

October 3, 2018

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Pacific Southwest Region
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Submitted via: objections-pacificsouthwest-regional-office@fs.fed.us

Re: Objections to the Inyo National Forest Plan Revision and Species of Conservation Concern

Dear Mr. Gyant:

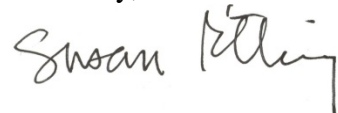
Pursuant to 36 CFR Part 219 Subpart B, Sierra Forest Legacy, California Wilderness Coalition, The Wilderness Society, Friends of the Inyo, California Native Plant Society, Mono Lake Committee, Western Watersheds Project, Defenders of Wildlife, Sierra Club, Center for Sierra Nevada Conservation, Lassen Forest Preservation Group, and Forest Issues Group are objecting to portions of the Draft Record of Decision, Final Forest Plan, and Final Environmental Impact Statement for the Inyo National Forest. The responsible official for the Inyo plan revision is Tammy Randall-Parker, Forest Supervisor, Inyo National Forest. We are also objecting to the list of Species of Conservation Concern adopted by Regional Forester Randy Moore.

Collectively, the objecting organizations have provided substantive formal comments throughout the forest planning process for the Inyo National Forest on the objection issues we raise below. We are deeply invested in securing a forest plan for the Inyo National Forest that protects important natural resources and provides for people.

This objection covers a variety of issues related to resources affected by the revised forest plan and offers recommendations on how objection issues could be resolved.

We appreciate the opportunity for review and possible resolution of issues contained in this objection prior to the approval of the final plan. We look forward to an opportunity to discuss our concerns with you.

Sincerely,



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Objection Issues and Recommended Resolutions

I. Wilderness Recommendations

Introduction

The opportunity to recommend wilderness designations is an integral component of the forest planning process and presents a rare opportunity to provide administrative protection to some of the most spectacular and ecologically important undeveloped lands on our national forests. These areas provide our drinking water, habitat for imperiled wildlife, physical, mental, and spiritual renewal for millions of Americans, and a buffer to the impacts of climate change.

Thus, we are disappointed that only four additions to existing wilderness areas on the Inyo National Forest are recommended for wilderness designation in the Final Plan and Draft Record of Decision. While highly deserving of wilderness recommendation, those 37,039 acres represent only about 6 % of the final 614,516-acre inventory of wilderness-quality lands on the Inyo.

By contrast, Alternative C would recommend 325,352 acres (about 53% of the final inventory), including many of the most deserving areas. For the reasons described below, the Record of Decision for the final plan should adopt Alternative C's recommended wilderness to promote the forest's ecological health and integrity, opportunities for sustainable recreation, and protection of imperiled species, among other social and ecological benefits.

Prior Comments on Recommended Wilderness Issues

We have previously raised the Recommended Wilderness issues contained in this objection in our extensive comments on the Draft Plan and DEIS¹, which included an exhibit containing numerous other comment letters and input previously submitted during the wilderness inventory and evaluation process on the Inyo (and on the Sierra and Sequoia National Forests, at earlier stages of the process).² In some instances, however, the Draft Record of Decision, Final Plan, and FEIS have presented new information and rationales relating to Recommended Wilderness, which has required us to newly address the issues in this objection.

Summary of Objection Points in this Section:

A. Many areas deserving wilderness protection are not recommended due to a flawed evaluation and analysis process that illegally biased the outcome.

¹ Sierra Forest Legacy, *et al.*, Comments on Draft Plan and DEIS, (August 25, 2016).

² The Wilderness Society, *et al.*, Comments on Ch. 70 wilderness evaluation process (Oct. 30, 2014) (identifying numerous deficiencies with the "Wilderness Evaluation Narrative Outline") (Exhibit IX.1); The Wilderness Society, *et al.*, Comments on Ch. 70 wilderness evaluation (June 3, 2015) (identifying process and range of alternatives deficiencies) (Exhibit IX.2); The Wilderness Society, *et al.*, Comments on Ch. 70 wilderness evaluation (Aug. 28, 2015) (identifying numerous deficiencies with the wilderness evaluation process paper) (Exhibit IX.3); The Wilderness Society, *et al.*, Comments on wilderness evaluation process (Dec. 1, 2015) (reiterating our process and range of alternatives concerns) (Exhibit IX.4); California Wilderness Coalition, Comments on early adopter forests wilderness evaluation process (Dec. 1, 2015) (providing site-specific comments on the evaluation of specific areas) (Exhibit IX.5); The Wilderness Society, *et al.*, Comments on wilderness evaluation process and areas identified for DEIS analysis (Feb. 1, 2016) (identifying deficiencies in application of wilderness evaluation criteria, identification of areas to carry forward for analysis, and range of alternatives) (Exhibit IX.6).

1. The Draft ROD misreads the Wilderness Act's definition of wilderness
2. Consideration of ecological representation is misrepresented
3. The Draft ROD relies on the inaccurate assumption that at-risk species restoration cannot occur in Recommended Wilderness.
4. Wilderness analysis process lacks consistency and scientific credibility.
5. Wilderness suitability is not properly considered, resulting in tainted analysis and wilderness recommendations.
6. The FEIS and Draft ROD fail to take a hard look at the ecological benefits of recommended wilderness in violation of the National Environmental Policy Act.
7. The FEIS and Draft ROD fail to use the best available scientific information regarding wilderness benefits, in violation of the 2012 Planning Rule. 36 C.F.R. 219.3.
8. The Forest Service should adopt a strengthened Alternative C for recommended wilderness.

B: Management of Recommended Wilderness

C: The FEIS fails to analyze a reasonable range of alternatives for Recommended Wilderness Areas.

A. Many areas deserving wilderness protection are not recommended due to a flawed evaluation and analysis process that illegally biased the outcome.

The Draft Record of Decision recommends four areas totaling 37,029 acres for inclusion in the NWPS: South Sierra Addition (17,622 acres), Piper Mountain Addition 1 (11,840 acres), White Mountains Addition West (5,062 acres), and White Mountains Addition East (2,505 acres). The areas recommended in the preferred alternative (B-modified) are all adjacent to existing wilderness managed by the Inyo National Forest or the Bureau of Land Management. The four recommended areas represent only 6% of the 614,516 acres in the Inyo National Forest that meet wilderness inventory criteria and 11% of the 325,352 acres recommended for wilderness in Alternative C.

The Forest Supervisor arrived at her decision on recommended wilderness “[b]ased on our analyses and input from local governments, Tribes, and the public... in addition to the technical inventory and evaluation process.” Draft ROD at 18. The Forest Supervisor’s justification for selecting the four areas, and only those areas, is as follows:

These areas not only had good ecological condition where roadless characteristics provide opportunities for solitude and primitive and/or unconfined recreation, but also had other features of value that set them apart from other areas evaluated in alternative C for wilderness designation. These other features added to the uniqueness of these areas, such as the presence of the Mojave Desert, oak woodlands, bristlecone pine, or pinyon-juniper woodlands, which are ecologically under-represented in the National Wilderness Preservation System. I also weighed the needs for protection of at-risk species and the management trade-offs associated with management activities that could be greatly reduced on the constraints of the tools allowed and access within recommended wilderness areas. I carefully considered the alternatives and their effects

on species such as sage-grouse. For example, alternative C would limit our ability to take management actions to favor the species with an additional 315,000 acres of recommended wilderness in suitable sage-grouse habitat. (Draft ROD, p. 19)

For the reasons discussed below, this rationale for selecting so few Recommended Wilderness Areas is seriously flawed.

1. The Draft ROD misreads the Wilderness Act’s definition of wilderness

The Draft ROD makes a telling mistake in its description of a key provision of the Wilderness Act. Section 2(c) of the Wilderness Act defines wilderness areas as having “outstanding opportunities for solitude *or* a primitive and unconfined type of recreation.” 16 U.S.C. § 1131(c)(2) (emphasis added). The Draft ROD, on the other hand, states that the Inyo’s recommended wilderness areas must have “opportunities for solitude *and* primitive and/or unconfined recreation.” This is an important distinction that we have repeatedly brought to the Forest Service’s attention at earlier stages of the planning process. Therefore, we are disheartened to see that the Forest Service evidently continues to believe that the Wilderness Act requires both solitude and primitive recreation opportunities.

As we pointed out in our comments on the DEIS, the Forest Service appears to have improperly conflated the criterion that an area has *either* outstanding opportunities for solitude *or* primitive and unconfined recreation. Both the plain language of the Wilderness Act, 16 U.S.C. § 1131(c)(2), and the Chapter 70 directives make clear that this is an either/or criterion: “an area only has to possess one of the other” and “does not have to possess outstanding opportunities for both elements, nor does it need to possess outstanding opportunities on every acre.” FSH 1909.12, ch. 70, § 72.1(2). Thus, the evaluation must consider them separately and cannot aggregate, average, or otherwise conflate the two.

Unfortunately, the Forest Service has repeatedly conflated the two throughout the wilderness evaluation and recommendation process. In determining which wilderness inventory areas to carry forward into the DEIS analysis process, nearly every last rationale for areas not analyzed as recommended wilderness states that “opportunities for solitude or primitive and unconfined recreation are limited” (typically due to the presence of motorized uses within or adjacent to the polygon, as addressed in detail in subsection E(3) below). *See* FEIS Appx. B at 179359-76. This language – which serves as the primary rationale for excluding most of the areas not carried forward for analysis – suggests that opportunities for one or the other (but not both) are limited, meaning that the area should not be disqualified. Instead, opportunities for both solitude *and* primitive and unconfined recreation would have to be limited throughout the unit to disqualify it. To the extent the Forest Service meant to express the latter, its evaluation does not support such a finding. For instance, the sort of pervasive outside sights and sounds that might limit opportunities for solitude (see subsection E(2), below) do not impact whether portions of the unit have outstanding opportunities for primitive and unconfined types of recreation.³

³ For example, the 7,574-acre Mono Craters area identified as Polygon 1072 was not analyzed in Alternative C because:

As demonstrated by the Draft ROD's erroneous interpretation of the Wilderness Act, the Inyo's misconception that wilderness areas must have both opportunities for solitude and primitive recreation evidently has carried forward into the analysis and recommendation phases of the wilderness recommendation process. For example, the FEIS acknowledges that the 15,910-acre Deadman Canyon area – which the Final Plan does not recommend for wilderness -- provides opportunities for primitive recreation, but states that “the opportunity for solitude is limited due to the proximity to motorized recreation.” FEIS, Appx. B, p. 133. Similarly, the Dexter Canyon area provides “provides opportunities for primitive and unconfined recreation, including cross-country hiking, hunting, and general forest exploration,” but “proximity to motorized recreation, private land parcels and Highway 120 limit opportunities for solitude.” FEIS, Appx. B, p. 138.

Suggested Resolution: Not only must the clear legal error be corrected in the text of the Draft ROD, but the Forest Service must also go back and make sure that this mistake has not resulted in the inappropriate exclusion from wilderness recommendation of deserving areas that may lack outstanding opportunities for solitude but do provide primitive recreation opportunities, or vice versa.

2. Consideration of ecological representation is misrepresented

The Draft ROD states that, in addition to considering their wilderness character, the Forest Service selected Recommended Wilderness Areas based on their “uniqueness” such as the presence of ecosystem types “which are ecologically under-represented in the National Wilderness Preservation System.” Draft ROD at 19. Indeed, ecological representation was one of three factors that the Forest Supervisor considered in selecting areas to bring forward as recommended wilderness in the DEIS. FEIS Appx. B at 121. While we appreciate that the Forest Service took ecological representation into account during the wilderness evaluation process, we object that the agency arbitrarily chose not to recommend several areas in Alternative C that contain significant amounts of under-represented ecosystems.

The attached Table 1 (see **Attachment A**) shows the proportion of each wilderness inventory area composed of under-represented ecosystems on the Inyo National Forest. The wilderness inventory areas that are recommended for wilderness in the Final Plan are shown in pink, while other areas in Alternative C are shown in yellow. The proportion of land with the most under-represented ecosystems (<5%) is shown in the left-hand column.

Opportunities for solitude or primitive and unconfined recreation are limited throughout much of this polygon due to an extensive network of authorized forest system roads, including a few authorized forest system roads that cherry stem to partially divide the polygon into smaller sections. There are limited opportunities for solitude or primitive and unconfined recreation along the southern boundary due to the proximity to a commercial pumice mine. Sights and sounds from roadways and the pumice mine penetrate into those areas of the polygon.

FEIS Appx. B at 180. Regardless of how nearby roads or the pumice mine might impact opportunities for solitude in portions of the polygon, Mono Craters undoubtedly includes outstanding opportunities for primitive and unconfined recreation, including high-quality backcountry skiing and hiking destinations and uses. The narrative for the polygon fails to properly acknowledge those known and outstanding recreational opportunities.

These data demonstrate that, contrary to the impression given by the Draft ROD, the four Recommended Wilderness Areas in the Final Plan do not contain greater amounts of land with under-represented ecosystems than other areas analyzed in Alternative C. In fact, the ecological representation data indicate that areas not recommended for wilderness rate at least as highly on ecosystem representation as the four Recommended Wilderness Areas. One of the areas recommended for wilderness in the draft ROD is high in under-represented ecosystem types (Piper Mountain Addition 1 – polygon 1246), one is average to low (South Sierra Addition – polygon 1391 [originally polygon 1458]), and two are relatively low (White Mountain Additions – polygon 1281). In comparison, many areas in Alternative C have very high proportions of land in under-represented ecosystem types—higher than in any recommended areas—but were not recommended for wilderness (e.g., Marble Creek/polygon 1308 and South Huntoon Creek/polygon 1357). Furthermore, some areas with extremely high proportions of under-represented ecosystem types (e.g., polygons 1297 and 1115) were not considered in *any* alternative.

In addition, the descriptions of roadless polygons in FEIS Appendix B inconsistently describe under-representation of ecosystem types. For example, the White Mountains Additions - West narrative states in the “summary of factors” that the area provides an opportunity to protect under-represented ecosystems, whereas the Piper Mountain Additions 2 narrative makes no reference to under-represented ecosystem types, *even though the proportion of highly under-represented ecosystems is much greater in the latter area*. This inconsistency in application of the ecosystem representation factor further demonstrates that the agency has arbitrarily omitted areas with important ecosystem representation values from wilderness recommendation.

Suggested Resolution: The Responsible Official should be instructed to review the ecosystem representation data for all wilderness inventory polygons including those in Alternative C. Based on the revised evaluation, the Responsible Official should revise the analysis so that it accurately reflects how each alternative would affect biodiversity. Using the revised analysis to better weigh management trade-offs and effects, the Responsible Official should revise the wilderness recommendations.

3. The Draft ROD relies on the inaccurate assumption that at-risk species restoration cannot occur in Recommended Wilderness.

Another key factor cited in the Draft ROD in making the wilderness recommendations was “the needs for protection of at-risk species and the management trade-offs associated with management activities that could be greatly reduced based on the constraints of the tools allowed and access within recommended wilderness areas.” Draft ROD at 19. Impacts on sage-grouse are specifically called out as a major reason for not recommending areas for wilderness.

However, the Draft ROD’s rationale for excluding areas from wilderness recommendation because of impacts on at-risk species is directly contradicted by management direction in the Final Plan. One of the suitability plan components for Recommended Wilderness states, “Nonconforming projects or activities may be suitable if they are temporary in nature and are *for the purposes of ecological restoration for at-risk species habitat*.” Draft ROD, p. 93, MA-

RWLD-SUIT-02 (emphasis added). We support this common-sense clarification in the Final Plan that habitat restoration activities for sage grouse and other at-risk species are allowable in Recommended Wilderness Areas.

Furthermore, the FEIS and Draft ROD fail to recognize that wilderness recommendation and designation would provide important benefits to sage-grouse, including preventing habitat fragmentation and ensuring the regulatory certainty necessary to ensure sage-grouse survival. According to the U.S. Fish and Wildlife Service, sagebrush habitats are becoming increasingly degraded and fragmented due to the impacts of multiple threats, including direct conversion, urbanization, infrastructure such as roads and powerlines built in support of several activities, wildfire and the change in fire frequency, incursions of invasive plants, grazing, and nonrenewable and renewable energy development.⁴ The U.S. Fish and Wildlife Service has also found that the absence of adequate regulatory mechanisms is a significant threat to the species, now and in the foreseeable future. Wilderness designation is clearly one of the best ways to address both these threats to sage-grouse. Yet, the FEIS focuses solely on the potential downside of wilderness recommendation for sage-grouse management (apparently not realizing that the Final Plan specifically allows for sage-grouse restoration).

Suggested Resolution: The Responsible Official should be instructed to (1) clarify in the Record of Decision that the Final Plan's management direction for Recommended Wilderness Areas specifically allows restoration activities for at-risk species, including sage-grouse, (2) revise the FEIS where the analysis inappropriately concludes that areas recommended for wilderness would preclude or diminish opportunities for sage-grouse restoration, and (3) review the areas in Alternative C and ensure that areas with at-risk species are not inappropriately omitted from wilderness recommendations.

4. Wilderness analysis process lacks consistency and scientific credibility

The wilderness analysis contained in Appendix B of the FEIS fails any reasonable test of good science or methodical analysis. The methodology is not rigorous, not consistent, not repeatable, not fully transparent, and not quantifiable. The agency produced hundreds of pages of documents yet does not anywhere reveal precisely how decisions were made to choose the four areas in the Final Plan over any of the other roadless areas. There is no way that readers can independently verify the process for recommending wilderness areas. We know what factors were considered, but we do not know how those factors were used to make decisions.

For example, there is no ranking system to distinguish one roadless polygon from the next. All decisions were binary; either an area was recommended for wilderness or it was not. There is no quantitative scoring system or even an ordinal system (e.g., high, medium, low as recently utilized for example by the Rio Grande National Forest and the Grand Mesa-Uncompahgre-Gunnison National Forest) of comparison for the factors considered. There isn't even a threshold given for when a roadless polygon meets the criteria to be recommended as wilderness.

⁴ See Greater Sage-Grouse Conservation Objectives: Final Report by the U.S. Fish and Wildlife Service, Feb. 2013, p. 9-11.

In addition, the wilderness evaluation suffers from inconsistent application of available data. There is no consistent level of detail with respect to all the factors considered. For example, one roadless area may be described as having “no known invasive species,” another area may be described as having “a few invasive species,” and a third may not contain any information on invasive species. Setting aside for now the problem of insufficient detail *about* the invasive species (e.g. what proportion of the roadless area is affected?), one cannot compare the roadless area description with no mention of invasive species with roadless area descriptions that do mention them. The public has no idea if the data were inadvertently omitted, if surveys were conducted in one area but not the other, or if no mention of invasive species means they do not exist there. This inconsistency of data often leaves one with no basis for “apples to apples” comparison.

Overall, it is unclear how the agency made their final decision whether to recommend an area or not based solely on the presence or absence of activities, features, or wilderness characteristics. For example, the following uses or activities are present in the four areas that were recommended for wilderness:

- Private inholdings
- Cattle grazing
- Stock trails
- Water rights
- Water supply improvements
- Historic clearing/harvesting for mining
- Unauthorized routes

And the following characteristics are found in the four recommended wilderness areas:

- No hiking trails
- Bordered by roads on three sides
- Lack of surface water
- The only trail was damaged by flash flooding
- Presence of several invasive species
- Proximity to Highway 395
- Proximity to a utility corridor
- Roadless area of only 2,505 acres (contiguous to existing wilderness)
- Tribal concerns over access and use

Clearly, these activities, uses, and features do not automatically exclude an area from wilderness recommendation, but it is unclear in reading descriptions of other areas that share the same uses and/or characteristics why they *were* excluded. As an example, consider the following table which compares two roadless areas that are in close proximity and share many of the same characteristics, including vegetation type. Piper Mountain Addition 1 was recommended as wilderness, whereas Piper Mountain Addition 2 was not. Yet from the description in the wilderness evaluation, the latter has fewer potential conflicting uses and similar wilderness condition to the former. It is impossible to determine why Piper Mountain 1 was chosen over Piper Mountain 2. This is precisely the reason why a methodology should be transparent, quantifiable, and repeatable, and why the absence of consistent and transparent methods results

in arbitrary and capricious exclusion of areas from recommended wilderness. We have made this point numerous times in our previous comments.

	Piper Mountain Wilderness Additions 1	Piper Mountain Wilderness Additions 2
Ecological integrity	Intact; reflects conditions absent human intervention	High ecological integrity, with few alterations to natural conditions
Human improvements	Some historic clearing/harvesting for mining is evident; unauthorized routes in the area	No known developments in the area
Solitude	Steep topography and lack of surface water supports a remote experience from sights and sounds of people; the sense of remoteness from occupied and modified areas outside the wilderness may be diminished along the periphery by motorized vehicle use on forest system roads [to the north, west, and south]	Potential for encountering other visitors in the area is low; surrounded by a road system to the north, west, and south
Primitive recreation	There are opportunities (travel in the lower elevation desert environment is challenging due to the lack of surface water and steep topography); pinyon-juniper woodlands and subalpine areas offer primitive recreation opportunities typical of the Great Basin (hiking, horseback riding, deer hunting)	There are opportunities (in alkali flats and old-growth pinyon-juniper) such as cross-country hiking, general forest exploration, photography, and deer hunting
Other features	Poleta Fold geologic features, which have scientific and educational values, and cultural resource sites including encampments, rock rings, and lithic scatters	
Current uses	Managed as an IRA; large number of cultural resource sites; portions used as a geologic field study area; includes one water right; tribal concerns over access and use	Not located in an IRA; due to lack of surface water and extreme summer heat, the area receives low recreational use, including hiking and hunting; tribal concerns over access and use
Summary of factors	Interest in recommending this area from several members of the public; intact condition of ecosystem types; opportunities for solitude and primitive and unconfined recreation; opportunity to protect under-represented ecosystems	Interest in recommending this area from several members of the public; intact condition of ecosystem types; good opportunities for solitude and primitive and unconfined recreation

Suggested Resolution: The Responsible Official should be instructed to revise the wilderness evaluation to ensure consistent application of available data and make appropriate wilderness recommendations. The Record of Decision should provide a clear, consistent, and scientifically sound explanation of why each area is recommended or not recommended for wilderness.

5. Wilderness suitability is not properly considered, resulting in flawed analysis and wilderness recommendations.

The Inyo's evaluation and analysis of wilderness suitability are inconsistent with the criteria in section 2(c) of the Wilderness Act, the Chapter 70 directives, and with the Final Plan itself. Consequently, the limited wilderness recommendations in the Final Plan and Draft Record of Decision are based on flawed information and considerations.

The proper evaluation criteria are: (1) apparent naturalness, or the degree to which the area generally appears to be affected primarily by the forces of nature, with the imprints of man's work substantially unnoticeable; (2) outstanding opportunities for solitude *or* for a primitive and unconfined type of recreation in at least some portion of the unit; (3) whether an area less than 5,000 acres is of sufficient size to make practicable its preservation and use in an unimpaired condition; and (4) the degree to which the area may contain ecological, geological, or other features of scientific, educational, scenic, or historical value. 16 U.S.C. § 1131(c); FSH 1909.12, ch. 70, § 72.1. The Chapter 70 directives add a fifth evaluation criterion that is not grounded in the Wilderness Act: the degree to which the area may be managed to preserve its wilderness characteristics, based on the geographic shape and configuration of the area and any governing legal requirements. FSH 1909.12, ch. 70, § 72.1(5). Because the wilderness recommendations must be "based on the analysis disclosed in the applicable NEPA document and input received during public participation opportunities," FSH 1909.12, ch. 70, § 74, and the analysis must be based in part on the evaluation, FSH 1909.12, ch. 70, § 73, it is critical that the evaluation criteria are properly applied.

a) Consideration of human activities and improvements

Many of the final evaluation and analysis narratives still improperly rely on the presence of past or current human activities or improvements – such as mining, grazing, fish stocking, restoration activities, timber harvest, recreation developments, historic sites, or wildlife improvements – when evaluating naturalness. **The relevant inquiry, however, is not the presence of these activities or improvements, but rather their effect on the area's naturalness, as judged by the average visitor.** FSH 1909.12, ch. 70, § 72.1(1)(c) ("Consider such factors as . . . [t]he extent to which improvements included in the area . . . represent a departure from apparent naturalness."). Areas need not be pristine or untouched to be suitable for wilderness designation, and an area may include any number of past or present activities or improvements – as long as they are substantially unnoticeable.

