger context of wilderness and the myriad problems arising from it.

Manipulating wilderness conditions is philosophically and practically problematic.

The negative effects of some previous management activities have been demonstrated and now we must decide how active managers should be in righting wrongs. For example, now that it is known that stocking of non-native fish has disturbed mountain lake ecosystems, should stocking continue with a different type of fish? Should stocking be discontinued? Should the stocked fish be destroyed to try and restore the ecosystem to a more “natural” set of conditions? When do the means of manipulation justify the ends of naturalness and how do we know? What is forsaken when fire is intentionally suppressed or when it is reintroduced into wilderness? Does it matter if a fire is allowed to burn at intensity levels that it might have before we began suppression activities? These are tough questions that need to be guided by our values toward maintaining wilderness character, not degrading wilderness, and keeping the wild in wilderness. How much and how, if deemed appropriate, we intervene in wilderness to restore or enhance its character will take a lot of thought, creativity, and leadership.

Each of the four wilderness management agencies allows fishing in wilderness, but they vary significantly in their policies as to how it is to be conducted and managed. Fish management policies administered by the states also vary from state to state. Therefore, fishing management requires a high level of cooperation between state and federal agencies. Goals and policies of the state agencies occasionally conflict with those of the federal government, resulting in tension, inconsistent management of fish populations and habitat, inconsistent regulations on fishing, and perhaps, ultimately, a loss of wilderness values.

When confronted with difficult questions of which species to stock in which lakes, whether or not to stock non-sustaining populations of fish, which method of stocking to use, and what constitutes “native,” “exotic” and “naturalized” fish populations, the current tenuous relations between federal and state agencies becomes somewhat strained. This is exacerbated when the ecological values associated with natural, healthy aquatic ecosystems clash with recreational values. Naturalness dictates that although the fish might be native to the region, their populations should not be maintained in lakes where they did not occur naturally. Moreover, a strict definition of naturalness also requires that self-sustaining populations of introduced (naturalized) fish species should be removed. In some regions this would eliminate an estimated 80-95 percent of the fishery within wilderness lakes and streams.

Demand for sport fishing can create a tension between state fisheries biologists, who want to do the right thing ecologically but are sometimes influenced otherwise by their own state officials, and federal wilderness management agencies. The “right thing” often becomes a matter of which wilderness value takes precedence: ecological health or the wilderness fishing experience. A frustration for wilderness managers is that the wilderness fishing experience depends on two important components: the quality of fish populations and the wilderness itself. Managers express annoyance over having control over only one of these. To some degree they can control access to a site if recreation impacts become excessive. But, the quality of the resource still is a function of the fish and wildlife opportunities within the wilderness. Likewise, state fish and wildlife managers have control over the fish populations, but they must defer to the federal agencies who have control over the habitat and the fisheries’ main predator—the people who fish. What this means is that manipulating wilderness conditions is often tough and fraught with controversy.

How we define minimum requirements and tools is important in selecting management actions and tools.

Regarding the use of tools and other management aids in wilderness, agencies visualize the minimum requirements and tools necessary quite differently and this leads to considerable controversy and public confusion. Where one agency may hold fast to the use of crosscut saws, another may quickly use a chain saw to minimize the potential for additional impact. There is also widespread use of permanent structures for agency use and divergent perspectives about the use of motorized vehicles in restoration efforts. Agencies often rationalize their choices by pointing to legislation other than the Wilderness Act. Since there is no clear legal standing for this approach, this is a choice guided by agency culture and philosophy. One result is that it appears that we do not have a national wilderness preservation system and that degradation of wilderness character in all its social, physical, and biological aspects is not as important as management efficiency. This seems counter to the language and spirit of the Wilderness Act.

Wilderness offers unique opportunities for social and biological research, and every year managers receive hundreds of proposals for research and other scientific activities, such as monitoring, to be conducted in wilderness. These proposals run the gamut from relatively simple inventories of plants and animals with little or no impact to the use of motorized equipment such as chain saws or helicopters for collecting data and the installation of permanent plots and devices for collecting data. Wilderness poses unique constraints on research and other scientific activities, and managers often fail to consider the context, needs and constraints on one another. For example, scientists might not fully understand the philosophical basis of wilderness management and the impacts that their activities might cause. Wilderness managers might not fully understand the potential benefits of a proposed activity to society and to the broader system of natural areas nationwide. These different viewpoints, combined with the typically meager communication between scientists and managers, might result in frustration and lost opportunities for the advancement of both science and wilderness preservation. Exacerbating the problem is that there is no single process used by the four wilderness management agencies for comprehensively evaluating proposals for scientific activities within the National Wilderness Preservation System.

The place of recreational use in wilderness and public perception about it have not been made clear.

Over the years, wilderness use has become more diverse in its inclusion of ethnic, age, and gender representation. And, it has become more diverse in the expectations users have of it. In addition, today's wilderness visitors have available an increasing array of technology to assist them in their wilderness adventures. Will these recreationists and those of tomorrow demand activities that are consistent with the values for which the wilderness system was established? To what extent might agencies accommodate new uses or the use of new technologies such as cell phones and other communication devices? What are the roles for agencies in public education about wilderness and its appropriate uses? How restrictive should agencies be in maintaining "outstanding opportunities for solitude or a primitive and unconfined type of recreation?" There are principles for wilderness stewardship that can help answer questions such as these. We offer such principles in the next section of this report, and we suggest that the agencies under the direction of the Secretaries of Agriculture and Interior collectively deal with these and related questions.

Agency organization and commitment are needed to ensure success, but overall they are lacking. In a recent survey of wilderness specialists working in areas with designated wilderness, the 372 respondents reported 149 discrete position titles. Only 17 percent of the specialists had the word wilderness in their title. On average, the specialists indicated they spend less than 30 percent of their time directly working on wilderness. While their average time working with wilderness is over eight years, there is considerable variation around this number. These results suggest that wilderness is generally a collateral duty, even for those who specialize in it. There also is a large range of experience within the ranks, with many people becoming specialists with little if any experience in wilderness. Will this collateral approach to managing wilderness ensure success? Are managers provided adequate training, preparation, career paths and support to manage wilderness to the specifications of the Wilderness Act? Do the agencies encourage collaborative efforts among themselves to develop a large enough critical mass of professionals to warrant the profile that wilderness management demands? The varying organizational approaches of the agencies also raise questions about commitment and effectiveness. Those responsible for wilderness in the Washington offices are at different levels and in different functional roles across the agencies. This also is true at local levels. Given that the agencies are stewards over more than 104 million acres of wilderness and that these acres sustain a high level of use, it is surprising that much of the system remains relatively intact given the paucity of human resources devoted to it.

Excelling in an information exchange environment is a new management challenge. The level of information associated with the inventory, monitoring, study and education related to the National Wilderness Preservation System is staggering. Current technology makes the assembly and synthesis of wilderness information possible within meaningful time frames. But with that possibility comes the expectation for this to occur and the very visible failure if it does not. The desire to see real data in support of ideals and opinions will intensify. Given the history of criticism of the amount of baseline and monitoring data associated with the National Wilderness Preservation System, the availability of these data is a concern. How might they best be provided? Who should have access to them? These and other questions require thought and response since ready access to information technologies have become a way of life in American culture. There is little doubt that they are necessary and must be provided.

Management To Stewardship

Wilderness and the system designed for its sustainability will continue to be a challenge. The compelling issues of today include those discussed in previous reviews of the system's management and illustrate the growing sophistication of our understanding of the role of management. At the heart of that understanding is that management is usually envisioned as the acts of directing, guiding, controlling and improving the natural outcomes of a set of processes. Wilderness, by its very definition as untrammelled will continue to defy that illusion of control. Thus, several scholars and "managers" have called for the use of stewardship as a more appropriate perspective for the future. Stewardship to them and to us implies working with nature to perpetuate wilderness for the future.

IV. PRINCIPLES FOR STEWARDSHIP

If the land management agencies responsible for ensuring a continuing resource of wilderness are to meet the challenges described previously, they need to agree on a set of stewardship principles. We believe the following principles are fundamental if our system of wilderness is to endure.

Adhering to the Wilderness Act is a fundamental principle for wilderness stewardship in the US.

The most fundamental principle in wilderness stewardship is adherence to the language and intent of the Wilderness Act. The act is the foundation for implementation of the American concept of wilderness as this concept has been articulated into a system of wilderness for present and future generations. To adhere to the Act is a positive statement that must be internalized by all that are responsible for stewardship of the resource of wilderness. The present state of different definitions, regulations, planning, and other stewardship issues between the four wilderness management agencies is not in accord with the Act. While for some issues the Act allows for varying interpretations, the Wilderness Act governs all wilderness essentially by the same standards, and thus provides the same direction for managers whether they are within a national park, wildlife refuge, BLM area, or national forest. In addition, use of equipment and adoption of particular policies and regulations that are managerially convenient, but not respecting of the special and untrammeled nature of wilderness also are not in accord with the Act. To adhere to the precepts and philosophy of the Wilderness Act is not an option; it is a requirement, and this law and other relevant laws, including the Eastern Wilderness Act and those laws establishing individual wildernesses, must be obeyed.

US wilderness is to be treated as a system of wildernesses.

Equally fundamental to wilderness stewardship is the concept of one wilderness system made up of lands and waters managed by four federal land management agencies. The Wilderness Act establishes this system, not four separate wilderness systems. This means that coordination and collaboration are essential among the four agencies. Implied is that a common set of definitions for wilderness and stewardship, for use and preservation, and for planning and management will be adopted and implemented in a collaborative fashion by the agencies. Implied is that when dealing with wilderness the agencies will adapt agency culture and ways of doing business to a wilderness- focused, collaborative mode. Also implied is that the resource of wilderness will be recognized in the context of other land uses and that it will be a system beyond the normal land use designations of individual agencies and traditions. Competition between agencies and the supremacy of individual agency cultures has no place in wilderness stewardship. Even with regional differences in physiography and American culture, wilderness is to be one system integrated into a whole.

