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Organization: The Fire Restoration Group
Title: Director
Comments: Attached are Comments on the National DEIS for Old Growth Conservation Plan Amendment from the Fire Restoration Group in California

[Image of California with blue areas depicting departure from natural fire regimes]

Director, Ecosystem Management Coordination September 20, 2024

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Sent Online via a webform: https://cara.fs2c.usda.gov/Public//CommentInput?Project=65356

Thomas Vilsack, USDA Secretary of Agriculture

Responsible Official

and

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USDA, Forest Service[mdash]Washington Office

and

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ATTN: Ecosystem Management Coordination

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Comments on the Mature and Old Growth Conservation Strategy DEIS by The Fire Restoration Group, a California non-profit conservation organization: www.firerestorationgroup.org committed to expanding beneficial fire in California and throughout the West. Craig Thomas was a prescribed fire designee on the USDA/DOI Wildfire Mitigation and Management Commission (WFMMC) and has 35-years' experience in science-based fire and forest ecology and forest policy. Working with Craig at The Fire Restoration Group is retired USFS Forest Fire Management Officer Brent Skaggs. Brent worked 36-years on the Sequoia National Forest and Giant Sequoia National Monument, where he helped lead the effort in Wilderness and Forest to implement several hundred-thousand acres of Beneficial fire from natural ignitions for resource benefit and prescribed fires. We believe that expanding beneficial fire is critical to the projection and maintenance of remaining and future establishment of mature and old growth forest across California and the West. We submitted scoping comments on Strengthening the Nation's Forests[mdash]Ex. Order 14072 on July 20, 2023, and on the Old Growth Conservation Strategy in 2/2/24.

General Statement

* We are strongly committed to the Old Growth Amendment and the re-establishment of Old Growth Forests at meaningful ecological scales which is a key premise of ecological integrity, and fostering ecological resilience[mdash]we owe it to these rich and diverse ecosystem components, to biodiversity and habitat enhancement, and to carbon stability. We also need this Old Growth Conservation Strategy as atonement for tragically misguided decisions of the past.
* We also strongly support the ecological considerations of forest dynamics and the fact that old growth designations are a stage, though increasingly rare today, were a significant component on the landscapes in the recent past (pre-1800s, in the West). The Old Growth Conservation Strategy must ensure that cohorts of intermediate and mature trees are present in sufficient numbers to respond to disturbance interactions and support (and back up) the scale of ecologically meaningful old growth forest re-establishment.
* The proposed "proactive management" recommendations in the Preferred Alternative 2 require significant enhancement in the dedicated restoration workforce, especially focused preparing for, restoring, and maintaining beneficial fire in our strongly fire-associated landscapes in California and the West. We have stated in previous comment letters the strong support for the Old Forests Conservation Strategies in the Sierra Nevada Ecosystem Project Report and Addendum (1996). We also collaborated on the partners to create the 2001 Sierra Nevada Framework Plan Amendment with its 4-million-acre Old Forest Emphasis Area land allocation[mdash]both of which proposed proactive management strategies including prescribed fire and thinning of trees <12" d.b.h. AND with several exception pathways to remove trees up to 20" where appropriate (WUI fire concerns, steep ground thinning to limit crown fire potential and other factors) 2001 Sierra Nevada Framework ROD pages 40-42.
* While we do not question the warming climate and increasing stressors are exacerbating the vulnerability of forests in California and in the West in general, we do assert that "fire exclusion over many decades, in conjunction with other forest management choices" (Region 5 Ecological Restoration--Leadership Intent 2011) have led to "forests highly susceptible to severe wildfire" and "damage to old growth forest habitats". We strongly align with the USFS on this finding and want collaboratively to help create the workforce to conduct the scale of work that can stall our uncharacteristic wildfire trends and rebuild fire resilient forests.
* We offer this clip (below) from E.R. Cook et al. (2007) in Earth Science Review identifying extensive periods of above average drier (200-years each) and wetter trends in our recent climate history from 800 AD to 2000. This suggests that our natural resources management culture was heading for trouble, due to fire exclusion and the aggressive historic removal of the most fire-resilient, old growth trees, with or without the current climate warming trends being added to the struggle to regain resilience.

