CENTER for BIOLOGICAL DIVERSITY

THE JOHN MUIR PROJECT of EARTH ISLAND INSTITUTE

May 18, 2017

Randy Moore
Regional Forester
USDA Forest Service
Attn: Trestle Forest Health Project
1323 Club Drive
Vallejo, CA 94592
**Email to:** objections-pacificsouthwest-regional-office@fs.fed.us

**Re: Objection to the Proposed Trestle Project**

Dear Reviewing Officer Randy Moore:

The Center for Biological Diversity and John Muir Project (name, address and telephone are listed in the signature) object to the Trestle Project (Responsible Official: Laurence Crabtree, Forest Supervisor) on the El Dorado National Forest as discussed below.

In previous comments (such as in 2015), we discussed our concerns with respect to California spotted owls. Since then, it has become even clearer (e.g., Conner et al. 2016, e.g. at 14) that spotted owl populations in the Sierra Region are plummeting. Conner et al. 2016 also highlights an important aspect of the situation—that while occupancy is an important parameter of spotted owl status, occupancy alone cannot be relied upon to assess the status of, or impacts to, spotted owls. This is because an area can remain occupied while the population nonetheless continues to decline. Put another way, single owls can maintain an area's occupancy, but cannot maintain a population for obvious reasons, and therefore what matters, in addition to occupancy, is reproduction and associated population levels. With California spotted owls, population is dropping with greater degree than is occupancy, and hence, the Forest Service must not only be concerned with occupancy but also reproduction and populations levels. For example, on the El Dorado study area, over the course of 20 years [between 1990 and 2012] California spotted owl occupancy declined 31% but the population declined much more—50%.

In light of our previous comments, and in light of the draft Decision to log 2,933 acres (per Alt 5) of spotted owl HRCAs (which are the best remaining owl habitat on the Project landscape outside of PACs), we object to that aspect of the draft Decision. We therefore ask that those 2,933 acres of logging be dropped from the Project. There is no good reason to log HRCAs, especially in light of (1) CSO populations are plummeting on public lands in National Forests and therefore need their best habitat, such as HRCAs, to be protected, not logged, and (2) logging of canopy cover is not even necessary to address the Forest Service's purported concerns about fire. The Forest Service has not taken the requisite hard look that NEPA requires with respect to spotted owls and the scientific literature and the agency's findings are arbitrary and capricious.

The draft Decision also does not make sense logically. On the one hand, we know from the scientific literature that the proposed logging in owl territories will likely lead to either lost occupancy or lost reproduction (see, e.g., Tempel et al. 2014; Seamans and Gutierrez 2007) in most, if not all, of the logged territories. On the other hand, we know that (1) the odds of a fire occurring in an owl territory *at all* are low, (2) the odds of a fire occurring in a way that leads to lost occupancy or lost reproduction are even lower, and (3) the odds of logging actually doing anything to stop that particular fire behavior in that particular area are even lower. Further, we know that logging to reduce canopy cover (i..e, logging any trees greater than 12 inches dbh) is not necessary to treat so-called "fuels"—fuels can be treated best by addressing small diameter trees (12 inches or less dbh). Therefore, the proposed Decision makes no sense for owls, or for anything at all, other than padding the income of the timber industry and meeting the timber targets of the USFS. And that too makes no sense given that companies like SPI are personally responsible for contributing to the dire conditions under which owls are plummeting—SPI's clear-cuts and thinning on their private lands is part of the reason owls are in their current situation. Thus, if the USFS wishes to achieve a logical and sensical outcome, it should drop all logging that is slated to occur within the owl HRCAs.

In addition, we have the following concerns with respect to owl habitat and the Trestle Project:

1. **Violation of 2004 Framework**: In HRCAs, as stated at page 46 of the 2004 Framework's Record of Decision, the Forest Service must "arrange treatment patterns and design treatment prescriptions to avoid the highest quality habitat (CWHR types 5M, 5D, and 6) wherever possible." We could not find anything in the EIS or supporting documents that meets this requirement. There was no statement or discussion about avoiding 5D (and Table IV.2 of the BE shows 4547 acres of 5D on USFS land within the Project area). We therefore request that all 5M and 5D habitat be excluded from treatment in order to protect this important habitat.