Such a system need not be uniform in all respects from one region of the country to another. There clearly are population and physiographic differences in a country as vast as the United States, and the wilderness system is shaped by such differences. A significant challenge is determining which different approaches to wilderness stewardship might be appropriate and consistent with the objective of maintaining an enduring resource of wilderness for future generations. Agencies, especially, must always be mindful that day-to-day management actions

on one wilderness might set precedents that could affect wilderness stewardship throughout the system.

Wildernesses are special places and are to be treated as special.

To look at wilderness as just another land classification will not serve the potential of wilderness, nor will it ensure a sustainable national wilderness preservation system. As a special place, wilderness requires unique planning and stewardship, close attention to the condition of the resource and how it changes over time, and continuous monitoring and evaluation. It requires actions to enhance its ability to meet the wilderness values that it engenders.

Wilderness is distinguished from all other land classes since it represents a unique concept of wild naturalness. It is the wild and natural extreme in a total land use system. As such it must be recognized as special and requiring treatment not given other lands. Each wilderness is to be managed as a composite, as one resource, not a collection of individual pieces. The Wilderness Act indicates wilderness can serve multiple values and provide multiple benefits in human and spiritual experience, science, history, and land productivity. It is a special place for realizing these values and benefits.

Stewardship should be science informed, logically planned, and publicly transparent.

Science should inform wilderness stewardship as we learn more about ecological systems, individual species and their habitats, human behavior, and the successes and failures of various policies and management activities. Science can help us understand the nature of the system for which we are a steward. It can help in learning how to correct human-caused perturbations in such systems. It can help in understanding how systems might be used and enjoyed without destroying them. It can help in understanding how valuable wilderness is to people and how it might enhance their lives.

Using information derived from science and information obtained in other ways, we need to plan for the stewardship and use of wilderness. Given the pressure that humans put on wilderness and other natural resources, wilderness is unlikely to be sustained without careful thought and planning. We need to determine what is to be sustained, devise a program to sustain it, implement that program, and evaluate the effectiveness of implementation. Plans are compacts with the public about how lands are to be treated and what values are to be served. That many wildernesses have no plan devised for them is unconscionable for such a valuable resource.

This issue of public transparency applies to all facets of wilderness stewardship. Policies, plans and management activities; the findings from monitoring and evaluation; and research results need to be made available in publicly consumable forms.

Non-Degradation of wilderness fundamentally should guide stewardship activities.

A central concept of the Wilderness Act is non-degradation of wilderness. The concept is well articulated in *Wilderness Management* (Hendee, Stankey, and Lucas; 1990, Fulcrum Publishing; Golden, CO), and the description here draws heavily on their work.

Congress recognized wilderness as part of a land use spectrum ranging from the paved to the primeval. But even within the wilderness land use, a range of settings and conditions exist. Not

all wildernesses are identical in their primeval qualities. They vary in the degree to which naturalness has remained unspoiled, or to which opportunities for solitude remain undiminished by current, established uses. Such variations also occur within each wilderness. Expectations and definitions of wilderness change with the condition of the areas surrounding them. This relativity of wilderness was reflected in the debates over the act of 1975 that addressed Eastern Wilderness and whether or not lands in the east met the criteria for inclusion in the National Wilderness Preservation System.

The concept of non-degradation allows wilderness stewards to work toward a reasonably uniform standard for qualities such as naturalness, wildness, and solitude given the variation in conditions. This concept has generally been applied to wilderness stewardship for 37 years, but perhaps it is best known for its use in the management of air and water quality. Basically, the concept calls for the maintenance of existing environmental conditions if they equal or exceed minimum standards, and for the restoration of conditions that are below minimum levels. The objectives are to maintain currently high standards, to prevent further degradation, and to restore below-minimum conditions to acceptable levels.

As applied to wilderness, the non-degradation principle recognizes that the degree of solitude and the extent of biophysical impacts vary between individual wildernesses. The objectives in wilderness are to prevent degradation of current conditions in each wilderness and to restore substandard settings to minimum levels, rather than letting all areas deteriorate to a minimum standard. For example, wildernesses that possess only minimum levels of solitude or substantially altered biophysical conditions need not be the standard to which areas of higher quality will be allowed to descend. The near-pristine areas of the Intermountain West should not be allowed to decline to the level of impact found in some southern California wildernesses. Likewise, wilderness classification of heavily impacted areas in the eastern US does not mean that the biophysical conditions and solitude found in those areas should constitute an acceptable level for areas in the west. Under the non-degradation principle, the conditions prevailing in each area when it is classified establish the benchmark to be achieved by stewardship, unless conditions are deemed below standard and the objective is to restore them. Attempts to restore them, however, must be mindful of the requirement that these areas must remain untrammelled by humans.

Preservation of wilderness character is a guiding idea of the Wilderness Act.

In addition to its biophysical values—as a place *where the earth and its community of life are untrammelled by man*—wilderness serves as a reservoir of biological diversity, biological integrity, and environmental health. Wilderness also is a setting for compatible recreation, restoration, and inspiration, and a touchstone to our heritage as Americans and, more universally, as members in the community of life. The convergence of these diverse values (ecological, experiential, and symbolic) into one evocative and encompassing concept is the sum and substance of wilderness—and the source of its power to connect a variety of people to these remnant landscapes. Wilderness is a place of restraint, for managers as well as visitors.

One of the fundamental prescriptions of the Wilderness Act is preservation of wilderness character. According to the Act, wilderness character describes "*... an area of undeveloped ... land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions ...*" This

suggests a degree of naturalness to wilderness that might not be inherent in many other land classes, but more importantly it implies a degree of wildness that does not exist elsewhere. Efforts must be made to ensure the special nature of wilderness and to ensure that it is recognizable as such. Protecting threatened sites, eliminating damaging activities, applying the minimum regulations and tools that will preserve the wilderness character, and carefully managing human influences all are part of ensuring that wilderness character is preserved. As the Wilderness Act specifies,

“...each agency administering any area as wilderness *shall be responsible for preserving the wilderness character* of the area, *and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character.*” (*italics added*)

This sentence from the Wilderness Act also is the legal basis for the non-degradation principle described above.

Recognizing the wild in wilderness distinguishes wilderness from other land classes.

One of the truly distinguishing characteristics of wilderness is the wildness of places. Wilderness is a place where civilization is a stranger and where wildness prevails. It is a place that is uncultured and unmanaged by humans, where natural forces such as landslides and fires prevail on their terms. It is a place where humans can sense the untamed and the wild, and where survival challenges are apparent and desired. Protection of the natural wild, where nature is not controlled, is critical in ensuring that a place is wilderness. Such protection recognizes and celebrates the value of wild animals and plants, and of earth phenomena such as landslides, fires, and floods. It recognizes that humans are visitors to such places and that they should leave no trace so that wilderness remains wild and so that others can experience that wildness. 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.

Accountability is basic to sound stewardship.

Being accountable and responsible for actions is basic to being a steward. To acknowledge what has been done, to monitor in order to know what has influenced a resource, and to review the character of the wilderness are part of knowing whether or not stewardship is effective. This involves identifying those elements of the resource to monitor, making sure that they are monitored, and taking positive action based on what is learned to ensure the sustainability of resource character. With a resource as valuable and special as wilderness, monitoring, evaluation, and action play important roles in sustaining the resource. In addition, sharing what has been learned with others and being held accountable for stewardship are important for wilderness stewards to ensure trust and support for their stewardship of wilderness.

V. SHAPING THE FUTURE FOR SUCCESS

To meet the challenges of wilderness stewardship and to follow the principles set forth, there are several things that the wilderness agencies should do. Committing themselves to wilderness stewardship, having their leaders provide leadership and a climate for stewardship, making sure they are organized for effective stewardship, implementing a logical planning process, conducting the science necessary to understand wilderness and its stewardship, making sure that employees have the culture and training for stewardship, educating publics about wilderness and its stewardship, deploying personnel and financial resources necessary for the task, and embracing accountability are necessary to position the agencies for effective stewardship of a wilderness system in the future.

The four wilderness agencies and their leaders must make a strong commitment to wilderness stewardship before the wilderness system is lost.

To be successful in wilderness stewardship is going to take leadership on the part of the Secretaries of Agriculture and Interior, the agency heads, and their assistants. While support from the top does not make a successful stewardship program, it surely can facilitate one. It is especially important in agencies that are organized hierarchically, as are the American land management agencies. Without clear leadership and support from the Secretaries, the agency heads, and their staffs, the shaping of a wilderness system is unlikely. The requirement that wilderness stewardship is collaborative across agencies means that leaders must provide an atmosphere for collaborative behavior and the legitimacy to carry it out.

There must be serious acknowledgement of the unique value of wilderness to the federal estate, with agencies and their leaders understanding that it is related to other land uses under their care, and that it is vital to their overall missions. Within this acknowledgement, the agencies should adopt stewardship as the ethical foundation for administering the wilderness system.

Commitment also is needed throughout the organization, from top to bottom. This is commitment to wilderness stewardship that is consistent and sustained over time. With over 104 million acres of the nation's land designated as wilderness and large proportions of the land of any one agency in wilderness or wilderness study status, a commitment to wilderness stewardship is absolutely necessary. Such commitment must be real and visible to ensure credibility and support, and to ensure sustainability of wilderness.

The four wilderness agencies must organize to maximize stewardship effectiveness and to develop a fully integrated stewardship system across the wilderness system.

Being organized for both internal agency effectiveness and for interagency collaboration are necessary conditions for success. The importance of wilderness and the vast acres involved in the wilderness system demand that wilderness stewardship responsibilities be assigned to ensure success. Leadership for wilderness must be placed at a level in the organization to deal with both the extensive interagency policy that must be developed and with the internal direction that must be given. Leadership must be at a level to ensure that wilderness is recognized as a unique and important program of the agency and that an agency must be consistent and collaborative with the other wilderness agencies to ensure the existence of a wilderness system. Then, below this

leadership must be an organization committed to and prepared to carry out an effective program of wilderness stewardship.

