December 18, 2024

Shasta-Trinity National Forest
Shasta Lake Ranger Station
Callen Keller
NEPA Planner
14225 Holiday Road
Redding, CA 96003
Callen.keller@usda.gov

Re: North Trinity County Community Risk Reduction Project Scoping

Please accept these scoping comments for the North Trinity project on behalf of the Environmental Protection Information Center (EPIC), the Klamath Forest Alliance, Safe Alternatives for our Forest Environment (SAFE) and, the Northcoast Environmental Center. Our organizations represent over 30,000 members and supporters, who care deeply about protecting the wild places and rivers of Northern California, particularly the Shasta-Trinity National Forest, and the Trinity Lake area.

The 12,500 acre North Trinity Project (project) located to the west of Trinity Lake and east of the Trinity Alps Wilderness, aims to reduce risk high severity wildfire to rural communities, increase safety along critical egress/ingress routes, and improve resilience of adjacent forested ecosystems. The proposed activities include: establishment of fuel management zones (FMZs) on ridgetops, roadsides, and property lines; mechanical thinning; fuel modifications; plantation thinning; post-fire treatments within the River Complex Fire scar; campground forest health treatments; and prescribed fire. Other related actions may include the installation of fire cameras and the renewal of special use authorizations (permits) within the planning area to include wildfire mitigation actions, such as hazard tree mitigation and fuel reduction treatments. Additionally, construction of recreation trails near Trinity Lake is being considered.

The project proposes roughly 9,000 acres of treatments in the Clear Creak, Eagle and Buckeye Late Successional Reserves, and 3,400 acres in the Matrix land allocation and an undisclosed amount of disturbance within Riparian Reserves. The proposed project appears to open a significant amount of Maintenance Level 1 (ML1) roads, reconstruct an undisclosed amount of unauthorized "existing" roads and construct an undisclosed amount of "temporary" roads and landings. It is unclear from the scoping proposal how much acreage is proposed for commercial logging and what logging systems may be required.

While our organizations generally support the overall purpose and need of the project, we are concerned with the widespread disturbance, cumulative impacts, soil degradation and, possible significant harm to wildlife and botany. The checkerboard nature throughout the project area, with surrounding adjacent clearcuts, diminishes the ability to provide a resilient landscape overall and accentuates the importance of intact forest habitats on national forest land. We urge the Shasta-Trinity National Forest to spatially and temporally minimize the project and incorporate clear and specific prescriptions for project treatments.

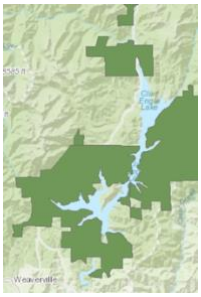
COLLABORATION

The scoping notices touts that the project is being developed through collaboration, however it appears that the agency is merely checking boxes without actually collaborating. SAFE as a member of the Trinity Collaborative participated in at least two field trips to look at the proposed North Trinity County Community Risk Reduction Project. The Trinity Collaborative has not taken any position on this project in part because no prescriptions have been proposed in the scoping document. The Trinity Collaborative has a prescription, provided, for roadside-shaded fuel brakes, it is called The Trinity Collaborative White paper. We encourage the Forest Service to implement this prescription on open roads, in leu of the more extensive proposed FMZs, which covers 150 feet from the center of the roads and 300 feet in total. This prescription will minimize the need for long-term maintenance, while providing safer ingress/egress routes.

EMERGENCY AUTHORITY

The agency is seeking emergency authorities for the project, which curtails public participation. The use of an emergency declaration or EAD to approve this project is not warranted. The Forest Service may attempt to argue that the emergency is preparing the forest for a future fire but this is nonsensical. There is no current fire or emergency that warrants this scale of project. With such significant acres and multiple extraordinary circumstances, the project would benefit from a full NEPA process. Reducing the project footprint to include shaded fuel-breaks along ingress/egress routes, and only the most strategic areas surrounding communities, would be more in-line with what should be considered an emergency.

CLEAR CREEK LATE SUCCESSIONAL RESERVE



A majority of the project, >9,000 acres, falls within #334 Clear Creek, #337 Buckeye and #338 Eagle Late Successional Reserves (LSR). Please provide the complete Clear Creek LSR Assessment to the public as it is not provided on the Shasta-Trinity National Forest Website. Clearly these LSRs are providing connectivity between the Trinity Alps Wilderness to the west and #335 Iron Creek LSR, the Shasta Lake area and Castle Crags Wilderness to the east.

The Buckeye LSR is heavily influence by checker board ownership. It is one of several smaller, "steppingstone" LSRs established around individual owl pairs and having an objective of providing for dispersal to the North and South. The combined habitat within the LSR and the adjacent wilderness area enable this area to function as a larger refugia for multiple pairs of owls. Buckeye LSR includes 3 spotted owl activity centers.

The Eagle LSRs' primary intent was to provide connectivity to HCAs to the north and/or south. It is the second of three "steppingstone" LSRs. It provides approximately 651 acres of nesting/roosting habitat and 2,692 acres of foraging habitat for a total of 3,343 acres of spotted owl habitat. An additional 254 acres have the potential to provide spotted owl habitat. Eagle LSR includes two Northern Spotted Owl activity centers.

The project must protect and enhance conditions of late-successional and old-growth forest ecosystems and focus on younger stands. As clearly expressed, the Clear Creek, Eagle and Buckeye "steppingstone" LSR forest stands are imperative to NSO and habitat connectivity. These species are in severe decline across its entire range. The proposed activities must not harm the ecological integrity and habitat connectivity that the LSRs were designated for.

RIPARIAN RESERVES

Some of the most productive, sensitive and diverse sites on the Shasta-Trinity National Forest are within Riparian Reserves (RRs). They are fragile systems that serve multiple ecological functions. RRs provide important habitat for fish and many other aquatic life-forms. They have high wildlife value because of the close proximity to water and structural diversity of the vegetation. Many wildlife species use the Reserves as corridors for migration, dispersal and foraging, especially these lower elevation watercourses. This is important because most species have a high fidelity to their water sources.

The porosity of the soils surrounding rivers, creeks and wetlands are of primary concern for water filtration. This is significant because there appears to be domestic water sources in the project area. The forthcoming scoping document should provide site-specific details regarding location, current condition and proposed treatments within the Reserves. Prescriptions must be clearly needed and retain riparian vegetation. Equipment exclusions zones should reflect the buffer widths of the Aquatic Conservation Strategy. We are very concerned with significant cumulative effects given the surrounding industrial clearcut forestry and overlapping Shasta-Trinity projects, such as Bowerman Ridge, Pettijohn and Parks Trinity Fuelbreak.

MANAGEMENT AREAS

The project appears to be within Management Areas (MA) 7 Weaverville/Lewiston and 8 National Recreation Area/Trinity Unit. Timber management activities, in support of wildlife and visual objectives and the production of high-quality water for domestic use, are the predominant management opportunities in MA 7. The forthcoming NEPA document should include management direction for these MAs, which include risk analyses for Port Orford Cedar, surveys for additional populations of Shasta snow-wreath and requires maintaining and improving habitat for self-sustaining populations of ospreys, bald eagles and Shasta-salamanders.