[Image of deviation of climate from average (wet/dry) from 800 A.D. to 2000, highlighting the mideval megadroughts]

* While climate change is looming large in our lives and in natural resource management (especially in California) there are several other factors in play that we could change tomorrow with science-based leadership and the recognition that we understand past mistakes and we Do Know What to Do to restore resilience. Critical to accomplishing meaningful old forest conservation goals and fire resilience is to build the Fire and Fuels Management Restoration Workforce called out in the Wildfire Commission Report at Recommendations #12-Federal agencies should work with Tribes, state and local partners to develop a strategic plan for implementation of prescribed fire at a national scape; #13-Establish Prescribed Fire targets based on natural fire regimes, derived locally; #89-Invest in the creation of a workforce primarily focused on restoration and mitigation; and several other critical recommendations for Tribal engagement, training opportunities, remove barriers to improve operational efficiency, housing, wages, health care and measure success more on outcomes and less on outputs. Restoration accomplished and maintained at scales that demonstrate ecological significance will require more than the words in a well-thought-out plan amendment. It will require fundamental changes in how the Forest Service and BLM operate -those changes should be based (on large part) on the Recommendations in the National Wildfire Mitigation and Management Commission Report to Congress 2023 -titled ON FIRE. Some changes require Congress, and some require changing minds and could happen tomorrow. This Old Growth Amendment is part of that change.
* Finally, a comment on Appendix D: Framework for Adaptive Strategy for Old Growth Forest Conservation. The idea that we need to embrace regional, old growth, landscape adaptive management strategies for the diversity of landscape conditions and management histories AND the socio-cultural conditions, partnerships (State-Federal-Tribal, Stakeholders, and the general public) is ABSOLUTELY CORRECT and frankly, the only way to ensure that the "proactive management" will be science-based, implemented at meaningful ecological scales, monitored, and that adaption to change will be embraced and broadly supported.

This Adaptive Strategy is the essence of the approaches utilized in successful Collaborative Forest Landscape Restoration Act projects and is not some additional burden imposed by the Plan Amendment Decision. It is how we bring and keep communities of interest together and empower science-based learning and decision-making.

The setting of goals for old growth forest conservation needs to be based on the unique landscape conditions with different management histories, fire histories and fire return interval departure (FRID) metrics, water availability, soils, pathogens, recreation uses, workforce stability and experience and other factors. The formation of a Science, Policy, Operations, Communication, and Monitoring Advisory body that includes local, Tribal, state and federal partners, and key stakeholders already exists in many states including California and we should utilize these various existing partnerships for the Implementation, Effectiveness, and Surveillance Monitoring needed to track progress and adjust approaches.

We understand that the Old Growth data gathering relied on the historic FIA Plot information and protocol for consistency sampling across America. The Adaptive Strategy should rapidly move forward using locally derived LiDAR information, Tree Mapper https://research.fs.usda.gov/rmrs/news/releases/treemap-provides-tree-level-map-u.s.-forests and other tools to capture a more expansive dataset across the Forest Service units. We are submitting two papers (North et al. 2021 and Kane et al. 2023) that lay out an improved approach for quantification of mature forest conditions much more refined than the FIA (2.5 ac./per 6,000 ac scale). There is a future paper in the works by Van Kane and others that (for example) improves the LiDAR approach for sensing differences between tall snags and tall live stems. Using the new tools should be supported as part of adaptation and collaborative learning.