2. **Table V.2.5 (page 43 of BE) demonstrates a high likelihood of the Trestle Project leading to a trend toward listing of the spotted owl under the ESA and to a loss of viability**: This table shows that 16 HRCAs (out of 19 in the Project area) will be logged in amounts that can lead to loss of occupancy or loss of reproduction. It is therefore immaterial whether the Forest Service believes the Project will somehow save the owls from high-severity fire. This Project will likely lead to a trend towards federal listing or loss of viability for the California spotted owl, and the BE's assertions otherwise are consequently arbitrary and capricious. Put another way, given the plummeting population data as to public lands in national forests, and given the fact that loss of canopy cover is known to be a substantial contributing factor to owl demographics,[1] it is

[1] E..g., Tempel et al. 2014 ["analyses indicated that the amount of forest with high canopy cover [>70%] was the primary driver of population growth and equilibrium occupancy at the scale of individual territories"]; ["Greater than 90% of medium-intensity harvests converted high-canopy cover forests into lower-canopy-cover vegetation classes, suggesting that landscape-scale fuel treatments in such stands could have short-term negative impacts on populations of California Spotted Owls"]; ["high canopy-cover forests declined by an average of 7.4% across

not possible to rationally conclude that this Project will not lead to a trend towards federal listing or loss of viability for the California spotted owl.

The attempt by the Forest Service to mis-use Tempel et al. 2016 further adds to the arbitrary and capricious nature of the draft Decision. Nowhere does the Trestle BE actually address what Tempel et al. 2016 investigated. For example, with respect to logging, Tempel et al. 2016 investigated the effect of logging within the previous three years, and did not take into account earlier logging (see Table 1). Tempel et al. 2016 shows that in those three years, only 0.8% (i.e., less than 1%) of the area in the spotted owl territories on the Eldorado National Forest had been logged (see Table 2). Table 3 of Tempel et al. (2016) then shows no significant effect of logging. Thus, when put in its proper light, Tempel et al. 2016 shows that in the three year period investigated, significant impacts to owls did not occur *when less than 1%* of a given owl territory was subjected to mechanical thinning annually. The Trestle Project, on the other hand, will log more than 1% of many of the impacted territories— Table V.2.5 shows that some territories will have much greater than 1% of their territory logged.[2] Thus, it is arbitrary and capricious to rely on Tempel et al. 2016 to dismiss impacts to owls as not leading to a trend towards listing. Moreover, the rest of the literature in the record demonstrates the high likelihood of a trend towards listing—see, e.g., Conner et al. 2013, Conner et al. 2016, Tempel et al 2014, Stephens et al 2014, Seamans and Gutierrez 2007

In addition, the BE's claim that canopy cover can be reduced through logging to improve owl habitat and occupancy misrepresents Tempel et al. (2016), which conducted a more detailed analysis of canopy cover and found (shown in Figure 4B) that the highest occupancy on the Eldorado National Forest was at canopy cover levels of 60-80%, and occupancy decreased where canopy cover was reduced relative to these levels. Thus, if anything, Tempel et al. 2016 supports finding a trend towards listing.

Finally, on p. 42 of the Wildlife BE, the Forest Service cites to Stephens et al. (2016) for the proposition that a large increase in mechanical thinning is necessary to prevent a steep projected increase in high-severity fire. However, this ignores two key facts. First, Stephens et al. (2016) simply assume, like the Trestle FEIS, that thinning will effectively reduce fire severity in high fire weather (hot, dry, windy conditions), based on modeling assumptions, yet actual real-world data shows that, during high fire weather, open, lower-density forests are similarly likely to experience high-severity fire as denser forests, according to the Forest Service's own research (Lydersen et al. 2014). Second, Stephens et al. (2016) base their projections on the assumption of a more than three-fold increase in

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territories during our study, suggesting that habitat loss could have contributed to declines in abundance and territory occupancy."]; ["The amount of forest with high (>70%) canopy cover dominated by medium- or large-sized trees was the most important predictor of variation in demographic rates"]; ["we believe that the most appropriate inference about the influence of medium-intensity harvesting practices is that they appear to reduce reproductive potential, and when implemented in forests with high canopy cover, are likely to reduce survival and territory occupancy as well"]

[2] And Tempel et al. 2014 states that "high canopy-cover forests declined by an average of 7.4% across territories during our study, suggesting that habitat loss could have contributed to declines in abundance and territory occupancy."

high-severity fire in the coming decades, but provide no scientific support for such a prediction, and they ignore current published data showing that high-severity fire is not increasing in the Sierra Nevada (Hanson and Odion 2015, Keyser and Westerling 2017).