In addition to a location and organization that are designed to carry out wilderness stewardship, extensive interagency collaboration and cooperation are necessary to have a wilderness system that is not the province of only one agency. Here the interagency Wilderness Policy Council, formed by the agencies in the year 2000, can be extremely important as a forum for leading discussions and making decisions about wilderness policy and stewardship. This body and the staff that supports it could play the critical role of leadership and arbitrator for the many wilderness issues that abound. These issues range from philosophical ones dealing with definition of wilderness and stewardship, to broad areas of concern such as fire or use policy, to specific management tools and practices for managing use and recovering damaged sites. To ensure that it can fulfill its promise, means must be sought to institutionalize the Council within the federal land management system.

Wilderness planning must be accelerated and plans prepared for the guidance of stewardship activities, to enhance opportunities for evaluation and accountability and to increase the probability that the wilderness system will be sustained.

Effective planning, implementation and monitoring are critical to success. They provide the road map for actions to be taken and the standard for measuring success. They provide the goals to be achieved, the specific actions to be taken, and the boundaries of what is acceptable in policy, regulation, and management action. They establish the baseline and performance measures so critical to accountability and to ensuring a sustainable system of wilderness.

Collaborative and concerted planning should be taken now more than ever because landscape changes are occurring so rapidly that inaction will lead to loss of wilderness resources. It is essential that wilderness plans be completed without delay. Progress toward implementation should be evaluated promptly and continuously. Wilderness plans are transparent contracts with the public as they offer evidence that wilderness resources will receive the care that citizens expect. They also provide an internal track for providing accountability at all levels. If planning and evaluation processes were set in place, many of the management challenges being faced today would be gone.

Planning must make accommodation for the enormous growth in the wilderness system over the past 37 years. Consideration of this growth must be reflected in the amount of time and attention that wilderness receives as a proportion of the planning activity of each agency.

A major failing of the present system is the absence of any planning by some agencies, and inadequate planning by the others. For most wildernesses the condition of the wilderness is not known in any specific terms, nor do we have information about changes that have taken place over the years. If there have been changes, there are few records describing what might have caused them. The absence of both inventorying and monitoring, and the planning between them, is an absence of wilderness stewardship, a condition that signals failure to many people that care about and support wilderness.

Every wilderness needs a stewardship plan for wilderness, whether or not the plan stands alone or is subsumed in larger plans for parks, forests, refuges, or other designations. To treat

wilderness as a composite, as one resource, requires planning for the whole. To ensure that wilderness is accorded the importance it deserves, and given that the Wilderness Act governs all federal wilderness no matter what agency is administering it, plans for individual wildernesses are necessary and should contain common principles across them. To subsume wilderness planning under agency specific plans designed for other purposes is to ignore both the intent and the system of wildernesses as defined in the Wilderness Act.

This planning must not occur in a vacuum, apart from either the regional context of an area or the wilderness planning of the other wilderness agencies. This is especially critical when dealing with common boundaries between agencies where wilderness might be on both sides of the boundary. It also is critical in devising means for each agency to obey the requirements of the Wilderness Act while recognizing the individual cultural imperatives of each agency.

Science, education and training programs should be enhanced and focused to provide information, professional expertise, and public support for wilderness stewardship.

To be effective in stewardship activities, an understanding of the object of stewardship is necessary. Science can help in this process by uncovering the nature of the resource and the processes by which it operates. Science also can aid in understanding the perceptions and behaviors of those who use and care about the resource and how they might impact it.

A strong science program should underpin our principles for stewardship and decisions that are made about appropriate policies, regulations, management actions, and other stewardship tools. Science should be a major tool in informing stewards about the state of the system and what might or might not be done, but it is not the only source of relevant information. Much greater effort needs to be expended to develop the scientific program that could underpin wilderness stewardship. Research programs of the Aldo Leopold Wilderness Research Institute, selected universities, and some other federal units such as the Forest Services' Southern Research Station and the newly established Cooperative Ecosystem Studies Units provide a base on which to build.

Likewise, education and training are important in ensuring success. A well-informed public that understands what wilderness is and is not is important in providing a mandate for wilderness and its stewardship. Agency managers and technicians who are equally well-informed and who are intellectually prepared and committed to wilderness are necessary for success since they are the people who must carry out sensitive stewardship responsibilities and ensure perpetuation of the system. Being informed implies the need for strong systems of education and training and of an open system of information about wilderness. Activities of the Arthur Carhart National Wilderness Training Center and of selected universities provide a base for the development of this strong system of education and training for managers and technicians. Still lacking is any significant effort to address the public need for information and understanding about wilderness.

The four wilderness agencies should create wilderness stewardship positions and career opportunities from top to bottom and deploy financial resources for the explicit stewardship and support of wilderness. The people hired for such positions must be committed to sustaining the wilderness system.

Success in stewardship will not be achieved without people and financial resources to do the work. Currently, most wilderness work is carried as a collateral duty by agency professionals and by seasonal technicians. In the agencies there are few personnel that have wilderness as their sole or even primary responsibility. Wilderness must become the primary responsibility of a cadre of professionals in each agency and a career path needs to be developed so that these professionals can receive due rewards for professional work. To steward over 104 million acres and to ensure that adequate protection is afforded this resource will take far more dedicated professionals and technicians than are currently engaged. In addition, the cadre of professionals engaged in research, education, training, and information management and dissemination must expand.

Financial resources likewise need to be deployed to wilderness stewardship. Wildernesses are not going to be sustained through benign neglect. Stewards must be employed to carry out programs of stewardship that ensure non-degradation of the resource, maintenance of wilderness character, adherence to the precepts of the Wilderness Act, and administration of a system of wildernesses. Those who are responsible for stewardship of the resource and those who support the stewardship system through research and other fields need to be supported to do high quality work. Given the many external influences impinging on wilderness, it is insufficient to draw a boundary around it and leave it alone. Wilderness needs to be embraced and cannot be left alone. Stewardship implies care and protection, and they require financial resources.

Accountability for the maintenance and sustainability of the wilderness system must be embraced by the four wilderness agencies.

Letting others know what management has done and how well goals have been achieved will help ensure support necessary for wilderness stewardship. Monitoring of stewardship activities, research programs, education and training activities, information management and information dissemination are necessary to know how the system is being protected and sustained. The standards for the system need to be known by others and performance against these standards needs to be shared. An annual reporting on the state of the system is a useful device for informing those that want to know about the state of the system, both its strengths and weaknesses, and it is required by the Wilderness Act. In addition, use of modern information tools such as the Wilderness Information Network accessible over the Internet are ideal for delivering information in a timely manner to those that care. Such systems need to be developed through true collaboration among the agencies, and to the extent practicable they should be managed for the agencies collectively.

Accountability should occur at the different levels that make up the stewardship system. Certainly individual accountability is important and might be carried out through position descriptions, performance appraisals, success in training and education activities, and appraisal of duties that are assigned and carried out. Individual stewards are members of agencies, and agencies have been given responsibility for carrying out the law. Thus, accountability for agency performance is important. In the case of wilderness there is a special responsibility to act in a collaborative and cooperative way with other agencies, and both individual agencies and the agencies collectively need to be held accountable for this interactive behavior. Finally, since there are different processes that might be used to achieve stewardship goals, or to formulate goals in the first place, monitoring and evaluation of these processes is necessary.

VI. RECOMMENDATIONS FOR ENSURING A NATIONAL WILDERNESS PRESERVATION SYSTEM

The overriding headline of this report is that we need to administer statutory wilderness as a system. The Wilderness Act calls for no less, but what does this mean? To manage wilderness as a system means that each area is part of a whole, no matter who administers it. It means that all wilderness is subject to a set of common guidelines, and such guidelines must be developed and administered. These guidelines should deal with topics such as the importance of wilderness and why we need to steward it, continuance of wilderness, preservation and enhancement of wilderness, use of wilderness, administration of wilderness, training of wilderness stewards, education for the public, and research to learn about wilderness and its importance and use. Finally, administering as a system means that the guidelines need to address the fact that when one deals with wilderness, agency and specific area uniqueness must be considered in the context of system-wide guidance. We acknowledge that there are cultural, legal, and operational differences between the wilderness stewardship agencies. We also acknowledge that there are differences between every pair of wildernesses. While these differences exist, the overlay of the National Wilderness Preservation System must assure broad uniformity among all wilderness areas. The place for individual differences is in the choice of specific stewardship policies and activities that clearly are nested within the system-wide guidelines.

Fairly recently several system-oriented institutions have been organized to move administration and stewardship of wilderness toward a wilderness system. The recent organization of the **Wilderness Policy Council** has potential to become of major significance. This council is composed of six members. Each federal wilderness stewardship agency (Forest Service, National Park Service, Bureau of Land Management, and Fish and Wildlife Service) has appointed one high-ranking land management administrator to the Council. In addition, there is one senior administrator from the Research Branch of the USDA Forest Service and one senior administrator from the US Geological Survey, the agency responsible for conducting research for the natural resources and environment agencies of the US Department of Interior.

The Council has the tasks of developing system-wide wilderness policy and of exchanging information about successes and failures in stewardship so that the agencies can learn from each other. If this Council takes its tasks seriously and if it is accorded the leadership status it needs to be an effective influence over individual agency culture and policy, it will have a major impact on securing a sustainable wilderness system for the nation. Its success will depend on the degree to which the four wilderness stewardship agencies and the members of the Council have the will to make the Council a leading voice and policy organization for wilderness stewardship. To the extent that the Council embraces its leadership potential, wilderness will be well served.