Specific Comments

1. The Ecological Impacts Analysis

[Table of NFS Regions and percent lands with Wildfire Hazard Potential ratings of "very high", "high", "moderate", "low" and "very low"]

[pasted text as image:

7.1.1 Fire Exposure

Nation-wide analysis shows a growing risk of exposure to moderate and high severity fire over time. From 1980-1999, less than half of mature and old-growth forests had exposure to high risk. From 2000-2019, 70-80 percent were exposed. By the end of this century (2080-2099), climate change projections predict an increase in this exposure to 95-100 percent of old-growth forests (USDA and USDI 2024).

Inventory data (USDA and USDI 2024) shows the largest percent change in area of old-growth affected by fire occurred in California mixed conifer (-6.9%), closely followed by lodgepole pine (-6.7%). the largest absolut changes occurred in fir/spruce/mountain hemlock, Douglas-fir, lodgepole pine, ponderosa pine, California mixed conifer and pnyon/juniper where wildfire-related mortality is a persistent future stressor (Table 6).]

Comment on the above Table 5 and section 7.1.1

What this table (above) should also tell us besides hazard potential is while hazard potential was increasing from the 1980s our restoration workforce and treatment levels did not respond. The restoration and resiliency maintenance workforce needs to be established immediately to secure the restoration vision in this Old Growth Plan Amendment.

Comment: Ecological Silviculture begins with Ecological Reforestation and incorporates Beneficial Fire as a critical management tool and not an afterthought. Changes in the workforce scale, job description, and internal work relationships are critical. The recent 8-16-24 Federal Register Notice suggesting revisions of the FSM for Silvicultural Practices is a good sign and provides a pathway for needed changes to that guidance which should deeply embraces ecological integrity and better internal working relationships between fire restoration staff and silviculture.

Ecological Reforestation means re-establishing forests based upon more than a plant list and tape measure. Uniform, high-density reforestation (plantation forestry) strategies have no place (no ecological analog) in our frequent-fire forest ecosystems in the West. Plantation forestry is the opposite of ecological integrity and should be replaced by more ecologically-based approaches (see these links and attachments[mdash]Ecological Reforestation Guidelines--Meyer and North 2024; Heterogeneity = Resilience annotated bibliography 2024; Koontz et al. 2020; Reforestation for Resilience (2024) webinar at the Fire Science Consortium YouTube Channel https://www.youtube.com/watch?v=Tu92373T8Gg&t=187s with presentations by Malcolm North (PSW-Vegetation Ecologist) and Marc Meyer (Sierra Nevada, Southern Sierra Zone Ecologist in Region 5).

Plantation Forestry and increases in high severity fire. See Levine et al. 2022 and the graph below: "The heightened likelihood of high- severity fire both on and around industrially managed forests suggests that the predominant forest management practice on these lands (even- aged plantation forestry) may contribute to the broader pattern of increased high- severity fire incidence in California on land of all ownership types."

[Figure of predicted probability of high severity fire by proximity to ownership type and predicted probability of high-severity fire by ownership and fire ID]

Comment: It doesn't matter which landowner is practicing plantation forestry in California, public or private, high density plantation forestry is highly flammable and drought intolerant and moves us away from ecological integrity and ecological silviculture.

Ecological Impacts Analysis pg. 39 -- "Cultural burning and other examples of indigenous stewardship have shaped these ecosystems for thousands of years (Hankins 2021). Many old-growth forests have been lost or degraded through historical logging, land use practices, and fire suppression policy (Bragg et al. 2008, Hanberry et al. 2018a, Hanberry et al. 2020). These past practices and ongoing climate change have caused shifts in natural disturbance regimes, increased forest density, altered tree species composition, and transitioned forests to non-forest (Coop et al. 2020, Davis et al. 2020, Hanberry et al. 2020). However, resource managers can respond to threats to ecosystem composition, structure and function through vegetation management strategies designed to address ecosystem integrity. Whereas high-grade logging preferentially removed large, old ponderosa and Jeffrey pine, western larch, and Douglas-fir trees from historically fire-maintained forests and savannas, today, ecological silviculture can be a valuable tool, alongside prescribed fire and cultural burning, to maintain and restore resiliency in old-growth (Hagmann et al. 2021, Davis et al. 2024, Hanberry et al. 2020, Eisenberg et al. 2024)."