Also on p. 42, the BE cites Seamans and Gutierrez (2007), and initially acknowledges that this study found that spotted owl territories with less than 370 acres of dense, mature forest suffered a significant loss in occupancy when 50 acres or more of thinning or other logging was done. However, the BE then attempts to dismiss this finding by claiming that this study found that the owls did not choose territories with higher levels of dense, mature forest, or that the owls abandoned the logged territories simply to find a mate, implying that logging had nothing to do with the loss of occupancy. This misrepresents this study, which actually concluded the following: "We found that the amount of mature conifer forest was correlated with Spotted Owl habitat choice. Territories with more mature conifer forest had a higher probability of being colonized and a lower probability of becoming unoccupied. Further, alteration of mature conifer forest appeared to decrease the probability of colonization." Moreover, Seamans and Gutierrez (2007) (pp. 573-574) concluded that the logging either caused lower survival (increased death rate) of owls, or caused the owls to abandon the entire study area. This is very different from the presentation given in the BE. Further, while Seamans and Gutierrez (2007) mention a particularly steep increase in the rate of territory abandonment when more than 50 acres is logged in territories that have less than 370 acres of dense, mature forest, Figure 2 of this study shows that this increase actually *begins* when 50 acres or more of logging occurs in territories that have less than 410 acres of dense, mature forest. Table V.2.7 of the BE shows that several spotted owl territories would be affected in this way by the proposed logging. The BE presents information, in Tables V.2.5 through V.2.7, on the proportion of spotted owl territories that would be logged, and implies that the average overall proportions of logging (about 15% to 16%) are minimal and, therefore, incapable of harming the owls. However, Figure 10 of Stephens et al. (2014) shows that even smaller percentages of logging in owl territories—about 5% to 12%—were associated with a 43% population decline.

### 3. The Trestle Decision Continues To Wrongly Rely On The 2004 Framework Which Needs Updated In Light Of Significant New Information

The 2004 Sierra Nevada Forest Plan Amendment (2004 Framework), pursuant to which the Trestle Project was prepared, needs updated under NEPA due to significant new information. That information would change the Trestle Project, and hence the Trestle Project should not go forward until the Framework is properly addressed.

The Trestle "response to comments" highlights on several occasions why updating the Framework is necessary, as then response demonstrates that the USFS is operating based on incorrect assumptions. For example, in the response to comments, the USFS states that "fire return interval departure is considered an indicator of risk of high severity fire (Safford and Van de Water, 2014)." But this is a conclusory assertion and the best available science shows that it is actually not a good indicator, which is why the Framework needs to be updated. Likewise, the following USFS assertion is wrong and needs to be updated: "Since fuel is required to ignite and carry fire, and since fire behavior, including severity, is related to the amount of available and consumable fuel (Sugihara et al. 2006, Parks et al. 2014), anything that results in increased fuel will have a tendency to increase fire severity. This is a simple principle from physics." No, it is not a simple principle of physics. Rather, there are numerous factors affecting the relationship with increased biomass and fire severity, and the USFS assumption is outdated and ignorant—for example, increased biomass can lead to conditions that create shade and cooler temperatures, thus decreasing, not increasing, fire severity, and weather conditions are the predominant factor in fire severity, not forest density, as discussed above. Moreover, Steel et al. 2015 did not actually have any meaningful data supporting the USFS contention that there exists a strong positive relationship between fire severity and time since last fire (see Fig. 4 of Steel et al. 2015), and regardless, the study found that even the most long-unburned forests (>75 years since the last fire) were predicted to have mostly low/moderate-severity fire effects, contrary to the assumption upon which the 2004 Framework was based.