A second institution is the **Wilderness Information Network (WIN at www.wilderness.net)**, supported by the four wilderness stewardship agencies but housed within the Wilderness Institute of The University of Montana-Missoula. This is a network of the modern age of information technology. It is being developed as the prime repository and linking network for information of all kinds about wilderness. It draws from the information developed by stewards of individual wildernesses; from the research that has been conducted by federal agencies, university professors, and others; from information disseminated in periodicals and other media; and from

groups such as The Wilderness Society and the Wilderness Policy Council to provide a comprehensive information base for wilderness stewardship, research, and advocacy.

In recognizing the need to do some of our wilderness business in a different way, interagency organizations have been developed for training and research. These are the **Arthur Carhart National Wilderness Training Center** and the **Aldo Leopold Wilderness Research Institute**, both located on the campus of The University of Montana-Missoula. Of the two, the Carhart Center is the most fully interagency, but that goal is common to the two organizations.

The Arthur Carhart National Wilderness Training Center trains federal and state land managers who have wilderness stewardship responsibilities. It also has developed school curricula on wilderness for primary and secondary education. The staff represents the four federal wilderness stewardship agencies, though initial base funding and staff support were provided by the USDA Forest Service. The Bureau of Land Management added support in 1994, the US Fish and Wildlife Service in 1995 and the National Park Service in 1996. An onsite director and a governing board, including the National Wilderness Coordinators for wilderness stewardship agencies, provide administration.

During the years of 1993-1999 the Carhart Center provided 35 training sessions to 1329 participants. They also worked on cooperative projects with the Aldo Leopold Wilderness Research Institute, The University of Montana, and several national and regional conservation programs. The Carhart staff has recognized expertise, and members frequently participate in national initiatives within their respective agencies. This organization represents a fledgling interagency cooperative that is fully embraced within the system and that also demonstrates the potential efficiency that arises from the organization of cumulative expertise across the agencies.

Four activities in Alaska also provide lessons for interagency collaboration and cooperation. Land management agencies in Alaska have developed effective, collaborative groups that might serve as models for the country. For almost 20 years the Alaska Office of the Secretary of Interior has convened and chaired the Alaska Cooperative Planning Group (ACPG). ACPG is composed of all of the Regional and State Directors of Interior Department agencies in Alaska. They meet once each month to address joint management issues through general meetings and committees. The Alaska Issue Group (AIG) in the remote west is a particularly important communications network. It fosters communication between field managers and officials in Washington, DC who address Alaska land management issues. AIG conducts a conference call twice per month. The Alaska Land Manager's Forum (ALMF) deals with inter-jurisdictional land management issues arising among federal agencies, state agencies, and native corporations. The ALMF brings together all of the major land managers on a face-to-face basis. Finally, the Alaska Public Lands Information Center (APLIC) combines the public information functions of all the public land management agencies into one full-service, information dissemination entity.

The Aldo Leopold Wilderness Research Institute evolved from the USDA Forest Service Intermountain Research Station's Wilderness Management Research Work Unit, and thus it had a beginning soon after the passage of the Wilderness Act even though its dedication as a research institute was in 1993. It coordinates and directs federal research on ecological and social topics of wilderness and other protected areas. The Institute operates under an interagency agreement among the four federal wilderness stewardship agencies and the US Geological Survey. Cooperative interagency activities include identification of research needs and priorities, development and conduct of research programs and projects, and the application of research findings to management programs and policy issues.

While the Institute is seen as an interagency organization, the Forest Service supports all positions except two, a zoologist position (US Geological Survey) and an application specialist jointly supported by the Fish and Wildlife Service and the Bureau of Land Management. To make it more fully interagency will require initial staffing support from the National Park Service and additional staffing support from each agency.

Likewise, research project support has been skewed toward the Forest Service, even though the Institute conducts research throughout the National Wilderness Preservation System. To the Forest Service support, the Bureau of Land Management has provided consistent but substantially less financial support. The US Fish and Wildlife Service began support for applications of research findings in 1999. The National Park Service has not provided support to the Institute. The USGS has no coordinated wilderness research program but is supporting the onsite Zoologist. To further complicate the interagency nature of the Institute, it is administratively located within the Rocky Mountain Research Station of the USDA Forest Service. Despite the difficulties in administrative organization and in funding, the Leopold Institute has fulfilled an important leadership function in coordination of wilderness research and communication through leadership roles in international, national and regional conferences and meetings.

These many different institutions -- the Policy Council, WIN, Arthur Carhart Center, Leopold Institute, and the collaborative arrangements in Alaska -- give promise for interagency cooperation and for the more complete development of a National Wilderness Preservation System. Combining strong leadership from the Secretaries of Agriculture and Interior, the

agency heads, and their staffs with the efforts of dedicated wilderness stewards and advocates, the potential exists for bringing all of the pieces together to ensure that a system of wilderness will exist. To this end, we offer several specific recommendations for consideration by the Secretaries and others responsible for ensuring a continuing resource of wilderness.

- 1. The Secretaries should issue joint policies and regulations specifying common interpretations of law, and thus provide broad guidelines for the stewardship of wilderness.**
- 2. The Secretaries should devise an organizational structure to make stewardship happen across the agencies so that a high quality wilderness system is continued in perpetuity.**
- 3. The Secretaries should devise monitoring and evaluation systems to ensure that we know how well wildernesses are being stewarded, especially in the context of a system of wildernesses, and they should reinstitute regular reporting on the state of the system.**
- 4. The Secretaries should develop a means for informing the American people about the National Wilderness Preservation System and about their wilderness heritage.**

While each of these is fairly self-explanatory in the context of what has been written previously in this report, we offer several more specific recommendations relating to each in the Appendix. In addition, we comment here on some of the organizational possibilities that the Secretaries might consider.

There are several organizational possibilities for stewarding our wilderness resource. One might be for the Secretaries to appoint a wilderness chief executive officer to assist them in carrying out their responsibilities and to lead a wilderness stewardship council composed of this CEO and the heads of the four wilderness stewardship agencies. A second might be for them to appoint a wilderness stewardship council that acts as their surrogate in directing the wilderness stewardship activities of the agencies. A third might be for the Secretaries to meet regularly to direct themselves the stewardship of the wilderness system. And, a fourth might be for them to continue the existing organizational structure, assuming that the agency heads and their policy council can do the job that is needed. Recommendation two above calls for a review of options such as these so that the Secretaries can put into place the most effective organization for ensuring a wilderness preservation system as called for in the Wilderness Act of 1964.

The framework for action prescribed in this report is one that can lead to effective stewardship and development of a National Wilderness Preservation System. Recognizing the many good examples of wilderness stewardship that have been implemented over the past 37 years, we can adopt a set of principles for stewardship, implement actions that will shape the future for success, and work toward ensuring, especially under the direction of the Secretaries of Agriculture and the Interior, the existence of a truly integrated National Wilderness Preservation System. The result will be enhanced opportunity to ensure that the National Wilderness Preservation System continues as a national and world treasure in the Twenty First Century.

Appendix

Specific Recommendation for Consideration by the Secretaries of Agriculture and the Interior

There is a need to ensure that wilderness stewardship occurs in an environment of trust and cooperation.

- The Secretaries should meet at least semiannually to review and discuss important wilderness issues and thus set direction for stewardship of the over 104 million acres of the federal estate included in the National Wilderness Preservation System.
- Mediation among competing interests to arrive at consensus regarding policies and actions should be undertaken. The Secretaries and agency leaders need to be open to an exchange of ideas and view collaboration as both a positive activity and one that will ensure continuation of the system. They need to provide the framework and environment in which mediation can occur.
- Finding and capitalizing on the comparative advantages across agencies and realistically using the resources of the best agency to address any given situation should be the preferred mode of operation. Each agency does not need to build its own infrastructure for every issue.
- To the extent practicable, devising and promoting parallel and effective organization across the agencies for stewardship and for collaboration should be done. If there are not reasonably parallel organizations, collaboration among staff with similar responsibilities but dissimilar authority, will encounter difficulty.

For wilderness stewardship to be successful information about the system needs to be developed and disseminated.

- Preparation and publication of the statutorily required annual report on the state of the system needs to be re-instituted.
- Briefing packages need to be developed for administration appointees and Congress that allow them to be informed when they make wilderness decisions.
- A plan for public education and communication about wilderness needs to be formulated so that citizens from diverse demographic and ethnic groups have the information that allows them to be informed voters and participants in Wilderness decisions.
- The Arthur Carhart National Wilderness Training Center needs to be brought to an organizational, reporting, funding, and staffing level to ensure integrated interagency educational

and information dissemination for building a professional cadre of wilderness stewards and for educating various publics about Wilderness and its place in American land use.

- The Aldo Leopold Wilderness Research Institute needs to be brought to an organizational, reporting, funding, and staffing level to ensure integrated interagency research and scholarship for providing the knowledge base for informed and enlightened wilderness stewardship.

For effectiveness in interagency collaboration and cooperation, reconciliation of philosophy and culture between the four Wilderness stewardship agencies is necessary.

- Policy needs to be devised to resolve the tension between recreation use and wilderness conditions.
- Appropriate and common guidelines for visitor use management need to be specified.
- Minimum requirements and tool choice and decision processes need to be defined and specified.
- Baseline conditions need to be defined and inventoried so that non-degradation and enhancement of wilderness can be clearly addressed.
- Differences about what it means to restore wilderness need to be resolved.
- A common policy for dealing with fire needs to be promulgated and implemented.
- Common guidelines for dealing with Wilderness Study Areas need to be developed.

To know how well we have done and to evaluate the success of stewardship programs a program for evaluating success and accountability needs to be established.

- An annual agency director's conference on wilderness needs to occur to ensure that agency heads are fully informed on the state of wilderness affairs.
- An annual field stewards' conference is needed to learn current issues from field personnel.
- Reliable information on total funding and staffing needs to be developed and shared with the Secretaries and agency administrators.
- The state of Wilderness planning needs to be reviewed and a strategy devised for its acceleration.