Comment: We agree and strongly support management direction driven by re-establishing science-based Ecological Integrity. In order to reach this critical pathway and resulting outcomes we need to address several socio-cultural aspects of achieving ecological integrity goals that are also critically important. Nationally, we lack sufficient infrastructure to support smaller diameter thinning and biomass utilization of material at a scale needed for this restoration challenge. We are not referring to massive, centralized industry but instead, community-based solutions adjacent to Forest Service units that establish facilities (milling and biomass utilization) scaled to need based on collaborative project planning and feed stock assessments, local heat and power needs that can function as carbon offset opportunities that lower propane and natural gas uses, support less pile burning and open more opportunities for restorative burning in our airsheds, all of which brings more community alignment with our shared restorative vision.

We also need the Old Growth Plan Amendment to specifically call out and affirm Wildfire Management for Multiple Resources Objectives as a necessary management option. Specifically, in California, Forest Service Region 5 units (in 2009 the Lake Tahoe Basin Management Unit affirmed a wildfire management amendment in their revised management plan; in 2000 the Giant Sequoia Management Plan called out the use of natural ignitions as essential; in 2019 the Inyo NF and 2023 the Sierra and Sequoia NFs completed forest plan revisions) all supporting wildfire management for resource objectives where and when appropriate as a kept management option.

2. Adaptive Management Strategy[mdash]Appendix D

Facilitate the development of geographically informed adaptive strategies for old-growth forest conservation. Regional and Unit level planning and project activities tier to a national strategy and should support active management of beneficial fire and conservation of existing large tree and old growth polygons of all scales but should also be part of an Old Forest Emphasis Area strategy in each Forest Service/BLM/NPS Unit and be connected and managed as ecological units, regardless of jurisdiction.

The example we submitted in our July comment letter is from the 1996 Sierra Nevada Ecosystem Project Report Addendum. Chapter 3, Page 53. We contend that while this work is nearly 30-years old (written by 10 top Forest Service and academic researchers known as the Working Group on Late-Successional Conservation Strategies) it remains a very thoughtful walk-through of Alternative Approaches to Conservation of Late-Successional Forests in the Sierra Nevada and Their Evaluation. We are suggesting this effort (above) is a very useful model

that proposes active management in a frequent fire ecosystem. Some of the approaches should apply across all units. An example: Does the maintenance of high-quality LS/OG forests need to be explicitly recognized as a land management objective? YES, this is the very purpose of the Mature and Old Growth Amendment and the FEIS/ROD should call out the collaborative development of landscape specific Implementation, Monitoring, and Surveillance designs for each Forest Service Region and tap into existing collaborative efforts, many of which already exist (such as California's Wildfire and Forest Resilience Task Force) to support the Old Growth Conservation Strategy moving forward.

3. NEPA mandates the consideration of the impacts associated with the No Action Alternative, especially critical in the strongly fire associated ecosystems of the West. The wildfire threat must be more deeply understood and communicated to the public and policy makers framed by disturbance levels associated with locally derived fire regime information. Then following that information the workforce development need and commitment to restoring ecologically meaningful Beneficial Fire will become clearer and critical to policy makers at multiple levels. (See Wildfire Commission Recommendation #13 Chapter 1, pg. 60) The Wildfire Commission Report to Congress and its 148 consensus Recommendations should be given full consideration in this Old Growth Conservation Strategy as required by NEPA and its requirements to address new information and changed circumstances.