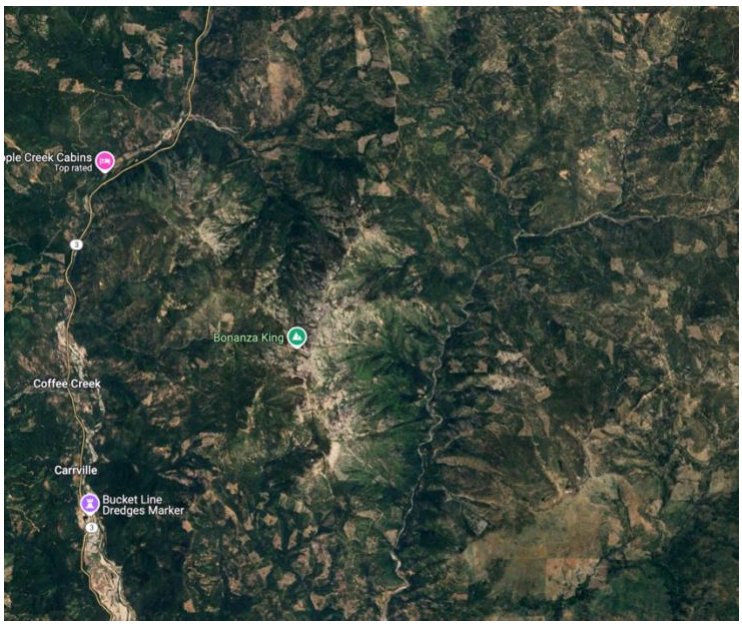
FUEL MANAGEMENT ZONES (FMZs)

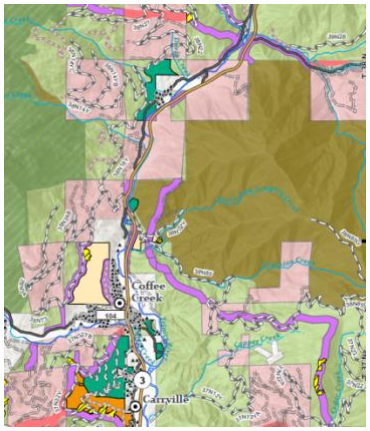
Approximately 5,633 acres of FMZs are proposed (roughly 3,500 acres in LSR). We assume that this includes commercial logging given the Scoping Proposal states, "Silvicultural thinning treatments will be….established along strategic critical travel routes, property lines, and ridge lines."

Rather than FMZs being "strategic" it appears that nearly every ridge system is delineated as an FMZ. The Scoping proposal goes on to state, "Ridgetop FMZ locations would be strategically developed to tie-in with existing and planned fuel break treatments on private timberlands in order to create continuous and effective features for successful fire suppression. Generally, this treatment will be applied 300-feet on both sides (600-ft max width) of key roads and key ridges, and 300-feet along private property boundaries."

There is a significant amount of existing and planned fuel breaks on private lands. From our rough accounting there are over 65 miles. There do not appear to be private property boundaries delineated as FMZs. The forthcoming analysis must include the amount of both planned and existing FMZs on private and public lands, describe their current condition, proposed prescriptions, future maintenance plans and adequately analyze the cumulative effects on all affected resources.

The amount of disturbance from FMZs on both private and public land is of significant concern and more importantly they are unnecessary and likely highly ineffective. FMZs will not stop wind driven fire events and must be maintained eternally to be any kind of effective. Our organizations recommend that the agency prioritize shaded FMZs on the most strategic *open* roads and forgo the extensive ridgetop FMZs as proposed. For one example, including *but not limited to*, the proposed FMZ around the Bonanza King Roadless Area.





FOREST RESILIENCE

Approximately 5,107 acres are targeted for mechanical thinning (>4,000 acres in LSR). The Scoping Proposal states, "In more accessible forested sites with medium to larger trees, thinning would occur across all diameter classes. However, of the trees selected for thinning, the vast majority of those would be from the 4-24" diameter range…All treatments aim to enhance forest resiliency by reducing tree densities through thinning small- to medium-sized trees…Prescriptions within mature and old-growth forests will aim to maintain the habitat characteristics of old-growth forests and enhance their resilience to disturbances."

Resilient older stands with dense forest canopies retain cooler microclimates and limit wind speed while controlling exponential growth of flashier flammable ladder fuels and vegetation. Resilient forests are undisturbed by roads, skid trails and landings. While we appreciate the mention of maintaining habitat characteristics, the extensive amount of ground disturbance with any loss of canopy or large fire resilient trees: simplifies forest structure; is contrary to maintaining and enhancing older forest ecosystems that so many species depend on and; is contrary to the requirements of the Northwest Forest Plan, Shasta-Trinity Land Resource Management Plan and the Northern Spotted Owl Recovery Plan. Please also see Fire and Fuels section of these comments.

NORTHERN SPOTTED OWL

There are multiple *occupied* Northern spotted owl (NSO) activity centers in the project area with at least two *consistently reproductive pairs*. Reproductive owl pairs must receive the highest priority for protection and deserve to be given every opportunity to survive. This would be done by staying out of nest cores and extremely limiting any disturbance in home ranges, beyond Limited Operating Periods. These owls are relying on national forest lands for survival.

The NSO is an umbrella species for hundreds of late-successional species. The extreme plight of the owls and older forest dependent species cannot be over stated. Meta analysis and demographic studies continue to support the fact that NSO are nearing extinction. As the US Fish and Wildlife will contend, the owl is endangered, with few reproductive pairs left in existence.

Figure A-1. Physiographic Provinces within the range of the northern spotted owl in the United States (from USDI FWS 2011, A-3)

With NSO considered functionally extinct through its entire northern range in British Columbia, Washington and Oregon, the Klamath Provinces represent the last stronghold for the species. This is extremely troubling because the Forest Service, primarily the Shasta-Trinity National Forest, continues to move forward with commercial timber sales, under the cloak of emergency and the Wildfire Crisis Strategy that "take" longstanding reproductive pairs, eviscerate habitat connectivity, in addition to degrading occupied home ranges and removing and degrading habitat.

Modeling simulations in the 2012 Final Critical Habitat Analysis estimated that 2,680 owls may be present in the Klamath- Siskiyou region (OR & CA Klamath Provinces), assuming each female is part of a pair. From 2013 to 2018, federal land managers in the Klamath-Siskiyou Mountains received 211 Northern spotted owl take permits, potentially removing 8% of the population in just five years. Since 2018, the Shasta-Trinity National alone has been allowed "take" of an estimated 18 NSO with other projects that were deemed likely to adversely affect the species and their Critical Habitat. Enough is enough. **That the level of take and habitat loss associated with federal and private land projects in the region is significant and has not been adequately analyzed on a regional or provincial scale.**

Agencies do not know accurate population numbers because regional surveys have not been completed in decades. The best guess is based on concentrated on outdated demographic studies, old project surveys and available habitat, which all point to

bad news for the owl. **It is of utmost importance that remaining owls, especially reproductive pairs and their habitat are protected.**

The change in baseline habitat conditions throughout the region must be updated and considered prior to any project decisions. Further, protocol surveys must be completed to adequately assess the location and presence of NSO's throughout the region and especially on a provincial/recovery unit scale.