- Meaningful feedback mechanisms for stewards on the ground need to be developed and promoted.

To ensure system-wide attention and behavior the Secretaries of Agriculture and the Interior and agency leaders need to become the focus for organizational reform.

- A strategy for the resolution of issues in leadership and commitment within and across the agencies needs to be developed.
- Policies and procedures for establishing a professional cadre of wilderness stewards need to be developed.
- The roles, functions and investments in the seasonal workforce need to be assessed and enhanced.
- The means to pool funds to achieve common purposes need to be promulgated and implemented, similar to the interagency fire center and the joint fire sciences program.
- Strategies for empowering wilderness stewards to engage in collaborative and interagency activity at all organizational levels need to be formulated.

MEMBERS OF THE WILDERNESS STEWARDSHIP PANEL

PERRY L. BROWN has been involved with wilderness studies his entire career as an academic and academic administrator. He has conducted research on users and resources of the Bridger, Fitzpatrick, and Popo Agie in Wyoming; Rawah, Indian Peaks, Flat Tops, Maroon-Bells-Snowmass, Powderhorn, and Weminuche in Colorado; John Muir and Ansel Adams in California; High Uintas of Utah; Lee Metcalf of Montana; and Boundary- Waters Canoe Area of Minnesota. He has assisted units of the Forest Service and the Bureau of Land Management with wilderness planning, and he served on the steering committees for the 1985 National Wilderness Research Conference in Fort Collins, Colorado and the 1989 conference, Managing America's Enduring Wilderness Resource in Minneapolis, Minnesota. In his current position as Dean of the School of Forestry at the University of Montana he has responsibility for the University's Wilderness Institute, and he was co-chair of the 1999 Wilderness Science Symposium held in Missoula, Montana. In his personal life he has hiked in all of the areas listed above, and many more. In Dan Dustin's book, *Wilderness in America: Personal Perspectives*, he has described Wilderness as leading to a "fountain of discoveries," a fountain that we can ill afford to turn off.

NORMAN L. CHRISTENSEN Jr. stepped down in June following eight years as the founding dean of the Nicholas School of the Environment at Duke University in order to return to teaching and research. Before he became dean he was chairman and professor of the Botany Department. He is a professor of biology and ecology whose scientific interests range from the Southeast Coastal Plains environment to radar mapping of forest ecosystems.

HANNA J. CORTNER is Professor of Renewable Natural resources at the University of Arizona. A political scientist, she teaches and does research in the area of natural resources policy and administration; her latest research centers on linkages between new ecosystem approaches to natural resource management and democratic governance. Throughout her 27-year career she has chaired or served on a number of blue ribbon or scientific advisory panels.

THOMAS C. KIERNAN is President of the National Parks and Conservation Association in Washington, D.C. since 1998 following three years as president of the Audubon Society of New Hampshire. He has worked with the Department of Environmental Quality of Oregon, the Environmental Protection Agency's Office of Air and Radiation. At EPA he won the Gold Medal Award for his role in achieving consensus with businesses and environmentalists on a \$450 million pollution control project at Grand Canyon National Park. A national class slalom kayaker, he is a co-founder of the Rocky Mountain Outdoor Center in Colorado.

WILLIAM H. MEADOWS has been President of The Wilderness Society since 1996. He has worked on environmental issues for more than 30 years, serving in leadership positions for numerous environmental organizations in his home state of Tennessee. Prior

to assuming the presidency of the Wilderness Society, he directed the Centennial Campaign, a \$100 million major gift fund-raising effort for the Sierra Club. He leads the organization that was the principal catalyst for the creation of the National Wilderness Preservation System. The organization has labored for years to add wilderness areas to the system. It has also worked with federal land management agencies to protect and better manage the nation's wilderness resources. He has continued that legacy by working effectively with congressional, agency and other conservation leaders.

WILLIAM REFFALT grew up in Colorado where vacations and most weekends meant scaling mountains, fording streams and sleeping under the stars. After graduating with honors from Colorado State University in Wildlife Management, he was employed by the U.S. Fish and Wildlife Service in several Western states. During more than 24 years with the Service he became involved with wilderness issues on several occasions, including eight years in charge of the team that developed and legislatively supported the more than 540-million acres of new refuges, and 18 million acres of designated refuge Wilderness that was enacted into the Alaska National Interest Lands Conservation Act of 1980. During that time he worked on a daily basis with teams from the National Park Service, the Forest Service, the Bureau of Land Management and the Bureau of Outdoor Recreation on their conservation system's that were also established in that monumental Alaska Act. In 1984 he left government service and began work with the Wilderness Society as Program Director for the National Parks and Alaska Lands. He retired in 1999. He has traveled extensively in Alaska and elsewhere, hiking and camping in many remote Wilderness locations. His retirement plans include annual excursions into America's incomparable Wilderness landscapes.

JOSEPH L. SAX is the James H. House and Hiram H. Hurd Professor at the University of California (Berkeley). He teaches courses on the public lands, water law, land use, and preservation policy. He has also taught and written extensively on the Takings Clause of the Constitution. During 1994-96 he was counselor to the Secretary of the Interior, and he is currently a consultant to the Department of the Interior. He is author of many articles and books on public land and water issues, including *Mountains Without Handrails: Reflections on the National Parks*; *Legal Control of Water Resources*; and *Defending the Environment*. His most recent book is *Playing Darts With a Rembrandt: Public and Private Rights in Cultural Treasures*.

GEORGE SIEHL is a long-term student of natural resource policy and management issues. He was the assistant to the President of the (then) National Parks Association where he first explored the legislative facet of resources management. This led to a 30-year interlude at the Congressional Research Service, Library of Congress, conducting research for and consulting with congressional members and staff on the full array of natural resources issues. He eventually specialized in park, recreation and wilderness concerns. He organized a two-year series of workshops on land management and protection for the Senate Energy and Natural Resources Committee which led to the establishment of the President's Commission on Americans Outdoors. He served as associate director for trends and forecasts of the Commission before returning to the Library. He later explored the interactions between national defense and natural

resources, attending the Industrial College of the Armed Forces. He then transferred from the Natural Resources Division of the Library to its Defense and Foreign Affairs Division to work on matters such as military base closings and military construction. Since his retirement in 1997 he has consulted independently, and has served as an adjunct staff member of the Institute for Defense Analyses working on defense/land managing agency joint stewardship.

STEWART UDALL was the Secretary of the Interior under Presidents John F. Kennedy and Lyndon B. Johnson. He is an accomplished attorney, lecturer and author. He is an Adjunct Professor of environmental humanism at Yale University. He was instrumental in helping to gain enactment of the Wilderness Act and the Wild and Scenic Rivers Act. He has served as an active member of the Board of Directors of Wilderness Watch since 1995. He lives in New Mexico.

DEBORAH WILLIAMS is a 20-year resident of Alaska who has enjoyed and experienced wilderness throughout the United States her entire life. While attending Harvard Law School she was the principal founder and co-editor in chief of the Harvard Environmental Law Review. Upon her graduation from Harvard she became professionally engaged in wilderness issues as an attorney for the Department of the Interior, both as a member of the Solicitor's Honors Program and then as primary attorney for the National Park Service and the U.S. Fish and Wildlife Service in Alaska. Between 1994 and 1998, as a Presidential appointee, she served as Interior Secretary Bruce Babbitt's representative in Alaska, heading the Secretary's Alaska office. She has also written numerous law review articles and served on nonprofit boards engaged in wilderness and other natural resource issues. She is currently the Executive Director of the Alaska Conservation Foundation. Her greatest joy in life is backpacking with her family in wilderness.

STAFF

JAMES W. GILTMIER is a Senior Fellow of the Pinchot Institute for Conservation, where he served as Executive Director in 1989-1995. In his early career he was a newspaper and television journalist. From 1971 to 1981 he was a member of the professional staff of the U.S. Senate Committee on Agriculture, Nutrition and Forestry. His assignments with the committee included rural development, farm credit, soil and water conservation and forestry. He was involved in the enactment of the Rural Development Act of 1972, conservation credit segments of four farm bills, the Forest and Rangeland Renewable Resources Act of 1974, the National Forest Management Act of 1976 and the Resource Conservation Act of 1977, as well as emergency credit legislation. He has received the American Motors Conservation Award and is an honorary member of the Society of American Foresters. The Soil and Water Conservation Society, the Society for Range Management and the American Political Science Association have also honored him. He has worked for a Washington law firm on international agricultural trade and as a representative for the Tennessee Valley Authority.

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Exhibit 3

The Definition of Wilderness Character in “Keeping It Wild” Jeopardizes the Wildness of Wilderness

**A critique of the interagency strategy to monitor trends
in wilderness character**

Prepared by

**David Cole
Ed Zahniser
Doug Scott
Roger Kaye
Kevin Proescholdt
George Nickas**

September 2015

This article was written out of a profound concern that the Interagency wilderness character monitoring strategy, known as “Keeping it Wild 2: An Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wilderness Preservation System (KIW),” diminishes and jeopardizes the preservation of *wildness*—the most distinctive and important value that distinguishes Wilderness from other lands, and in so doing poses a grave threat to Wilderness. The article explains these concerns in details and makes important recommendations.

In criticizing the KIW protocol, the authors in no way suggest that the program of comprehensive wilderness monitoring should cease. The program has heightened awareness of the need to preserve wilderness character, and it appropriately monitors many of the conditions to be protected in wilderness to understand whether these conditions are improving or degrading. For those reasons it should be continued, but with important changes to address the concerns expressed herein.

DAVID COLE is a retired scientist who conducted extensive research on wilderness stewardship for over 25 years with the Forest Service.

ED ZAHNISER, who lobbied on the early wilderness bills on Saturdays in the late 1950s, edited Howard Zahniser’s Adirondack writings as *Where Wilderness Preservation Began*.

DOUG SCOTT is a long-time congressional lobbyist and advocate for wilderness and author of several books on wilderness, including *Our Wilderness: America’s Common Ground*.