Yet statements about the mere presence of grazing or restoration activities, among other examples, still pervade many of the narratives without an evaluation of how those activities or improvements affect the areas' naturalness. Numerous narratives mention the presence of historic and current grazing, despite clear direction in the Wilderness Act that continued

livestock grazing is allowed in designated wilderness areas. 16 U.S.C. 1133(d)(4). For instance, the narrative for Dexter Canyon mentions an active sheep grazing allotment and that water troughs and a large water tank are present. FEIS Appx. B at 138. Likewise, the analysis of Glass Mountain notes that “livestock grazing occurs in the area, and allotments include fences and spring boxes.” FEIS Appx. B at 141. Grazing and associated infrastructure is commonplace throughout many designated and recommended wilderness areas in western national forests.⁵ The fact that livestock grazing is even mentioned in the narratives clearly suggests that it was improperly factored into the analysis and subsequent decisions to exclude these areas from wilderness recommendation.

Other narratives mention past and ongoing restoration activities, without any explanation of how or why those activities – which are generally designed to restore forest resources and ecosystems to a more natural state – might detract from apparent naturalness. For instance, the narrative for the Glass Mountains mentions sage grouse habitat restoration, watershed restoration activities, and aspen restoration but does not evaluate how those activities impact the area’s naturalness, as perceived by the average visitor. FEIS Appx. B at 141. (And, as discussed previously, the Final Plan specifies that restoration activities for at-risk species like sage-grouse are allowed in Recommended Wilderness Areas.)

The Responsible Official’s erroneous understanding and application of the naturalness criteria contributed to the exclusion of deserving areas from the analysis and wilderness recommendation offered in the Draft ROD.

b) Outside sights and sounds

The Forest Service appears to have excluded numerous areas due to the improper consideration of outside sights and sounds – often related to motorized activity on roads or trails outside the polygon. Outside sights and sounds are relevant to the evaluation of opportunities for solitude only to the extent that they are “pervasive and influence a visitor’s opportunity for solitude” *throughout* the unit. FSH 1909.12, ch. 70, § 72.1(2)(a).⁶ While many of the narratives refer to “pervasive” motorized use (inside and/or outside the unit), the narratives generally lack an evaluation of whether the sights and sounds originating from that use are themselves pervasive and how they influence a visitor’s opportunity for solitude throughout the unit. Instead, many of the narratives make the unsupported conclusion that sights and sounds “would likely penetrate throughout much of the polygon.” None of the assertions are supported by empirical data, models of noise attenuation, or surveys from within the roadless polygons.

Of particular concern is the fact that many narratives and rationales rely on sights or sounds associated with motorized use of the roads that necessarily define the boundaries of the polygon, or are cherry-stemmed, to disqualify all or portions of the unit. Many designated wilderness

⁵ Congressional grazing guidelines provide that: (1) “[t]he maintenance of supporting facilities, existing in the area prior to its classification as wilderness (including fences, line cabins, water wells and lines, stock tanks, etc.), is permissible in wilderness,” and (2) “[t]he placement or reconstruction of deteriorated facilities or improvements should not be required to be accomplished using ‘natural materials.’” Forest Service Manual 2323.22 - Exhibit 01.

⁶ See also Bureau of Land Management Manual (BLM) 6310.06(C)(2)(c)(i)(1) (“Only consider the impacts of sights and sounds from outside the inventory area on the opportunity for solitude if these impacts are pervasive and omnipresent.”).

areas, however, are closely bordered by high-traffic roads. For example, California State Route 120 bisects the Yosemite Wilderness in Yosemite National Park. This two-lane, paved expressway with a 50 m.p.h. speed limit and an average annual daily traffic count of 2,450 vehicles at Tioga Pass is buffered from the Yosemite Wilderness by less than 0.05 miles. California State Route 108, another two-lane, paved expressway, runs along the Emigrant Wilderness in the Stanislaus National Forest with an average annual daily traffic count of 630 vehicles at the Tuolumne/Mono County line, yet is only 0.25 miles from the wilderness boundary.⁷ This situation is ubiquitous throughout designated wilderness in California and around the country.⁸ If Congress saw fit to use these highways and other major thoroughfares as wilderness boundaries, we do not see how, in the absence of real data, the Forest Service can justify the claim that the noise caused by lesser roads or even motorized trails can create a “pervasive” loss of wilderness values across large, rugged, and usually trackless landscapes.

Disqualifying an area based on outside sights and sounds is also contrary to longstanding direction from Congress. For instance, during hearings on the Endangered American Wilderness Act of 1978, the Assistant Secretary of Agriculture assured Congress that “there is no reference in the Wilderness Act to criteria for wilderness that includes such things as the sights, sounds, and smells of civilization which is a set of criteria which has been misapplied to wilderness areas.”⁹ Congress responded by declaring its “emphatic support of the Administration’s decision to immediately discontinue this ‘sights and sounds’ doctrine.”¹⁰

⁷ *2014 Traffic Volumes on the California State Highway System*. State of California, California State Transportation Agency, Department of Transportation, Division of Traffic Operations, Sacramento, CA 95814. Prepared in Cooperation with the U.S. Department of Transportation, Federal Highway Administration.

⁸ Other examples from the Sierra Nevada include the Ansel Adams Wilderness (bordered by Kaiser Pass Road and Edison Lake Road), Hoover Wilderness (bordered by Highway 120), Mokelumne Wilderness (bordered by Highway 4 and Blue Lakes Road), Carson-Iceberg Wilderness (bordered by Highway 4 and Highland Lakes Road), John Muir Wilderness (bordered by Rock Creek Road, Pine Creek Road, Horton Creek Road, Bishop Bowl Road, Highway 168, Onion Valley Road, Horseshoe Meadows Road and Florence Lake Road), John Krebs Wilderness (bordered by Mineral King Road), Sequoia-Kings Canyon Wilderness (bordered by the Generals Highway), Yosemite Wilderness (in addition to Highway 120, mentioned above, it is also bordered by Evergreen Road, Tioga Road, Oak Flat Road, Glacier Point Road, Wawona Road and Mariposa Grove Road), Kaiser Wilderness (adjoins Kaiser Loop Road and Kaiser Pass Road), Monarch Wilderness (bordered by Highway 180), Sacatar Trail Wilderness (adjacent to Nine Mile Canyon Road), Owens Peak Wilderness (bordered by Kennedy Meadows Road, Sherman Pass Road and Highway 178), Kiavah Wilderness (bordered by Highway 178 and South Kelso Valley Road) and the Domeland Wilderness (bordered by Kennedy Meadows Road).

⁹ Hearings on S. 1180 before the Subcomm. on Parks and Recreation of the S. Comm. on Energy and Nat. Res., 95th Cong. at 41 (1977) (Statement of M. Rupert Cutler, Assistant Sec., U.S. Dep’t of Agric.)

¹⁰ H.R. Rep. No. 95-540, at 5 (1977):

[M]any areas, including the Lone Peak [outside Salt Lake City]... received lower wilderness quality ratings because the Forest Service implemented a “sights and sounds” doctrine which subtracted points in areas where the sights and sounds of nearby cities (often many miles away) could be perceived from anywhere within the area. This eliminated many areas near population centers and has denied a potential nearby high-quality wilderness experience to many metropolitan residents, and is inconsistent with Congress’ goal of creating parks and locating wilderness areas in close proximity to population centers. The committee is therefore in emphatic support of the Administration’s decision to immediately discontinue this “sights and sounds” doctrine.

Thus, the Forest Service bears a high burden to show that outside sights or sounds are in fact pervasive and limit a visitor's opportunity to experience solitude throughout the unit. And even where the agency can meet that high burden, the area may still merit wilderness recommendation if it possesses outstanding opportunities for primitive and unconfined recreation prior to disqualifying the unit. See Objection Point 1 above. The information in Appendix B to the FEIS does not demonstrate that the Forest Service has satisfied its burden. Unfortunately, improper conclusory consideration of sights and sounds is frequently encountered in the wilderness analyses of Alternative C areas that have not been recommended for wilderness, including Marble Creek, Mazourka Peak, Pizona-Truman Meadows, Redding Canyon, Silver Creek, and Soldier Canyon.

c) Consideration of motorized uses

The Forest Service's treatment of authorized motorized uses, occurring both inside and outside potential wilderness areas, has been deeply flawed throughout the wilderness evaluation, analysis, and recommendation process, as we have repeatedly pointed out. According to the FEIS, "the portions of polygons that include authorized motorized trails based on recent travel management decisions were excluded" from analysis. FEIS Appx. B at 125.¹¹ The primary rationales for this blanket exclusion of areas with motorized trails appears to have been that the presence of the motorized uses within the unit limits "opportunities for solitude or primitive and unconfined recreation" and/or would frustrate management of the unit as recommended wilderness. Both of these rationales are faulty.

First, the presence of authorized motorized activity in an area does not necessarily impede its wilderness character. Indeed, Congress, the Forest Service, and other agencies have routinely determined that areas with authorized motorized activity possess wilderness characteristics and managed them to maintain their suitability for inclusion in the NWPS.¹²

Second, the Forest Service has not demonstrated how or why the presence of motorized uses degrades *both* opportunities for solitude *and* primitive and unconfined types of recreation throughout the entire unit. In many instances, the Forest Service appears to have disqualified

¹¹ This approach mirrors the Forest Service's initial attempt in late 2014 to exclude from detailed evaluation approximately 19% of the inventoried acreage that contain motorized uses on authorized trails. Our previous comment letters explained in detail why that approach was flawed. *See, e.g.*, Exhibit IX.1 at 3-6 (Oct. 30, 2014 comments); Exhibit IX.3 at 6-7 (Aug. 28, 2015 comments).

¹² *See, e.g.*, Public Law No. 96-550, § 103, 94 Stat. 3221 (Dec. 19, 1980) (designating six wilderness study areas in New Mexico National Forests to be managed "to maintain their presently existing wilderness character and potential for inclusion in the [NWPS]: *Provided*, [t]hat . . . current levels of motorized . . . uses . . . shall be permitted to continue subject to . . . reasonable rules and regulations"); Payette National Forest, Land and Resource Management Plan, ROD-9, III-74, III-82 (2003), *available at* <http://www.fs.usda.gov/detail/payette/landmanagement/planning/?cid=stelprdb5035589> (recommending over 200,000 acres for wilderness designation and permitting existing motorized uses to continue in those areas unless it degrades wilderness values or causes resource damage or user conflicts); BLM Manual 6320.06(A)(2)(d)(v) (BLM-identified Lands with Wilderness Characteristics may include motorized uses on designated routes); BLM, Little Snake Field Office, Record of Decision and Approved Resources Management Plan at 33 (Oct. 2011), *available at* http://www.blm.gov/pgdata/etc/medialib/blm/co/field_offices/little_snake_field/rmp_revision/rod.Par.83246.File.dat/01_LS-ROD_Approved-RMP.pdf (motorized activity permitted on designated roads and trails within Lands with Wilderness Characteristics).

areas or large portions of areas due to the presence of only a handful of motorized trails and without making the requisite showing of how that use would affect a visitor's ability to experience solitude elsewhere, taking into account factors such as topography, presence of screening, and distance from impacts. *See* FSH 1909.12, ch. 70, § 72.1(2)(a). Importantly, as with outside sights or sounds, impacts originating within the unit must be "pervasive and influence a visitor's opportunity for solitude" throughout the area. *Id.* Moreover, authorized motorized uses within a unit are irrelevant to whether there are opportunities to engage in primitive and unconfined recreational activities "that lead to a visitor's ability to feel a part of nature." *See id.* § 72.1(2)(b).

The FEIS puts forth a new, preposterous rationale for eliminating all areas with motorized routes from wilderness analysis. Besides asserting that "managing wilderness areas that previously contained many miles of motorized routes would be a major challenge," the FEIS also explains that "the motorized use community ... have requested that we reevaluate unauthorized routes not added to the transportation system in the travel planning process. Wilderness recommendation would preclude the addition of these routes to the motorized road and trail systems." FEIS at 51. We object to this outlandish, flimsy, and arbitrary excuse for the Forest Service to exclude all areas with motorized routes from consideration for wilderness recommendation.

d) Manageability considerations

The Forest Service also improperly excluded areas or portions of areas from wilderness recommendation based on inappropriate management considerations. This problem began with the wilderness evaluation and has continued throughout the process. In deciding which areas to carry forward into the analysis of EIS alternatives, "the Forest Supervisor considered whether existing management activities and potential future management needs conflicted with preserving the area's wilderness characteristics." *See, e.g.*, FEIS Appx. B at 122. Manageability considerations "included, but w[ere] not limited to, fuels and vegetation management activities needed to protect adjacent high value areas and communities, management of existing special use permits and facilities, and the ability to define polygon boundaries and keep incompatible uses out." *Id.*

A wide range of improper management considerations are also highly evident in the FEIS. Areas in Alternative C appear to have been denied wilderness recommendation for the following inappropriate reasons relating to management:

Fish stocking and fish barriers (cited in analysis of Ansel Adams Wilderness Addition – Northeast, FEIS Appx. B, p. 131). Congress has clarified that fisheries enhancement activities and facilities "are permissible and often highly desirable in wilderness areas Such activities and facilities include ... stream barriers, aerial stocking, and the protection and propagation of rare species." House Report 95-540 of the Endangered American Wilderness Act. Fish barriers needed to protect endangered fish species are not precluded by wilderness. For example, a fish barrier protects the threatened Paiute cutthroat trout on Cottonwood Creek, within the White Mountains Wilderness. To maintain an existing or construct a new fish barrier in wilderness would require a minimum tool analysis (i.e. whether it is "necessary to meet minimum requirements for the administration of the area" under Sec. 4(c) of the Wilderness Act). Options

could range from maintaining/constructing barriers by hand, using pack stock to carry equipment and supplies, to even constructing temporary motorized routes.

Wildlife management for species like bighorn sheep and sage grouse (cited in analyses of Ansel Adams Wilderness Addition – Northeast, FEIS Appx. B, p. 131; Dexter Canyon, p. 138; Glass Mountains, p. 141; Huntoon Creek, p. 145). As noted earlier, the Inyo Final Plan specifically allows restoration activities to restore at-risk species within recommended wilderness areas. Furthermore, Congress has recognized that “management activities to maintain or restore wildlife populations and the habitats to support such populations may be carried out within wilderness areas ... where consistent with relevant wilderness management plans....” (Pub. L. 101-628 (Arizona Desert Wilderness Act); *see also* House Rep. 101-405 and Forest Service and BLM “Policies and Guidelines for Fish and Wildlife Management in Wilderness”). Use of the minimum tool analysis should allow habitat restoration activities for these species without significant disturbance of wilderness qualities. Thus, recovery efforts for the at-risk Parker Meadow sage grouse sub-population in the Ansel Adams Northeast Addition -- which is threatened by pinyon/juniper encroachment, local development, power lines, and fencing -- could continue even if the area were designated wilderness, subject to the minimum tool test.

Wildfire management and prevention. The FEIS (vol. 1, p. 542) cautions that “large-scale fuel treatments ... would be more limited in areas recommended for wilderness due to the management challenges of working in wilderness.” Similarly, the FEIS states, “Limitations on the use of mechanized equipment would make it difficult to manage some wildfires to meet resource objectives....” (p. 549). However, Section 4(d) of the Wilderness Act specifically allows fire management in designated wilderness, stating that “such measures can be taken as may be necessary in the control of fire, insects, and diseases, subject to such conditions as the Secretary deems desirable.” Congress has further provided that permitted fire control in wilderness areas “includes the use of mechanized equipment, the building of fire roads, fire towers or fire pre-suppression facilities where necessary and other techniques for fire control. In short, anything necessary for the protection of public health and safety is clearly permissible.” House Report 95-540 of the Endangered American Wilderness Act. National Park Service studies in the Illilouette Creek basin in Yosemite Park show that managed wildfire in wilderness provided reduced fire risk, greater resilience to fire and drought, greater vegetation diversity, and increased or stabilized water yields, without significant negative effects.¹³ Prescribed fire and associated fuel management may also occur in wilderness (for example, the Caples Creek Ecological Restoration Project, Eldorado National Forest, in the agency-recommended Caples Creek Wilderness).

Wild Horse Management (cited in analyses of Adobe Hills, FEIS Appx. B, p. 129; Marble Creek, p. 151; McBride Flat, p. 155; Pizona-Truman Meadows, p. 161; South Huntoon Creek). The management requirements of the Wild Free Roaming Horses and Burros Act are not inconsistent with the Wilderness Act. Under the Wild Horses law, management activities such as use of helicopters and motorized vehicles to manage wild horses “shall be at the minimal feasible level.” 16 U.S.C § 1333(a). Similarly, the Wilderness Act allows motorized uses in wilderness areas “as necessary to meet the minimum requirements for the administration of the area.” 16

¹³ “Managed Wildfire Effects on Forest Resilience and Water in the Sierra Nevada” by Gabriel Boisrame et al., *Ecosystems* 2016.

U.S.C. § 1133(c). Thus, wild horse management activities, like other administrative uses of motorized vehicles, are permissible in wilderness areas, subject to the minimum tools test.

Suggested Resolution: The Forest Service must correct the errors in the wilderness evaluation, Appendix B, and then revise the rationales for excluding suitable areas from wilderness analysis and recommendation. To the extent the current rationales rely on improperly applied wilderness criteria, the excluded areas must be reconsidered for wilderness recommendation. This will require a revised or supplemental EIS.

6. The FEIS and Draft ROD fail to take a hard look at the ecological benefits of recommended wilderness in violation of the National Environmental Policy Act.

The FEIS and Draft ROD exhibit an anti-wilderness bias by disproportionately focusing on perceived problems, conflicts, and drawbacks of wilderness recommendation, while giving short shrift to the many benefits of wilderness. Perhaps the Forest Service believes that those wilderness benefits are so well-known that they are self-evident and therefore are not worth mentioning. However, by providing far more information, speculation, and commentary about potential conflicts and risks than science-based information about wilderness benefits, the FEIS and Draft ROD give the false impression that the negative effects of wilderness heavily outweigh the positive effects.

This problem is especially acute and evident in the one-sided analysis of Alternative C presented in the FEIS. For example, the recommended wilderness section of the FEIS devotes exactly one sentence to the water quality, flood control, fish habitat, and other aquatic benefits of wilderness, saying that Recommended Wilderness Areas in Alternative C “contain valuable hydrologic resources which would have a higher level of protection from unnatural conditions.” FEIS at 544. In contrast, the FEIS devotes an entire eight-sentence paragraph to discussing Alternative C’s consequences for “water-related special use facilities,” concluding that those facilities “would not be adversely impacted” but that Alternative C “could increase the cost and complexity of maintenance.” FEIS at 545. Similarly, the FEIS briefly mentions Alternative C’s “beneficial effects to wildlife by providing additional contiguous habitat for at-risk species” (p. 543) and the benefit to “wildlife affected by impacts from climate change” resulting from the increase in range of elevations and biodiversity of protected wilderness areas (p. 544). But those brief mentions are buried under lengthy discussions about supposed conflicts with wildlife guzzlers (pp. 545-46) and management activities to combat pinyon pine encroachment on sage-grouse habitat (p. 543).

We have drawn this problem to the attention of the Forest Service and provided extensive information with scientific citations about wilderness benefits in our comments on the DEIS, but to no apparent avail. Rather than reiterate that previously submitted information here, we refer you specifically to pages 264-268 of our August 25, 2016 comment letter.

The ecological benefits of choosing Alternative C rather than Alternative B for recommended wilderness are likely to be highly significant. The failure to meaningfully analyze those impacts is a violation of NEPA, which requires the Forest Service to take a “hard look” at the

environmental consequences of a proposed action, including its direct, indirect, and cumulative effects. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989); 42 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1502.16, 1508.7, 1508.8. The required hard look encompasses effects that are “ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative.” 40 C.F.R. § 1508.8.

Suggested Resolution: The FEIS must be rewritten to recognize and analyze the significant ecological benefits associated with recommended wilderness and other conservation designations and integrate that information into the analysis of alternatives for recommended wilderness and into the analysis of how the plans provide for ecological sustainability and species diversity. This will require a revised or supplemental EIS. *See* 40 C.F.R. § 1502.9(a) & (c).

7. The FEIS and Draft ROD fail to use the best available scientific information regarding wilderness benefits, in violation of the 2012 Planning Rule. 36 C.F.R. 219.3.

As stated in the previous objection point, the Forest Service failed to consider and analyze scientifically credible information on the benefits of wilderness that we provided in multiple comment letters. The planning rule directs the Forest Service to utilize best available science to inform its decision-making and analysis, and to document how it did so. The Forest Service failed to incorporate and utilize the extensive peer-reviewed information on the benefits of wilderness in the planning process as illustrated by the scanty mention of wilderness benefits in the FEIS. This is a violation of the planning rule at 36 C.F.R. 219.3.

Suggested Resolution: Revise the FEIS so that it incorporates best available scientific information on the benefits of wilderness and wilderness recommendations. Document the use of best available scientific information in the planning documents as prescribed by 36 C.F.R. 219.3. Revise the wilderness recommendations in the Draft ROD to reflect the consideration and disclosure of previously lacking best available scientific information.

8. The Forest Service should adopt a strengthened Alternative C for recommended wilderness.

As described in detail in Appendix C of our comments on the DEIS, all areas included in Alternative C are highly deserving of wilderness recommendation. We highlighted a number of areas on the Inyo National Forest that are particularly deserving of protection as recommended wilderness. For instance, the Glass Mountains offer a unique east-west connection between the Sierra Nevada and the Great Basin, while Soldier Canyon offers an important north-south bridge connecting the White Mountains to the Inyo Mountains. Dexter Canyon offers unparalleled geographic variety and ecological richness, while the Adobe Hills, Huntoon Creek, Pizona-Truman Meadows, and South Huntoon Creek areas (collectively known as Excelsior Mountains) offer ecologically critical water resources as part of an amazingly wild and untouched western Great Basin roadless complex.

In a letter to the Inyo National Forest Supervisor, dated May 22, 2017, following up on a meeting with the Forest Supervisor in February 2017, we identified our highest priority areas for recommendation as wilderness areas. At that meeting, we highlighted the values for the following 14 areas,¹⁴ totaling approximately 189,700 acres, which we view as the highest priorities to recommend as wilderness areas:¹⁵

- Glass Mountain (17,440+ acres)
- Dexter Canyon (13,014 acres)
- Ansel Adams Addition Northeast (7,212+ acres)
- Deep Spring North (34,164 acres)
- White Mountains Additions – East & West (10,329 acres)
- Piper Mountain Additions 1 & 2 (14,518 acres)
- South Sierra Addition East 1 (17,622 acres)
- Inyo Mountains Addition (4,840)
- Adobe Hills (10,354 acres)
- Huntoon Creek (8,876 acres)
- Pizona-Truman Meadows (19,957 acres)
- South Huntoon Creek (5,895 acres)
- Deadman Canyon (15,445 acres)
- Soldier Canyon (10,037 acres)

Of these 14 areas, all or some portions of four areas are recommended wilderness in the final plan:

- Piper Mountain Addition (11,840 acres)
- South Sierra Addition (17,622 acres)
- White Mountains Addition – East (2,505 acres)
- White Mountains Addition – West (5,062 acres)

We wish to emphasize that none of the final plan's Recommended Wilderness Areas are in Mono County, despite the Board of Supervisors' well-documented request to include the following areas:

- Glass Mountain
- Dexter Canyon
- Ansel Adams Addition Northeast
- Adobe Hills
- Huntoon Creek
- Pizona-Truman Meadows
- South Huntoon Creek

Suggested Resolution: The Final Plan and Record of Decision should recommend additional areas for wilderness designation consistent with Alternative C and our coalition's priorities and Mono County's proposals.