Many species benefit from fire and as we have witnessed no amount of logging can stop or quell wind driven fire events. See Spotted Owls and Forest Fire: a systematic review and meta-analysis of the evidence[1]:

> Abstract: Forest and Spotted Owl management documents often state that severe wildfire is a cause of recent declines in populations of Spotted Owls and that mixed-severity fires (5–70% of burned area in high severity patches with >75% mortality of dominant vegetation) pose a primary threat to Spotted Owl population viability. This systematic review and meta-analysis summarize all available scientific literature on the effects of wildfire on Spotted Owl demography and ecology from studies using empirical data to answer the question: How does fire, especially recent mixed-severity fires with representative patches of high-severity burn within their home ranges, affect Spotted Owl foraging habitat selection, demography, and site occupancy parameters? Fifteen papers reported 50 effects from fire that could be differentiated from post-fire logging. Meta-analysis of mean standardized effects found only one parameter was significantly different from zero, a significant positive foraging habitat selection for low-severity burned forest. Multi-level mixed effects meta-regressions (hierarchical models) of Hedge's d against percent of study area burned at high severity and time since fire found the following: a negative correlation of occupancy with time since fire; a positive effect on recruitment immediately after the fire, with the effect diminishing with time since fire; **reproduction was positively correlated with the percent of high-severity fire in owl territories;** and positive selection for foraging in low- and moderate-severity burned forest, **with high-severity burned forest used in proportion to its availability, but not avoided.** Meta-analysis of variation found significantly greater variation in parameters from burned sites relative to unburned, with specifically higher variation in estimates of occupancy, demography, and survival, and lower variation in estimates of selection probability for foraging habitat in low-severity burned forest. Spotted Owls were usually not significantly affected by mixed-severity fire, as 83% of all studies and 60% of all effects found no significant impact of fire on mean owl parameters. Contrary to current perceptions and recovery efforts for the Spotted Owl, **mixed-severity fire does not appear to be a serious threat to owl populations; rather, wildfire has arguably more benefits than costs for Spotted Owls.**
>
> Management Implications: The preponderance of evidence presented here shows mixed-severity **forest fires**, as they have burned through Spotted Owl habitat in recent decades under current forest structural, fire regime, and climate conditions, **have no significant negative effects on Spotted Owl foraging habitat selection, or demography, and have significant positive effects on foraging habitat**

[1] Lee, D. E. 2018. *Spotted Owls and forest fire: a systematic review and meta-analysis of the evidence.* Ecosphere 9(7):e02354. 10.1002/ecs2.2354

> **selection, recruitment, and reproduction. Forest fire** does not appear to be a serious threat to owl populations and **likely imparts more benefits than costs for Spotted Owls; therefore**, fuel-reduction treatments intended to mitigate fire severity in Spotted Owl habitat are unnecessary. These findings should inform revisions to planning documents to consider burned forest, including **large patches of high-severity burned forest, as useful habitat that imparts significant benefits to Spotted Owls.** Forest and wildlife planning documents promote a diverse mosaic of heterogeneous tree densities and ages (USFWS 2017, USDA 2018), the very conditions created by mixed-severity wildfire, and it follows that heterogeneous post-fire structure would lead to greater variation in some Spotted Owl parameters, as was observed in the meta-analysis of variation. **Planning documents** (USFWS 2011, 2012, 2017, Gutierrez et al. 2017, USDA 2018) claiming that forest fires currently pose the greatest risk to owl habitat and are a primary threat to population viability **appear outdated in light of this review (**emphasis added).

Interim Guidance from the NSO Recovery Plan, at III-44:

> When planning management activities, Federal and non-federal land managers should work with the Service to prioritize known and historic spotted owl sites for conservation and/or maintenance of existing levels of habitat. The prioritization factors to consider are reproductive status and site condition.
>
> The site conservation priorities for reproductive status are:
> · **Known sites with reproductive pairs**;
> · Known sites with pairs;
> · Known sites with resident singles; and
> · Historic sites with reproductive pairs, pairs, and resident singles, respectively.

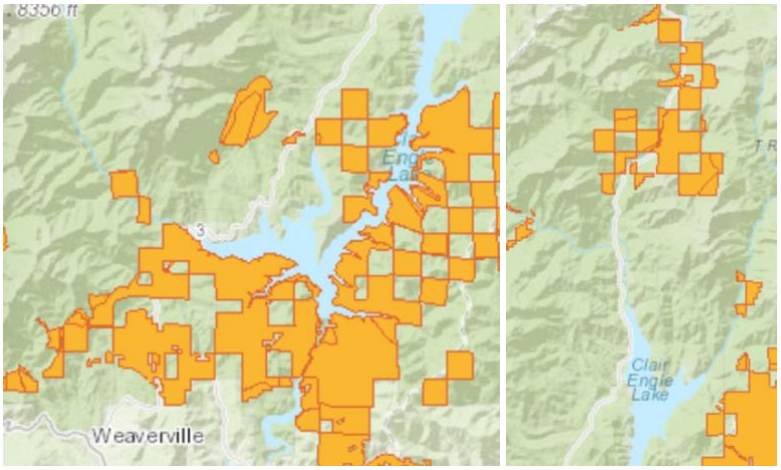
Conserving Occupied and High Value Spotted Owl Habitat at III-42
(Emphasis added and citations omitted):

> The three main threats to the spotted owl are competition from barred owls, past **habitat loss**, and **current habitat loss**.
>
> Scientific peer reviewers recommended that we address this downward demographic trend by **protecting known spotted owl sites in addition to the retention of structurally-complex forest habitat**.
>
> The Service recommends conserving occupied spotted owl sites throughout the range, **especially those containing the habitat conditions to support successful reproduction.** This recommendation is especially important in the short-term, until spotted owl population trends improve.
>
> Because spotted owls on established territories are likely to be more successful if they remain in those locations, **managing to retain spotted owls at existing sites should be the most effective approach to bolstering the demographic contribution of a habitat conservation network and the highest priority for land managers**.

We urge the agency to consider a much more minimal approach, in occupied and unoccupied home ranges to give dispersing owls the best chance at survival.

CRITICAL HABITAT

The goal of management in Late Successional Reserves (LSR) is to protect and restore high quality habitat for late successional species. The goal in Critical Habitat (CH) is to recover populations of listed species by providing the primary constituent elements of nesting, roosting and foraging habitat. Critical Habitat Units 11 and 12 are essential to the species across its range.



CH Unit CA-12 serves to protect the intervening checkerboarded habitat between eastern Trinity County and the Klamath National Forest. CA-11 and CA-12 are largely unchanged from their associated HCA, and are expected to provide habitat for 1 and 2 pairs, respectively. CA-12 is about 3,756 acres. Approximately 98% of the critical habitat unit overlaps with the 7,044 acre Buckeye LSR.