ROGER KAYE is an author and wilderness coordinator for the US Fish and Wildlife Service in Alaska.

KEVIN PROESCHOLDT is conservation director for Wilderness Watch in Minneapolis, Minnesota.

GEORGE NICKAS is executive director for Wilderness Watch in Missoula, Montana

The Definition of Wilderness Character in “Keeping It Wild” Jeopardizes the Wildness of Wilderness

David Cole, Doug Scott, Ed Zahniser, Roger Kaye, George Nickas, and Kevin Proescholdt

“We must remember always that the essential quality of wilderness is its wildness”
---Howard Zahniser

Introduction

For those who care passionately about the stewardship of wilderness—as we do—nothing is more important to get right than the definition of wilderness character. Since the central mandate of the Wilderness Act is to preserve wilderness character, the future of our wilderness system is dependent on how wilderness character—something that is not explicitly defined in the Act—is interpreted. For the past decade we have voiced concerns over misinterpretation of wilderness character in agency monitoring protocols, the most recent of which is “Keeping It Wild 2.” (KIW2)(Landres et al. 2008, in press).

KIW2 defines wilderness character as “a holistic concept based on the interaction of (1) biophysical environments primarily free from modern human manipulation and impact, (2) personal experiences in natural environments relatively free from the encumbrances and signs of modern society, and (3) symbolic meanings of humility, restraint, and interdependence that inspire human connection with nature.” We have little problem with this. However, this conceptual definition is not used either in the KIW2 monitoring framework or as a guide to making wilderness stewardship decisions. Instead, to give practical meaning to wilderness character, KIW2 states that wilderness character should be defined as five separate qualities: untrammeled, undeveloped, natural, outstanding opportunities for solitude or a primitive and unconfined type of recreation, and other features of scientific, educational, scenic, or historical value. These five qualities include all the attributes mentioned in the Sec. 2(c) definition of wilderness in the Wilderness Act. They are considered to be equal in importance and often in conflict with each other (Landres et al. 2008, in press), making the concept of wilderness character internally contradictory rather than a single coherent stewardship goal.

We disagree. The purpose of the mandate to protect wilderness character above all else is to focus the attention of wilderness stewards on preserving the “essence” of wilderness—those qualities that are most unique and distinctive about wilderness and make it “a contrast with those areas where man and his own works dominate the landscape”. It is about differentiating the most important things to protect from the many other things that ideally might be protected in wilderness. For this purpose, wilderness character must be defined as a coherent whole, in a manner that is not internally contradictory. It cannot be broken down into separate qualities.

We believe that wilderness character is fundamentally about wildness and that it should be defined as the degree to which wilderness is free from deliberate human modification, control, and manipulation of a character and scope that hampers the free play of natural ecological processes.

The five-quality KIW2 definition confuses wilderness character with a list of all the things we value in wilderness and would like to protect and preserve. By making all wilderness values a part of wilderness character, and treating all those values as equal in importance, this definition negates the intended purpose and meaning of wilderness character. Most onerously, it undervalues the importance of protecting wildness. Wilderness character cannot be protected above other wilderness attributes and values if all attributes and values are included in the definition of wilderness character and wildness cannot be emphasized when it is just one of many values that managers might protect.

In recent years, our concerns about the inappropriate KIW2 definition of wilderness character have grown, as those who developed it have promoted its use—not just as a monitoring framework—but as the basis for wilderness stewardship (Landres et al. 2011). Without meaningful public involvement, the agencies charged with wilderness management have incorporated the five-quality definition into their stewardship policy and guidance and it has been incorporated into stewardship decision making processes such as the Minimum Requirements Decision Guide (Arthur Carhart National Wilderness Training Center nd). Wilderness stewardship decisions based on an inappropriate definition of wilderness character are likely to be inappropriate and ultimately will harm wilderness. Of particular concern is the internally contradictory nature of the KIW2 framework, which makes it acceptable to trade-off degradation of a quality such as “untrammeled” for improvement in another quality such as “natural.” This gives managers almost infinite discretion in deciding which values will be protected and which will be compromised to achieve their goals.

In this article, we provide a more appropriate definition of wilderness character and a rationale for why wilderness character should be defined this way, arguing that our definition is more consistent with the Wilderness Act and better for wilderness than the five-quality KIW2 definition. We address concerns that some have raised with our approach and conclude with specific recommendations for moving forward in a manner that meets many of the goals of KIW2, despite the need to develop a more appropriate definition of wilderness character.

We do not offer recommendations for incorporating our perspective into improved wilderness character monitoring protocols. This reflects our belief that wilderness character is more useful as an overarching principle to guide stewardship decisions than something tangible that can be meaningfully assessed and monitored. When it comes to assessing the success of wilderness stewardship, it is better to monitor a range of wilderness conditions than to attempt to measure wilderness character itself. Fortunately, this is exactly what the wilderness character monitoring program has been doing. We applaud this effort and nothing we are proposing should detract from it. So-called

wilderness character monitoring should simply be recognized for what it is—a protocol for comprehensively monitoring conditions in wilderness—and labeled more appropriately.

An Appropriate Definition of Wilderness Character

Wilderness character is fundamentally about wildness. It should be defined as the degree to which wilderness is free from deliberate human modification, control, and manipulation of a character and scope that hampers the free play of natural ecological processes. Protecting wilderness character is about ensuring that wilderness remains untrammelled and undeveloped, without human occupation or domination. We do so by not allowing developments or manipulating wilderness ecosystems to any significant degree. Manipulations where the intent is more to remove evidence of humans than to intervene in ecological processes, such as restoration of an impacted campsite, are not a concern. Actions that seek to modify wilderness ecosystems significantly, such as a program of herbicide spraying or prescribed fire, are much harder to justify because they degrade wilderness character.

We are not alone in believing that wildness is the central quality of wilderness character. In 1953, Howard Zahniser wrote, “We must remember always that the essential quality of the wilderness is its wildness.” In that same paragraph, Zahniser stated: “we must not only protect the wilderness from commercial exploitation. We must also see that we do not ourselves destroy its wilderness character in our own management programs” (Harvey 2014).

More recently, Jack Turner wrote that “if we fail to incorporate wildness into what we mean by wilderness we simply define wilderness out of existence” (Burks 1995: 179). Doug Scott (Scott 2001-2002), in an article on wilderness character and the Wilderness Act, states that it is the word *untrammelled* that defines “the wilderness character (that) it is the duty of conservationists and land managers to protect,” a perspective repeated by Proescholdt (2008). Howard Zahniser’s son, Ed, concluded an article on wilderness character with the statement “The wilderness character of designated wilderness is its wildness (Zahniser 2014).

In 1963, Howard Zahniser discussed the stewardship implications of protecting wildness in an editorial that took issue with the Department of Interior’s Leopold Report on wildlife management in national parks. The report recommended that national parks be actively managed to restore their condition at the time they were first visited by white men, to present “a vignette of primitive America” (Leopold et al. 1963). Zahniser wrote that “... the board’s report poses a serious threat to the wilderness within the national park system and indeed the wilderness concept itself.” It “... is certainly in contrast with the wilderness philosophy of protecting areas at their boundaries and trying to let natural forces operate within the wilderness untrammelled by man.” He concluded the editorial: “With regard to areas of wilderness, we should be guardians not gardeners” (Zahniser 1963a).

Our rationale for asserting that wilderness character should be defined as wildness, as opposed to all five of the wilderness values in the KIW2 definition, reflects our belief that wilderness character is the essence of wilderness—not everything about wilderness. It is also consistent with our belief that wilderness character must provide an internally consistent stewardship goal, rather than consist of separate qualities that conflict with each other, forcing stewards to choose which qualities of wilderness character to protect.

Wilderness Character is the Essence of Wilderness—Not Everything about Wilderness

Why should wilderness character be confined to the essence of wilderness, its unique and distinctive qualities, rather than everything in the Wilderness Act's definition of wilderness? The dictionary definitions of "character" include "a combination of qualities that make something unique or distinct" and "the main or essential nature that serves to distinguish" something. So, character can be either the main or essential quality or a combination of qualities. What is consistent in the varied definitions of character is uniqueness and distinctiveness and what is most unique and distinctive about wilderness is its wildness, particularly its untrammelled condition. Many public lands are undeveloped; many public lands are managed for native flora and fauna and the natural ecological processes that sustain them; many public lands are managed to provide primitive and undeveloped recreation, as well as solitude; and virtually all public lands are managed to protect other features of value. But outside wilderness, few public lands are deliberately administered with humility and restraint, as the last places that lie "beyond the control of human institutions and cultural imperatives" (Kammer 2013), as places where even the goal of restoring degraded ecosystems is not a sufficient justification for human control and manipulation.

Our perspective on wilderness character is influenced by a belief that Congress chose that phrase carefully. The Wilderness Act describes the conditions that define wilderness and that stewards are responsible for protecting: "primeval character and influence," lack of "permanent improvements or human habitation," "natural conditions," and "outstanding opportunities for solitude or a primitive and unconfined type of recreation." It states that wilderness areas may contain "ecological, geological and other features of scientific, educational, scenic or historical value." Having clarified these tangible qualities, the Act goes on to state that above all else agencies are to preserve the "wilderness character" of the area. Why did Congress not state the goal to be preservation of wilderness, which they defined in considerable detail, unless they meant the preservation of wilderness character to mean something more than simply preserving the list of qualities that define wilderness?

We must assume that when Congress said that managers must protect wilderness character they meant something more than that managers must protect wilderness. Otherwise the word "character" would be superfluous and the Supreme Court insists, as a basic principle of statutory interpretation, that statutes should be construed "so as to avoid rendering superfluous" any statutory language (*Astoria Federal Savings & Loan Ass'n v. Solimino*, 1991). Courts must "give effect, if possible, to every clause and word of a statute, avoiding any construction which implies that the legislature was ignorant of the meaning of

the language it employed” (*Montclair v. Ramsdell*, 1883). Since wilderness character must mean something different from wilderness, it is a mistake to assert that the definition of wilderness is the definition of wilderness character. To do so, as KIW2 (Landres et al. 2008, in press) does, strips wilderness character of its special and intended meaning.