¹⁴ The letter describes 11 areas because the Excelsior Mountains area consists of four areas identified and analyzed in Alternative C: Adobe Hills, Huntoon Creek, Pizona-Truman Meadows, and South Huntoon Creek.

¹⁵ The details about these recommendations are in our original comments and were included as Attachment B to our May 22, 2017 letter.

B. Management of Recommended Wilderness

The 2012 Planning Rule requires the Forest Service to manage Recommended Wilderness Areas to preserve their suitability for wilderness designation by Congress. *See* 36 C.F.R.

§ 219.10(b)(1)(iv) (plans must “protect and maintain the ecological and social characteristics that provide the basis for [a recommended wilderness area’s] suitability for wilderness designation”); *see also* FSM 1923.03(3) (“Any area recommended for wilderness . . . designation is not available for any use or activity that may reduce [its] wilderness potential.”).

While we support the Final Plan’s suitability component designating recommended wilderness as unsuitable for motorized and mechanized transport (Final Plan at 93 (MA-RWLD-SUIT-01)), we object to the omission of the Draft Plan’s standard prohibiting new non-conforming projects or activities. Without a management standard or guideline to back up the suitability plan component, there is no assurance that motorized and mechanized uses will, in fact, be banned in Recommended Wilderness Areas. In fact, the 2012 Planning Rule specifically provides, “The plan must include plan components, *including standards and guidelines*, to provide for . . . management of areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for their suitability for wilderness designation.” 36 C.F.R. § 219.10(b)(1)(iv) (emphasis added).

In addition, we object to the absence of a time-specific objective to promptly implement the suitability plan component with respect to closure of trails to motorized and mechanized transport. According to the Forest Service planning directives, a suitability determination by itself has no effect on public uses like using mountain bikes on trails. The directives describe two options to control existing uses: either “consecutive” or “concurrent” plan and project decision making. FSH 1909.12, sec. 21.8 (Public Use Prohibitions). In both options, the forest plan is supposed to identify the existing use as unsuitable and “establish an objective in the plan to have such uses controlled in a specified time.” However, the final plan and Draft ROD do not include any objective to control existing mechanized/motorized recreational uses in Recommended Wilderness Areas.

Suggested Resolution: The Final Plan should retain and strengthen the prohibition on motorized and mechanized uses in recommended wilderness. A standard similar to the Draft Plan’s should require that the areas be managed exclusively for non-motorized and non-mechanized activities. The Final Plan and ROD should also include an objective to promptly implement the suitability plan component for recommended wilderness.

C. The FEIS fails to analyze a reasonable range of alternatives for Recommended Wilderness Areas.

1. Legal background

The analysis of alternatives under NEPA is the “heart” of an EIS. 40 C.F.R. § 1502.14. An agency must “[r]igorously explore and objectively evaluate all reasonable alternatives” to a proposed action. *Id.* § 1502.14(a); *see also* 42 U.S.C. § 4332(2)(E) (agencies must “study,

develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources”). Consistent with NEPA’s basic policy objective to protect the environment, this includes more environmentally protective alternatives. 40 C.F.R. § 1500.2(e) (agencies must “[u]se the NEPA process to identify and assess reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment”); *see also, e.g., Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1121-22 (9th Cir. 2002) (citing cases), *abrogated on other grounds by The Wilderness Soc’y v. U.S. Forest Serv.*, 630 F.3d 1173, 1178-80 (9th Cir. 2011) (en banc). “The existence of a viable but unexamined alternative renders an [EIS] inadequate.” *Mont. Wilderness Ass’n v. Connell*, 725 F.3d 988, 1004 (9th Cir. 2013) (quotations and citation omitted). The “touchstone” of the inquiry is “whether an EIS’s selection and discussion of alternatives fosters informed decision-making and informed public participation.” *Id.* at 1005 (quotations and citation omitted).

2. The FEIS does not consider recommending wilderness for all or almost all potential areas.

For the Inyo forest plan revision, the Forest Service has identified and evaluated 614,516 acres in 78 areas that meet the criteria for consideration as lands that may be suitable for recommended wilderness designation. However, the FEIS only analyzes three alternatives for recommended wilderness: Alternative C considers 325,352 acres in 24 areas, Alternatives B and B-Modified consider 37,029 acres in 4 areas, and Alternatives A and D consider no recommended wilderness.

Alternatives that range from 0 to 325,352 acres (out of 614,516 potential acres) of recommended wilderness, with one intermediate alternative of 37,029 acres, do not constitute a true range that satisfies NEPA: the top 47% of the range is missing, as well as the portion of the range between 6 and 53%. In a similar case involving Forest Service wilderness recommendations in the RARE II process, the Ninth Circuit Court of Appeals ruled that, despite considering an alternative that allocated 100% of inventoried roadless areas to wilderness, “it was unreasonable for the Forest Service to overlook the obvious alternative of allocating more than a third of the RARE II acreage to a Wilderness designation” (*California v. Block*, 690 F.2d 753, 765, 768-69 (9th Cir. 1982)). Like the situation in *California v. Block* – where the Ninth Circuit invalidated an EIS that “uncritically assume[d] that a substantial portion of the [roadless] areas should be developed and consider[ed] only those alternatives with that end result,” 690 F.2d at 767 – the FEIS assumes that nearly half the inventoried areas do not warrant protection as recommended wilderness and considers only those alternatives with that end result.

By adding an alternative that includes all, or the vast majority of, the 614,516-acre inventory, the Forest Service would ensure an adequate range of alternatives and a robust analysis of the trade-offs and impacts associated with recommending most (if not all) of the inventoried areas. *See, e.g., Council on Environmental Quality, NEPA’s Forty Most Asked Questions*, 46 Fed. Reg. 18,026 (Mar. 23, 1981) (“When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS. An appropriate series of alternatives might include dedicating 0, 10, 30, 50, 70, 90, or 100 percent of the Forest to wilderness.”). This is comparable to the range of

alternatives in the Flathead National Forest Plan Revision EIS, which recommend for wilderness designation 0, 15, 29, and 78% of the final 644,847-acre inventory, with the 78% alternative consisting of all RARE II inventoried roadless areas. Adding an alternative that includes all or most of the inventoried areas would also ensure that the current Alternative C provides an appropriate intermediate alternative.

The FEIS devotes five pages to justifying its decision not to conduct a detailed analysis of “an alternative that would recommend as wilderness all areas evaluated, or identified by the public.” FEIS at 48. According to the FEIS, the Forest Service dismissed such an alternative for two reasons:

- “1. The Forest Supervisor determined that it would be impracticable to manage such a vast wilderness area.
2. The impacts to other uses of the lands would be greater than the benefits provided by the additional wilderness area....” (id.).

However, the justification in the FEIS is entirely one-sided, misleadingly presenting as fact multiple myths and biases of wilderness opponents (some of which we address elsewhere in this objection) while saying very little about the many benefits of wilderness.

The FEIS makes the disingenuous excuse that the Forest Service lacks the staffing capacity to adequately educate the visiting public, patrol the wilderness areas, and prevent trespassing by motorized vehicles. This rationale ignores the fact that the Forest Service has many ways to address capacity problems like this, such as to enlist volunteers, form partnerships, hire contractors, and adjust the work plans of available staff. The agency cannot simply sweep its staffing capacity problems under the rug by eliminating Recommended Wilderness alternatives from NEPA consideration. In addition, arguably the management of non-wilderness lands requires just as much or likely much more staff capacity to ensure the agency meets its regulatory and statutory responsibilities (e.g., ecological integrity, threatened and endangered species protection) and provides for safe and rewarding visitor experiences.

The blanket exclusion of areas with motorized trails is particularly faulty. The FEIS states, “In particular, areas with motor vehicle designations were considered but then excluded from [areas] carried forward for analysis in the ... environmental impact statement” (FEIS at 49). However, under the land management planning framework established by Congress in the NFMA, decisions made in the forest plan, including wilderness recommendations, take priority over other, administratively-created planning processes like travel planning. The Forest Service is illegally letting the tail wag the dog by precluding consideration of alternatives in the NFMA forest planning process based on prior travel planning decisions, which were made without consideration of areas’ wilderness suitability.

Furthermore, to the extent the Forest Service treated motorized uses as a manageability concern, that is not a proper consideration at the evaluation stage or in determining areas to carry forward for analysis. Instead, whether to manage an area to protect its wilderness characteristics or to promote and facilitate motorized recreation is precisely the sort of management tradeoff that should be analyzed in the plan EIS.

Suggested Resolution: The Forest Service should analyze an alternative that includes wilderness recommendation for all, or the vast majority of, the 614,516-acre wilderness inventory. This will require a supplemental EIS. *See* 40 C.F.R. § 1502.9(a) & (c).

D. The final plan does not adequately display the White Mountain recommended wilderness additions West and East as ROS primitive class.

Recommended wilderness areas should be mapped with primitive ROS overlays. South Sierra, Piper Mountain recommended wilderness additions are clearly mapped as primitive. It is much more difficult to ascertain the White Mountain area additions. If the public does not understand where recommended wilderness areas are located these area's wilderness qualities could be eroded over time. This is especially true given the proximity to motorized areas.

Suggested Resolution: Clean up, and correct if necessary, the primitive ROS overlay in the White Mountain east and west recommended wilderness additions.

II. Inventoried Roadless Areas

The final plan establishes Inventoried Roadless Areas (pursuant to the Roadless Area Conservation Rule) as Designated Areas and states that they can be viewed on a map in Appendix A (pg. 75). However, we cannot find anywhere in the plan - including in Appendix A- where Inventoried Roadless Areas are depicted on a map.

The final plan includes one paragraph on the management of Inventoried Roadless Areas (p. 106):

Inventoried roadless areas are the result of an inventory produced by the Forest Service that in 2001, resulted in agency regulations, known collectively as the Roadless Rule. About 26 percent of the Inyo National Forest has been designated as inventoried roadless areas, as governed by the Roadless Area Conservation Rule (36 CFR 294 Subpart B). The Roadless Area Conservation Rule and Forest Service policy guide and restrict management activities within inventoried roadless areas. Subject to the restrictions imposed by the Rule, forestwide plan components apply to inventoried roadless areas, so there are no specific plan components here.

The stated management direction is simply to comply with the Roadless Area Conservation Rule and Forest Service policy and does not include any specific plan components. The planning rule requires that plans include plan components, including standards and guidelines, for the “[a]ppropriate management of other designated areas....in the plan area...” 36 C.F.R. § 219.10(b)(1). We note that while other categories of designated areas have guiding plan components in compliance with the section of the planning rule (e.g., Wilderness areas, eligible wild and scenic rivers), the final plan does not contain plan components for the management of Inventoried Roadless Designated Areas.

In our previous comments (SFL et al. 2016, p. 271-273), we asked that the Forest Service clearly depict Inventoried Roadless Areas on a map and establish plan components to direct their management both to comply with regulatory direction and because doing so is good planning practice (DEIS comments pg. 272). The purpose of land management planning is to allocate lands within the planning area into zones and ascribe management direction (essentially constraints and opportunities) to each zone. Forest Service managers and the public use the resultant zones and associated direction to guide project design and project-level decisions. It is therefore important that the plan accurately reflect the direction ascribed to each and every acre without ambiguity.

Unfortunately, as crafted, the plan direction for Inventoried Roadless Areas is not clear. With no depiction of the areas on a map and no plan components guiding the management of these areas, forest managers and the public will not easily be able to tell which acres are within Inventoried Roadless Areas and exactly what the management direction should be. This may result in mistakes and erosion of roadless values over the life of the plan. Even if the Forest Service argues that it will know where Inventoried Roadless Areas are located and how they will be managed, the public should not be expected to know to look outside the direction in the plan when projects are proposed and designed. Just as the agency depicts Wilderness areas on maps and establishes plan components for their management, so should the agency depict Inventoried Roadless Areas on a map and establish plan components including standards and guidelines for their management.

Suggested resolution:

- Provide a map showing the Inventoried Roadless Designated Areas as intended by the statement on page 75 of the plan.
- Establish management direction for the Inventoried Roadless Designated Areas with the following plan components:

DA-IRA-DC 01

These areas provide large, relatively undisturbed landscapes with high scenic quality that are important for backcountry recreation where visitors feel as if they are in a natural place devoid of roads where they can explore, observe nature, and challenge themselves. Because these lands are minimally disturbed, they provide clean drinking water and function as biological strongholds for populations of at-risk wildlife and plants. They also serve as buffers against the spread of non-native invasive plant species and serve as reference areas for study and research.

DA-IRA-DC 02

This designated area will be managed for primitive, semi-primitive non-motorized, and semi-primitive motorized recreation opportunity settings (ROS). Management activities conducted should be consistent with the scenic integrity objective of high.

DA-IRA-STD 01

A road shall not be constructed or reconstructed, unless the responsible official determines that a road is needed according to the circumstances allowed in the Roadless Area Conservation Rule (66 FR 3244).

DA-IRA-STD 02

Timber shall not be cut, sold, or removed, unless the responsible official determines that activities meet the circumstances provided in the Roadless Area Conservation Rule (66 FR 3244).

DA-IRA-GDL 01

When developing the proposed action for a NEPA project, incorporate as feasible restorative activities such as road decommissioning and mine reclamation within the project area to move towards desired conditions.

DA-IRA- SUIT

01 The following uses are not suitable in inventoried roadless areas

- a. Commercial timber activities.
- b. Road building unless allowed under an exception in the Roadless Area Conservation Rule.

III. Winter Recreational Opportunity Spectrum

Firstly we commend the Forest Service for their admirable work drafting a plan that recognizes the unique character of the Inyo National Forest and engages partners and local communities for effective stewardship and responsible recreation. We feel the Inyo is setting excellent precedent for sustainable recreation management in this revised forest plan. However, we believe there are a few specific pieces of the Final Plan and Draft ROD related to winter recreation, particularly the winter Recreation Opportunity Spectrum (ROS), that must be improved.

Under subpart C of the Forest Service Travel Management Rule,¹⁶ National Forests with adequate snowfall must designate and display on a map a system of routes and areas where over-snow vehicles (OSVs) are permitted to travel based on protection of resources and other recreational uses. Where a forest has the benefit of revising its land management plan prior to making route and area designations for OSV use, the forest plan should set a framework for sustainable winter recreation and subsequent, implementation-level winter travel management planning.¹⁷ This framework is necessary to satisfy the 2012 planning rule requirement to develop plan components that provide for year-round sustainable recreation¹⁸ and to ensure that OSV use does not threaten sensitive winter wildlife, wildlife habitat, air and water quality, and wilderness values.¹⁹ Below we offer objections and remedies to help improve the final document.

¹⁶ 36 C.F.R. part 212.

¹⁷ See Forest Service Manual (FSM) 7712.2 & Forest Service Handbook (FSH) 7709.55, § 11.2 (explaining that site-specific travel management decisions generally should not be made in land management plans, which are designed to provide strategic, programmatic direction).

¹⁸ 36 C.F.R. § 219.10(b)(1)(i).

¹⁹ See 36 C.F.R. §§ 219.8, 219.9, 219.10(b)(1)(iv) (forest plans required to provide for ecological sustainability and species diversity, and to protect the ecological and social characteristics of recommended wilderness areas).

A. The Final Plan does not accurately describe the role of a winter Recreation Opportunity Spectrum.

We appreciate that the Final Plan includes a winter-specific ROS. We strongly advocated for that in the forest planning process²⁰ and are pleased to see that the Forest Service has responded with a draft winter ROS. We have discussed an Inyo winter ROS with the Forest Service many times over the course of the forest plan revision, both in in-person meetings and in our comments as listed above. However, because the winter ROS map has never before been offered for public comment, this is the first opportunity we have had to weigh in on specific boundaries that the Forest Service is proposing.

After reviewing the winter ROS map and GIS data provided by the Forest Service, we have grave concerns about the winter ROS settings applied across the forest. Some of our concerns relate to what appear to be simple mapping errors, while others relate to the winter ROS, as presented, merely being a reflection of the current condition or outdated management plans, rather than a thoughtful vision of winter recreation across the forest and a guiding document for Subpart C travel management planning. In the following section we have highlighted the most egregious errors in the draft plan. To fully address this concern, however, the Forest Service must take a hard look at its winter ROS and ensure that the map reflects desired conditions that will lead to economic, social, and ecological sustainability across the Inyo National Forest.

The Recreation Opportunity Spectrum – winter or summer – should represent *desired conditions*. The desired ROS settings are the heart of any sustainable recreation framework. They describe the collage of settings (physical, social and managerial) where specific experiences and benefits are derived. Therefore, the statement on page 12 of the Draft ROD - “I am including a winter recreation opportunity spectrum map that will serve as a baseline for current management and will then be updated if needed once travel management planning (subpart C, over-snow use) is complete.” – is inaccurate and misleading.

Likewise, the FEIS is incorrect in stating that the recreation opportunity spectrum does not determine suitable uses.²¹ The 2012 planning rule directives make it clear that the recreation opportunity spectrum classes represent desired conditions and that the ROS is a tool for describing areas where motorized use is suitable²². The winter ROS map should outline the *desired* winter ROS and suitability for where motorized uses may be designated, rather than a reflection of current conditions. As described in the Forest Service Handbook, integrated planning should form the basis for the desired ROS settings.²³ Integrated planning should identify, for example, where in the landscape motorized recreation is a “stressor” to other resource values (like non-motorized recreation, wildlife, meadows, etc.). Identification and allocation of desired recreation settings should not be done after other resource allocations are

²⁰ See page 20 of Aug 24, 2016 DEIS comments

²¹ FEIS V3, page 540

²² FSH 1909.12 - Land Management Planning Handbook, Chapter 20, 23.23a

²³ “At the forest scale, sustainable recreation is derived through the integrated planning process and emerges as the resultant set of desired recreation opportunity spectrum classes.” FSH 1909.12, ch. 20 § 23.23(a)(1)(d)

made. This has occurred on many forests in the past and resulted in the subordination of recreation settings to other resource allocations.²⁴

It is critical that the forest plan use the ROS to identify the suitability of various forest lands for motorized use. This is markedly different from designating areas (or routes) for motorized use. The Final Plan correctly states that travel management designations must occur in a subsequent site-specific process. However, describing and mapping suitability is an essential foundation for future site-specific decisions. Connecting suitability with the ROS maps indicates that motorized use may be appropriate but does not make a specific commitment to authorize the use. However, where lands are identified as not suitable for motorized use, then it may not be authorized in subsequent travel planning.

If the Inyo follows Forest Service directives and produces a forward-looking winter ROS map there should be no need to update the winter ROS following travel planning. Instead, the future travel plan should tier to the winter ROS presented in the revised forest plan. The forest plan should drive travel planning, not the other way around. It does not make sense to revise a forest plan, only to have to amend it in just a couple of years because of entirely foreseeable designations made in travel planning. Future designated OSV routes and areas must be located in areas identified as suitable for winter motorized use in the forest plan, but this does not mean that all suitable (semi-primitive motorized, roaded natural, rural) areas or the full extent of these areas should or will be designated for over-snow vehicle (OSV) use during travel planning.

In this forest plan revision, the Inyo should not simply produce a winter ROS map that reflects current OSV use across the forest.²⁵ Instead, the winter ROS map should be forward looking and provide guidance on how the Inyo hopes to manage winter recreation in the future. Although forthcoming winter travel planning will make site-specific designations, the Inyo must make broad suitability decisions, and changes, during forest planning that reflect an integrated planning process in which recreation is part and parcel of social, economic, and ecological sustainability. While we very much appreciate that the Draft ROD acknowledges the need for winter travel planning, the Draft ROD must also clearly articulate the role of the winter ROS.

Suggested Resolution:

- Clarify that the winter ROS map reflects desired future conditions, and revise the map to reflect desired future conditions rather than existing conditions.
- Follow the example set by the Flathead National Forest to clearly articulate how the ROS describes the suitability of various lands on the forest for motor vehicles.²⁶

²⁴ In previous rounds of forest planning, ROS settings were generally by-products of resource allocations or merely represented existing uses. For example, zones where vegetation management or commercial logging were allowed were—by default—assigned motorized ROS settings. As another example, zones where motorized use historically occurred were similarly assigned motorized ROS settings. The Inyo should not treat the ROS under the 2012 Rule the same as under the 1982 Rule.

²⁵ See FEIS V3, page 539: “The final plan has a winter recreation opportunity spectrum map that displays where current winter uses occur on the Inyo National Forest”

²⁶ https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd567581.pdf, page 112-114

B. The winter ROS mapped and described in the FEIS and Draft ROD fail to accurately describe either current or desired winter recreation management.

1. Mapping errors

Based on discrepancies between the summer and winter ROS maps, we believe there are several mapping errors in the winter ROS presented in the Final Plan. They are as follows:

- **Mammoth Mountain permit area. Summer: RN; Winter: SPNM**
The Mammoth Mountain permit area is a developed ski resort. It is not a semi-primitive setting, nor is it non-motorized in winter. This area should be RN (roaded natural) in both seasons.
- **Town of Mammoth Lakes. Summer: OFB; Winter: SPNM**
It is unclear how the Town of Mammoth Lakes could possibly be outside of the forest boundary in the summer but not in the winter. This area should be classified as OFB in both seasons.
- **Glass Mountains. Summer: P, SPNM; Winter: SPNM, SPM**
Any area that is classified as primitive ROS in one season should be classified as primitive in both seasons. As an example, the inventoried roadless and recommended wilderness area within the Glass Mountains Range should be classified as primitive year-round, with the desired condition being non-motorized, especially as the Final Plan also states that motorized uses are not suitable within recommended wilderness areas. Likewise, for the same reasons that the steep canyons along the flanks of the range to the rim of the Long Valley Caldera—including the Sentinel Meadow Research Natural Area, proposed sage grouse critical habitat along the caldera escarpment, and habitat for Lahontan cutthroat trout populations in O’Harrel Canyon Creek—are classified as primitive or semi-primitive non-motorized in the summer ROS, so winter motorized use should not be suitable within these same areas.
- **Wheeler Crest OSV Route.**
The winter ROS dataset provided with the Draft ROD shows a designated OSV route along forest road 05s127 east of Upper Rock Creek onto the Wheeler Crest. We assume this is a mistake. ROS maps display suitability for different uses across broad areas. ROS maps should not display specific routes - motorized or otherwise. Route designation decisions are made in travel planning or during other site-specific processes and designated motorized routes should be depicted on either an OSVM or MVUM, not on the ROS maps.
- **White Mountain Road (Methuselah Loop, Wyman Creek) and wilderness additions.**
The westernmost portion of the northwest polygon of the three White Mountains wilderness addition polygons seems to be classified semi-primitive non-motorized rather than primitive. All three White Mountains wilderness additions should be Primitive ROS both summer and winter. We are also concerned that significant adjacent semi-primitive non-motorized zones (according to the summer ROS) are classified as semi-primitive motorized in the winter ROS. This raises questions, as outlined above, regarding

suitability and desired conditions for these semi-primitive and primitive-adjacent areas.

- **Coyote Flat. Summer: P, SPNM, SPM; Winter: SPM**

Not only should any area that has a primitive setting be classified as primitive year-round, it is particularly concerning that this area would transition from primitive in summer to a ROS setting where motorized uses are suitable in winter. We understand that there is motorized use on existing forest roads in this area in all seasons, hence the summer SPM setting. The area that is classified SPM in summer (where the motorized routes are) can logically be classified SPM in winter, but not the whole of Coyote Flat Area, much of which is within a designated IRA and should be classified as Primitive or SPNM.