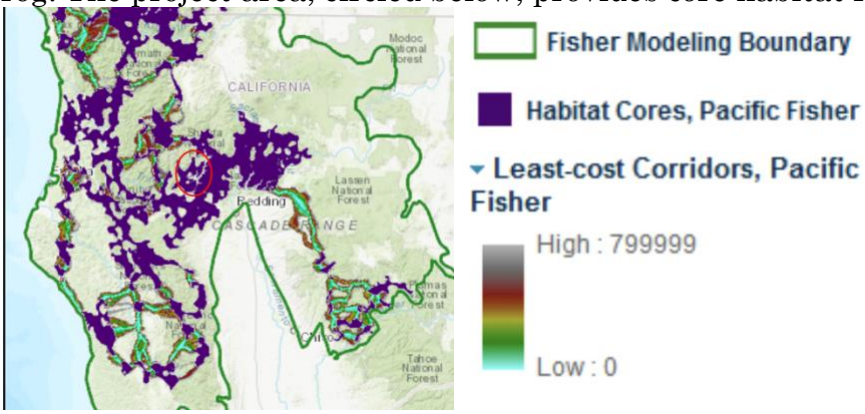
The Eagle LSR overlaps almost entirely with critical habitat unit CA-11. This unit is the second of three "stepping stone" identified as critical habitat in this area. The objective for this CHU is to protect the intervening checkerboard habitat between eastern Trinity County and the Klamath National Forest and it was established to provide connectivity and dispersal in a north-south direction.

WILDLIFE AND FISHERIES

We are concerned that Management Indicator Species, Forest Service Sensitive, Survey and Manage species, deer herds, riparian-dependent species, neotropical migratory birds, pygmy nuthatch, white headed woodpecker and possibly great grey owls may be affected by the widespread FMZ, unit and roadside logging, with subsequent “temporary roads, skid trails landings and maintenance disturbance proposed in the project. The overall affect from the proposed project is a significant issue for multiple wildlife species. The forthcoming wildlife biological assessments and evaluations must provide *specific* details on both suitable habitat and population information for a myriad of species within the project footprint. Please do not rely Project Design Features to mitigate impacts to these species as the proposed significant disturbance is additive and would entirely eliminate harm to wildlife. Again, wildlife in the area is likely highly dependent on national forest lands for survival and dispersal.

Sensitive Species

Multiple Sensitive species reside within or have suitable habitat within the project area, including fisher, marten, goshawk, northwestern pond turtle and red-legged frog. The project area, circled below, provides core habitat for the pacific fisher.[2]



Page III-122 of the Shasta-Trinity Land Management Plan (LRMP) FEIS states "Six of the Forest' threatened, endangered, and sensitive (TE&S) wildlife species have been selected as management indicators…." The Northern Spotted Owl, Goshawk, Marten and Fisher are 4 of the 6 listed that have habitat in the project area, yet none have forest-wide trend data and only one has any project level population data. Page III-27 continues, "Forest personnel will continue to survey for additional populations and habitats of TE&S species… These surveys will intensify as management activities continue on the Forests. Additional inventory and/or surveys will be necessary to determine location, distribution, and habitat requisites of additional species and populations."

The Sensitive Species Program was developed to meet obligations under the ESA, the NFMA and Forest Service national policy direction as stated in the FSM Section 2670, and the USDA Regulation 9500-4. The Sensitive Species Program is supposed to be a proactive approach to conserving species to prevent a trend toward listing under the ESA and assist in providing for a diversity of plant and animal communities [16 USC 1604(g) (3) (B)] as part of the multiple use mandate.

The LRMP Table 5-1 at page 5- 4-18 documents the STNF monitoring requirement for Furbearers, including fisher and marten. It states the forest will determine population and habitat trends within designated fisher and pine marten habitat; monitor furbearer network for occurrence and amount of appropriate habitat attributes and/or special components; field review of project planning using habitat

[2] Spencer, W., J. Brice, D. DiPietro, J. Gallo, M. Reilly, H. Romsos. 2019. *Habitat Connectivity for Fishers and Martens in the Klamath Basin Region of California and Oregon.* Conservation Biology Institute. https://doi.org/10.6084/m9.figshare.8411909

capability models; there is to be a minimum random sample of suitable habitats involved in individual project analyses at the compartment, management area, and/or Ranger District level; measurement and reporting is to occur annually; the expected precision and reliability should be "high"; and the variability in standard which would require further evaluation and/or corrective action is when > 10 % of habitats examined have more than 10% deficit in selected key attributes. The STNF has obligations to survey in order to determine population numbers and to take actions that benefit sensitive species and prevent them from further listing under the ESA.

> "Current management direction (fisher) is to provide a network of suitable habitat to include linkage in the form of dispersal habitat. This direction is being fulfilled with implementation of the LSR and riparian reserve system." LRMP 3-37

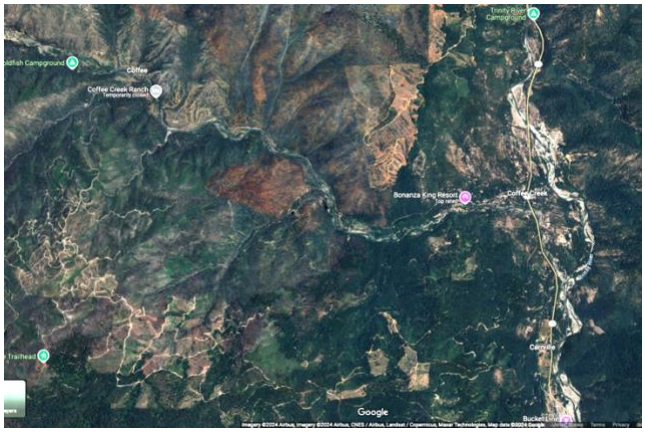
Forest Plan 5-18, "Furbearers-Determine population and habitat trends within the designated fisher and pine marten habitat. Monitor furbearer network for occurrence and amount of appropriate habitat attributes and/or special components; field review of project planning using habitat capability models."

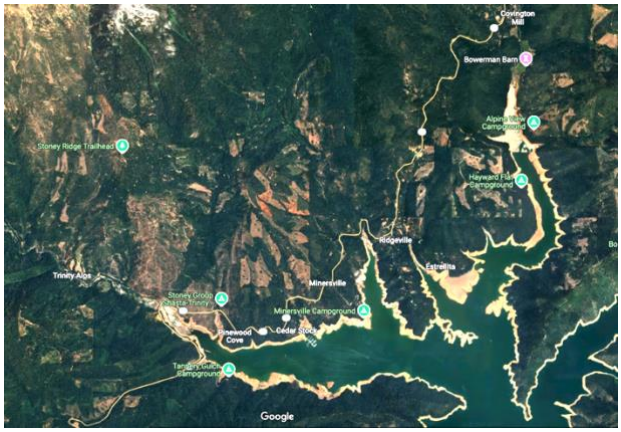
To date the Shasta-Trinity National Forest still has no population data on Sensitive species. The location of fishers or other Sensitive species within the project area is not known and project activities could be detrimental to existing small populations. Given that the project covers a vast amount of area the effects to Sensitive species is unknown. This reiterates the need to maintain habitat connectivity, especially within LSRs and RRs, which would be greatly diminished by the potential 13,000 acres of logging and fuels treatments, further road reconstruction, machine piling, road and landing construction and other subsequent activities.