Those who developed wilderness character monitoring take great pride in having elevated the importance of wilderness character. We agree that wilderness character has been elevated in importance and applaud this outcome. However, it is ironic that this has been accomplished by defining wilderness character in such a way that protecting it means nothing more than what protecting wilderness generally has meant for the past 50 years. A truly meaningful outcome would be elevating the importance of wilderness character defined in a way that focuses attention on protecting the essence of wilderness, which we believe is its wildness.

The Essence of Wilderness Character is Wildness

Assuming Congress intended the mandate to protect wilderness character to mean something more than simply protecting all the wilderness values mentioned in the Wilderness Act, why do we believe that essential something is rooted in the concept of wildness? There are multiple lines of evidence and reasoning. We have already noted that the most unique and distinctive attribute of wilderness—the greatest contrast between wilderness and other public lands—is its wild and untrammelled nature. To gain another perspective on Congressional intent, one can look to the statement of purpose, in Sec. 2(a) of the Wilderness Act, which speaks to ensuring that all lands are not occupied and modified by humans. Finally, one can look at how Congress defined wilderness as an ideal, before including in the definition the characteristics an area that qualifies for wilderness may have. To understand the definition of ideal wilderness one must understand the structure of the definition of wilderness in the Act and how that definition evolved over the years it took to pass the Act. Scott (2001-2002) provides a detailed discussion of points we briefly summarize here.

Subsection 2(c) of the Act contains two sentences that define wilderness. The first, “A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain” was the entire definition of wilderness in the original Wilderness Bill (Scott 2001-2002). In 1960, however, when a new version of the Wilderness Bill was introduced, a second sentence was added by Senator James Murray, who explained it was added “in response to requests for additional and more concrete details in defining areas of wilderness” (Scott 2001-2002). This sentence includes “undeveloped Federal land without permanent improvements or human habitation,” “imprint of man’s work substantially unnoticeable,” “outstanding opportunities for solitude or a primitive and unconfined type of recreation,” and other features of value. Following Murray, subsequent sponsors of new versions of the Wilderness Act (Senator Clinton Anderson and Representative John Saylor) stated that the first sentence describes the nature of wilderness as an ideal concept while the second sentence provides practical detail on areas that should be considered for wilderness designation (Scott 2001-2002).

The two sentences that define wilderness have different functions. The first sentence defines what wilderness should ideally be, what stewardship hopes to attain or maintain; the second sentence defines characteristics that wilderness lands may have. Where we differ from KIW2 is in our contention that the sentence that defines the ideal is more relevant than the second sentence to understanding what Congress considered the essence of wilderness to be—to an appropriate definition of wilderness character—lands where humans do not dominate, that are untrammeled and without human occupation.

Our perspective on which part of the definition of wilderness is central to wilderness character is not original. Although it is not official legislative history, many of us revere Howard Zahniser, author and chief advocate of the Wilderness Act, and look to his explanations to fully understand this law. In the only explicit statement of what wilderness character is, he explained at one of the final hearings on the bill:

In this definition the first sentence is definitive of the meaning of the concept of wilderness, its essence, its essential nature—a definition that makes plain the character of lands with which the bill deals, the ideal. The second sentence is descriptive of the areas to which this definition applies—a listing of the specifications of wilderness areas; it sets forth the distinguishing features of areas that have the character of wilderness.... **The first sentence defines the character of wilderness**, the second describes the characteristics of an area of wilderness (emphasis added) (Zahniser 1963b).

Wilderness Character Should be Defined in an Internally Consistent Manner

We agree with the KIW2 team that wilderness character is a holistic concept and that wilderness stewardship should be about preserving wilderness character as a whole, not simply one of its qualities. That is why we have developed a definition of wilderness character—with its emphasis on the complementary attributes of wildness, untrammeled and undeveloped—that is internally consistent. It also explains our concern with the internally contradictory nature of the KIW2 conception of wilderness character as five separate qualities that often conflict with each other. Wilderness stewards have a complex job that can involve deciding among competing wilderness values, but those choices should not be internal to the overriding principle guiding wilderness stewardship, the preservation of wilderness character.

Some might question how protecting wildness can be reconciled with the Act's direction to preserve natural conditions. Much has been written about the dilemma of choosing between maintaining wildness (untrammeled) and restoring naturalness (Cole 1996). Landres et al. (2008, in press) consider untrammeled and natural to be two separate often conflicting qualities of wilderness character. However, natural can be defined in multiple ways (Cole and Yung 2010). It can be considered equivalent to untrammeled and mean not deliberately controlled or manipulated by humans. Alternatively, it can be defined, as KIW2 does, to be equivalent to undisturbed rather than untrammeled. According to KIW2, natural conditions prevail where "ecological systems are substantially free from the effects

of modern civilization, ", where "for example, indigenous plant and animal species predominate, or the fire regime is within what is considered its natural return interval, distribution over the landscape, and patterns of burn severity."

Interpreting natural to mean undisturbed instead of untrammeled violates several rules of statutory construction. The "traditional tools" of construction require interpretation of an entire statute "as a symmetrical and coherent regulatory scheme," *Gustafson v. Alloyd Co.*, 513 U.S. 561, 569 (1995). As Kammer (2013) states, in an article on wildlife restoration in wilderness, "Terms in a statute should not be interpreted so as to create contradictions with other terms ... whenever it is possible to avoid them using another reasonable interpretation based on a plain reading." For the Wilderness Act, this means that "natural conditions" must be defined—as it can be—in a manner that supplements rather than contravenes the requirement that wilderness retain its untrammeled wildness. Kammer (2013) offers the following explanation for why untrammeled and natural should not be considered two separate qualities of wilderness character:

Whatever can be said regarding the continued merits of preserving the wildness or natural autonomy of protected areas at the expense of certain environmental values (such as biodiversity, ecological integrity, or resilience) which may be threatened by pervasive human influence—this is precisely what the Act requires. As Peter Landres and others wrote in 2000, the Act codified a strict nature-culture duality, one that strictly prohibits injections of culture into nature, such as those embodied in so-called 'ecological interventions' undertaken for the purpose of 'redress[ing] some of the "sins" of culture' and 'mak[ing] things right in our relationship with nature.' This is why Gordon Steinhoff recently concluded that "[t]he Wilderness Act does not present managers with conflicting requirements,' (Landres 1999) and that '[t]he dilemma [managers find] within the Act—to either maintain wildness or restore naturalness—arises only because "natural conditions" has been misinterpreted.' (Steinhoff 2010).

Wilderness character, defined as we suggest, provides a single coherent stewardship goal—most succinctly stated as the protection of wildness. That said, we consider wildness to be consistent with both the untrammeled and undeveloped qualities of KIW2 (Landres et al. (2008, in press) and even with naturalness, defined properly to mean not deliberately controlled or manipulated by humans. Our conception of wilderness character encompasses but should not be divided into these qualities. The other qualities that define wilderness, such as outstanding opportunities for solitude or a primitive and unconfined type of recreation are important characteristics of wilderness that should be protected to the extent that doing so does not have substantial adverse effects on wilderness character.

Wilderness Character and Wilderness Stewardship

We have heard concerns that our definition of wilderness character will lead to the dereliction of managerial duty and degradation of wilderness because it does not include all the conditions Congress mentioned in its definition of wilderness. It leaves out many of the wilderness attributes that wilderness stewards are supposed to protect. This concern

would be valid if the only responsibility of wilderness managers was to protect wilderness character. But this is clearly not the case.

Wilderness character does not define the entirety of the wilderness manager's job. Rather it establishes the relative importance of various management objectives, some of which conflict with each other. Wilderness managers are given a wide array of things to provide and protect, the most important of which is wilderness character. They are supposed to provide opportunities for various public purposes, such as recreation, research and education. They are supposed to protect wilderness qualities that are important but not central to wilderness character, such as rock art, paleontological features and populations of native flora and fauna that are stressed by everything from invasive species to landscape fragmentation, fire suppression and climate change. Where these can be provided for and protected without substantial adverse effect on wilderness character, managers are required to do so.

We have heard concerns that, with our definition of wilderness character, wilderness managers would be unable to actively manage wilderness. They would be unable to address recreation impact issues, remove developments such as stock ponds, remove non-native species or reintroduce extirpated species. Nothing could be further from the truth. While we advocate caution and restraint—particularly with the reintroduction of a species—such actions are entirely appropriate if they are not “of a character and scope that hampers the free play of natural ecological processes.” That said, wilderness stewardship founded on our definition of wilderness character—with its emphasis on protecting the wild and untrammeled—would be less active and interventionist than stewardship founded on the KIW2 definition. Our perspective is more at odds with the traditional management ethos—one that emphasizes doing things and in which there is no reward for inaction. It is more in line with the notion of National Park Service interpreter Freeman Tilden that we preserve things best through inaction and the assertion of wildlife biologist Adolph Murie that “administrators should be told that their success will be measured, not by projects accomplished, but by projects sidetracked” (Zahniser 2014).

Conclusions and Recommendations

One of the greatest challenges to keeping wilderness wild is overcoming the impulse of managers to intervene—to assume that doing something will make things better. Congress directed wilderness stewards to step outside the traditional management ethos of manipulation and control and treat wilderness differently. They did so by making the protection of wilderness character the overriding principle of wilderness stewardship and equating protection of wilderness character with protection of wildness and untrammeled conditions. Our greatest concern with how KIW2 conceives of wilderness character is that it bolsters the innate desire of managers to act—to manipulate and control. By making protection of the wild and untrammeled just one of five qualities of wilderness character—rather than the overriding quality of wilderness character—it negates the strongest argument that can be made against constant action and intervention in wilderness.