2. **Areas where winter ROS map does not reflect desired future conditions or proposed winter ROS does not support ecological, social, or economic sustainability.**

- **Sherwins West (Valentine to Mammoth Rock). Summer: SPNM; Winter: SPM**

In the summer ROS, the main north-facing Sherwins Front, from just east of the Valentine Lakes trail westward to Mammoth Rock and the Mammoth Consolidated Mine and adjacent to the John Muir Wilderness, is appropriately classified as semi-primitive non-motorized. There are no existing roads or motorized routes in this area, while there are various Forest Service system trails that are highly popular with hikers, mountain bikers, and equestrian users. The Laurel Lakes drainage, by contrast, encompassing the historic Laurel Lakes 4x4 route, is appropriately classified as semi-primitive motorized. We are deeply concerned to see the entire range classified as semi-primitive motorized in the winter ROS. We understand that current pre-Subpart C winter use maps show the entire Sherwins area to be open to cross-country OSV travel, but given traditional use patterns and the non-motorized classification in summer, we do not see the rationale for a desired condition that includes motorized suitability in winter. Given its accessibility from multiple points within the Town of Mammoth Lakes, the Sherwins Area, from the northeast ridge up Punta Bardini and across to the Lakes Basin, is by far the most popular human-powered backcountry ski and snowboard zone on the entire forest, with many dozens of users hiking and skiing and snowboarding in that zone on any given winter day. For the winter ROS to truly support ecological, social, and economic sustainability, this zone should be classified semi-primitive non-motorized in winter as it is in summer. Semi-primitive motorized classification is more appropriate in Solitude Canyon and the Laurel Lakes drainage.

- **Morgan South/Pine Creek. Summer: SPNM; Winter: SPM**

The FEIS does not provide any rationale for changing the desired condition in winter to allow for motorized travel. If the Forest Service believes that this area truly is suitable for winter motorized use, the FEIS should explain how this suitability is supported by a full integration of other resource management objectives.

- **Mono Craters. Summer: SPNM; Winter: SPM**
This is within the Mono Craters Inventoried Roadless Area.²⁷ Although there is some historical OSV use, the area now receives very little snow and has sensitive plant assemblages associated with fragile pumice-dominated soils. Although the Mono Basin Scenic Area Management Plan provides for winter-motorized use, current and future winter conditions in the Craters are not suitable for over-snow vehicle use. A semi-primitive non-motorized winter classification is appropriate for this area.
- **Inyo Mountains. Summer: P, SPNM and SPM; Winter: SPM.**
Primitive areas should not be available for motorized use in any season (should be primitive ROS year-round).
- **Shore of Mono Lake. Pockets of summer SPNM; winter SPM**
Similar to the Mono Craters, the shores of Mono Lake receive very little snow. Tufa structures and spring systems should be protected along the lake from over-snow vehicle use and there is no reason that this area should be considered suitable for winter-motorized use.

In our August 2016 comment letter we asked that the Inyo release a supplemental DEIS with a winter ROS in order to give the public an opportunity to review and comment upon the winter ROS prior to the FEIS. Although we appreciate that the Inyo has added a winter ROS, we object to the limited opportunity the public has had to comment on this portion of the plan. We stated on page 23 of our August 2016 letter, “Merely incorporating a winter ROS into the final plan without public comment would violate NEPA, the Administrative Procedures Act, and the intent of the 2012 planning rule.” We continue to believe that this is true – not providing a previous opportunity to comment on the winter ROS is a violation of federal law and the 2012 planning rule.

Suggested Resolution:

- Provide an opportunity for public comment on the winter ROS map and incorporate those public comments into determinations for the winter ROS in the final plan.
- Modify the winter ROS map for the specific areas we’ve highlighted as described above.
- Review the winter ROS map for the entire forest and craft a winter ROS that is forward-looking rather than one that simply reflects the current condition. This map should support ecological, social, and economic sustainability across the Inyo National Forest.

C. The Final ROD should provide a specific timeframe for winter travel management planning.

The revised forest plan contains many admirable and aspirational desired conditions. Without a plan for action, however, these desired conditions will not be achieved. We are particularly concerned about the timeframe in which the Forest will embark on Subpart C (winter) travel management planning. On page 8 of our DEIS comments and in our May 2017 letter to the Forest Supervisor, we asked that the Forest Service set an objective for completing winter travel

²⁷ See FEIS, vol 2. pgs 32-33,112-113, polygon 1072

planning. However, there is no such timeline in the Draft ROD. There is, however, precedent in the Draft ROD for setting timelines for future projects. For example, on page 53 of the final plan the Inyo lists several objectives for sustainable recreation. The final plan should also include a timeframe for when site-specific Subpart C travel planning will be complete.

We are pleased to see the Forest Service include a winter-specific Recreation Opportunity Spectrum in the revised Forest Plan and to see an acknowledgment of the need for Subpart C travel planning. A firm commitment to initiate and complete winter travel planning through a plan component objective will ensure planning will occur in a timely manner and elevate the need to the Regional level.

Suggested Resolution: The Forest Service should commit to completing site-specific winter travel management planning following the completion of the Forest Plan revision. This commitment should be clearly articulated in the final plan on page 53 as REC-FW-OBJ 05: within 3 years of plan approval site-specific winter travel planning (subpart C travel management) will be completed.

D. The Final ROD Should Contain A Plan Standard Establishing A Minimum Snow Depth For Cross-Country Over-Snow Vehicle Travel.

The Proposed Action for the INF plan revision included a standard that would establish a minimum snow depth of 18 inches for cross-country OSV travel. The standard was not included in the draft EIS and we argued at that time that a minimum snow depth is necessary to protect soils and vegetation, provide consistency in regulations, and ensure that management of OSV use is responsive to radical shifts in the timing and amount of snow accumulation that the Sierra Nevada mountains are experiencing due to climate change²⁸. The Inyo has not explained why the proposed minimum snow depth standard was dropped between the Proposed Action and DEIS. Since the time of our DEIS comments we have engaged in several winter travel planning processes elsewhere in Region 5. Across each of these forests the Forest Service consistently proposes to require a minimum snow depth for OSV travel because of the overwhelming consensus by Agency resource specialists that a minimum snow depth is necessary to protect soils from compaction and erosion and ground vegetation from physical damage (*see* most recently, Stanislaus National Forest DEIS for OSV designation process, page 18; "forest resource specialists, unanimously agreed that designating a minimum snow depth requirement in order to allow OSV use to occur was mutually beneficial and provided a means in which to minimize the likelihood of resource damage occurring as a result of OSV use").

Although the Inyo could arguably wait until winter travel planning to implement a minimum snow depth standard, there is no reason not to include a snow depth standard in the Forest Plan. There is precedent for such action - the Stanislaus, Eldorado, and other forests in Region 5 have minimum snow depth standards in their forest plans. Failing to include this plan standard leaves soil and vegetation resources on the Inyo vulnerable to damage. Including this plan standard, however, ensures better and more immediate protection for forest resources and helps to set the stage for OSV travel planning in much the same way as a winter ROS does. It helps to identify

²⁸ We raised this issue on pages 20-21 of our DEIS comment letter submitted Aug 25, 2016.

which areas of the forest have enough snow to support cross-country OSV travel. For example, if the forest plan contains a minimum snow depth standard, then, during travel planning, the Forest Service can use this standard to determine which areas of the forest even receive the minimum amount of snow necessary to support OSV travel. Areas that don't receive sufficient snow - as defined by the forest plan standard - would then not be eligible for OSV use designation in travel planning.

Suggested Resolution: In the final plan, include a forest plan component on page 54 (REC-FW-STD 02) setting a minimum snow depth of 18 inches for cross-country OSV travel on the Inyo National Forest.

There is still work to be done to finalize the winter ROS portion of the plan. As this is our first opportunity to formally comment on the winter ROS, we hope that the Forest Service will be responsive to our objections and carefully consider the points we have raised.

IV. Northern Goshawk Should be A Species of Conservation Concern

We have provided extensive comments on the need to include northern goshawk as a Species of Conservation Concern. We found that the August 2018 Rationales for Animal Species Considered for Designation as Species of Conservation Concern (SCC Rationale) adequately defines the necessary ecological conditions on which the northern goshawk depends. With the exception of failing to adequately analyze the effects of thinning on the key ecological conditions, the SCC Rationale found that the threats of climate-related tree mortality and wildfire substantially threaten the species habitat and these threats are increasing in the plan area. We are therefore puzzled as to how the SCC Rationale came to the conclusion that there is not substantial concern for the long-term persistence of the species in the plan area.

As stated in the SCC Rationale, the northern goshawk has been found by a number of agencies and organizations to be a species for which conservation is a concern in California:

...has a [NatureServe] rating of S3 in California, indicating that it is “vulnerable” in California, and a rating of S2 in Nevada, indicating that it is “imperiled” in Nevada (NatureServe 2015). The northern goshawk is a California bird species of special concern and a California bird species of greatest conservation need. It is also listed as a California BLM Sensitive species. It is a Regional Forester sensitive species for every national forest in the Region except for the Cleveland National Forest. (SCC Rationale, p. 200)

The SCC Rationales adequately defines the specific ecological conditions on which the species depends, including:

Northern goshawks nest in areas with larger diameter trees, higher canopy closure, open understory (Squires and Ruggiero 1996, Squires and Reynolds 1997a) (p. 201)

Key ecological requirements for northern goshawk are suitable nesting and foraging habitat that support adequate prey populations.

It appears goshawk require a minimum threshold amount (e.g., 80 ha in the southern Cascades) of nesting habitat in mature forest condition to maintain occupancy (Woodbridge and Detrich 1994).

The SCC Rationales also defines some important information relevant to northern goshawk population trends and threats to key ecological conditions:

Northern goshawk is considered locally uncommon as a breeding and wintering species in California (Bloom et al. 1985, Gaines 1992, Small 1994, Woodbridge and Detrich 1994, Bezener and Fix 2000, Keane 2008). (p. 200)

Data from the Breeding Bird Survey and Christmas Bird Count have shown opposing trends for northern goshawk; however, these data sets are largely recognized as not adequate for monitoring population trends of goshawk (Keane 2008). (p. 201)

In the southern Sierra Nevada, large high-severity fires and large areas of tree cover loss from drought and bark beetle related mortality, especially over the last five years, has substantially reduced the amount of suitable nesting habitat within closed canopy forests. Habitat occupancy rates for northern goshawk decrease in areas of tree cover loss. (p. 201)

These results indicate that high-severity fire and associated loss of tree cover reduces the quantity and quality of goshawk habitat and is a conservation concern in the increasingly fire-prone and beetle-prone forests of California (Kalinowski et al. 2017).

Based on the “climate change vulnerability index”, a risk assessment tool developed by NatureServe to predict a species vulnerability to climate change, northern goshawk in the Sierra Nevada was rated as Moderately Vulnerable, which is defined as “abundance and/or range extent within geographical area assessed likely to decrease by 2050” (Siegel et al. 2014). (p. 202)

There may be increased future risk of inadequate number, distribution, and quality of large trees and snags. (p. 208)

Climate change and potential drought related effects will likely exert pressure on the key ecological conditions that this species depends upon (as noted above), but it is unknown what long term role these stressors will have on the species’ ability to persist in the planning unit over time. (p. 209)

The SCC Rationale provides a clear connection between the key ecological conditions on which the species depends (i.e., 80 ha of dense mature forests) and threats to those conditions (i.e., large

high severity wildfire and climate-related tree mortality). However, the SCC Rationale goes out of its way to cast doubt on the trends of the effects on mature dense forest habitat, despite there being little doubt on the trends of these threats in the FEIS. For example, the FEIS found that the pace and scale of wildfire and climate-related tree mortality are increasing within the plan area and are disproportionately affecting mature dense forests:

As described in the “Fire Trends” and “Terrestrial Vegetation Ecology” sections, large fires with high-severity effects are occurring more frequently in the Sierra Nevada, particularly in the dense forested stands in montane vegetation. While this trend is greatest on the west side of the Sierra Nevada, larger and more severe wildfires are also occurring on the Inyo National Forest. Although specific effects are generally not known, these fires are having adverse consequences on many species associated with forested landscapes. For example, fires with high-severity effects can completely remove nesting and denning trees, roost trees, structurally complex understories that support prey, and denning and cover structures. In addition to fire, large trees and groups of trees are dying from widespread insect outbreaks and the spread of diseases and pathogens. Drought stress is not only weakening these trees and making them more vulnerable to insects, diseases, and pathogens, but it is also causing many trees to die. Tree densities in the forests of the Sierra Nevada and Great Basin ranges, as well as prolonged drought conditions pose a significant and growing threat of levels of tree mortality outside of the natural range of variation to montane forest habitat and the species associated with them. (FEIS, Vol. 1, p. 332)

and

...under all alternatives, there would continue to be large, high-intensity fires, especially within dense forests lacking restoration. (FEIS, Vol 1, p. 223)

Despite the SCC Rationale stating that: (1) the species requires a minimum threshold amount of 80 ha of dense old forest habitat dominated by larger trees, (2) these key ecological conditions are threatened by wildfire, climate-related tree mortality, and vegetation management, and (3) the threats of wildfire and climate-related tree mortality are increasing in the plan area, the SCC Rationale does not analyze the past, present, and future trends in 80 ha patches of mature dense forest habitat from these threats in the plan area. Such an analysis is essential to determining if there is concern for the long-term persistence of the species in the plan area. The SCC Rationale also fails to analyze the potential likelihood that forest vegetation management would affect the ecological conditions on which the species depends.

It is especially concerning that the SCC Rationale fails to mention how current forest plan direction, which protects from thinning 80 ha (200 acres) of the highest quality nesting habitat surrounding each goshawk nest, is no longer necessary. The protection of 80 ha of the highest quality nesting and roosting habitat associated with each goshawk nest was specifically developed to minimize reductions in canopy cover, a key ecological condition on which the species depends, from forest thinning practices.

The SCC Rationale clearly determines that the key ecosystem characteristics needed by goshawk are “old growth habitat components, including large trees, snags, down logs and forest with open understories, closed canopy cover, and higher basal area.” However, the SCC Rationale goes on to suggest that the potential effects of forest thinning on goshawk nesting habitat would not affect the species because the thinning would be “restoration based.” However, the SCC rationale does not discuss the effects of “restoration based” thinning on canopy cover, a key ecological condition on which the species depends.

It is our experience that the vast majority of “restoration based” thinning projects reduce canopy cover to levels that would not support goshawk nesting and the desired conditions for the forest types goshawks depend on in the revised forest plan do not ensure that adequate amounts of high canopy cover forests will exist in areas where “restoration based” thinning occurs. For example, the desired conditions in the revised plan (Table 1, p. 18) suggest that it may be desirable to have no dense mature Jeffrey pine, no dense mature dry mixed conifer, and as little as 10% dense mature red fir forest across the plan area. At this time, many goshawk nests occur in Jeffrey pine and dry mixed conifer forests in the plan area and the desired conditions for these vegetation types do not ensure that any mature dense forest habitat will be provided. In other words, the desired conditions for the forest types on which the species depends allows for management to create conditions that do not support the ecological conditions on which the species depends as part of forest restoration thinning.

A reoccurring theme for revising the Inyo forest plan is that forests in the plan area are too dense, and therefore must be thinned to minimize the threats of wildfire and climate-related tree mortality. Even in the red fir forest type, where it is desired to have at least 10% of the forest type composed of mature dense forest, there is no mechanism in the revised plan to ensure that large enough contiguous blocks (i.e., 80 ha) of mature dense forest habitat will be provided anywhere on the landscape in areas that undergo restoration-based thinning. Based on an analysis of current goshawk protected activity centers vs. timber suitability (Figure 1), 14 of the 38 (37%) goshawk protected activity centers have considerable overlap with areas designated as suitable for timber. The revised plan does not include any plan components for retaining canopy cover at levels that would support goshawk nesting. Clearly, forest “restoration based” thinning represents a threat to a key ecological condition on which the species depends (i.e., mature dense forests) and the forest plan provides no assurances that this necessary ecological condition will be provided in the plan area.

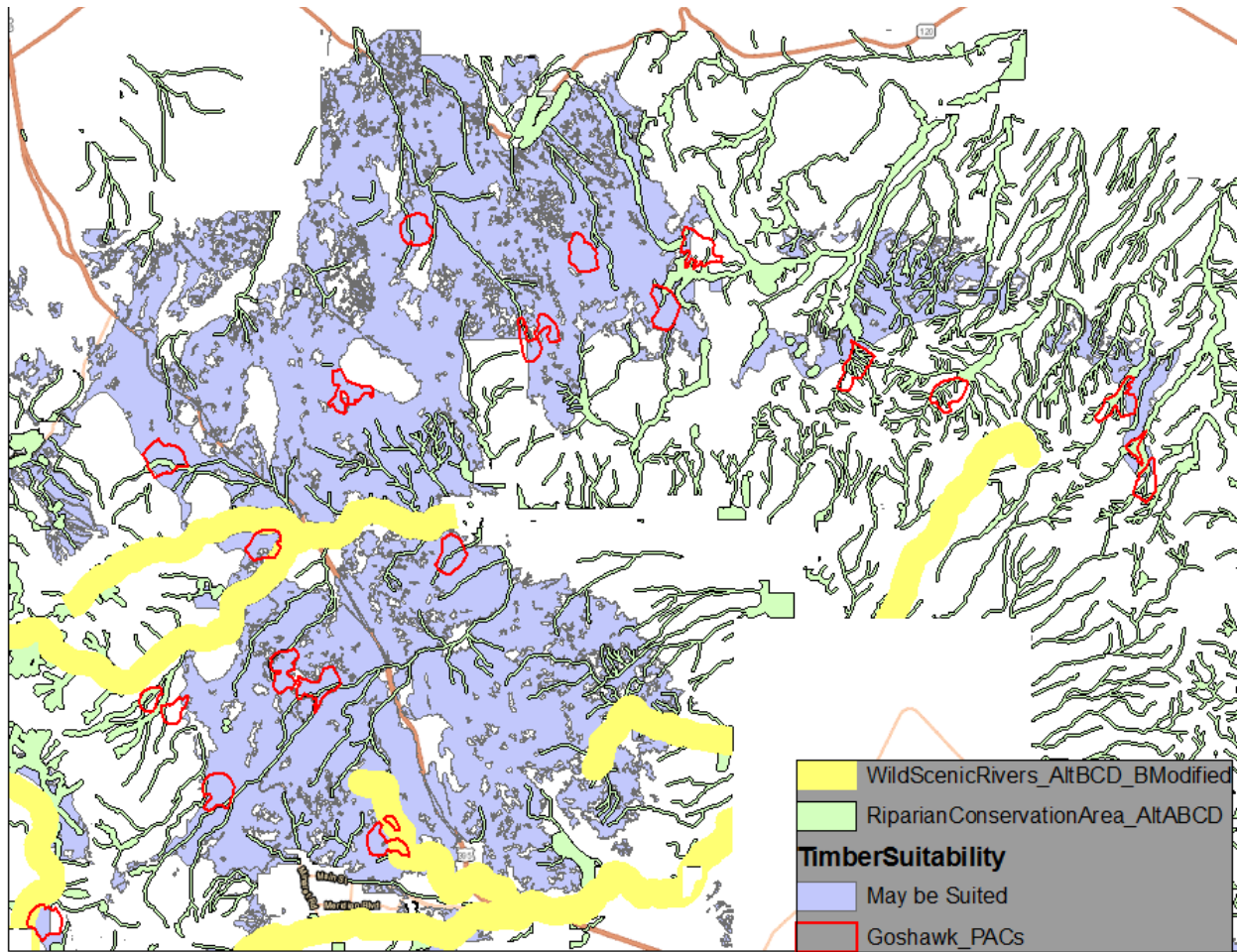


Figure 1. Currently designated northern goshawk protected activity centers (red polygons) vs. areas defined as suitable for timber production (purple polygons) in the August 2018 revised Inyo National Forest Plan. Map created from data posted at Forest Service website for forest planning (<https://www.fs.usda.gov/detail/r5/landmanagement/gis/?cid=STELPRDB5327165>).

Suggested resolution: As a result of ongoing and increasing threats to the species from high severity wildfire, climate-related tree mortality, and “restoration based” thinning on mature closed canopy cover forest habitat in the plan area, the Forest Service should include the northern goshawk as a Species of Conservation Concern and the revised forest plan should be modified to reinstate the protection of 80 ha of nesting habitat associated with each northern goshawk nest identified.

V. At-Risk Wildlife Species

A. Sage-grouse in the bi-state area

1. The FEIS fails to recognize that sage-grouse in the bi-state area is in decline.

The Biological Evaluation (2017, p. 20) says: “The population of sage-grouse within the Bi-State area is considered stable and rising in some portions of the area.” But according to the Bi-State Sage-Grouse Technical Advisory Committee (TAC) meeting on July 18, 2018, the 2018 survey data indicate the bi-state sage-grouse Distinct Population Segment as a whole is in sharp decline. There are data gaps in the White Mountains Priority Management Unit (PMU). The Long Valley PMU was hit hard by the recent extreme California drought and experienced a population crash, as well as suffering from raven predation subsidized by the trash dump in Long Valley. The Granite Mountains population, south of Mono Lake, only had two males counted on Big Sand Flat lek in 2018. Sagehen Meadow also had only two males on the lek. Only Bodie Hills has had increases in lek counts, possibly because it is high elevation and buffered from droughts.

The most recent population study presented in the FEIS (p. 347) showed that sage-grouse populations within the bi-state area were stable from 2003 to 2012 (Coates et al. 2014). One exception was the Parker Meadow population in the South Mono Population Management Unit; the study showed that this subpopulation is at risk of extinction (Coates et al. 2014). This is outdated information since the extreme drought of 2015-16 caused population crashes in several PMUs. Since 2014, Parker Meadow has been augmented with hens and broods to stave off extirpation of this local population.

Suggested resolution: We ask that you:

- Incorporate recent drought-related population crashes into Forest management for sage-grouse, and modify other management actions accordingly to ease stressors on sage-grouse populations (such as livestock grazing, fencing, raven predation). Objectives must have detailed acreages, maps, measurements of vegetation and range, and a time schedule.
- Use newer survey data, and newer science. The Coates paper was found by the court to have several problems with respect to certainty of effectiveness. The revised plan must bring new information to bear, identify status of species, track management actions on the ground, and track the response of sage-grouse populations.
- The revised plan needs to provide specific standards to achieve and measure suitable habitat for sage-grouse, such as 7-inch stubble height as the very minimum utilization standard of native perennial grasses on grazing allotments, and percentage removal of vegetation important for sage-grouse such as Basin and Wyoming big sagebrush and black sagebrush, as well as wet meadow and bunchgrass habitats.
- The revised plan should include maps of PMUs and all areas of past, current, and planned future vegetation treatments that are being used as restoration actions. Livestock allotments should be overlaid on these maps.

- When a sage-grouse standard says to “Enhance the native plant community” (Standard SPEC-SG-STD 01 3.), give more specific standards (spatial scale, species composition, abundance, seral stage, rate of improvement, prioritization criteria), as well as all factors contributing to these very specific standards.
- Apply a 5% limit for annual grasses in nesting habitat; as with nesting habitats, this is an important Desired Condition to achieve (see Wild Earth Guardians comment letter on Inyo Forest Plan Revision, August 25, 2017).

2. The effectiveness of the conservation measures is uncertain.

Due to the recent court decision directing USFWS to reconsider bi-state sage-grouse listing under ESA, it is imperative that Forest Plans monitor and measure the effectiveness of conservation measures. In *Appendix F: Species of Conservation Concern Persistence Analysis*, pinyon-juniper treatments are not scientifically measured as to their effectiveness for stabilizing and increasing sage-grouse populations.

Suggested resolution: The full array of Best Available Science Information (BASI), including thorough studies that scientifically compare control plots with treatment plots, should be incorporated into ecosystem plan components. Study whether pinyon-juniper natural communities are actually a key threat to sage-grouse on the Inyo. Other factors may be more significant, such as livestock grazing and climate change. Bi-state sage-grouse should be added to the Biological Assessment as a Candidate Species.

3. Voluntary retirement of grazing permits was not included in the Revised Plan.

The voluntary retirement of grazing permits is an effective conservation measure to address threats from grazing on sage-grouse. The revised plan does not include retirement as a conservation measure.