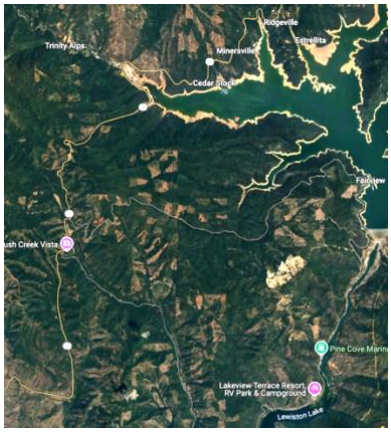
We are concerned with water quality and impacts to aquatic species and fisheries. Please provide a detailed analysis for these species in project analysis.

CUMULATIVE EFFECTS

Cumulative effects are a significant issue for the project. Not only is the area surrounded by a sea of clearcuts, making the landscape eternally flammable, there also appears to be over 65 miles of ridgeline "FMZs" proposed on private lands on top of the roughly 45 miles, or 3,500 acres, of FMZs proposed on the Forest as well as 5,000 acres of unit logging in addition to prescribed fire and other treatments. There is also the Bowerman Ridge Project, Pettijohn LSR project and Parks Trinity Fuelbreak to consider. Proper and details cumulative effects must be analyzed for each resource in the forthcoming planning document.







SOIL

Soil is the foundation of all life in the forest. Proposed activities, especially commercial removal, would violate requirements to maintain long-term soil productivity. Soil compaction and erosion, loss of coarse woody debris, and erosion all adversely affect long-term productivity. Removal of a major fraction of the available organic matter through significant ground-based logging would adversely affect soil productivity for decades or centuries. Project planners must take a close and honest look at the widespread impacts of logging on soil health and provide a detailed map of logging systems, with location of proposed reconstruction of closed ML1 roads, construction of "temporary" roads and landings and skid trails.

BOTANY

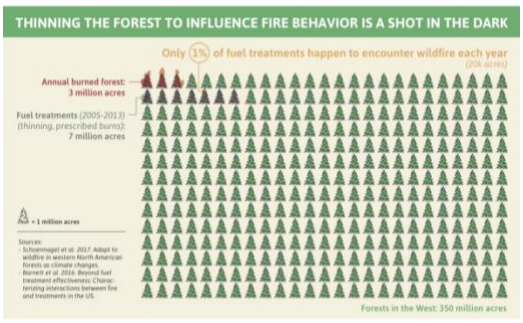
Multiple Sensitive botanical species grow or have suitable habitat within the project area, including *Arnica venosa* Veiny arnica, *Balsamorhiza hookeri* var *lanata* Woolly balsamroot, *Erythronium citrinum* var *roderickii* Scott Mountain lawn lily, *Lewisia cotyledon* var. *howellii* Howell's Lewisia, *Ophioglossum pusillum* Northern adder's- tongue fern, *Sedum paradisum* Canyon Creek stonecrop, *Smilax jamesii* English Peak greenbriar, *Trillium ovatum* ssp. *oettingeri* Salmon Mountains

wakerobin, *Chaenactis suffrutescens* Shasta Chaenactis, *Ivesia pickeringii* Pickering's ivesia and, *Penstenom filiforms* Thread-leaf beardtongue.

LRMP Standards and Guidelines for Sensitive and Endemic Plant species require the agency to: a) Map, record, and protect essential habitat for known and newly discovered sensitive and endemic plant species until conservation strategies are developed; b) Analyze the potential effects of all ground disturbing projects on sensitive and endemic plant species and their habitat and mitigate project effects to avoid a decline in species on the forest level; c) Monitor the effects of management activities on sensitive and endemic plants. If monitoring results show a decline in species viability, alter management strategy; d) Provide reports of sensitive plant populations to the California Natural Diversity Data Base (Department of Fish and Game [DFG]) annually; e) Coordinate sensitive plant inventory and protection efforts with the DFG, the US. Fish and Wildlife Service, the Nature Conservancy, the California Native Plant Society, and other concerned agencies, organizations, and adjacent landowners; f) Develop at least one conservation strategy per year; g) Review the Forests' sensitive species list periodically and recommend appropriate changes to the Regional Forester; g) Protect type localities of sensitive and endemic plants for their scientific value. The forthcoming planning document must provide this detailed botanical accounting of populations and suitable habitat.

FIRE AND FUELS

Please provide a detailed Fire and Fuels Report so the public can see and understand all the features and outputs used to make fire modeling assumptions. If the agency uses the recent IFTDSS modeling, please compare different project alternatives and, run different models based on the reasonable alternatives and recommendations provided in these comments.



Studies have shown that there is a very low probability that project areas will encounter wildfire before fuels recover to hazardous conditions.[3] Fuel-reduction treatments such as mechanical thinning can effectively reduce fire severity in the short term, but these treatments, by themselves, may not effectively mitigate long-term dynamics of fire behavior under severe weather conditions. The fires that thinning is designed to halt are wildfires that are driven by drought, high temperatures, low humidity and, most importantly, wind. Thinning—even when done properly—cannot halt extreme winds or embers, which blow through and over any amount of clearing.

[3] MM Boer, OF Price, RA Bradstock, Wildfires: Weigh policy effectiveness. *Science* **350**, 920 (2015). https://www.science.org/doi/10.1126/science.350.6263.920-a

To reiterate this point please watch this recent PBS Film explaining fast fires, which discusses wildfires in northern California and the western US. *Is this Type of Wildfire Impossible to Stop* at- https://www.pbs.org/video/is-this-type-of-fire-impossible-to-stop-etkhif/

In his 2017 testimony before the U.S. House of Representatives Natural Resources Committee, Chief Scientist of the Geos Institute Dominick DellaSala discussed "Exploring Solutions to Reduce Risks of Catastrophic Wildfire and Improve Resilience of National Forests":

> Thinning small diameter trees from below while maintaining appropriate canopy cover can in certain circumstances change fire behavior. However, there are some significant drawbacks to relying on landscape-scale thinning to address increased fire activity in a warming period. These are: (1) there is a very low probability (2-8%) that a thinned site will encounter a fire during the narrow period of 10-15 years of reduced "fuels;" (2) excessive thinning can increase wind speeds in a stand that consequently increases rates of fire spread; (3) opening up a stand to greater light penetration results in rapid understory growth that in turn contributes to future fire spread; (4) thinning needs to be followed by prescribed fire; and (5) thinning can damage wildlife habitat because it often removes medium and large diameter trees. When extreme fire-weather (high temperatures, low fuel moisture, low humidity, high winds) encounters a thinned stand there can be little to no reduced fire intensity (Schoennagel et al. 2017). In a warming climate, thinning will become increasingly less effective.
>
> The study that I cited by Bradley et al. 2016 was the most comprehensive analysis ever done to address the management vs. protection question around fires and it went through rigorous peer review. To reiterate, we examined 1500 fires using 4 decades of government fire records and conducted a massive computer (GIS) analysis of 23 million acres of burned areas to test the assumption that fires burn more intense in "unmanaged" areas (e.g., wilderness, national parks, roadless areas) compared to "actively managed" areas. What we found was the opposite – fires burned unnaturally intense in areas of intense management.
>
> Thinning of small trees in certain forest types, maintaining canopy closure and in combination with prescribed fire can reduce fire intensity but treatment efficacy is limited in extreme fire weather, and by the small chance that a thinned site will encounter a fire during a very narrow window when fuels are lowest.