Similarly off-base is the response to comment statement that "[t]he goal is not to prevent fires within the forest, but to modify fire behavior to lower severity, and to bring these areas back to a more historic heterogeneous structure where fire complements and sustains the system instead of destroying it." High-severity fire, when it occurs in ponderosa or mixed-conifer forest, has not been found to be destructive and instead has been found to be productive and essential to the ecology of the Sierra Region. Specifically, a very long list of documents shows that some of the same fire areas that the Forest Service subjectively refers to as destructive are actually known to be supporting important biodiversity and essential habitat for Sierra wildlife in the areas that burned at high-severity (e.g., research from the McNally, Angora, Storrie, Moonlight, King, Chips, and Rim fires [e.g., Bond et al. 2009[3], 2013[4]; Buchalski et al. 2013[5]; Burnett et al. 2010[6], 2012[7]; Campos and Burnett 2015[8], 2016[9]; Fogg et al. 2015[10], 2016[11]; Hanson and North 2008[12]; Hanson 2014[13]; Malison and Baxter 2010[14]; Manley and Tarbill 2012[15]; Seavey

[3] Bond, M. L., D. E. Lee, R. B. Siegel, & J. P. Ward, Jr. 2009. Habitat use and selection by California Spotted Owls in a postfire landscape. Journal of Wildlife Management 73: 1116-1124

[4] Bond, ML, DE Lee, RB Siegel, and MW Tingley. 2013. Diet and home-range size of California spotted owls in a burned forest. Western Birds 44:114-126

[5] Buchalski, M.R., J.B. Fontaine, P.A. Heady III, J.P. Hayes, and W.F. Frick. 2013. Bat response to differing fire severity in mixed-conifer forest, California, USA. PLOS ONE 8: e57884

[6] Burnett, R.D., P. Taillie, and N. Seavy. 2010. Plumas Lassen Study 2009 Annual Report. U.S. Forest Service, Pacific Southwest Region, Vallejo, CA

[7] Burnett, R.D., M. Preston, and N. Seavy. 2012. Plumas Lassen Study 2011 Annual Report. U.S. Forest Service, Pacific Southwest Region, Vallejo, CA

[8] Campos, Brent R. and Ryan D. Burnett. 2015. Avian monitoring of the Storrie and Chips Fire Areas: 2014 report

[9] Campos, Brent R. and Ryan D. Burnett. 2016. Bird and Bat Inventories in the Moonlight, Storrie, and Chips Fire Areas: 2015 report to the Lassen and Plumas National Forests

[10] Fogg, Alissa M., Zachary L. Steel and Ryan D. Burnett. 2015. Avian Monitoring of the Freds and Power Fire Areas

[11] Fogg, Alissa, Zack Steel, and Ryan Burnett. 2016. Avian Monitoring in Central Sierra Post-fire Areas

[12] Hanson, C. T. and M. P. North. 2008. Postfire woodpecker foraging in salvage-logged and unlogged forests of the Sierra Nevada. Condor 110: 777–782

[13] Hanson, C.T. 2014. Conservation concerns for Sierra Nevada birds associated with high- severity fire. Western Birds 45: 204-212

et al. 2012[16]; Siegel et al. 2012[17], 2013[18], 2014a[19], 2014b[20], 2016[21]; Tingley et al. 2014[22]; Tingley et al. 2016; White et al. 2016]). Until the USFS incorporates and manages pursuant to the available information regarding the important ecological role of high-severity fire, it cannot comply with NFMA or NEPA's mandates.

As just one example of the hundreds of publications that are being ignored (or discounted), Tingley et al. 2014 shows that one key characteristic of high-severity fire is the high snag basal area it creates, and which helps maintain species like the black-backed woodpecker: "Black-backed Woodpeckers occupying stands with greater average snag basal area tend to have smaller home ranges. Because overlap in adjacent Black-backed Woodpecker ranges is generally small, . . . a postfire stand with high snag basal area is therefore likely to support more Black-backed Woodpecker pairs than a stand of the same area but with lower average snag basal area. Of the 12 individual birds that foraged exclusively or primarily within burned forest, all had full kernel home ranges with an average snag basal area >17 $m^2$ ha-1. This minimum benchmark of 17 $m^2$ ha-1 could potentially be used by managers seeking to select newly burned forest stands for retention as Black-backed Woodpecker habitat. Although Black-backed Woodpeckers may also occupy areas (including unburned forest adjacent to burned areas) with lower snag densities, retained stands with greater snag basal area are generally likely to support greater numbers of Black-backed Woodpeckers than similar-sized stands with less snag basal area." Of course, high snag basal area is created by a high-severity fire only the pre-fire condition is one in which there is a high density of trees. This reality illustrates the importance of managing the forest to address the ecological benefits of high-severity fire.