There are multiple reasons for the Forest Service to address the ecologically misguided issues (logging old growth, limiting beneficial fire) in outdated forest plans and is required under NEPA 40 CFR [sect] 1502.9 (c) Agencies: (1) Shall prepare supplements to either draft or final environmental impact statements if: (i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

4. Ecological Integrity DEIS Page 56--A primary purpose of the 2012 Planning Rule (planning rule) is to promote the ecological integrity of national forests and grasslands and other National Forest System administrative units. Ecological integrity - a substantive requirement of the planning rule - is designed to support Ecological Sustainability (36 CFR 219.8), Diversity of Plant and Animal Communities (36 CFR 219.9), and Multiple Uses (36 CFR 219.10).

Ecological Integrity as discussed on page 2 of the Ecological Impacts Analysis states "the natural range of variation (NRV) does not necessarily represent a management target or desired condition and a description of the NRV alone is not sufficient to determine whether there is ecological integrity."

Comment: We disagree[mdash]what we do know is that in the early 1800's the Sierra Nevada had significant acres of old growth forests on each of today's current national forest unit. Given the scientific integrity of the 1996 Sierra Nevada Ecosystem Project Report and that old growth forests remaining (small fraction of what was known to exist) are a starting point for restoration and forest resilience[mdash]this should be seen as a long-term commitment to re-establishing ecological integrity and not be trapped in the idea that climate change is irreversible and that ecological scale for fire and forest conditions are impossibilities. NRV is a good reference point and one that should not be ignored as part of the goals for ecological integrity. We know what these landscapes are capable of supporting, and we can overcome the climate change threats and meet broad scale restoration objectives. We cannot be captured by the negativity bias of climate predictions or current politics. We needed the expanded restoration workforce 30-years ago.

5. Expanding Beneficial Fire

From the Chief's letter 2024:

"As outlined in the National Cohesive Wildland Fire Management Strategy Addendum Update, we will depend on research to inform our use of both planned and unplanned fire, and natural ignitions. This year, Regional Foresters will again approve or disapprove use of natural ignitions as a management strategy during Preparedness Levels 4 and 5, in accordance with the Interagency Standards for Fire and Fire Aviation (Red Book). Increasingly, we see the potential for fire to increase landscape resilience when conditions permit." (Emphasis added.)

We strongly support, as does the CA Strategic Plan for Expanding the Use of Beneficial Fire https://wildfiretaskforce.org/wp-content/uploads/2022/05/californias-strategic-plan-for-expanding-the-use-of-beneficial-fire.pdf support use of unplanned and lightning fire events where appropriate, based on professional discretion and deep consideration of planning levels, weather conditions, PODs assessments and multi-agency and stakeholder collaboration. Wildfire Management for multiple resource benefits is a critically important option that needs to be called out and asserted in the Old Growth Conservation Strategy. There is no mention of use of natural ignitions in the DEIS as part of the overall management strategy to address the predicted doubling of "killed OG volume" in the next fifty-years. This option should be called out specifically in the Old Growth Conservation EIS and ROD. (see attached our 40-page annotated bibliography supporting Wildfire Management for Resource Objectives)
Davis et al. 2024 Tamm review: A meta-analysis of thinning, prescribed fire, and wildfire effects on subsequent wildfire severity in conifer dominated forests of the Western US
Abstract[mdash]"We found overwhelming evidence that mechanical thinning with prescribed burning, mechanical thinning with pile burning, and prescribed burning only are effective at reducing subsequent wildfire severity, resulting in reductions in severity between 62% and 72% relative to untreated areas. In comparison, thinning only was less effective - underscoring the importance of treating surface fuels when mitigating wildfire severity is the management goal. The efficacy of these treatments did not vary among forest types assessed in this study and was high across a range of fire weather conditions. Prior wildfire had more complex impacts on subsequent wildfire severity, which varied with forest type and initial wildfire severity. Across treatment types, we found that effectiveness of treatments declined over time, with the mean reduction in wildfire severity decreasing more than twofold when wildfire occurred greater than 10 years after initial treatment. Our meta-analysis provides up-to-date information on the extent to which active forest management reduces wildfire severity and facilitates better outcomes for people and forests during future wildfire events."