As we previously commented (Sierra Forest Legacy et al. 2016, WildEarth Guardians 2016):

Livestock Permit Retirement

The Forest Service must also consider a provision that would administratively allow permanent retirement of livestock grazing permits on a voluntary basis when permits are relinquished within sage grouse habitats. As noted above, cessation of livestock grazing improves habitat conditions for sage grouse, offering important benefits, and allows degraded rangelands to recover to a healthy state. Cessation of livestock grazing has been shown to lead to recovery of grass cover in sagebrush ecosystems, and restoration of rangeland health (Yeo 2005). At the Idaho National Engineering and Environmental Laboratory, livestock grazing has been excluded for decades, and healthy plant communities have rebounded more quickly than on surrounding grazed lands (Anderson and Inouye 2001). According to Yeo (2005:99), “Despite changes in grazing management, continued livestock grazing may hinder the rate or magnitude of vegetation response compared to livestock exclusion.” The new Forest Plan should include a

provision that requires any livestock grazing permit that is relinquished within occupied sage grouse habitat to be permanently closed to future grazing.

Suggested resolution: We ask that you include permit retirement language as a reasonable alternative to address significant threats posed by livestock grazing and facilities to bi-state sage-grouse. Permit retirement is a provision that has been included in the proposed alternatives of many BLM sage-grouse Resource Management Plan amendments and revisions.

4. The Revised Plan Does Not Provide For The Necessary Ecological Conditions To Support the Recovery or Persistence Of Sage Grouse.

More specific standards need to be incorporated into the Inyo National Forest Plan, including these standards that are in the Bi-State Forest Plan Amendment for the Humboldt-Toiyabe National Forest.²⁹ The Inyo *Final Environmental Impact Statement for Revision of the Inyo National Forest Land Management Plan–Vol.1, p. 23*, states that the Inyo would consider management direction from the Humboldt-Toiyabe plan “where feasible and applicable.” However, it is not clear why a significant number of plan components from the Humboldt-Toiyabe plan that are essential for maintaining sage-grouse viability were not deemed feasible and applicable and incorporated into the Inyo plan.

In several cases the Humboldt Toiyabe plan includes plan components we identified as essential in our comments, making the following points. The Inyo Final Plan contains no limit on the amount of disturbance allowed in sage-grouse habitat, unlike every other sage-grouse conservation plan prepared by the federal government. The Inyo plan does not specifically identify and protect wintering habitat a key ecological condition required for this species. We cited BASI in our comments to support the necessity for creating such a standard (Sierra Forest Legacy et al. Aug 25, 2016, p. 190).

Suggested resolution: We ask that you include in the revised plan the following standards from the Humboldt-Toiyabe forest plan amendment (citations following each standard reflect the number convention used in the plan amendment):

- No more than 3% surface disturbance per square mile, averaged across a 4.7-mile radius around sage grouse leks (AA-S-02).
- Do not authorize off-highway vehicle events within winter habitats November 1 to March 1 (AR-S-03).
- No livestock handling and watering facilities within 2 miles of leks or within 0.6 mile of riparian areas (RI-S-06)
- Do not install new fences anywhere in habitat. If they must be installed, they should be let-down fences and be at least 1.2 miles from leks (AA-S-09). *Although we recommend 4 miles from leks.*
- Authorize new roads only when necessary and minimize footprint in habitat (AR-S-01)

²⁹ Note that we do not agree with all of these standards, such as those concerning vegetation treatments and those using livestock to graze cheatgrass.

- No ORV events within 4 miles of leks during breeding/nesting season or in winter habitat from November through February (AR-S-02, AR-S-03)
- Subject to valid and existing rights, remove tall structures in bi-state DPS habitat within 4 miles of active or pending lek that could serve as predator perches or decrease the use of an area (AA-G-01)
- Use existing roads and co-locate powerlines to minimize footprint of rights-of-way for valid existing rights (LUSU-S-01)
- Where feasible, bury powerlines in occupied habitat (LUSU-G-04)
- Do not grant new ROWs in occupied habitat (LUSU-S-01)
- No solid minerals leasing within habitat (MS-S-01)
- No minerals materials pits or prospecting permits in habitat (MM-S-01)
- Expansion of existing minerals materials pits is only permitted under no unmitigated net loss of habitat (MM-S-02)
- No new wind farms or solar facilities in habitat (LUSU-S-03 and LUSU-S-02)
- Retain federal lands with habitat unless their disposal results in a net gain for grouse (LUSU-S-06)
- Land acquisition plan will include inholdings with sage-grouse habitat (LUSU-S-07)
- Require proper containment and prompt removal of refuse to avoid attracting predators/scavengers (LUSU-S-09)
- Grazing permits, annual operating instructions etc. shall include direction to move toward desired habitat conditions (RP-S-01)
- Manage grazing to maintain residual cover of grasses during the breeding/nesting season (RU-S-01)
- Limit grazing to removal of <45% herbaceous species in mountain big sagebrush, <35% herbaceous species in Wyoming and basin big sagebrush and black sagebrush, and <50% in riparian and wet meadows (RU-S-02)
- Water developments at springs or seeps will preserve the continuity of predevelopment riparian areas (RI-S-05)
- Water developments must be drained when not in use to minimize breeding habitat for mosquitoes that carry West Nile virus (RI-S-03)

5. Grazing Practices Do Not Provide For High Quality Habitat For Sage Grouse.

We support this desired condition for sage-grouse in the revised plan:

SPEC-SG-DC - 02

High quality nesting cover, conditions that support high levels of quality pre-laying hen habitat and dietary protein intake needs, and habitat supporting chick-rearing nutritional needs occur throughout breeding habitat in each population management unit.

High quality habitat and nutritional forage for sage-grouse is not being met in many parts of the Forest.

Nutritional research on sage-grouse on the Inyo National Forest by Eric Tymstra and others from University of California, Davis should be incorporated into the FEIS and used to develop plan components in the revised plan. This work evaluates sagebrush disturbance chemistry and the impacts of metabolic stressors on breeding males and female sage-grouse. Disturbance appears to lower the nutrition value of sagebrush by increasing chemical stressors that impact breeding sage-grouse energy levels and expenditure. These causes of disturbance to sagebrush should be further investigated, with potential disturbance vectors as domestic cattle, sheep, and off-highway vehicle (OHV) activities and included in the forest plan monitoring for sage-grouse. Plan components that control or minimize the disruption of habitat quality and sage-grouse food sources should be integrated into the revised plan. The interrelation of livestock, OHV activity, and the sagebrush disturbance process should be studied, and management actions developed to reduce sagebrush disturbance.

Below are some key slides from Tymstra et al.'s research on sage grouse metabolism and impacts from chemical stressors on reproductive success in the Bodie Hills Lek that emphasize the interrelationships noted above (taken from Tymstra 2018).

Foodscapes

- Many plants are chemically defended
- Sagebrush are some of these plants!
- Herbivores, like sage-grouse, are always eating and must deal with these toxins
- Herbivores have biochemical methods of detoxification, but they are costly
- Herbivores "see" the world as what they can and cannot eat
- This has effects on how we conserve areas of land



My love do cost a thing: Balancing reproductive and detoxification costs

- Must balance costs of display, traveling to foraging patches, and detoxifying chemically defended food
- How do herbivores afford reproductive costs while also devoting energy to finding and detoxifying food?
- Sage-grouse are a rare study system where foraging behavior and reproductive behavior can be linked to diet quality



My love do cost a thing: Balancing reproductive and detoxification costs

- Linking diet quality to reproductive behavior on the lek
 - Biomarkers of diet quality and stress
 - Biomarkers of sage brush quality
 - Male reproductive behavior
 - Male foraging behavior
- Sage-grouse foodscape conservation



6. The negative impacts of disturbance from “restoration” are not adequately disclosed.

Throughout the Terrestrial Vegetation and sage-grouse sections, vegetation treatments are presented as restoration projects. However, vegetation treatments can lead to disturbance and cheatgrass invasion. The FEIS and revised plan do not adequately consider the negative impacts of such “restoration” actions. Conifer vegetation treatments should not always be considered restoration of natural communities and their potential for adverse impact should be evaluated. Furthermore, the impacts of livestock grazing on native bunchgrass and meadow communities should be given equal or greater consideration in management.

Pinyon-juniper open sagebrush shrublands are a natural native plant community. We have not seen evidence of Jeffrey pines outside of the natural range of variability in adjacent sagebrush communities. The FEIS and revised plan should address other stressors to sage-grouse, such as domestic sheep grazing, instead of exclusively relying on restoration treatments like the Jeffrey pine treatments proposed near Sagehen Summit. Also, livestock structures such as water tanks, barbed wire fences, and other range equipment that attract ravens and are used as perches for ravens and hawks should be examined. Cheatgrass can invade areas where pinyon-juniper removal has occurred. The revised plan should include measures to avoid cheatgrass invasions following treatments and measures to restore proper healthy functioning in areas where cheatgrass has invaded. Detailed mitigation measures need to be listed in the revised plan to limit the expansion of cheatgrass. How will no net loss of habitat be measured, while vegetation treatments may be degrading and disturbing landscapes? In degraded habitat conditions, no-net-loss is neither a restoration strategy nor sage-grouse conservation strategy. It is a strategy to maintain the failed status quo.

Suggested resolution: We ask that you incorporate the following in the revised plan:

- Seeding areas with native plants should be carefully described for post-fire restoration compared to seeding areas after vegetation treatments and pinyon-juniper removal. Seeding as a means of increasing livestock forage should not be undertaken.

- Disturbed areas, including all vegetation treatments and wildfires, should be rested from livestock grazing for 5 years to allow soil and vegetation recovery. Reduce number of vegetation treatments that cause this disturbance and the need for re-seeding.
- Use studies to determine if treatments are actually helping sage-grouse populations to stabilize and increase, as there is no correlation that we can see.
- Do not rely solely on adaptive management when undertaking vegetation treatments, use a sound scientific evidence-gathering before and during treatments, using control plots to measure success or failure. Track populations of sage-grouse to correlate evidence that treatments are successfully increasing populations.
- Include in the revised plan the following standard from the Humboldt-Toiyabe plan: Weed-S0-4 Annual invasive grasses shall be controlled or suppressed using an integrated strategy.

7. Impacts from livestock facilities are not adequately disclosed or mitigated.

Throughout the sage-grouse standards and goals, livestock facilities are not appropriately assessed for removal or mitigation. We ask that specificity about livestock facilities sufficient to enable certainty in management direction be added to the revised plan. This standard from the Humboldt-Toiyabe plan should be included in the revised plan:

HTNF: AA-G-01

Subject to valid and existing rights, remove tall structures in bi-state DPS habitat within 4 miles of active or pending lek that could serve as predator perches or decrease the use of an area.

Concerning fences, mortality has been found even on reflector-marked barbed wire fences (see Christiansen (2009): “If only confirmed sage-grouse data are compared, the markers appear to have reduced grouse mortality by 61%.”) Even when decreases in mortality are achieved by the reflectors, there still remains a large amount of collision mortality. The remedy for this is to not build fences in sage-grouse habitats. Consider removing water troughs and trucks, salting blocks and tubs, feeding stations, and other livestock facilities within 4 miles of leks and important brood-rearing habitats. In Standard (SPEC-SG-STD) 08 When conducting livestock grazing allotment assessments, establish key areas in meadow or upland habitats where absent in occupied sage-grouse habitat. What management will be done in these key areas? For example, livestock removal? This should be defined in detail.

8. Utilization standards in sage-grouse habitat do not provide for necessary ecological conditions.

Under Rangeland Vegetation Types, Standards (RANG-FW-STD) discuss proposed utilization of sagebrush/bunchgrass vegetation types is given as 50% at desired condition (revised plan, p. 63). Sedge Dominated Wet Meadow type is given as 45% utilization at desired condition. Sedge-Grass Dominated Moist Meadow utilization is given at 40% at desired conditions (revised plan, p. 62). These utilization standards result in lower quality habitat conditions for sage-grouse in these important habitats.

Suggested resolution: We ask that the revised plan include provisions that cap grazing utilization at lower levels in occupied sage grouse habitats, as asked for in comments submitted by WildEarth Guardians (August 25, 2016, p. 32).

9. Proposed plan components in Riparian Conservation Areas are not adequate to provide for sage-grouse habitat requirements.

Riparian habitats are critically important brood-rearing habitats for sage-grouse, and thus the Watershed Evaluation Criteria become an important tool for measuring habitat effectiveness. Despite the importance of these riparian habitats, the revised plan does not include desired conditions or standards for Riparian Conservation Areas or Watersheds that specifically address sage-grouse needs, as requested in WildEarth Guardians comments (August 25, 2016, p. 32).

Suggested resolution: For occupied sage-grouse habitats, we ask that you include a standard that all riparian areas should be in “good or fully functional” condition within occupied sage-grouse habitat, and meeting this target (not “moving toward,” but meeting) should be a required standard that is incorporated into Annual Operating Instructions, grazing permit renewals, and allotment management plans. Conversely, stocking levels must be reduced for allotments that are “functioning at risk,” “not meeting,” or “moving toward” compliance with these standards where livestock grazing is a contributing factor.

10. Limitations on herbicide use in sage-grouse habitat

We asked that herbicide application within 1 mile of sage-grouse habitats be prohibited during season of use (Sierra Forest Legacy et al. 2016). The response by Inyo National Forest was they would use an integrated pest management (IPM) approach. We ask that you provide further direction on this IPM approach, including the steps to be taken prior to consideration of herbicide use, and a detailed application procedures, such as tools, timing, spray radius, toxicity duration, of herbicide and pesticide use in sage-grouse habitats, and following vegetation treatments.

11. Grazing Management In Allotments That Are not Meeting Or Trending Toward Desired Conditions

We have observed sagebrush habitats in Inyo National Forest in 2018 that are not trending toward satisfactory soil conditions, functional hydrology, and biotic integrity based on their NRV. Areas such as Trail Canyon in the White Mountains, which is in sage-grouse range, are not trending towards satisfactory soil conditions and biotic integrity. We saw heavily trampled meadows, some with 60% bare soil, cheatgrass invasion, a cow carcass, heavy manure loads, chiseled and eroded stream banks, browsed willows, meadow grass-sedge-rush stubble height well below 7 inches, and a single (rare?) monkeyflower (*Mimulus* sp.) surviving the over-grazing. No biological soil crusts were in evidence. These current conditions are not consistent with the desired conditions for sagebrush stated in the revised plan (TERR-SAGE-DC 03). In cases like this where conditions are so departed from desired, rest of the allotment should be required, yet the plan provides not clear that rest should be undertaken to ensure recovery.

Suggested resolution: The plan should include a standard that requires 5 years of rest when conditions are as described above to bring conditions back to acceptable standards. The revised plan should also identify the retirement of all or portions of allotments in crucial sage-grouse habitats.

B. California Spotted Owl

1. Species-specific plan components for the California spotted owl in the revised plan are arbitrary (Administrative Procedures Act, 5 U.S.C. § 706(2)(A)).

The FEIS and final project materials have not connected available science on the California spotted owl to the species-specific plan components; therefore, the plan components are arbitrary.

Under the heading titled “Key Ecological Conditions in the Plan Area” (FEIS Vol. 2, p. 385) it is stated that, “Forests containing old growth characteristics (dense vegetation and canopy cover, snags, cavities, larger trees and large down woody debris) in coniferous and mixed pine-oak forests are critical to California spotted owl. On the Inyo National Forest, these ecological conditions can be found in the mixed conifer and upper montane forest ecological zones that consist of red fir, Jeffrey pine, and lodgepole pine.” No additional information on the key ecological conditions on which the species depends is provided in the viability analysis (FEIS, Vol. 2, pgs. 382-387).

We did find several instances in the FEIS where it was mentioned that California spotted owls rely on, “Mature forests with tree canopy cover greater than 70 percent, multilayered canopies, and an abundance of large trees and snags; pine-oak.” (e.g., FEIS, Vol. 1, Table 61, p. 341), but no references were attributed and we were unable to locate any additional information relevant to the key ecological conditions on which the California spotted owl depends in the FEIS or final plan materials, including the Biological Evaluation. While this statement does provide more specificity than what is stated in the viability analysis, it neglects to define how much mature forest with >70% canopy cover is necessary and desired at the activity center, territory, and home range scales to provide for stable occupancy or reproduction. There is considerable science information on habitat needs at the different spatial scales that spotted owls select habitat (see our scoping comments, our DEIS comments, and Tables 1-3 in Attachment B of these comments).

Although we contend that most of the species-specific plan components for the California spotted owl are arbitrary because no science or other rationale were provided in the FEIS or other final plan materials, the following are specific plan components that we ask be justified before the Record of Decision is finalized:

SPEC-CSO-STD-01a - Limit mechanical treatments to no more than 25 percent of an individual protected activity center per decade.

SPEC-CSO-STD-01c - Use individual tree and small group harvest methods when tree removal is needed.

SPEC-CSO-STD-01e - Do not remove overstory trees or trees larger than 24 inches in diameter at breast height

SPEC-CSO-GDL-02a - If protocol surveys show no occupancy after at least 3 years of survey and the protected activity center does not meet the protected activity center desired conditions, the protected activity center may be removed from the network.

SPEC-CSO-GDL-02d - If there is more than 90 percent basal area tree mortality across more than 50 percent of the protected activity center or if less than 100 acres of suitable nesting and roosting habitat remains, the protected activity center may be removed from the network. Under these conditions, no surveys are required before retiring the protected activity center.

Additionally, no information or analysis was provided in the FEIS to justify exemption of the plan components for spotted owls “within the Destination Recreation Areas, as suitable nesting habitat would not be found within these areas due to the high levels of disturbance.” (Revised Plan, p. 41) We are not aware of any science information that supports the idea that spotted owls avoid areas with higher levels of human recreation when adequate habitat is available. For example, Muir Woods in Marin County is a 554-acre National Monument that has had extremely high levels of human recreation for decades, yet several spotted owl territories on the monument have been occupied throughout this time.

2. Best available science information was not used to develop species-specific plan components for the California spotted owl.

The 2012 Planning Rule (36 C.F.R. § 219.3) requires that, “The responsible official shall document how the best available scientific information was used to inform the assessment, the plan decision, and the monitoring program as required in §§ 219.6(a)(3) and 219.14(a)(4). Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered.” The U.S. Forest Service has not provided any information on how the spotted owl studies included in the Best Available Scientific Information (BASI) Summary Table dated February 2018 were applied to the development of the revised forest plan.

The California spotted owl is one of the most studied terrestrial wildlife species in the world. Since the 2004 Forest Plan Amendment was issued, dozens of studies have been published that include detailed information on the key ecological conditions on which the California spotted owl depends (e.g., Blakesley et al. 2005, Seamans and Gutierrez 2007, Tempel et al. 2014, North et al. 2017). However, it is unclear what information was used to develop the species-specific plan components for the California spotted owl. Despite all of the published literature on the species since the 2004 SNFPA, only three references were cited in the viability analysis in the FEIS (Vol. 2, pgs. 382-387). Two of the citations were on the range of the barred owl and one stated that timber harvest is a primary threat to the species. No other studies on the California spotted owl were cited anywhere in the FEIS or BE.

In our comments on the DEIS (SFL et al. August 25, 2016), we cited numerous findings from recent science studies that define specific necessary ecological conditions on which the California spotted owl depends, including the amounts of intermediate and mature forest with

moderate and high canopy cover required at spatial scales the species selects habitat. We also provided considerable information on the adverse effects of salvage logging within spotted owl territories in habitat that burned at high severity. In the time that has elapsed since the release of the DEIS additional important studies have been published on the species. The only place we were able to locate any of the references we cited in our past comments or some of the more recent literature on the California spotted owl was in the BASI Summary Table dated February 2018. However, it does not appear any of these studies were used in the biological evaluation of the LRMP, the viability analysis in Volume 2 of the FEIS, or to develop plan components for the species, as none of these studies were referenced in any of the final revised plan documents.

Suggested resolution: Information from each of the studies and reports included on the BASI Summary Table should be cited somewhere in the forest planning documents. It is meaningless to include studies or reports in a list with no indication for how the references were used to develop plan components, assess the effects of the alternatives, or help determine which alternative to select. This practice is also inconsistent with scientific conventions that require citations to the literature when science information is used to support a claim or to establish a logical connection to research.

- 3. The revised plan fails to ensure the ecological conditions on which California spotted owl depends will be provided in unburned and burned forests (36 C.F.R. § 219.9) and the FEIS and related materials fail to disclose the potential effects of authorized management activities on spotted owls.**

Unburned Habitat

It is well documented in the science literature that spotted owls require about 50 to 60% of each territory to be composed of moderate (40-60%) and/or high (>70%) canopy cover forest dominated by intermediate (12-24 inches dbh) and/or large (>24 inches) sized trees for stable occupancy (Seamans and Gutiérrez 2007, Jones et al. 2018) and potential reproduction (North et al. 2017), with larger trees and higher canopy cover providing the highest quality habitat (Tempel et al. 2014, Tempel et la. 2016). The current forest plan, adopted in 2004, contains measures that were designed to reduce the adverse effects of logging on the quantity and quality of spotted owl nesting, roosting, and unburned foraging habitat.

The revised plan does not appear to provide any meaningful habitat conservation measures at the territory scale. Although the revised plan does include a territory designation, it is unclear to us how the territory designation affects management activities. That is to say, the territory designation for spotted owls in the revised plan appears to have no use or purpose. Based on numerous studies (Blakesley et al. 2005, Seamans and Gutiérrez 2007, Tempel et al. 2014, Tempel et al. 2016), the amount of mature high canopy cover forest at the territory scale is important to California spotted owl occupancy and reproduction and reductions in canopy cover at the territory scale are likely to have significant negative effects on these demographic parameters.

There are three ways that the revised plan makes significant changes to the existing plan that would be likely to have significant adverse effects on occupancy and reproduction. First, the revised plan does not include the designation of spotted owl Home Range Core Areas and associated standards and guidelines provided in the 2004 SNFPA (Record of Decision, pgs. 39-40, 50-51). Current plan direction requires the establishment of a 600-acre HRCA around each spotted owl territory, which includes the 300-acre Protected Activity Center (PAC). Within HRCAs, vegetation management activities must maintain >50% canopy cover. Removing the HRCA designation from the forest plan results in a 300-acre reduction in the amount of forested habitat associated with each PAC where >50% canopy cover, an essential ecological condition on which the species depends, must be maintained. Although the revised plan includes the designation of a spotted owl territory, the plan does not include a canopy cover retention requirement anywhere outside of the PAC. This change in management direction was not mentioned in the FEIS or BE, nor was science rationale provided for how spotted owl occupancy or reproduction would be supported if canopy cover was reduced outside of PACs. Reductions in canopy cover at the territory scale from thinning is likely to have significant adverse effects on the probability of occupancy and reproduction.

We believe the recent findings of North et al. (2017) are of particular importance to defining the necessary ecological conditions and developing plan components for the California spotted owl. North et al. (2017) studied habitat conditions that spotted owl pairs select for at the nest, activity center, and territory scales on four well-distributed large landscape study areas spanning the Sierra Nevada bioregion. To ensure that the revised plan provides the conditions necessary to support occupancy of spotted owl pairs, the forest plan should rely on the results of North et al. (2017). It is fundamental to be aware that the only known stable or increasing California spotted owl population in the North et al. (2017) study was at Sequoia-Kings Canyon National Park (Conner et al. 2016, Jones et al. 2016). Although North et al. (2017) includes results from four study areas, results from the Sequoia-Kings Canyon National Park study area should be used to develop plan components that are likely to support a stable population and occupancy of spotted owl pairs.