In addition to snag basal area, time since fire further illustrates the productiveness of high-severity fire. While species like black-backed woodpeckers immediately utilize severely burned forests, many other species that rely on severely burned areas—

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[14] Malison, R.L., and C.V. Baxter. 2010. The fire pulse: wildfire stimulates flux of aquatic prey to terrestrial habitats driving increases in riparian consumers. Canadian Journal of Fisheries and Aquatic Sciences 67: 570-579

[15] Manley, Patricia N., and Gina Tarbill. 2012. Ecological succession in the Angora fire: The role of woodpeckers as keystone species. Final Report to the South Nevada Public Lands Management Act. U.S. Forest Service

[16] Seavy, N.E., R.D. Burnett, and P.J. Taille. 2012. Black-backed woodpecker nest-tree preference in burned forests of the Sierra Nevada, California. Wildlife Society Bulletin 36: 722–728

[17] Siegel, R.B., M.W. Tingley, and R.L. Wilkerson. 2012. Black-backed Woodpecker MIS surveys on Sierra Nevada national forests: 2011 annual report. Report to U.S.D.A. Forest Service Pacific Southwest Region. The Institute for Bird Populations, Point Reyes Station, CA

[18] Siegel, R.B., M.W. Tingley, R.L. Wilkerson, M.L. Bond, and C.A. Howell. 2013. Assessing home range size and habitat needs of Black-backed Woodpeckers in California: Report for the 2011 and 2012 field seasons. Institute for Bird Populations

[19] Siegel, R.B., M.W. Tingley, and R.L. Wilkerson. 2014a. Assessing home-range size and habitat needs of Black-backed Woodpeckers in California: report for the 2013 field season. Report to U.S.D.A. Forest Service Pacific Southwest Region. The Institute for Bird Populations, Point Reyes Station, CA

[20] Siegel, R.B., R.L. Wilkerson, M.W. Tingley, and C.A. Howell. 2014b. Roost sites of the Black-backed Woodpecker in burned forest. Western Birds 45:296–303

[21] Siegel, R.B., M.W. Tingley, R.L. Wilkerson, C.A. Howell, M. Johnson, and P. Pyle. 2016. Age structure of Black-backed Woodpecker populations in burned forests. The Auk: Ornithological Advances 133:69–78

[22] Tingley, M.W., R.L. Wilkerson, M.L. Bond, C.A. Howell, and R.B. Siegel. 2014. Variation in home range size of Black-backed Woodpeckers (*Picoides arcticus*). The Condor: Ornithological Applications 116: 325–340

especially the shrub component, as well as the cavities — show up several years to many years post-fire. For example, Siegel et al. (2012) explains: "Many more species occur at high burn severity sites starting several years post-fire, …. and these include the majority of ground and shrub nesters as well as many cavity nesters. Secondary cavity nesters, such as swallows, bluebirds, and wrens, are particularly associated with severe burns, but only after nest cavities have been created, presumably by the pioneering cavity-excavating species such as the Black-backed Woodpecker. Consequently, fires that create preferred conditions for Black-backed Woodpeckers in the early post-fire years will likely result in increased nesting sites for secondary cavity nesters in successive years." Similarly, Burnett et al. (2012) found that "while some snag associated species (e.g. black-backed woodpecker) decline five or six years after a fire [and move on to find more recent fire areas], [species] associated with understory plant communities take [the woodpeckers'] place resulting in similar avian diversity three and eleven years after fire (e.g. Moonlight and Storrie)." Burnett et al. (2012) also noted that "there is a five year lag before dense shrub habitats form that maximize densities of species such as Fox Sparrow, Dusky Flycatcher, and MacGillivray's Warbler. These species have shown substantial increases in abundance in the Moonlight fire each year since 2009 but shrub nesting species are still more abundant in the eleven year post-burn Storrie fire. This suggests early successional shrub habitats in burned areas provide high quality habitat for shrub dependent species well beyond a decade after fire." Manley and Tarbill (2012) explains the time since fire situation, based on findings in the post-fire area of the Angora fire, and note that woodpeckers play a keystone role:

> Although woodpecker species differed in their influence on recovery of birds and small mammals, all three species observed in our study played an important role in supporting the cavity-dependent community through habitat creation for nesting, resting, denning, and roosting. The Black-backed Woodpecker was a significant contributor to the establishment of bird and small mammal species and communities in areas with high burn intensities, and it appeared to have a more narrow range of suitable habitat conditions for nest site selection compared to the Hairy Woodpecker. Thus, the habitat requirements of the Black-backed Woodpecker serve as a useful threshold for managing burned sites for wildlife recovery.

The Fogg et al. (2016) report highlights yet another important component of high-severity fire ecology that has not yet been addressed—reburns (i.e., when an area of forest which burned at high intensity, experiences another high intensity burn some years later). For example, Fogg et al. (2016) notes that "large shrub fields that have burned multiple times by high severity fire supports a rich community of early seral birds and plants (Fontaine et al. 2009, Campos and Burnett 2015)" Yet another recent study shows the importance of high-severity fire to not only avian communities but also to bats. As discussed in Campos and Burnett (2016), "The results from our bat monitoring represent a significant contribution to the knowledge of bat distribution relative to fire in the Sierra Nevada. Only one other study on bats in a post wildfire landscape exists from the Sierra Nevada region. In that study, Buchalski et al. (2013) found that bat activity in burned areas was either equivalent or higher than in unburned stands for all bat groups that they measured. Except for one species, the pattern found by Buchalski et al. (2013) reflects our findings from this year. These findings from post-fire landscapes in mixed-conifer forests of the Sierra's suggest that bats are resilient to mixed severity fire at the landscape-scale and that some species are preferentially selecting burned areas, including those that burn at the highest severity. . . . "

Moreover, studies that examined fire in the Sierras before the onslaught of fire suppression show that mixed-severity fire with a significant high-severity component to it was prevalent in the pre fire suppression era (see, e.g., Leiberg (1902)[23]; Odion comments re NRV (July 15, 2013)[24]; Odion et al. (2014)[25], (2016)[26]; Baker (2014)[27]; Hanson and Odion (2016a)[28], (2016b)[29]).

For the foregoing reasons, the Trestle draft Decision violates NFMA, NEPA, and the APA, and should be rejected in order to protect critical spotted owl habitat.

Sincerely,

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[23] Leiberg (1902) specifically mapped high-severity fire patches over 80 acres in size in unlogged forests, prior to fire suppression, where he defined this category as 75–100% timber volume mortality (this would equate to even higher levels of basal area mortality). In these unlogged forests, within mixed-conifer forest, the 75–100% timber volume mortality represented about 20% of fire effects—and that does not include the patches under 80 acres.

[24] We submitted this report from Dennis Odion regarding NRV as to various forest types in the Sierra as part of earlier comments and resubmit them with these comments along with the NRV comments we submitted.

[25] Odion D.C., Hanson C.T., Arsenault A., Baker W.L., DellaSala D.A., et al. 2014. Examining Historical and Current Mixed-Severity Fire Regimes in Ponderosa Pine and Mixed-Conifer Forests of Western North America. PLoS ONE 9(2): e87852

[26] Odion D.C., C.T. Hanson, W.L. Baker, D.A. DellaSala, and M.A. Williams. 2016. Areas of agreement and disagreement regarding ponderosa pine and mixed conifer forest fire regimes: a dialogue with Stevens et al. PLoS ONE 11(5): e0154579

[27] Baker, W.L. 2014. Historical forest structure and fire in Sierran mixed-conifer forests reconstructed from General Land Office survey data. Ecosphere 5(7): 1-70

[28] Hanson, C.T., and D.C. Odion. 2016. Historical forest conditions within the range of the Pacific Fisher and Spotted Owl in the central and southern Sierra Nevada, California, USA. Natural Areas Journal 36(1): 8-19

[29] Hanson, C.T., and D.C. Odion. 2016b. A response to Collins, Miller, and Stephens. Natural Areas Journal 36: 229-233

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