Consistent with the management direction to support and enhance Ecological Integrity (36 CFR [sect]219.8 (a)(1) the Old Growth Conservation Strategy should support all manner of expanding Beneficial Fire including the California Strategic Plan for Expanding Use of Beneficial Fire, https://wildfiretaskforce.org/wp-content/uploads/2022/05/californias-strategic-plan-for-expanding-the-use-of-beneficial-fire.pdf and the many beneficial fire recommendations in the Wildfire Commissions Report to Congress (2023) https://www.usda.gov/topics/disaster-resource-center/wildland-fire/commission which the Fire Restoration Group participated in, and the National Prescribed Fire Act, a critical piece of fire restoration legislation offered by Senator Wyden and others in 2024.

DEIS (vi) Opportunities for landscape scale restoration: The analysis focuses solely on old-growth and not broader ecosystems. As such, old-growth forests are covered by the general requirements to provide for the sustainability and integrity of ecosystems: The plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity, taking into account: (i) Interdependence of terrestrial and aquatic ecosystems in the plan area. (ii) Contributions

of the plan area to ecological conditions within the broader landscape influenced by the plan area. (iii) Conditions in the broader landscape that may influence the sustainability of resources and ecosystems within the plan area. (iv) System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change. (v) Wildland fire and opportunities to restore fire adapted ecosystems. (vi) Opportunities for landscape scale restoration. (36 CFR 219.8(a)(1)). Ecological integrity is further defined in the regulations as: "[T]he quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence." (36 CFR 219.19) Notably, natural range of variation is only part of the definition of ecological integrity. By specifically capturing the ability of ecosystems to, "withstand and recover from most perturbations," resilience is identified as a fundamental component.

Challenges to Managing Mature and Old-Growth Forests: The proximity of humans and housing to forests can increase the risk of wildfire ignitions, limit opportunities for prescribed fire use, and increase pressure to create fuel breaks, all of which could have negative impacts to mature and old-growth forests. Alternatively, increased investment through tools like Community Wildfire Defense Grants, could provide the opportunity for more targeted maintenance and restoration efforts, with positive impacts to mature and old-growth forests.

Comment: The natural range of variation is a critical and "flexible" highlight of ecological integrity. NRV highlights the variability that exists and contributes to the systems ability to withstand and rebound and flourish in conjunction with change in features of our variable landscapes. NRV and a deep understanding of what the old forest systems where prior to European settlement and prior to targeted logging on old growth forests (as if forests lost all their value when the mean annual increment of growth rings slowed) and extensive fire suppression. The recent past is still viable for defining a restoration vision for the future[mdash]especially when to commit to rebuilding forest structure of 300-500 or more years old trees. We also need to ensure that there are enough "age class cohorts" in line behind the existing old growth component to survive and replace trees lost to disturbance.

Additionally, proximity to human communities should not limit our thinking about management of old growth forests. Expanded use of prescribed fire and the public's understanding of beneficial fire is growing exponentially due to combined efforts of state and federal agencies, NGOs and other collaborative partners, researchers, community prescribed burn associations and others who are rapidly changing opinions about community fire use for maintenance of resilience in community protection work. These efforts are an asset, not a liability. Recent fire communication and attitude sampling work supports the positive perceptions of beneficial fire in lives and landscapes. (see attached PPT)

[Image of title slide from slide presentation: "Western Voter Views of Beneficial Fire - Key findings of a survey conducted December 1-12, 2023 and qualitative research in August 2023]

6. CEQ's new guidance to assist Federal agencies in their consideration of the effects of greenhouse gas (GHG) emissions[thinsp]and climate change when evaluating proposed major Federal actions in accordance with the National Environmental Policy Act (NEPA)

Basic Guidance Requirements-

"Major Federal actions may result in substantial GHG emissions or emissions reductions, so Federal leadership that is informed by sound analysis is crucial to addressing the climate crisis.