According to Figure 6 in North et al. (2017, p. 174), about 20% of each territory occupied by an owl pair in Sequoia-Kings Canyon National Park was composed of high canopy cover forest dominated by trees >48 meters tall, with an additional 10% in moderate canopy cover dominated by trees >48 meters tall, 15% with high canopy cover dominated by trees 32-48 meters, and 15% with moderate canopy cover dominated by trees 32-48 meters tall. In other words, **for the only known stable California spotted owl population, approximately 60% of each territory occupied by an owl pair was composed of higher quality nesting, roosting, and foraging habitat.** In contrast, the revised plan only ensures that 300-acre PACs would provide nesting, roosting, and foraging habitat, with an allowance to log trees <24 inches on one quarter of a PAC every ten years. Although Jones et al. (2018) found that about 20% of each territory occupied by a single territorial owl or pair in Sequoia-Kings was composed of large trees (>24 inches dbh) with high canopy cover (>70%) and about 10% was large trees with medium canopy cover (40-70%), the study also found that about 18% of each territory was composed of medium trees (12-24 inches dbh) with high canopy cover (>70%), a forest structure that has also been found to be important to nesting and roosting (Tempel et al. 2016). Information from these and other recent studies (see Tables 1-3 in Attachment B) should have been used to develop plan components for

the California spotted owl, conduct the viability analysis, and evaluate the effects of the selected alternative on the species in the Biological Evaluation.

The second change in spotted owl forest plan direction from the 2004 Amendment to the revised plan that is likely to have a significant effect on the probability of spotted owl occupancy and reproduction concerns when PACs may be removed from the system. Under the revised plan, PACs can be removed from the system after 3 years of negative survey results (Revised Plan, p. 43, SPEC-CSO-GDL-2a), while current plan direction requires that such habitat be maintained in perpetuity regardless of occupancy status (2004 SNFPA ROD, p. 37).

No information or rationale were provided in the FEIS for allowing the removal of PACs from the system after 3 years of negative survey results. However, Wood et al. (2018) recently found that the probability of spotted owl territory recolonization was approximately 24% 3 years after abandonment. We contend that a 24% probability of recolonization is relatively high for an at-risk species that has declined significantly across its range on National Forests (Gutierrez et al. 2017) and is likely to continue to decline regardless of the effects of management (Wood et al. 2018).

Finally, under current plan direction, treatment in PACs is limited to the removal of material necessary to meet project fuels objectives, but the revised forest plan allows for the removal of overstory trees up to 24 inches dbh on 25% of each PAC every 10 years within spatially undefined community buffers. It is our experience that logging projects in nesting and roosting habitat that remove trees up to 24 inches dbh often convert such habitat to low-moderate quality foraging habitat and it often takes decades for low-moderate quality foraging habitat to develop the necessary structure to provide nesting and roosting habitat. As a result, the change in plan direction allowing for logging trees <24 inches dbh over 25% of each PAC every ten years could result in significant losses of important nesting and roosting habitat, with potential effects compounding every 10 years. It is unclear to us the extent that this could occur because no attempt was made to spatially define where the community buffers will occur. The purpose of allowing for the removal of trees up to 24 inches dbh in PACs in community buffers is also unclear to us and should be justified and defined.

NEPA is a process that mandates federal agencies to take a hard look at the environmental impacts of proposed actions. At this time, none of the potential effects of management activities known to have adverse effects on spotted owl occupancy, survival, and reproduction and that may occur within a spotted owl territory, PAC, or community buffer under the revised plan have been analyzed or disclosed in the FEIS or BE.

Burned Habitat

Although the effects of high severity fire are nuanced, there is no debate that salvage logging within spotted owl territories negatively effects the species (US Fish and Wildlife Service 2017). Furthermore, nearly all forest and fire ecologists and spotted owl biologists agree that fires that burn within NRV have beneficial ecological effects and are unlikely to negatively affect the species. Jones et al. (2016) did find that predicted occupancy rates were on average nine times lower when >50% of a territory burned high severity (>90% basal area mortality). However,

Jones et al. (2016) did not report on the post-fire habitat conditions within burned territories in their study area and it is probable that occupancy could remain high in cases where >50% of the territory burns at high severity if sufficient amounts of high quality habitat also remained post-fire. Post-fire occupancy is likely influenced by the size, amount, and proximity of high severity patches to the territory center and the size, amount, and proximity of the remaining high quality habitat to the territory center.

The U.S. Fish and Wildlife Service's Conservation Objectives Report states (p. 28, emphasis added): "California spotted owls persist in territories that experience low-moderate and mixed severity fire", and "in situations where over half a territory has burned at high severity (Jones et al. 2016a) **and individuals have abandoned the territory**, astute salvage could be warranted." This indicates that salvage logging is not warranted in occupied territories, regardless of the post-fire habitat conditions. Despite this conservation objective, the revised plan provides no measures to minimize or avoid salvage logging within occupied spotted owl territories, regardless of the post-fire habitat conditions. In fact, the revised plan goes so far as to allow PACs to be removed from the system when there is >90% basal area tree mortality across >50% a territory, without conducting spotted owl surveys. No information was provided in the FEIS explaining why such a guideline would be appropriate. We ask that the revised forest plan follow the U.S. Fish and Wildlife Service's conservation objective for salvage logging and avoid salvage logging in occupied territories. Such a minimization measure would require that territories be surveyed for the species, regardless of the post-fire conditions within the territory.

Suggested resolution: We ask that the following changes be made to the revised forest plan:

- Include a desired condition for 20% of each territory to be composed of high canopy cover forest dominated by trees >48 meters tall, with an additional 10% in moderate canopy cover dominated by trees >48 meters tall, 15% with high canopy cover dominated by trees 32-48 meters, and 15% with moderate canopy cover dominated by trees 32-48 meters tall.
- Include standards or guidelines that provide for the conservation of desired habitat conditions at the territory scale, including canopy cover retention criteria and limits on logging trees >32m tall to maintain habitat quality in areas contributing to the attainment of the desired conditions.
- Include a standard or guideline that limits fuel reduction treatments in PACs to the material necessary to provide for wildfire resilience.
- Include a standard that does not allow more than 25% of each PAC to be mechanically treated every 5 years.
- Provide a standard that a PAC may only be removed from the system after 4 years of non-occupancy and when the habitat quality and quantity in the unoccupied territory is unlikely to support occupancy.
- Survey for the species prior to post-fire logging.
- Avoid salvage logging, except for hazard tree removal within striking distance of roads and other infrastructure, in occupied territories.

C. Willow Flycatcher: The plan does not provide for its ecological condition.

The willow flycatcher was listed as endangered by the State of California in 1990. Since that time, all of the Great Basin willow flycatcher and little willow flycatcher populations in the southern Sierra Nevada have been extirpated, except for small and fragmented populations in Inyo and Mono counties. According to the FEIS, there is a small population associated with Rush Creek that partially occurs on the Inyo National Forest. The FEIS claims that willow flycatcher viability is not within the control of the Inyo National Forest because, “it is believed that high cowbird densities in this area resulting from backyard bird feeders and other human-induced attractions (rather than livestock grazing) would need to be addressed before attempting to attract willow flycatchers into those areas.”

High cowbird densities associated with backyard birdfeeders does not relieve the Inyo National Forest of managing for habitat component that reduce the probability of cowbird parasitism within the Rush Creek area, increasing habitat quality on larger meadow complexes in the area, or attempting to establish a breeding population of willow flycatchers on the forest in areas that have the potential to support the species. High cowbird densities do not necessarily preclude population persistence or breeding success. For example, the Owens River willow flycatcher population is persisting, despite the proximity to bird feeders and high densities of cowbirds. In addition, one of the most effective and long-term solutions to reduce cowbird parasitism is to increase habitat quality and quantity for the species (Siegle and Ahlers 2004). According to a Brown-headed Cowbird Management Techniques Manual issued by the U.S. Department of Interior:

Cowbird parasitism alone is not a major threat to healthy populations and is unlikely to endanger species when adequate habitat is available. Since habitat loss is probably the principal reason that species face endangerment, it is important to pursue efforts to augment habitat (Fish and Wildlife Service 2002). Therefore, habitat acquisition, improvement, and restoration are management strategies that should be implemented along with cowbird control measures (Ortega 1998, Whitfield and Sogge 1999, Fish and Wildlife Service 2002). (p. 10)

Certain characteristics of the vegetative structure can be beneficial in decreasing the vulnerability of host nests to parasitism. Dense vegetation at the nest level may help conceal nests and is often correlated with lower rates of parasitism (Staab and Morrison 1999, Uyehara and Whitfield 2000, Budnik et al. 2002). Consequently, measures that result in dense vegetation may help reduce parasitism. (p.11)

and

Cowbird abundance has been shown to decline with distances as short as 2 to 4 km (1.2 to 2.5 mi) from anthropogenic food sources (Tewksbury et al. 1999, Curson et al. 2000). If few feeding opportunities for cowbirds exist, parasitism may not be a problem even in areas where cowbirds are usually found, such as along edges and small openings (Robinson et al. 1993). (p. 12)

(Siegle and Ahlers 2004). Lee Vining, the nearest human population center to Rush Creek where bird feeders are likely to be found, is more than 5 km from Rush Creek, a distance at which cowbird abundance should decline (Siegle and Ahlers 2004). Loffland et al. (2014, Figure 7, p. 20) provide a map of riparian areas in the vicinity of Lee Vining where willow flycatcher restoration should occur (i.e., Rush Creek, Upper Rush Creek, Paker Lake, Bohler Canyon, Upper Lee Vining Creek, Elery Lake, and Gardisky Lake). Each of these riparian areas is >4 km from back yard bird feeders in Lee Vining, with Gardisky Lake, Elery Lake and Upper Rush Creek occurring >10 km from Lee Vining.

Suggested resolution: Given that habitat restoration can reduce cowbird parasitism and the distances of the potential restoration sites to cowbird sources, we believe it is within the ability of the Inyo National Forest to reduce threats to the willow flycatcher. To resolve this objection, we ask that the revised forest plan include the following plan components for the willow flycatcher:

Goal

Establish a stable breeding population of willow flycatchers in the vicinity of Lee Vining and Rush Creek on the Inyo National Forest.

Management Approach

Assess the potential effectiveness and feasibility for increasing willow flycatcher habitat quality and quantity, including habitat components known to reduce cowbird parasitism (e.g., riparian shrub and tree densities and extent) in areas identified for restoration in Loffland et al. (2014) (i.e., Rush Creek, Upper Rush Creek, Paker Lake, Bohler Canyon, Upper Lee Vining Creek, Elery Lake, and Gardinsky Lake). Work with species experts to identify potential habitat reference sites to help guide the habitat restoration assessment. If it is determined that such activities are likely to be effective and feasible, work with species experts and partners to implement restoration activities and attract willow flycatchers to restored habitat.

VI. Eligibility Determinations for Wild and Scenic Rivers

Mono Lake Basin streams

Mono Lake is a nationally and internationally recognized natural feature of the Inyo National Forest. Visitors from all over the world visit Mono Lake. The lake's outstanding scenery, unique natural and cultural history, and popularity as a tourist destination were recognized by Congress with the establishment of the Mono Basin National Forest Scenic Area in 1984. Mono Lake's very existence depends on the flow of its tributary streams from the Inyo Forest, including Rush Creek (and its tributaries Parker and Walker Creeks), Lee Vining Creek, and Mill Creek.

The importance of these streams is in part recognized in the draft plan (May 2016), revised Wild and Scenic Rivers Inventory (July 2017), and final plan and draft ROD (August 2018). However, the final plan and draft ROD have given short shrift to the extensive and multiple public comments submitted during all phases of the planning process documenting specific

outstandingly remarkable values and eligibility for lower segments of these streams, which to date have not been determined eligible by the Forest Service.

Summary of Forest Service WSR eligibility findings for Mono Basin streams

Rush Creek – The creek is free-flowing (FEIS Vol. 2, App. C, pg. 197). Segments 1-4 are eligible with outstandingly remarkable scenic, recreation, history, prehistory, wildlife, and geology values, although not all values are present on all segments (FEIS Vol. 2, App. C, Table C-6, pg. 310). Lower segments of Rush Creek between Silver and Grant Lakes, and from Grant Lake to the National Forest boundary (also the Mono Basin National Forest Scenic Area boundary) are not eligible. According to the response to public comments (FEIS Vol. 3, pg. 470), these segments were determined ineligible “because they did not have outstandingly remarkable values.” However, Table C-5 (FEIS Vol. 2, App. C, pg. 305), which provides information on previously identified segments with no outstanding values, includes only the segment between Silver and Grant Lakes as lacking values, but fails to list the segment between Grant Lake and the National Forest/Mono Basin Scenic Area boundary.

Parker Creek – Although not listed as free flowing in FEIS Vol. 2, App. C pg. 197, the response to public comments in FEIS Vol. 3, pg. 471 indicates that Parker Creek was “identified as free-flowing” (the list of free-flowing streams on FEIS Vol. 2 pg. 197 should be revised to include Parker Creek). Only the upper segment of Parker Creek from its headwaters to the Ansel Adams Wilderness boundary was determined eligible with outstandingly remarkable scenery and recreation values. Presumably, the free-flowing segments downstream are ineligible due to a supposed lack outstandingly remarkable values. However, Table C-5 (FEIS Vol. 2, App. C, pg. 304), which provides information on previously identified segments with no outstanding values, includes only the segment between the wilderness and national forest boundaries as lacking values, but fails to list the segment between the National Forest boundary and the creek’s confluence with Rush Creek.

Walker Creek – The creek is free flowing (FEIS Vol. 2, App. C, pg. 197). Two upper segments from its headwaters to the Ansel Adams Wilderness boundary are eligible with outstandingly remarkable scenery and recreation values. Presumably, the free-flowing lower segments of Walker Creek (minus the dam-created Walker Lake) are ineligible due to a supposed lack of outstandingly remarkable values. However, no segment of Walker Creek is listed in FEIS Vol. 2, App. C, Table C-5.

Lee Vining Creek – The creek is free flowing (FEIS Vol. 2, App. C, pg. 197). Six upper segments from its headwaters to the National Forest boundary (minus the dam-created Saddlebag and Ellery Lakes) are eligible with outstandingly remarkable scenery, recreation, and geology values (Note: Table C-6 lists six eligible segments, but in the response to public comments on pg. 50 of FEIS Vol. 3, Lee Vining is listed as possessing only four eligible segments – correction needed.). FEIS Vol. 2, Table C-5 lists two segments of Lee Vining Creek downstream of the LADWP diversion pond as not possessing outstandingly remarkable scenery, history, and other values.

Mill Creek – The creek is free flowing (FEIS Vol. 2, App. C, pg. 197). Four segments upstream of the dam-created Lundy Lake are eligible with outstandingly remarkable scenery, recreation, and geology values (Note: FEIS Vol. 2, App. C, Table C-6 lists four eligible segments but the response to public comments in FEIS Vol. 3, pg. 50 notes five eligible segments – correction needed). All segments of Mill Creek downstream of Lundy Lake are listed as not possessing outstandingly remarkable scenery and other values (FEIS Vol. 2, App. C, pgs. 302-303).

In summary, no lower segment of these creeks (except Rush Creek segment 3 from the Forest/Scenic Area boundary to Mono Lake) was determined eligible, allegedly due to a lack of outstandingly remarkable values. Scoping comments and comments in response to the draft plan and revised WSR inventory from Sierra Forest Legacy et al, CalWild, Mono Lake Committee, and Mono County included extensive information about the restored free-flowing character of these lower segments and their outstandingly remarkable values. But except for the lower segment of Rush Creek, these comments appear to have been rejected out of hand. The public comments response appendix does not provide any information as to why the Forest Service believes that the documented values are not apparently outstandingly remarkable.

A. Failure to identify outstandingly remarkable scenery values for the lower segments of Rush, Parker, Walker, Lee Vining, and Mill Creeks.

In its eligibility assessment of outstandingly remarkable scenery values for Mono Lake Basin streams, the Forest Service appears to be “cherry-picking” upper segments over lower segments in regard to identifying outstandingly remarkable scenery values, contrary to planning guidance in the Forest Service Handbook.

FSH 1909.12_82.61.2 directs the agency to “Consider the entire river system, including the interrelationship between the main stem and its tributaries and their associated ecosystems which may contain outstandingly remarkable values.”

FSH 1909.12_82.73a specifically notes that "Outstandingly remarkable scenic features may occupy only a small portion of a river corridor."

According to plan documents, nearly all upper stream segments of Rush, Walker, Parker, Lee Vining, and Mill possess outstandingly remarkable scenery values, including highly scenic canyons, towering peaks, granitic walls, visible glaciation, distinctive riparian vegetation, scenic meadow systems, waterfalls and cascades, aspen stands, and views of the Sierra crest.

The downstream segments that allegedly lack outstandingly remarkable values not only possess many of the scenery values identical to the upper segments, they possess even more diverse scenery, including sweeping vistas of Mono Lake and the eastern Sierra escarpment, lush riparian habitat and solitary stands of aspen and cottonwoods that fade into desolate sagebrush-bitterbrush steppes, stream channels cutting deeply through volcanic tuff and lake alluvium, the nearby brooding volcanic formations of the Mono Craters and Black Rock, and the seemingly endless panorama of the Great Basin Desert to the east.

Even if Forest Service resource specialists using their best professional judgement have made the determination that the scenery values of the lower segments simply do not compare to the eligible upper segments, it still appears that planning guidance to consider the entire river system and the clear direction that scenic features need only occupy a small portion of the river corridor are being ignored.

Given that the ineligible lower segments flow out of the National Forest and onto private lands before entering the congressionally designated boundary of the Mono Basin National Forest Scenic Area, it is difficult not to assume that the presence of private land played a role in the ineligibility findings. This too ignores planning guidance in the Forest Service Handbook.

FSH 1909.12_82.61 notes that “Ending points typically include the point of merger with a larger river or exit from the National Forest. *Rivers may be extended beyond the National Forest boundary if a logical ending point is nearby, such as a merger with the main stem of larger river.*” Or in this case, Mono Lake.

Finding these lower segments (except lower Rush Creek) to be ineligible ignores the importance of these streams to the continued restoration, health, and protection of the scenic resources of Mono Lake. Congress found the lake and its basin to possess nationally significant scenery and other resources and established the Mono Basin National Forest Scenic Area. The fact that these lower stream segments flow through this federal reservation seems to have been ignored. According to one Forest Service document, “The Mono Basin is a major scenic attraction in the Eastern Sierra and has been recognized as being a sensitive, almost fragile visual resource. (Mono Basin National Forest Scenic Area Comprehensive Management Plan, Inyo National Forest 1989, pg. 6) Determining these lower stream segments to be eligible for their outstandingly remarkable scenery also supports direction in the final plan and in the 1989 Scenic Area Plan to protect and enhance scenic resources in the Scenic Area.

Suggested resolution: Find the currently ineligible lower segments of Rush, Parker, Walker, Lee Vining, and Mill Creeks to be eligible for their outstandingly remarkable scenic values and include these determinations in a revised final plan.

B. Outstandingly remarkable history values for Rush and Lee Vining Creeks not evaluated or recognized.

Numerous comments were submitted during the scoping process and in response to the draft plan and the revised WSR inventory documenting the outstandingly remarkable historic value of Rush (including its tributaries, Parker and Walker) and Lee Vining Creeks associated with the Mono Lake public trust legal decision. These comments and this issue appear to have been ignored as the WSR inventory in FEIS Vol. 2, App. C was not revised to recognize outstandingly remarkable history values for Rush and Lee Vining Creeks and there is no direct response to this issue in the public comments response volume.

Simply put, the State Supreme Court decision and subsequent water rights decision by the California Water Resources Control Board saved Mono Lake and has helped restore the lake’s

biological, scenic, and recreational resources by restoring flows in Rush and Lee Vining Creeks. A quick internet search confirms the statewide and national significance of this decision.

According to Professor Erin Ryan of Lewis and Clark Law School (and former Forest Service Ranger at the Mono Basin National Forest Scenic Area), the Mono Lake decision “fostered some of the most important environmental law developments in the last century, and which has become a platform for some of the most potentially important developments in the new century...the decision spawned a quiet legal revolution in public trust ideals, which has redounded to other states and even nations as far distant as India.” (Ryan 2015: The Public Trust Doctrine, Private Water Allocation, and Mono Lake: The National Audubon Society v. Superior Court Backstory).

Michael Blum of Lewis & Clark College and Thea Schwartz of Northwestern Law School describe the Mono Lake case as “a truly remarkable decision; by any measure, the opinion ranks in the top ten of American environmental law decisions.” (Blum and Schwartz 2003: Mono Lake and the Evolving Public Trust in Western Water, by Michael Blum and Thea Schwartz)

Dave Owen, Associate Professor at the University of Maine School of Law confirms that “The Mono Lake Case is widely viewed as an environmental law classic. Commentators credit the case with transforming California water law and often cite it in support of arguments for expanded reliance on the public trust doctrine.” (Owen 2012: The Mono Lake Case, the Public Trust Doctrine, and the Administrative State).

There are many more scholarly articles about the historic importance of this legal decision found on the internet. The bottom line is that the legal decision restored flows in Rush, Parker, Walker, and Lee Vining Creeks, halted the destruction of Mono Lake, and has contributed significantly to the restoration of this nationally recognized resource (including the congressionally designated Mono Basin National Forest Scenic Area).

This unique outstandingly remarkable history value fully meets all the criteria for outstandingly remarkable values outlined in FSH 1909.12_82.73. It is undeniably “a river-related value” that is “unique” and it meets the river location criteria, contributing substantially to the functioning of the river ecosystem, is river-dependent, and owes its location or existence to the presence of the river. It also meets criteria in FSH 1909.12_82.73a(6)(a) for outstandingly remarkable history value associated with a significant event that is unique in the region. Although the guidelines note that historic features are, in most cases, 50 years or older, the unique nature of the now 35-year-old Mono Lake decision overrides this guideline.

Suggested resolution: Find the currently ineligible lower segments of Rush Creek (and its tributaries, Parker and Walker Creeks) and Lee Vining Creek to be eligible for outstandingly remarkable history value (the historic statewide/national precedence of the Mono Lake legal decision) and include these determinations in a revised final plan.

C. Outstandingly remarkable recreation and wildlife values of Rush, Lee Vining, and Mill Creeks not recognized.

Public comments were submitted in the scoping process and in response to the draft plan and revised WSR inventory about the outstandingly remarkable recreation and wildlife values of the free-flowing but currently considered ineligible lower segments of Rush, Lee Vining, and Mill Creeks. The allegedly ineligible lower segments of Rush, Lee Vining, and Mill Creeks should be found eligible for their outstandingly remarkable recreation and wildlife values.

The riparian habitat along the lower segments of Rush, Lee Vining, and Mill Creeks attracts a high diversity of migrating songbirds. According to the Points Reyes Bird Observatory, “The creeks (e.g. Lee Vining Creek) in the basin support the highest diversity of breeding songbird diversity and species richness of 33 creeks surveyed in the eastern Sierra.” Because of this, the National Audubon Society has declared the Mono Lake Basin to be an important bird area (National Audubon 2018: <https://www.audubon.org/important-bird-areas/mono-lake-basin>). This attracts visitors from beyond the region who birdwatch around the lake and along the Rush, Lee Vining, and Mill Creek segments that feed into the lake. Since 2002, the Mono Basin and the lake’s tributaries have been featured in the annual Mono Basin Bird Chautauqua, which draws hundreds of bird watchers and avian enthusiasts to the region every June. The Chautauqua includes field trips to Rush, Lee Vining, and Mill Creeks and other important birding areas in the basin.

Suggested resolution: The allegedly ineligible lower segments of Rush, Lee Vining, and Mill Creeks should be found eligible for their outstandingly remarkable recreation and wildlife values and these determinations should be included in a revised final plan.

D. Outstandingly remarkable values for Deadman Creek not identified.

Comments submitted by CalWild during the scoping process underscored the need for the Forest Service to identify the specific outstandingly remarkable values for which Deadman Creek was designated as part of the Owens River Headwaters Wild and Scenic River by Congress in 2009. The revised WSR inventory and draft plan failed to address this important issue.

Deadman Creek, upstream of its confluence with Glass Creek, was not determined eligible by the Forest Service in the original Inyo Forest WSR assessment conducted in the 1990s. But Congress designated all of Deadman Creek, along with Glass Creek, Owens River, and Big Springs as the Owens River Headwaters Wild and Scenic River in 2009. Despite extensive public comments documenting the outstandingly remarkable recreation, wildlife, geological, and botanical/ecological values of this segment, this issue was ignored in the draft and final plans.