In a 2018 letter to congressional leaders, concerning wildfires in the west, over 200 scientists concluded that:

> *Thinning Is Ineffective in Extreme Fire Weather* – Thinning is most often proposed to reduce fire risk and lower fire intensity. When fire weather is not extreme, thinning-from-below of small diameter trees followed by prescribed fire, and in some cases prescribed fire alone, can reduce fire severity in certain forest types for a limited period of time. However, as the climate changes, most of our fires will occur during extreme fire-weather (high winds and temperatures, low humidity, low vegetation moisture). These fires, like the ones burning in the West this summer, will affect large landscapes,

regardless of thinning, and, in some cases, burn hundreds or thousands of acres in just a few days. Thinning large trees, including overstory trees in a stand, can increase the rate of fire spread by opening up the forest to increased wind velocity, damage soils, introduce invasive species that increase flammable understory vegetation, and impact wildlife habitat. Thinning also requires an extensive and expensive roads network that degrades water quality by altering hydrological functions, including chronic sediment loads.

A report by Jay Lininger on the Fire History and Need for Fuel Management in Mixed Douglas-Fir Forests of the Klamath-Siskiyou Region, states:

> Unmanaged forests tend toward wildfire resilience- A key feature of most unlogged mixed-conifer forests in the K-S region is the prevalence of very large (>20 inches in diameter), older trees that have survived numerous fires (Arno 2000, Frost and Sweeny 2000, Willis and Stuart 1994). The structural diversity of unlogged mature forests in the form of high closed canopies and large down trees tend to inhibit hot fires (Agee and others 2000, DellaSala and Frost 2001). Shade provided by a closed forest canopy shields the ground surface from direct solar radiation, reduces ground temperature and increases the relative moisture of ground fuel (Countryman 1955). Large down trees slow the horizontal movement of wind and thus, fire spread, and they store huge amounts of water that can take heat energy out of fire (Amaranthus and others 1989). As noted above, unmanaged older forests are not immune from high severity, stand-replacing fires. Indeed, some measure of high severity fire disturbance is an important influence on the biological diversity of K-S forests.

The NSO Recovery Plan reiterates this at page III 37 (references omitted, emphasis added):

> [T]he mixed evergreen forests of the Klamath Province may exhibit stand development pathways that result in different fire susceptibilities. For example, **lower fire severities were observed in stands with longer fire-free periods as well as in untreated stands with closed canopies or with larger, more mature forest conditions, when compared to treated stands**…Finally, extreme fire weather events can overwhelm a stand's resistance to fire, resulting in high severity burns regardless of the topography, fuel condition or prior management. Thus, treatments to reduce fire severity need to be strategically located and designed with specific objectives and a clear understanding of how the local landscape responds to the many variables that influence fire severity.
>
> Fuel treatments have other limitations that need to be considered in their application. **Treatments require maintenance if they are to remain effective.** In addition, **treatments that are not maintained may actually result in fire behavior that is more deleterious than expected without treatment.** Finally, given the stochastic nature of fires, without extremely large-scale treatments that may be neither economically nor socially feasible, there is a low probability of fires intercepting fuel breaks. However, modeling indicates that strategic placement can improve treatment leverage (i.e., increase the ratio of acres experiencing reduced fire severity to acres treated). Fuel treatments need to be strategically located with clear objectives. They should not be used for the purpose of "fireproofing" the forest. Rather, they should be designed to increase the acceptability of wildfire through reducing fire behavior and severity in local areas, rather than simply to reduce fire occurrence, size, or amount of

burned area per se.

Forests with large fire resilient trees and dense forest canopies are not only serving as vital habitat for hundreds of rare, threatened, endangered and lesser-known species and but these forest stands are also less prone to high severity fire affects, are more capable of surviving fire and serve as a buffer to the negative effects of climate change by enhancing biodiversity and resistance to high-severity fires. Therefore, we urge planners to prioritize fuels treatments where it is most needed, within plantations, early seral stands, on pre-existing roads and forgo commercial logging and concentrated road and landing construction in these late seral stands.

MAINTENANCE OF TREATMENTS

The Scoping Proposal itself recognizes that "Maintenance of treatments is critical for meeting the purpose and need of the project." It is important to note that the agency cannot keep up with the maintenance it is already committed to, let alone add thousands of acres more. The forthcoming analysis must not rely on maintenance treatments being implemented in effects determinations as maintenance and monitoring are never guaranteed. Fuel modeling should be done to show the different outcomes, with and with out long term-maintenance treatments.

The Scoping Proposal goes on to state, "All treatments would be maintained over time to retain the proposed fuels reduction and fire behavior modification benefits, including the application of prescribed fire where appropriate." Please describe where prescribed fire is proposed and the temporal scale used for the analysis. We strongly suggest the retention of forest canopy to eliminate the need for long-term maintenance.

ROADS

The road density in the Buckeye LSR is 4.4 miles of road per square mile of land. Road density in Eagle LSR is 4.1. The road density in the Clear Creek LSR is likely similar. Clearly this has an impact on wildlife, botanical resources and habitat connectivity. The agency often claims that "temporary" roads will by hydrologically restored, however, their multiple negative impacts are a near permanent impairment, as can be seen from the proposal to reuse "existing" non-system roads.

Roads are the greatest contributor of sediment to our waterways. A better understanding of the existing primary and secondary roads and skid trail network construction histories should be provided in the project area to perform a proper analysis of impacts. Increasing sediment inputs and fragmenting habitat by disturbing thousands of acres of damaged and erodible watersheds with heavy machinery, road reconstruction, construction road and use, landing construction and the creation of skid trails must be avoided, especially in watersheds that

already suffer aquatic degradation from past management activities. Even the simple use of logging roads, especially during the wet season as proposed, can increase sediment loads.

Road and skid trail use and new construction impede forest ecosystem function when it: compacts soils; opens canopies; removes large trees, vegetation and "biological legacies" (e.g., large dead standing and down trees); introduces or spreads invasive species; causes soil erosion when fallen trees are dragged across hillslopes; and delivers sediment to streams. Roads can intercept and concentrate hillslope runoff and eroded sediment derived from sheet, rill, and gully erosion as well as high rates of cutbank erosion and colluvial raveling processes along bare road cuts which contribute accelerated erosion to the inboard ditch.

Further increasing this already *densely* roaded landscape with more roads, skid trails and landings in these LSRs is not consistent with Northwest Forest Plan and LRMP direction. We ask that the agency minimize commercial logging, focus on small diameter thinning and concentrate fuels reduction on open roads and plantations. Road decommissioning should be considered. Further, the Travel Analysis for the Shasta-Trinity National Forest should be incorporated in the project analysis.

BEST MANAGEMENT PRACTICES

We are greatly concerned with the amount of activity proposed and its effect on water quality. Best Management Practices (BMPs) do not erase the impacts from logging activities or road use. They are rarely 100% implemented and are not 100% effective. The agency cannot continue to rely on BMP's to eliminate sedimentation from project activities.

The prevention of potentially adverse impacts at the project site is indeed necessary, but not sufficient to avoid cumulative effects (CEQ 1971). The BMP approach is based on the premise that if on-site effects of a project are held to an acceptable level, then the project is acceptable, regardless of activities going on around it. Interactions between projects are beyond the scope of BMP analysis, and operational controls are applied only to individual projects.