In KIW2, Landres et al. (in press) state that wilderness character is a “holistic concept” that includes intangible values as well as the tangible, that actions based on wilderness character should reflect “humility and restraint” and involve “preserving wilderness as a whole” rather than “balancing trade-offs.” We could not agree more. However, over the past decade of applying their definition of wilderness character both to monitoring and stewardship, we see no evidence that this is the case. Rather than being holistic, wilderness character is divided in a reductionist manner into five qualities, each of which is monitored and evaluated separately. If monitoring data show that more qualities have improved than degraded, then wilderness character is said to have improved. To use a hypothetical example, in a wilderness where trammeling increased significantly, from a major ecological intervention, the trend in wilderness character would still be considered positive if there were improvements in two other qualities, perhaps protection of an historic lookout and providing more opportunities for primitive recreation by bridging a river.

A similar approach is taken to making stewardship decisions. For example, an analysis of effects on wilderness character is central to the framework the agencies have developed to assist managers in making decisions related to wilderness stewardship actions, the Minimum Requirements Decision Guide (Landres et al. 2011). This analysis is conducted by individually (rather than holistically) evaluating each of the five quantifiable qualities of wilderness character (none of which reflect the host of intangible values), deriving summary ratings based on trading off these qualities, as if they were of equal importance. This makes it easy to justify an action that degrades wilderness but benefits several of the values less central to wilderness character. In this manner, actions that degrade what is most unique and distinctive about wilderness are encouraged—not by managers abusing the process, but by managers following an inappropriate process based on a misinterpretation of wilderness character. The inevitable result is degradation of wilderness character and harm to Wilderness.

We agree with Landres et al. (in press) that the Wilderness Act defines wilderness using a diverse array of wilderness conditions and values, from untrammelled conditions to opportunities for solitude and various features of value. We also agree that the Act requires managers to strive to protect all these values, although it is not always possible to simultaneously maximize protection of all of them. However, we do not believe that it is necessary to include all these values in the definition of wilderness character in order to mandate their protection. In fact, by doing so they defeat the purpose of the concept of wilderness character, which is to identify the most distinctive and important of wilderness conditions and values, those to be given preference when it is not possible to simultaneously protect all values. Given our concerns, we have two important recommendations.

1. KIW2’s five-quality definition of wilderness character should be replaced with a definition centered on the concept of wilderness. We suggest defining it as the degree to which wilderness is free from deliberate human modification, control and manipulation of a character and scope that hampers the free play of natural ecological processes. This definition gives managers a single holistic and internally consistent overarching stewardship goal, based on protecting the essence of wilderness. The five qualities,

properly defined, can be maintained as a useful vocabulary for talking about the conditions wilderness stewards are required to protect, but everyone must understand that they are not all qualities of wilderness character. They vary in how central they are to wilderness character and should not be considered equally important. Since these five qualities of wilderness character have already been incorporated into agency policy, agency reports and plans and wilderness training materials, this must involve more than simply revising KIW2.

2. The program of comprehensive wilderness monitoring begun a decade ago (Landres et al. 2005) should continue. That program wisely monitors many of the conditions and characteristics to be protected in wilderness—not just wilderness character—to understand whether wilderness conditions are improving or degrading. As we have said repeatedly, our concerns with KIW2 are not the monitoring measures and techniques, it is with the assertion that what is being monitored is wilderness character. The protocol needs an accurate name, perhaps “wilderness condition monitoring.” The output of monitoring should be more appropriately referred to as trends in wilderness conditions, trends that reflect the success of wilderness stewardship, including the protection of wilderness character. Narratives that describe the special values of each wilderness (Landres et al. in press) can be retained, but they are wilderness value narratives—not wilderness character narratives. Again, wilderness character has been confused with the list of values that management wishes to protect in wilderness.

We recognize that neither of these changes will come easily. The five qualities of wilderness character are standard nomenclature and widely accepted. However, the future wildness of our wilderness system is at stake. With the changes we have recommended, the two goals espoused by the KIW2 group can still be accomplished. The concept of wilderness character can be given the attention it deserves and, through monitoring, the overall condition of the wilderness system and the effectiveness of stewardship can be assessed. More important, by defining wilderness character appropriately, wilderness stewards will be encouraged to exercise restraint and humility, better protecting the wildness of wilderness. The result will be a National Wilderness Preservation System that adheres to the ideals of the Wilderness Act, its authors and the intent of Congress.

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Exhibit 4

Wilderness Character Questions and Answers

Integrating Wilderness Character with Land Management Planning Efforts, Session 3, Wednesday, May 02, 2012

1. Are stakeholders/general public included in defining the "wilderness character" of an area or just unit staff?

The black and white answer is no. This is an internal process with no environmental impacts and there is no NEPA requirement to include the public. However, an individual unit's staff may decide to include stakeholders in this process. The intent is to really understand what the wilderness character in a particular place is. If involving selected members of the public or stakeholders helps to do that, it is recommended to include them.

2. In the Death Valley map, why was the data for trails considered under the solitude quality rather than the undeveloped quality?

Trails are "agency-provided facilities" for recreation. The Death Valley Map generally followed Keeping It Wild, which defines all such developments for recreational purposes as degrading the solitude quality.

3. Could you discuss how the guidance provided in House Report 95-540 and 98-40 that suggest agencies have large latitude when considering fire management including pre-suppression tactics?

House Report 95-540 is a report that accompanied H.R. 3454 which became PL 95-237 (Endangered American Wilderness Act of 1978) and specifically addressed the concerns of members of the 95th Congress relating to fire management and the protection of adjacent property and watersheds in two specific wilderness areas in California: Santa Lucia and Ventana. The concerns stated in the report resulted in including special language in the designation of these two areas. In a nutshell, the language directs the Forest Service to include in their management plans for these areas authorization to "...take whatever appropriate actions are necessary for fire prevention and watershed protection including, but not limited to, acceptable fire pre-suppression and fire suppression measures and techniques." See the attached section at the end of this document from PL 95-237 that specifically addresses fire management for the Santa Lucia and Ventana Wilderness areas in California.

House Report 98-40 is a report that accompanied H.R. 1437 which became PL 98-425 (California Wilderness Act of 1984) and specifically addressed the concerns of members of the 98th Congress relating to "...the arid climate, high seasonal temperatures and buildup of fuel that exists in so many California roadless areas, especially in Southern California, fire management is

a key concern of many...” The concerns stated in the report resulted in the reiteration of the fire provision from Section 4(d)(1) of the Wilderness Act of 1964 in the current law. The language included in Section 103(b)(2) of the California Wilderness Act of 1984 is as follows: “(2) as provided in subsection 4(d)(1) of the Wilderness Act, the Secretary concerned may take such measures as are necessary in the control of fire, insects, and diseases, subject to such conditions as he deems desirable;”

It appears that both of these reports are specific to Forest Service wilderness areas in California and don’t have direct relation to other wilderness areas beyond what Section 4(d)(1) of the Wilderness Act of 1964 states. Remember, Congressional reports may shed light on what Congress was considering at the time, but it is the language that is included in the law that counts as law.

4. Did you do a minimum requirements analysis as well as the NEPA document for the prescribed fire project? Also, did you factor in climate change affecting wildfires in the effect on wilderness character?

The prescribed fire project used in the case study was an “edited down” version of a project that is actually being proposed in a Forest Service wilderness study area. Linda states that, yes, a minimum requirements analysis and NEPA document, if required, is being conducted in the actual project proposal. Linda emphasized that these analyses should be done in the assessment stage of a project proposal.

Concerning the question about climate change, Lisa states the following:

“Climate change is being addressed in EA I believe in conjunction with fire behavior section. The EA is expected to be available in June. Here is link to website where information will be posted.”
<http://gacc.nifc.gov/egbc/dispatch/wy-tdc/projects.html>

(c) certain lands in and adjacent to the Los Padres National Forest, California, which comprise about twenty-one thousand two hundred and fifty acres, are generally depicted on a map entitled "Santa Lucia Wilderness Area—Proposed", and shall be known as the Santa Lucia Wilderness: *Provided*, That the tract identified on said map as "Wilderness Reserve" is designated as wilderness, subject only to the removal of the existing and temporary nonconforming improvement, at which time the Secretary of Agriculture (hereinafter referred to as the "Secretary") is directed to publish notice thereof in the Federal Register. Pending such notice, and subject only to the maintenance of the existing nonconforming improvement, said tract shall be managed as wilderness in accordance with section 5 of this Act. In order to guarantee the continued viability of the Santa Lucia watershed and to insure the continued health and safety of the communities serviced by such watershed, the management plan for the Santa Lucia area to be prepared following designation as wilderness shall authorize the Forest Service to take whatever appropriate actions are necessary for fire prevention and watershed protection including, but not limited to, acceptable fire presuppression and fire suppression measures and techniques. Any special provisions contained in the management plan for the Santa Lucia Wilderness area shall be incorporated in the planning for the Los Padres National Forest: *Provided*, That the Forest Service is authorized to continue fire presuppression, fire suppression measures and techniques, and watershed maintenance pending completion of the management plan for the Santa Lucia area;

(d) certain lands in the Los Padres National Forest, California, which comprise about sixty-one thousand acres, are generally depicted on a map entitled "Ventana Wilderness Additions—Proposed", and which are hereby incorporated in, and shall be deemed to be a part of, the Ventana Wilderness as designated by Public Law 91-58. In order to guarantee the continued viability of the Ventana watershed and to insure the continued health and safety of the communities serviced by such watershed, the management plan for the Ventana area to be prepared following designation as wilderness shall authorize the Forest Service to take whatever appropriate actions are necessary for fire prevention and watershed protection including, but not limited to, acceptable fire presuppression and fire suppression measures and techniques. Any special provisions contained in the management plan for the Ventana Wilderness area shall be incorporated in the planning for the Los Padres National Forest.