Typically, a re-assessment of Deadman Creek’s outstandingly remarkable values could be conducted in the development of the Owens River Headwaters WSR comprehensive management plan. But nearly a decade after the river’s designation, no such plan has been developed (although a recent lawsuit settlement has committed the Forest Service to complete a comprehensive river management plan for the Owens River Headwaters by 2024).

The problem with this delay is the Forest Service cannot fulfill its obligation under 16 USC Sec. 1281a to protect the outstandingly remarkable values of Deadman Creek upstream of the Glass Creek confluence without first identifying those values. Public comments in response to the draft plan noted a “dramatic” increase in OHV and other visitor use in the Deadman Creek/Deadman Summit area (FEIS Vol 3, pg. 45). This increased use could be damaging the outstandingly remarkable values of Deadman Creek before the Forest Service has identified them.

Suggested resolution: Include in a revised final plan an assessment and identification of the outstandingly remarkable values of the Deadman Creek segment upstream of the Glass Creek confluence of the Owens River Headwaters Wild and Scenic River.

E. Wild classification is appropriate for the upper segment of O’Harrell Canyon Creek.

In response to public comments, the revised WSR inventory and final plan identified 5.3 miles of O’Harrell Canyon Creek to be eligible for its outstanding remarkable fish populations and prehistory values. The eligible segment has been preliminarily classified as recreational, even though the upper two miles of the eligible segment are within the Glass Mountain Inventoried Roadless Area (IRA). The upper segment of O’Harrell Canyon Creek (approximately 1.5-2 miles in length) clearly meets wild classification criteria. The upper segment is free of impoundment, essentially primitive with little or no evidence of human activities, generally inaccessible (no roads or even trails), and we assume it meets or exceeds federal water quality standards for the propagation of fish since government agencies and NGOs have recently introduced threatened Lahontan cutthroat trout in the stream’s lower segment. Wild classification should not affect any ongoing efforts to maintain the cutthroat trout population.

Suggested resolution: Preliminarily classify the upper segment of O’Harrell Canyon Creek within the Glass Mountain IRA as wild in a revised final plan.

F. Determination of eligibility for WSR is not subject to additional administrative review.

The Draft ROD notes that the final plan now identifies 73 segments on 32 rivers that are eligible for inclusion in the Wild and Scenic Rivers System (DROD pg. 19). It then says that “This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, Secretary of Agriculture, or the President of the United States. Congress has reserved the authority to make final decisions on designation of rivers as part of the National Wild and Scenic Rivers System.”

This standard language is applicable to wilderness recommendations and WSR *suitability* recommendations. However, we have never seen it applied to WSR eligibility determinations in dozens of previous forest plans and studies conducted in California in the last 30 years. Eligibility is an administrative determination not automatically subject to legislation, nor are eligibility findings transmitted to Congress (unlike suitability recommendations). It’s left primarily to the best professional judgement of the local resource specialists in the agency and subject to public input. The Chief, Secretary and President are simply not in the position to

question or second guess the professional judgement of local agency resource specialist. If the Forest Service had chosen to conduct suitability studies of eligible segments and make recommendations to the Congress, then this language would apply. But at this point, only eligibility has been determined.

Suggested resolution: Strike this language from the WSR section of the Draft ROD.

G. WSR Act not listed in the Draft ROD.

The Draft ROD includes a description of “Findings Required By Other Laws and Relevant Directives” on pages 31-36. This list includes the National Environmental Policy Act, National Forest Management Act, Wilderness Act, Clean Water Act, Clean Air Act, and other relevant laws. But it fails to include the National Wild and Scenic Rivers Act. The Act requires federal agencies such as the Forest Service to consider potential national wild, scenic, and recreational river areas in in the land and resource planning process. In the case of the Inyo Forest Plan Revision, the Forest Service had done so with its WSR inventory and assessment. The Forest Service has also documented in the final plan its obligation under 16 USC Sec. 1274[d][1] to develop a comprehensive river management plan for rivers on the Inyo Forest designated by Congress in 2009. However, the law providing these critical directives is not cited in the Draft ROD.

Suggested resolution: Cite the National Wild and Scenic Rivers Act in the appropriate section of the Final ROD.

VII. Meadows and Fens

We appreciate that a number of suggestions we made in our comments on the DEIS were incorporated into the revised plan. Even so, we do not believe that the revised plan will “protect, restore, or enhance water quality and the ecological health and function of aquatic and riparian ecosystems and associated resources” as claimed in the FEIS (Appendix G, p. 539). This is because standards for meadows, fens and other special aquatic features allow adverse impacts to special habitats that are not properly functioning. Such impacts impeded their recovery to properly functioning. Because of this, we do not believe that the revised plan will provide for the ecological integrity of meadow ecosystems and special aquatic features as required by the 2012 planning rule.

A. The Revised Plan allows for greater damage to special aquatic habitats compared to the current plan

The revised plan allows management to continue to adversely affect meadows and special aquatic features that are not properly functioning whereas the existing forest plans require that these features be properly functioning. Standard and guideline 117 in the current forest plans requires:

Assess the hydrologic function of meadow habitats and other special aquatic features during range management analysis. **Ensure that characteristics of special features are, at a minimum, at Proper Functioning Condition**, as defined in the

appropriate Technical Reports (or their successor publications): (1) “Process for Assessing PFC” TR 1737-9 (1993), “PFC for Lotic Areas” USDI TR 1737-15 (1998) or (2) “PFC for Lentic Riparian-Wetland Areas” USDI TR 1737-11 (1994). (emphasis added; USDA Forest Service 2004, p. 65)

This means that for those meadow habitats and other special aquatic features, action must be taken to prevent such features from becoming not properly functioning and to restore features to the condition of proper function. Management activities that contribute to the condition of not properly functioning or impede the recovery to a properly functioning condition (PFC) would need to be modified or halted to “ensure” that PFC is met.

By comparison, the revised plan allows for meadows and other special aquatic features to be not properly functioning as long as the feature is trending toward this condition:

MA-RCA-STD 13

Assess the hydrologic function of riparian areas, meadows, fens, and other special aquatic features during rangeland management analysis. Ensure that characteristics of special features are, at a minimum, at proper functioning condition or **functioning at risk and trending toward proper functioning condition**, as defined in appropriate technical reports. If systems are functioning at risk, assess appropriate actions to move towards proper functioning condition. (emphasis added; Inyo revised plan, p. 83-84)

This is a far more permissive standard that allows grazing to impact meadow habitats and other special aquatic features that are not properly functioning.

This change is especially damaging to sensitive meadow resources since a significant proportion of the meadows and special aquatic features that have been evaluated are not properly functioning on the Inyo National Forest. According to the Inyo forest assessment (USDA Forest Service 2013a, p. 131), 37 percent of meadows sites and 41 percent of stream reaches within grazed allotments are not properly functioning. For fens, approximately 61% of the fens are not properly functioning (USDA Forest Service 2013b, p. 56-57). No information is reported for “other special aquatic features,” such as seeps or springs, for the Inyo National Forest.

Suggested resolution: We ask that you remove the phrase “or at functioning at-risk and trending toward proper functioning condition” from this standard in the adopted Inyo Forest Plan.

B. Analysis in the FEIS does not disclose the impacts of managing to the lower standard of “functioning at risk”

The FEIS does not evaluate the difference between current management (Alternative A) that does not permit actions in systems that are less than “properly functioning” and the other alternatives, including the revised plan, that allow management to occur within special aquatic features that are functioning at risk.

The FEIS Appendix G (Response to Comments, p. 230) claims that “The final plan retains the language from the 2004 Sierra Nevada Forest Plan amendment standard 117 in MA-

RCA-STD 13” when in fact it changes the standard in ways that are substantial. Furthermore, nowhere in the project documents is there a discussion about why a change to existing Standard 117 is necessary or that such a change better meets the stated commitment to “protect, restore, or enhance water quality and the ecological health and function of aquatic and riparian ecosystems and associated resources” as claimed in the FEIS (Appendix G, p. 539)

C. The Revised Plan allows for greater damage to sensitive fen systems than the current plan.

The threats to fens from livestock grazing are clearly stated by Weixelman and Cooper:

The land uses occurring on or adjacent to fens can threaten fens. Livestock management can impact peatlands by trampling, compacting peat, creating bare areas in the fen or in adjacent uplands, altering hydrologic conditions, and initiating erosion and gully formation (headcutting). (Weixelman and Cooper 2009, p. 7)

Damage to the fen surface can occur when large herbivores or people walk through fens and by motorized vehicles driving on the fen. In the case of livestock, the animal’s weight can cause shearing that in turn results in direct exposure of the peat layer. Animals walking through the fen may increase the amount of peat exposed to the air or cutting through the moss or litter layers and exposing peat and/or soil. Excessive trampling can cause increased exposure of the peat layer, which in turn results in oxidation of the organic layers and decomposition of the peat. Trampling and/or hoof punching is considered damage when there are hoof prints, tire tracks, or human prints that cause shearing and expose bare peat or bare soil and are causing water channels to form or are causing visible signs of erosion. (Weixelman and Cooper 2009, p. 17-18)

Despite these clear statements of threat in the guide used by the Forest Service to assess proper functioning condition for fens, the revised plan includes standards that allow increased damage to fens relative to the existing plan. For example, MA-RCA-STD -08 allows an annual disturbance of up to 20 percent from livestock or packstock with no analysis of this level of disturbance and no discussion of the science-basis to support its adoption.

This standard also conflicts with the following two standards:

MA-RCA-STD -10 Prohibit or mitigate ground-disturbing activities that adversely affect hydrologic processes that maintain water flow, water quality, or water temperature critical to sustaining fen ecosystems and the plant species that depend on these ecosystems.

MA-RCA-STD -11 Prevent activities from causing significant degradation of fens from trampling, such as by livestock, pack stock, wheeled vehicles, and people.

Adverse and significant impacts to fens could occur with less than 20% disturbance and the revised plan does not provide a means to resolve these conflicting standards.

D. Providing for ecological integrity of meadow and fen ecosystems in the Revised Forest Plan

Meadow ecosystems and special aquatic habitats in this forest plan are a finite resource of an exceptionally high ecological value. The threat to these systems from past and ongoing management activities combined with the warming and drying experienced with the recent drought and expected in the future with changes in climate trends is recognized to be extreme (Long and Pope 2014). There is little question in the scientific community that without a change in conservation and management, these critical and essential ecosystems could be significantly degraded or lost (Viers et al. 2013). It is for these reasons that the revised forest plan needs to enhance conservation of these ecosystems and provide direction to ensure their ecological health.

The revised plan sets an inappropriately low standard for ecological status and allows activities that impede the improvement of meadow conditions. We asked in our DEIS comments that standards and guidelines be developed to limit or prohibit activities, e.g., livestock grazing in meadows that are in less than excellent condition or not in properly functioning condition. We also asked that plan components should also be designed to maximize an upward trend towards these conditions in places where they are not now met. The revised plan did not incorporate these recommendations.

Suggested resolution: We ask that the following revised standards be eliminated or revised to resolve our objection (changes in strike-out and bold):

~~MA-RCA-STD-08~~

~~In fen ecosystems, limit disturbance from livestock and pack stock to no more than 15 to 20 percent annually. Reduce disturbance further if a fen is nonfunctional or functional at risk with a downward trend.~~

MA-RCA-STD -11

Prevent activities from causing **significant** degradation of fens from trampling, such as by livestock, pack stock, wheeled vehicles, and people.

MA-RCA-STD 13

Assess the hydrologic function of riparian areas, meadows, fens, and other special aquatic features during rangeland management analysis. Ensure that characteristics of special features are, at a minimum, at proper functioning condition or **functioning at risk and trending toward proper functioning condition**, as defined in appropriate technical reports. If systems are functioning at risk, assess appropriate actions to move towards proper functioning condition.

RANG-FW-STD 07

Within riparian conservation areas that are properly functioning ~~or functional at risk with an upward trend~~, limit annual livestock disturbance to streambanks and shorelines of natural lakes and ponds (caused by trampling and trailing) from exceeding 20 percent of the stream reach, or natural lake and pond shorelines. Disturbance includes bank sloughing, chiseling, trampling, and other means of exposing bare soil or cutting plant

roots. ~~Allow no more than 15 to 20 percent disturbance if the riparian conservation area is functional at risk with a downward trend, as defined in the appropriate technical reports.~~

VIII. Complex Early Seral Forests

A. **Desired conditions for snags conflict with desired conditions for moderate severity fire effects.**

Moderate severity fire effects are an essential component to a natural functioning forest ecosystems in the plan area. Moderate severity fire reduces stand density, consumes surface fuels, increases canopy base height and produces a flush of snags and large woody debris that provide habitat for numerous wildlife species. For these reasons, it is a desired condition for fires in Jeffrey pine and dry mixed conifer forests to “burn with low, moderate, or mixed severity with minimal patches of high severity (greater than 75 percent basal area mortality) rarely greater than 300 acres in size.” (Revised Plan, TERR-MONT-DC-02, p. 17)

Although moderate severity fire effects are clearly a desired condition in the plan area, the revised plan does not allow for the attainment of moderate severity fire effects in many circumstances. Table 3 of the revised forest plan (p.18) suggests that it is desired for Jeffrey pine and dry mixed conifer forests to have 2-40 snags >20 inches dbh for every 10 acres (≤ 4 snags/acre) and for red fir to have 4-40 snags >20 inches dbh for every 10 acres (≤ 4 snags/acre). Table 4 of the revised plan (p. 20) finds that it is desired to have 4-32 trees >20 inches dbh/acre dry mixed conifer, 2-16 trees per acres >20 inches dbh for Jeffrey pine, and 4-40 tree per acre >20 inches dbh for red fir. However, given moderate burn severity is when, “25 to 75% of the dominant overstory vegetation (trees) are killed,” (FEIS, Vol. 1, Glossary p. 689), a dry mixed conifer and red fir stand with more than 20 trees per acre >20 inches dbh could be outside of desired conditions for snags if 25% of the overstory vegetation is killed and this same stand is highly likely to be outside of desired conditions if 50% of the overstory vegetation is killed in a fire. For Jeffrey pine, a stand with 50% basal area mortality and more than 8 trees per acre >20 inches dbh could be outside of desired conditions for snags and would likely be outside of desired conditions for snags if 70% of the overstory vegetation were killed in a fire.

Suggested resolution: The revised plan should increase the desired number of snags per 10 acres >20 inches dbh in Jeffrey pine, mixed conifer, and red fir forests to allow for moderate severity fire effects under all circumstances.

B. **The revised plan fails to make key distinctions between “early seral forests” and “complex early seral forest.”**

Table 1 (p. 18) of the revised forest plan defines how much “early seral” forest is desired within each vegetation zone, but the plan does not make a clear distinction between an early seral and a complex early seral forest. Only early seral forests that have not been mechanically treated should be categorized as “complex” (Swanson et al. 2014). Complex early seral forests include many large snags and downed wood, especially when mature forests burn at high severity. These legacies provide habitat for a different suite of plant and wildlife species than an early seral

forest that has been salvage logged. Early seral forest may include salvage logged areas that have been treated with herbicide and densely planted with trees (Swanson et al. 2014), while complex early seral forests would be areas not salvage logged. The revised plan should clearly define the difference between a complex early seral forest and early seral forests that lack complexity.

Nowhere in the revised plan is it stated how much complex early seral forest habitat is desired, if forests dominated by larger trees that burn at high severity provide higher quality habitat than forests dominated by smaller trees, and to what degree salvage logging degrades the quality of complex early seral forest habitat. These issues must be resolved in the forest plan in order for it to be determined that the revised plan provides for ecosystem integrity of complex early seral forests and provides for the species that rely on this forest seral stage.

C. A desired condition for timber mandates salvage logging to occur, directing that action be taken, and is therefore incompatible with the definition of a desired condition.

The revised forest plan includes the following desired condition (TIMB-FW-DC-03, p. 56): “Salvage of dead and dying trees captures as much of the economic value and carbon storage capacity of the wood as possible while retaining key features in quantities that provide for wildlife habitat, soil productivity, and ecosystem functions.” However, according to FSM 1909.12 (Chapter 20, Section 22.11, 2d), desired conditions “Must not direct taking action or prohibit taking action, or indicate specific tools (for example, prescribed fire and thinning) to be used for its attainment or maintenance.” TIMB-FW-DC-03 directs taking action, and therefore does not meet the definition of a desired condition and should be removed from the forest plan.

Suggested resolution: Even if this plan component were categorized as a standard or a guideline, we would ask that such a standard or guideline allow for managers to have the option of not salvage logging areas that burn within desired conditions by modifying these plan components as follows:

TIMB-FW-DC-03 Salvage of dead and dying trees captures ~~as much of~~ the economic value and carbon storage capacity of the wood as possible while retaining key features in quantities that provide for wildlife habitat, soil productivity, and ecosystem functions.

TERR-CES-GDL-04 Post disturbance restoration projects should be designed to recover some of the value of timber killed or severely injured by the disturbance.

The FEIS should also clearly define the key features and quantities of the key features that will provide for wildlife habitat, soil productivity, and ecosystem function and provide the science information on which it is based.

D. Failure to limit salvage logging undermines key ecological conditions for wildlife, soil productivity, and ecosystem function.

The revised plan prohibits salvage logging 10% of areas >1,000 acres that burn at high severity. However, nowhere in the environmental analysis is it demonstrated why avoiding salvage

logging 10% of these areas is sufficient to provide for species that rely on complex early seral forests. It is also unclear which seral stages that burn at high severity are a priority for avoidance (e.g., small tree vs. dense mature forest). Small tree forests that burn at high severity will support a different suite of wildlife species than a dense mature forest that burns at high severity. The FEIS should evaluate why avoiding salvage logging on 10% of >1,000 acres that burn at high severity is sufficient to provide wildlife habitat, soil productivity, and ecosystem functions.

The revised plan also does not provide protections for any areas that burn at high severity that are <1,000 acres in size. There is near scientific consensus that smaller patches of high severity fire naturally occurred on the landscape as part of the mixed severity fire regime, yet the revised forest plan allows for areas that burn within the natural range of variation to be salvage logged without restraint. Salvage logged areas do not include legacy structures such as large snags and large downed wood, important ecological conditions on which many wildlife species rely. It is incompatible with ecosystem integrity and function to salvage log areas that are within desired conditions. How does achieving a desired condition trigger the need to salvage log and create a condition that is not within the natural range of variation?

Suggested resolution: The revised plan should provide plan components that ensure that adequate amounts of each seral stage that burns at high severity are avoided by salvage logging and other post-fire activities that may degrade the complexity of the early seral forests and their ecological integrity. The revised plan should also include measures to limit salvage logging of areas that burn within desired conditions.

E. The FEIS does not demonstrate that salvage logging provides a net carbon storage benefit.

The revised plan suggests that salvage logging stores carbon and is a justification for salvage logging (TIMB-FW-DC-03, p. 56): “Salvage of dead and dying trees captures as much of the economic value and carbon storage capacity of the wood as possible...” However, the FEIS does not provide an analysis of how salvage logging would result in a net carbon benefit. We assume the author(s) of this plan component are suggesting that salvaged wood would not be left on the forest floor to decompose and would therefore be stored in a wood product, reducing the amount of carbon released into the atmosphere. However, the actual carbon cost of salvage logging vs. the carbon stored in wood products has not been demonstrated. The act of salvage logging requires the release of carbon through the use of diesel-powered equipment, trucking the logs to a sawmill or other wood processing facility through diesel-powered tractors, processing the logs into usable sizes and shapes, shipping the boards or other material to a secondary manufacturer or retail outlet, secondary product distribution, and estimating the lifespan of the wood product. Without demonstrating that salvage logging would actually result in a net carbon storage benefit, any mention of justifying salvage logging to store carbon should be stricken from the revised forest plan.

IX. At-Risk Plant Species

We object to the omission of a pre-project plant survey requirement for at-risk plant species and plant Species of Conservation Concern (plant SCC) within the Final Inyo NF Plan revision.

The revised Inyo Plan has no requirement within the Plan Components requiring pre-project surveys for at-risk plant species or for plant Species of Conservation Concern (plant SCC). Knowing whether and to what extent at-risk and/or plant SCC occur on a project site is fundamental to appropriately planning project implementation in a manner that can achieve desired conditions and management directions proposed for plant species in the Inyo Final Plan and FEIS. Without appropriately timed pre-project surveys, the current Plan will not be able to provide for the retention of essential forest components, nor for the persistence of at-risk plant species or plant SCC within the Plan area.

Pre-project surveys for threatened, endangered, proposed, and sensitive plants (TEPS) has been a requirement on the Inyo National Forest as per the existing Inyo National Forest Land & Resource Management Plan's (1988, or 1988 INF Plan) Standards and Guidelines components for Sensitive Plants:

- Complete inventories of project sites and areas of disturbance if there is potential habitat or known population locations are identified. The reporting procedures for this process will be outlined in the Sensitive Plant Program Management Plan for the Forest. (See 1988 INF Plan, p. 91).

Despite this current requirement under the current Inyo Plan, the FEIS provides no rationale for removing pre-project plant surveys as a plan component, nor does the FEIS provide an analysis of potential effects to at-risk plant species or plant SCC by removing this requirement.

The 2004 Sierra Nevada Forest Plan Amendment established a framework for decision making, using programmatic direction as a gateway for compliance with environmental laws at the project level.

Prior to being finalized, the 2004 Framework was appealed on many issues. California Native Plant Society appealed on the point that rare plant surveys needed to be done early in the project planning process yet neither a guideline nor standard calling for pre-project surveys were included in the 2004 Framework adopted by the Regional Forester. In his 2004 Sierra Nevada Forest Amendment Appeal Decision, then Forest Chief Dale Bosworth instructed the Regional Forester to reinstate the standard for threatened, endangered, proposed, and sensitive (TEPS) plant surveys so early consideration of these species could inform enhancement in project design (see 2004 Sierra Nevada Forest Amendment Appeal Decision, at p. 3). This provides an example of how intentionally programmatic direction, such as developed under the 2004 Framework and within Forest Plans under the 2012 Planning Rule, must still require forest managers to take the fundamental step of knowing what is present on a project site and thus potentially subject to project effects. Absent a forestwide component for pre-project plant surveys, we believe the Final Inyo Forest Plan revision is inconsistent with existing forest regulation and policy.

Suggested resolution: Include the standard from the 2004 Framework that requires completion of plant surveys early in project planning.

X. Restoring Fire As A Beneficial Ecological Disturbance

Restoring fire

We appreciate that the revised plan includes plan components that advance the use of fire for ecological benefit. We also note that several of the recommendations we proposed in our DEIS comments have been included in the revised plan.

We, however, remain concerned about the objective that addresses the use of prescribed fire:

TERR-FW-OBJ - 02

Restore low and moderate severity fire mosaics using prescribed fire on at least 20,000 acres within 10 to 15 years following plan approval.

This amounts to less than an average of 2,000 acres of prescribed fire per year. As we noted in our comments and supported by estimates in the science literature of fire as a disturbance process, the vegetation types on the Inyo National Forest historically would have experienced fire on 20,000 to 40,000 acres per year. We recommended in our DEIS comments that within 10 years 10,000 to 14,000 acres be burned annually.

Suggested resolution: We ask that you revise the objective to state:

TERR-FW-OBJ - 02

Restore low and moderate severity fire mosaics using prescribed fire on at least ~~20~~**10,000** acres **annually** within 10 to 15 years following plan approval.

XI. References (including references noted in Attachment B)

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Attachment A: Evaluation of Underrepresented Ecosystem Types

Attachment A: Evaluation of Underrepresented Ecosystem Types

Table 1. Proportion (%) of each wilderness inventory area composed of underrepresented ecosystems on the Inyo National Forest based on federal or forest-level representation. Representation of each ecosystem was quantified based on all available area on federal land and individual forests. All ecosystems with < 20% representation in the NWPS at each scale was binned into 3 levels of representation (<5%, 5-9.9%, and 10-19.9%). Inyo areas recommended for wilderness in Alternative C are shown in yellow, while areas recommended in the Final Plan are shown in dark pink. The table continues on the next page, followed by a description of methodology.