However useful site specific BMPs are in minimizing effects of individual actions, they still do not address the cumulative effects of multiple actions occurring in the watershed which, though individually "minimized", may still be significant, in their totality, and have undesirable consequences for multiple resources.

The contention that applying a BMP while conducting a specific forest practice minimizes site-specific effects and thus also minimizes cumulative effects is logically flawed. Every BMP is an action and has an effect and hence the more the

BMPs are applied the greater the cumulative effect. Only by minimizing the number of actions, i.e., the number of individual applications of BMPs, would cumulative effects by minimized. This is precisely why a cumulative effects assessment is needed—to establish the watershed-specific limits and excesses of BMP applications.

INVASIVE PLANTS

The project record must adequately disclose and analyze the potential for the proposed activities to increase the spread of noxious weeds in the planning area.

MEADOW RESTORATION

The Scoping Proposal states that meadow restoration treatments may be considered. Please provide specific details on location and proposed treatments in the forthcoming analysis. Prescriptions should retain mature fire resilient trees.

TRAILS

Please provide further detail on enhancing access within and around developed recreation sites in the NRA and any proposed trails construction near Trinity Lake.

LEGACY SEDIMENT SITES

The scoping notice includes multiple road treatments, such as, "applying aggregate surfacing to road segments; constructing armored rolling dips; installing new or re-installing larger capacity culverts; lowering the road grade over stream crossings and applying rip-rap on fill slopes (critical dip); removing culverts and constructing armored fords where fill volumes are too shallow to install larger capacity culverts; removing excess fills; armoring gullies, out sloping; and ditch clearing." While some of these treatments may affect water quality over the long-term, they are in and of themselves possibly significant, especially paving roads. Please provide a detailed description of proposed treatments with locations in the analysis.

ARCHEOLOGICAL SITES

We are concerned that the project may affect sensitive sites and archeological sites, such as the Trinity Center Coffee Creek Cemetery.

TRIBAL CONSULTATION

Decision makers must have regular, meaningful and robust consultation with affected Tribes. Please see the, Memorandum concerning Tribal Consultation and Strengthening Nation-to-Nation Relationships.

Executive Order 13175 of November 6, 2000 (Consultation and Coordination With Indian Tribal Governments), charges all executive departments and agencies with engaging in regular, meaningful, and robust consultation with Tribal officials in the development of Federal policies that have Tribal implications. Tribal consultation under this order strengthens the Nation-to-Nation relationship between the United States and Tribal Nations. The Presidential Memorandum of November 5, 2009 (Tribal Consultation), requires each agency to prepare and periodically update a detailed plan of action to implement the policies and directives of Executive Order 13175.

CLIMATE AND BIODIVERSITY CRISIS

"The ability of the Region's forestlands to sequester and store carbon has become a matter of national and international significance. Human additions of greenhouse gases to the atmosphere are altering the climate, and federal land management agencies like the Forest Service are expected to play a major role in U.S. adaptation and mitigation responses to global warming. Mitigation responses revolve around the maintenance and enhancement of carbon sequestration processes on forestlands."[4]

"Ensure the retention and sustainability of forests, forest resources, and forest carbon over the long term, even as climates changes."[5]

"Habitat loss and climate change are the two greatest threats to biodiversity. The Pacific Northwest region represents some of the highest carbon density forests in the world, which can store carbon in trees for 800 years or more. GHG reduction must happen quickly to avoid surpassing a 2 °C increase in temperature since preindustrial times. Alterations in forest management can contribute to increasing the land sink and decreasing emissions by keeping carbon in high biomass forests, extending harvest cycles, reforestation, and afforestation. Forests are carbon-ready and do not require new technologies or infrastructure for immediate mitigation of climate change. Here, we demonstrate this approach in a high biomass region, and found that reforestation, afforestation, lengthened harvest cycles on private lands, and restricting harvest on public lands increased net ecosystem carbon balance by 56% by 2100, with the latter two actions contributing the most. Storing more carbon in ecosystems will help mitigate climate effects, although land managers often prioritize generating revenue from commercial sales over carbon storage."[6]

---

[4] R5 Ecological Restoration Implementation Plan

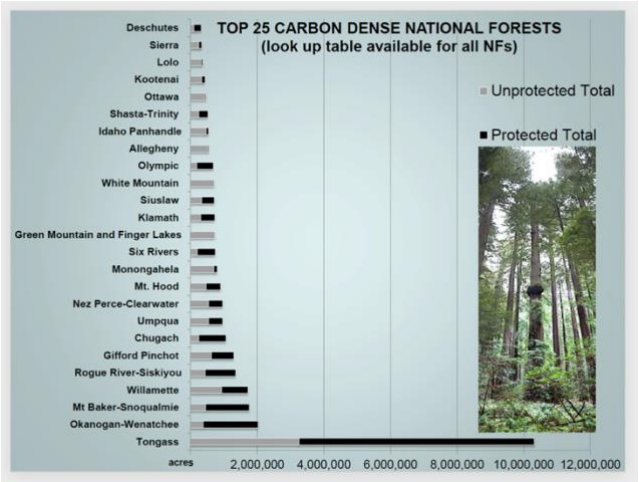
[5] R5 Ecological Restoration Implementation Plan

[6] Law, Beverly E., et al. "Land use strategies to mitigate climate change in carbon dense temperate forests." Proceedings of the National Academy of Sciences 115.14 (2018): 3663-3668.

As hundreds of climate and forest scientists warned Congress, logging in the U.S. emits 723 million tons of uncounted CO2 into our atmosphere each year-more than 10 times the amount emitted by wildfires and tree mortality from insects combined. Greenhouse gas emissions from logging in U.S. forests are now comparable to the annual CO2 emissions from the U.S. coal burning, and annual emissions from the building sector. Most of the carbon in trees removed from forests through logging is emitted almost immediately, as branches and tree tops are burned at biomass facilities and mill residues are burned at sawmills, typically for energy production-emitting more CO2 than burning coal, for equal energy produced. Logging conducted as commercial "thinning" under the rubric of fire management, emits about three times more CO2 than wildfire alone.[7]

In 2010, the Forest Service produced a National Roadmap for Responding to Climate Change. This roadmap provides guidance to the agency to: (1) Assess vulnerability of species and ecosystems to climate change, (2) Restore resilience, (3) Promote carbon sequestration, and (4) Connect habitats, restore important corridors for fish and wildlife, decrease fragmentation and remove impediments to species migration.

The key challenge for biodiversity conservation in the Anthropocene is counteracting the accelerating rate of species extinctions resulting from habitat loss and fragmentation, climate change, and invasive species.[8] As we face the climate and biodiversity crisis, we urge the Shasta-Trinity National Forest to work towards species recovery, habitat connectivity and maintaining climate refuge. This would best be achieved by- decommissioning unneeded, closed, high-risk roads that the agency cannot afford to maintain and dropping green tree, unit and ridgetop logging and focusing the project on main routes and plantations.

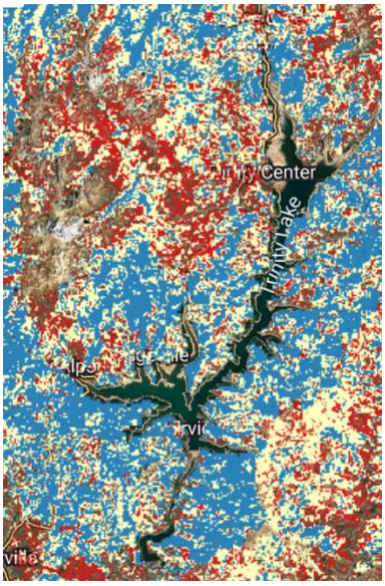


The Shasta-Trinity National Forest ranks in the top 25 carbon dense national forests! Big trees and native natural stands provide a vital biological and ecological role. These stands supply invaluable ecosystem services such as;

[7] Open Letter to President Biden and Members of Congress from Scientists: It is essential to Remove Climate-Harming Logging and Fossil Fuel Provisions from Reconciliation and Infrastructure Bills November 4, 2021

[8] Alexander K. Fremier, Michael Kiparsky, Stephan Gmur, Jocelyn Aycrigg, Robin Kundis Craig, Leona K. Svancara, Dale D. Goble, Barbara Cosens, Frank W. Davis, J. Michael Scott. A riparian conservation network for ecological resilience. Biological Conservation 191 (2015) 29–37. http://dx.doi.org/10.1016/j.biocon.2015.06.029 0006-3207/

sequestering the greatest amount of carbon that help to regulate the Earth's temperature, providing hydrologic functions that create and regulate clean water, imparting resilience to wildfire and safeguarding species in helping plants and animals adapt and survive the climate and biodiversity crisis. Intact forest ecosystems provide the natural capital, including clean air and water, upon which all life and all human economies ultimately depend.



Mature forests dominate the project area.[9] Large trees dominate aboveground carbon storage. Protecting large trees for climate mitigation, biodiversity, and forest resilience is a plant and wildlife protection measure with a crucial carbon co-benefit. Claims that carbon stores will be "stabilized" by increasing harvest of large-diameter trees that store and accumulate the most carbon are inconsistent with basic science on thinning and the carbon cycle. These claims ignore the large amounts of CO_2 rapidly released to the atmosphere following harvest and that large trees cannot be replaced in short timeframes. It can take centuries to reaccumulate carbon stocks reduced by harvest of large trees. Synergy: Small trees are more relevant to drought and fire vulnerability and store less carbon, whereas large trees are more resilient to fire and drought and are the highest priority for keeping carbon in the forest. With heatwave severity projected to increase, the capacity of forests to buffer temperature extremes and provide refugia is increasingly recognized as important to sustaining biodiversity in a warming world. Large trees provide crucial biophysical benefits on climate, including a large cooling effect on maximum temperatures regulating climate extremes and protecting biodiversity. Inland PNW forests can make a significant contribution to climate mitigation goals by protecting and enhancing carbon stores in large trees that accumulate and store the most carbon and are much more resistant to fire and drought than small trees. Climate science makes clear that we do not have time to wait for regrowth after logging to accomplish these important ecosystem services (IPCC, 2022, citations omitted).[10]

---

[9] Dominick A. DellaSala, Brendan Mackey, Patrick Norman, Carly Campbell, Patrick J. Comer, Cyril F. Kormos, Heather Keith and Brendan Rogers (2022) Mature and Old-Growth Forests Contribute to Large-Scale Conservation Targets in the Conterminous USA. *Front. For. Glob. Change* doi: https://www.frontiersin.org/articles/10.3389/ffgc.2022.979528/full

[10] Mildrexler et al. *Protect large trees for climate mitigation, biodiversity, and forest resilience.* Conservation Biology. **Volume5, Issue7,** July 2023. https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/csp2.12944

MONITORING REQUIREMENTS

NEPA §1505.3 (c) requires monitoring and compliance plans when the analysis of effects of a proposed action is based on mitigations. The EA and specialist reports must not rely on proposed mitigations for effect determinations, particularly underburning, prescribed fire and long-term maintenance. These treatments are rarely completely implemented. Please provide a thorough monitoring and compliance plan.

REASONABLE ALTERNATIVES

Please see NEPA § 1502.14, Alternatives including the proposed action. Our organizations provided multiple reasonable options for a range of alternatives, yet the EA only considers the No Action and the Proposed Action. The EA does not meet NEPA requirements to rigorously explore and objectively evaluate reasonable alternatives. Further, NEPA requires identifying an alternative that maximizes environmental benefit and causes the least damage to the biological and physical environment, such as the recommendations provided.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ANALYSIS

To meet NEPA standards, the planning analysis and specialist reports should contain information on:

Wildlife Population survey data and locations,
Locations of suitable habitat for wildlife, botany and fungi,
Marking guidelines and detailed treatment prescriptions,
Temporary road locations and distances,
Landing sites,
Multiple fire and fuels modeling scenarios,
Legacy Sediment Site descriptions and locations,
Individual Riparian Reserve descriptions, locations and treatments,
Shasta-Trinity Roads/Travel Analysis,
Clear Creek LSR Assessment,
Meadow restoration,
Trail construction,
Carbon Emissions,
Environmental Justice,
Range of Alternatives,
Archeological sites and,
Invasive plant species and site locations.

RECOMMENDATIONS

Because of the multiple extraordinary circumstances and possible significant impacts, we urge project planners to either prepare an Environmental Impact Statement or reduce the scope of the project to meet objectives, reduce controversy and negative impacts to aquatic, terrestrial and forest resources by incorporating these recommendations:

- Drop commercial logging in occupied NSO Activity Centers.
- Severely limit any disturbance in occupied NSO Activity Centers.
- Concentrate shaded FMZs on strategic/priority ingress/egress routes.
- Consider reducing FMZs to total 300' from centerline and maintain adequate canopy to reduce long-term maintenance needs.
- Include plantation and small diameter thinning in most needed/strategic areas.
- Restrict any new "temporary" road and landing construction.
- Retain large fire resilient trees over 24".
- Retain ACS Riparian Reserve buffers.
- Maintain and do not degrade suitable NSO habitat.
- Complete surveys for wildlife, botany and fungi.
- Exclude wet weather logging.
- Require timely and adequate treatment of activity slash.

Please do not use the NEPA process as a means justify a decision already made. Instead, we ask that you prioritize a more thoughtful approach that minimizes landscape-scale impacts, while also enhancing safety, forest resilience, and the overall visitor experience. We are eager to work with the district and the Trinity County Collaborative to develop a comprehensive, prioritized fire management strategy that is both practical and sustainable for our rural communities. On behalf of the wildlife, the wild landscapes, and the people who cherish the Trinity Lake area, we appreciate your time and consideration.

Sincerely,

Kimberly Baker
Executive Director
Klamath Forest Alliance
And
Public Land Advocate
Environmental Protection Information Center (EPIC)

145 G. St., Suite A
Arcata, CA 95521
Office: 707-822-7711
kimberly@wildcalifornia.org

Larry Glass
Executive Director
SAFE Alternatives for our Forest Environment
PO Box 1510
Hayfork, Ca 96041
And
Northcoast Environmental Center
PO Box 4269
Arcata, Ca 95518