Wilderness Inventory Area	Federal Representation			Forest Representation		
	< 5	5 - 9.9	10 - 19.9	< 5	5 - 9.9	10 - 19.9
944	40.5	20.3	39.0	0.0	0.0	0.2
995	2.2	33.3	63.0	0.0	0.0	0.0
1012	10.5	21.8	43.2	0.0	0.0	0.2
1039	2.7	17.7	76.8	0.0	0.0	0.0
1068	21.2	45.2	32.9	0.0	0.0	1.3
1072	57.2	0.1	14.1	0.0	0.0	0.0
1080	39.0	0.0	13.0	0.0	0.0	0.0
1081	7.5	0.0	19.9	0.0	0.0	0.0
1092	0.9	0.0	24.8	0.0	0.0	0.0
1098	0.0	0.4	5.8	0.0	0.0	0.0
1099	0.0	0.4	13.2	0.0	0.0	0.0
1106	1.9	1.9	13.9	0.1	0.0	0.0
1108	0.3	0.2	5.4	0.0	0.0	0.0
1109	4.7	0.6	6.3	0.0	0.0	0.0
1110	2.1	0.1	4.9	0.0	0.0	16.3
1112	33.3	6.4	11.1	0.0	38.4	18.0
1115	82.4	2.0	15.6	0.0	0.0	12.5
1116	55.5	6.8	37.6	0.0	0.0	5.5
1140	13.3	16.1	36.4	0.1	0.0	6.2
1147	23.1	0.0	15.7	0.6	0.0	0.0
1148	6.7	1.0	11.5	0.0	0.0	0.0
1154	8.4	2.1	44.0	0.0	0.0	0.1
1155	1.2	2.1	31.9	0.0	0.0	0.0
1156	22.6	1.6	32.7	0.0	0.0	0.0
1159	10.9	2.8	15.5	0.0	0.0	0.0
1161	1.0	1.2	2.1	0.8	0.0	0.0
1164	0.0	0.0	0.5	0.0	0.0	0.0
1179	9.9	1.3	41.7	0.0	0.0	0.0
1195	21.4	0.0	49.1	0.3	0.0	0.0
1208	1.0	10.8	1.2	0.0	0.0	0.0

Attachment A: Evaluation of Underrepresented Ecosystem Types

Wilderness Inventory Area	Federal Representation			Forest Representation		
	< 5	5 - 9.9	10 - 19.9	< 5	5 - 9.9	10 - 19.9
1211	3.8	0.5	30.5	0.0	0.0	0.0
1232	0.1	0.0	9.6	0.0	0.0	1.1
1236	31.8	12.9	35.7	0.0	1.1	16.5
1242	29.0	23.8	41.5	0.0	0.0	0.3
1246	43.5	4.9	47.8	0.0	0.0	19.6
1248	31.4	9.5	51.9	0.0	0.0	15.7
1258	18.1	17.4	49.1	0.1	0.0	6.7
1275	32.9	26.4	30.8	0.0	0.0	16.5
1276	67.6	5.9	19.4	0.0	0.0	52.0
1281	4.7	25.8	56.9	0.0	0.0	0.2
1295	14.0	1.8	4.2	0.0	0.0	11.6
1297	82.1	1.4	9.9	0.2	0.0	64.5
1301	71.1	2.9	22.3	0.0	0.0	42.8
1308	70.4	5.6	22.5	0.0	0.0	57.5
1311	17.0	20.2	38.6	0.4	0.0	10.5
1312	4.7	24.7	43.8	0.1	0.0	1.1
1326	26.0	11.9	55.2	0.2	0.0	10.0
1332	42.6	2.6	54.6	0.8	0.0	10.2
1339	28.5	7.0	64.2	0.2	0.0	2.8
1342	33.2	5.2	58.9	0.0	0.0	4.7
1355	29.9	1.1	69.1	0.0	0.0	0.9
1357	52.0	0.3	47.7	0.0	0.0	0.2
1361	34.2	0.6	64.6	0.0	0.0	0.7
1376	8.7	6.4	84.7	0.0	0.0	2.2
1432	0.8	0.0	13.6	0.0	0.0	0.0
1458	10.9	0.0	42.8	0.0	0.0	0.0

Methodology

We brought the wilderness inventory into Arc (from the zipped file “Wilderness _ Inventory.gdb.zip”) for the Inyo and other California early adopter forests and created a new shapefile that included only those areas listed as “Yes” in the field “In_Inventory”). We then clipped each of these areas to each forest (Inyo, Sierra, and Sequoia). We also extracted land cover data to each forest boundary. We calculated the percent of each ecosystem within the National Wilderness Preservation System based on all area occurring on federal land (area in NWPS / total area of federal land) and all area occurring on each forest (area in NWPS on forest / total area on forest). We then classified representation for each scale into four classes (<5, 5-9.9, 10-19.9, ≥20%) and mapped them accordingly. We considered ecosystems with <19.9% of its total area in the NWPS as inadequately represented. These maps are available as geo-pdfs that are georeferenced and can be brought into a GPS app on a mobile device, and coordinates can be obtained from the pdf.

Attachment A: Evaluation of Underrepresented Ecosystem Types

We then tabulated the area of each ecosystem occurring within each wilderness inventory area by each forest. Because the wilderness inventory areas did not include a unique identifying name, we used the OBJECTID from the original datasource for all spatial and tabular data organizing purposes. The ecosystem by wilderness inventory matrices for each forest can be found in “Ecosystem Composition of Wilderness Inventory Areas in California Early Adopters.xlsx”). Value within the matrix are the estimated hectares of each ecosystem occurring within each wilderness inventory area.

We used these data to calculate the proportion (%) of each wilderness inventory area that is composed of ecosystems inadequately represented in NWPS by each of the 3 lower representation classes (<5, 5-9.9, 10-19.9%) and for both scales of representation.

Attachment B: Habitat Conditions for California spotted owl

Attachment B: Habitat Conditions for California Spotted Owl

Table 1. Summary of the results from studies on California spotted owl demographics and habitat selection.

Study	Study Location(s), Sample Size and Unit, and Period	Parameter	Habitat Selection
Blakesley et al. (2005)	Lassen Demographic Study Area, 63 territories, 11 years	Occupancy (pair or single)	The amount of nest area dominated by large trees (>24 in dbh) and canopy cover >70% was positively associated with site occupancy. The amount of nest area dominated by medium- trees (12-24 in dbh) with canopy cover >70% and the amount of area unforested or dominated by small trees (6-12 in dbh) were negatively associated with site occupancy.
		Survival	Apparent survival increased with greater amounts of forest dominated by large trees (>24 in dbh) with normal (40-70%) to good (>70%) canopy cover containing large (>30 in dbh) remnant trees.
		Reproduction	Reproductive decreased as the amount of nest area that was unforested or dominated by small trees increased.
		Nest Success	Nest success was higher when large remnant trees were present in the nest stand higher in stands dominated by medium-sized trees than by large trees.
Seamans and Gutierrez (2007)	Eldorado Demographic Study Area, 66 territories, 15 years	Extinction	The amount of conifer forest dominated by medium (12-24 in dbh trees) and large trees (>24 in dbh) with >70% canopy cover was negatively correlated with the probability of territory extinction.
		Colonization	The amount of conifer forest dominated by medium (12-24 in dbh trees) and large trees (>24 in dbh) with >70% canopy cover was positively correlated with the probability of territory colonization.
Roberts et al. (2011)	Yosemite National Park, 16 burned and 16 unburned territories, 2-14 years post-fire	Occupancy (pair)	The top model suggested that nest and roost site occupancy were best predicted by the combined positive effect of basal area and the negative effect of coarse woody debris. However, there was also support for an alternative model suggesting that higher canopy closure and tree basal area were also useful predictors of nest and roost site occupancy.
Tempel et al. (2014)	Eldorado Demographic Study Area, 70 territories, 20 years	Reproduction	Reproduction was negatively related to the area of hardwood forest with <10% conifer canopy cover.
		Survival	The amount of high (>70%) canopy cover forest dominated by 12-24 in and >24 in dbh trees occurred in the top-ranked models for survival, territory extinction, and territory colonization rates, and explained more variation in population growth rate and equilibrium occupancy than other covariates. Forests dominated by trees >24 in dbh and <30% canopy cover were not associated with demographic parameters.
		Extinction	
		Colonization	
		Occupancy (single or pair)	

Attachment B: Habitat Conditions for California spotted owl

Table 1 (continued). Summary of the results from studies on California spotted owl demographics and habitat selection.

Study	Study Location(s), Sample Size and Unit, and Period	Parameter	Habitat Selection
Tempel et al. (2016)	Lassen, Eldorado, Sierra, and Sequoia- Kings Canyon demographic study areas, 275 territories, 19 years	Extinction	Forests with high (>70%) and medium (40-70%) canopy cover were the only habitat covariates that were consistently identified as important for all four study areas. Occupancy reached its lowest value when high and medium canopy cover were minimized and occupancy reached its highest value when these covariates were maximized. Occupancy for the 40–49% canopy cover class was lower than occupancy for the 50–59% and 60–69% canopy cover classes. Occupancy rates are likely to be negatively affected if canopy cover is consistently reduced to 40%.
		Colonization	
		Occupancy (single or pair)	
North et al. (2017)	Sequoia-Kings Canyon, Eldorado, and Sierra demographic study areas and Tahoe National Forest, 316 territories, sites that were occupied by an owl pair at least once between 2001 and 2013	Occupancy (pair)	Across the four study areas, the average values of total canopy cover and cover in trees >48 m (157 ft) was highest at nest sites, and consistently decreased as area expanded to PACs, territories and then the surrounding landscape. A similar trend of decreasing values from nest sites to landscape was identified for the 32–48 m (105-157 ft) strata on the three National Forest study areas but not on Sequoia-Kings Canyon. The amount of cover of trees in the 2-16 m (7-52 ft) height strata was lowest near nest sites and decreased as area expanded to PACs, territories, and then the surrounding landscape.
Jones et al. (2018)	Lassen, Eldorado, Sierra, and Sequoia- Kings Canyon demographic study areas, 275 territories, 19 years	Extinction	Extinction rates increased as the amount of forest characterized by large trees (≥24 in dbh) and high canopy cover (>70% cover) decreased. Median proportion of an owl site containing large trees and high canopy cover forest on national forests ranged from 0.03-0.06, corresponding with higher predicted rates of local extinction and ongoing declines in occupancy. The median proportion of forest characterized by large trees and high canopy cover in owl territories on Sequoia-Kings Canyon was 0.19, which had a lower predicted extinction rate and stable occupancy.
		Occupancy (pair or single)	

Attachment B: Habitat Conditions for California spotted owl

Table 2. Summary of results from studies on the effects of logging on spotted owl demographics.

Study	Study Location(s), Sample Size and Unit, and Period	Disturbance Type(s) Evaluated	Parameter	Response (Effect on Demographic Parameter)
Seamans and Gutierrez (2007)	Eldorado Demographic Study Area, 66 territories, 15 years.	High Severity Fire (including salvage), Logging	Extinction	Negative - Alteration of ≥ 50 acres of mature conifer forest was positively correlated with territory extinction probability.
			Colonization	Negative - Probability of colonization was related to the amount of mature conifer forest habitat in the territory and the alteration of such habitat reduced the probability of colonization.
Clark et al. (2013)	Southwest Oregon, 31 burned/103 unburned territories, up to 15 years pre-fire and 4-5 years post-fire.	Logging, High Severity Fire, Salvage Logging	Extinction	Negative - Probability of extinction increased due to the interactive effect of past timber harvest, high severity fire, and salvage logging.
			Colonization	Unclear - Few colonization events were observed.
			Occupancy (pair)	Negative - Declines in occupancy were driven by increases in extinction, attributable to past timber harvest, high severity fire, and salvage logging.
Tempel et al. (2014)	Eldorado Demographic Study Area, 70 territories, 20 years.	High-intensity Logging, Wildfire (including salvage), and Medium-intensity Logging.	Reproduction	Negative - "[M]edium-intensity timber harvests characteristic of proposed fuel treatments were negatively related to reproduction of Spotted Owls in our study. Reproduction appeared sensitive to modest amounts of medium-intensity harvests, and was predicted to decline from 0.54 to 0.45 when 20 ha were treated." (pg. 2101)
			Survival	Negative - Medium-intensity logging, when implemented in high canopy cover forests, was associated with reductions in survival.
			Extinction	Positive - Extinction was negatively correlated with the area of high-intensity timber harvest. High intensity timber harvest occur on 5.4% of the total area within owl territories in the study.
			Colonization	Negative - Medium-intensity logging, when implemented in high canopy cover forests, were associated with reductions in colonization.
			Occupancy (single or pair)	Negative - Equilibrium occupancy was negatively correlated with wildfire.
Stephens et al. (2014)	Plumas National Forest, 8 territories, 4-5 years pre-treatment, 3-4 years post-treatment.	Group Selection and Fuels Treatments	Occupancy (single or pair)	Negative - By 3–4 years post-treatment, the number of occupied sites declined decline by 43% from the pretreatment numbers.

Attachment B: Habitat Conditions for California spotted owl

Table 2 (continued). Summary of results from studies on the effects of logging on spotted owl demographics.

Study	Study Location(s), Sample Size and Unit, and Period	Disturbance Type(s) Evaluated	Parameter	Response (Effect on Demographic Parameter)
Tempel et al. (2015)	Tahoe National Forest, 4 territories, modeled 30 years post-treatment.	Fuels Treatment, Wildfire	Fitness	<p>Negative - Fuels treatment had a negative effect on fitness, an effect that was still present after 30 years of simulated forest growth. Negative - Simulated wildfire without fuels treatment negatively affected fitness.</p> <p>Negative - Fuels treatment with simulated wildfire negatively affected fitness, but the effect was not a great as the effect of simulated wildfire without fuels treatment.</p>
			Occupancy (single and pair)	<p>Negative - Fuels treatment alone had a negative effect on equilibrium occupancy, an effect that was still present after 30 years of simulated forest growth.</p> <p>Negative - Simulated wildfire without fuels treatment negatively affected equilibrium occupancy.</p> <p>Negative - Simulated wildfire with fuels treatment negatively affected equilibrium occupancy, but the effect was not a great as the effect of simulated wildfire without fuels treatment.</p>
Tempel et al. (2016)	Lassen, Eldorado, Sierra, and Sequoia-Kings Canyon demographic study areas, 275 territories, 19 years.	Wildfire (including salvage on National Forests), Prescribed Fire, Logging	Extinction	<p>Positive - On the ELD study area, logging less than 1% of a territory in the previous 3 years was negatively correlated with extinction.</p> <p>Neutral - No support for an effect of logging less than 1% of a territory in the previous 3 years was detected for the LAS or SIE study areas.</p> <p>Positive - On the SKC study area, wildfire was negatively related to extinction.</p> <p>Neutral - No support for an effect of wildfire was detected on the ELD, LAS, or SIE study areas.</p>
			Colonization	<p>Neutral - No support for an effect of logging less than 1% of a territory in the previous 3 years was detected for the ELD, LAS, or SIE study areas.</p> <p>Negative - On the SKC study area, prescribed fire was negatively associated with colonization.</p>
			Occupancy (single or pair)	<p>Neutral - No support for an effect of logging when less than 1% of a territory was logged in the previous 3 years for the LAS, or SIE study areas.</p> <p>Positive - On the ELD study area, logging less than 1% of a territory in the previous 3 years was positively associated with occupancy.</p>

Attachment B: Habitat Conditions for California spotted owl

Table 3. Summary of the results from studies on the effects of fire and salvage logging on spotted owl demographics.

Study	Study Location(s), Sample Size and Unit, and Period	Disturbance Type(s) Evaluated	Parameter	Response (Effect on Parameter)
Bond et al. (2002)	Shasta-Trinity, Klamath, San Bernardino, Coconino, and Gila National Forests, 11 burned and >300 unburned territories, 9-16 years for unburned and 1 year post-fire for burned territories.	Wildfire	Survival	Neutral - No difference in survival was detected between burned and unburned territories.
			Reproduction	Positive - Reproductive success was higher in burned territories the year following fire than in unburned territories.
			Fidelity	Neutral - No difference in fidelity was detected between burned and unburned territories.
Jenness et al. (2004)	Coconino, Gila, Coronado, and Lincoln National Forests, 33 burned and 31 unburned territories, 1-4 years post-fire.	Wildfire and Prescribed Fire	Reproduction	Negative - Unburned territories tended to be occupied by pairs and more reproductive pairs than burned territories.
			Occupancy (single or pair)	Negative - Probability of occupancy was higher in unburned sites compared to burned sites.
Seamans and Gutierrez (2007)	Eldorado Demographic Study Area, 66 territories, 15 years.	High Severity Fire (including salvage), Logging	Extinction	Negative - Alteration of ≥ 50 acres of mature conifer forest was positively correlated with territory extinction probability.
			Colonization	Negative - Probability of colonization was related to the amount of mature conifer forest habitat in the territory and the alteration of such habitat reduced the probability of colonization.
Clark et al. (2011)	Southwest Oregon, 23 radio-marked birds, years 3 and 4 post-fire.	Wildfire (including salvage)	Survival	Negative - Average annual survival of owls living inside burn perimeters (also salvage logged) was lower than outside the burn perimeters and was lower than survival rates of spotted owls in all other areas with survival estimates at the time of the study.
Roberts et al. (2011)	Yosemite National Park, 16 burned and 16 unburned territories, 2-14 years post-fire.	Wildfire and Prescribed Fire	Occupancy (pair)	Neutral - Fire did not reduce the probability of occupancy.

Attachment B: Habitat Conditions for California spotted owl

Table 3 (continued). Summary of the results from studies on the effects of fire and salvage logging on spotted owl demographics.

Study	Study Location(s), Sample Size and Unit, and Period	Disturbance Type(s) Evaluated	Parameter	Response (Effect on Parameter)
Lee et al. (2012)	Sierra Nevada-wide, 41 burned/145 unburned territories, up to 7 years post-fire.	Wildfire (including salvage)	Extinction	Neutral - No significant difference between burned and unburned sites in probability of local extinction.
			Colonization	Neutral - No significant difference between burned and unburned sites in probability of colonization.
			Occupancy (single or pair)	Neutral - No significant effect of high severity fire on occupancy.
Clark et al. (2013)	Southwest Oregon, 31 burned/103 unburned territories, up to 15 years pre-fire and 4-5 years post-fire.	Logging, High Severity Fire, Salvage Logging	Extinction	Negative - Probability of extinction increased due to the interactive effect of past timber harvest, high severity fire, and salvage logging.
			Colonization	Unclear - Few colonization events were observed.
			Occupancy (pair)	Negative - Declines in occupancy were driven by increases in extinction, attributable to to past timber harvest, high severity fire, and salvage logging.
Lee et al. (2013)	San Bernardino National Forest, 78 unburned/58 burned territories, 9 years for unburned and 8 years post-fire for burned territories.	High Severity Fire, Salvage Logging	Extinction	Negative - Average annual extinction probability was higher in burned territories, increased as the amount of habitat that burned at high severity increased, and increased as the amount of habtiat that was salvage logged increased.
			Colonization	Negative - Mean annual probability of colonization was lower in burned sites than unburned sites, but was not affected by salvage logging.
			Occupancy (single and pair)	Negative - When >50 ha of forested habitat burned at high severity, site occupancy probability decreased by 0.003 for every additional hectare of forested habitat severely burned and post-fire salvage logging exacerbated the effect by decreasing occupancy probability an additional 0.05.

Attachment B: Habitat Conditions for California spotted owl

Table 3 (continued). Summary of the results from studies on the effects of fire and salvage logging on spotted owl demographics.

Study	Study Location(s), Sample Size and Unit, and Period	Disturbance Type(s) Evaluated	Parameter	Response (Effect on Parameter)
Tempel et al. (2014b)	Eldorado Demographic Study Area, 70 territories, 20 years.	High-intensity Logging, Wildfire (including salvage), and Medium-intensity Logging	Reproduction	Negative - "[M]edium-intensity timber harvests characteristic of proposed fuel treatments were negatively related to reproduction of Spotted Owls in our study. Reproduction appeared sensitive to modest amounts of medium-intensity harvests, and was predicted to decline from 0.54 to 0.45 when 20 ha were treated." (pg. 2101)
			Survival	Negative - Medium-intensity logging, when implemented in high canopy cover forests, was associated with reductions in survival.
			Extinction	Positive - Extinction was negatively correlated with the area of high-intensity timber harvest. High intensity timber harvest occur on 5.4% of the total area within owl territories in the study.
			Colonization	Negative - Medium-intensity logging, when implemented in high canopy cover forests, were associated with reductions in colonization.
			Occupancy (single or pair)	Negative - Equilibrium occupancy was negatively correlated with wildfire.
Lee and Bond (2015a)	Stanislaus National Forest, 45 territories, 1 year post-fire.	High Severity Fire	Occupancy (single and pair)	Neutral - Probability of occupancy of a single individual 1 year post-fire was relatively high, compared to other studies on the species in burned or unburned forest in the Sierra Nevada, with most sites being occupied by pairs.
Lee and Bond (2015b)	San Bernardino National Forest, 76 unburned/52 burned, 9 years for unburned and 4-8 years post-fire for burned territories.	High Severity Fire, Salvage Logging	Reproduction	Neutral - No significant effect of fire or logging on reproduction were detected.
			Occupancy (single or pair)	Negative - Significantly lower occupancy in burned vs. unburned sites. Negative - Occupancy was further reduced by the amount of salvage logging that occurred.

Attachment B: Habitat Conditions for California spotted owl

Table 3 (continued). Summary of the results from studies on the effects of fire and salvage logging on spotted owl demographics.

Study	Study Location(s), Sample Size and Unit, and Period	Disturbance Type(s) Evaluated	Parameter	Response (Effect on Parameter)
Tempel et al. (2016)	Lassen, Eldorado, Sierra, and Sequoia-Kings Canyon demographic study areas, 275 territories, 19 years.	Wildfire (including salvage on National Forests), Prescribed Fire, Logging	Extinction	<p>Positive - On the ELD study area, logging less than 1% of a territory in the previous 3 years was negatively correlated with extinction.</p> <p>Neutral - No support for an effect of logging less than 1% of a territory in the previous 3 years was detected for the LAS or SIE study areas.</p> <p>Positive - On the SKC study area, wildfire was negatively related to extinction.</p> <p>Neutral - No support for an effect of wildfire was detected on the ELD, LAS, or SIE study areas.</p>
			Colonization	<p>Neutral - No support for an effect of logging less than 1% of a territory in the previous 3 years was detected for the ELD, LAS, or SIE study areas. Negative - On the SKC study area, prescribed fire was negatively associated with colonization.</p>
			Occupancy (single or pair)	<p>Neutral - No support for an effect of logging when less than 1% of a territory was logged in the previous 3 years for the LAS, or SIE study areas.</p> <p>Positive - On the ELD study area, logging less than 1% of a territory in the previous 3 years was positively associated with occupancy.</p>
Jones et al. (2016)	Eldorado demographic study area, 15 unburned/30 burned territories, 22 years pre-fire/1 year post-fire.	High Severity Fire	Extinction	Negative - Probability of extinction increased as the proportion of high-severity fire increased and extinction was 7 times more likely in territories that burned with >50% high severity.
			Colonization	Negative - Sites that burned at <50% high-severity were more likely to be colonized after the fire than unburned territories or territories that burned with <50% high severity.
			Occupancy (single or pair)	Negative - Probability occupancy was nine times lower for territories that burned with >50% high-severity fire effects than unburned sites.
Rockweit et al. (2017)	Klamath Province, 24 burned/70 unburned territories, 26 years for unburned and 4-26 years post-fire for burned territories.	Wildfire	Survival	Negative - As the total amount of high severity and moderate severity fire effects increased, apparent survival decreased.
			Recruitment	Neutral or Positive - There was no significant difference between post-fire recruitment rates and the control group, except for owls affected by wildfire in 2008, where recruitment rates increased.