Given the urgency of the climate crisis and NEPA's important role in providing critical information to decision makers and the public, NEPA reviews should quantify proposed actions' GHG emissions, place GHG emissions in appropriate context and disclose relevant GHG emissions and relevant climate impacts and identify alternatives and mitigation measures to avoid or reduce GHG emissions.

In NEPA reviews, agencies should consider: (1) the potential effects of a proposed action on climate change, including by assessing both GHG emissions and reductions from the proposed action; and (2) the effects of climate change on a proposed action and its environmental impacts. Analyzing reasonably foreseeable climate effects in NEPA reviews[thinsp][8] helps ensure that decisions are based on the best available science and account for the urgency of the climate crisis. Climate change analysis also enables agencies to evaluate reasonable alternatives and mitigation measures that could avoid or reduce potential climate change-related effects and help address mounting climate resilience and adaptation challenges."

Comment: Using Davis et al. 2024 and numerous other references supporting restoration and maintenance burning and appropriate thinning approaches recommended in the DEIS AND the Adaptive Strategy for Implementation, Effectiveness Monitoring and Surveillance Monitoring can affirm the use of Beneficial Fire and the Climate Stabilizing positive impacts of wildfire resilient forest ecosystems.

The Climate Risk Viewer is a valuable tool but one or the most useful inputs for directing action in the next several decades is this map from (Safford and van de Water 2014) showing the Fire Regime Interval Departure Map for California in PSW-GTR-270. Blue means highly departed from the natural fire regime for these landscapes. Do we really need to know more? This map "tell us" what we need to be doing for the rest of this century[mdash]restore beneficial fire and ecologically significant levels of old growth forest in America.

Thank you for this opportunity to comment on this complex issue and the DEIS for Conservation of Old Growth Forests

Sincerely,

Craig Thomas, Director

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ATTACHMENT: Mature and Old Growth Conservation Strategy Comments_DEIS 9-20-24.docx - this is the same content that is coded in text box; it was also included as an attachment

ATTACHMENT: 320-1121 Moore Foundation Wildfire Issues Analysis for 7-31-24.pptx - PDF of presentation titled, "Western Voter Views of Beneficial fire - Key findings of a survey conducted December 1-12, 2023 and qualitative research in August 2023

ATTACHMENT: Levine et al. 2022 Higher incidence of high-severity fire in and near industrially managed.pdf - [link doesn't work but found article online] - Paper examining where high severity fires burned based on land ownership found that higher severity fires burned on private timber land than public land. they concluded that private timber management is increasing fire severity.

ATTACHMENT: Koontz et al. 2020 Structural Variability Increased Fire Resilience in the Sierra Nevada.pdf - study concluding that heterogeneity in forest structure in fire-prone systems increases forest resilience to fire

ATTACHMENT: Ecological Reforestation Guidelines Final.docx - Ecological Reforestation: A Basic Guide for Achieving Resilience by Malcolm North and Marc Meyer, US Forest Service

ATTACHMENT: Wildfire Resilience Papers 4-26-24.docx - a compilation of summaries of papers - Wildfire Resilience Papers--Ecological Reforestation Context - Link to CA Fire Science Consortium Presentations (M. Meyer & M. North) https://www.youtube.com/watch?v=Tu92373T8Gg&t=10s

ATTACHMENT: Beneficial Fire and Wildfire Management for Resource Objectives--Brent FInal 5-17-24.docx - Letter sent to Region 5 forester in support of their efforts in restoring beneficial fire in California and providing resources and suggestions.

ATTACHMENT: Safford and Van de Water psw_rp266 FRID.pdf - USFS research paper: Using Fire Return Interval Departure (FRID) Analysis to map spatial and temporal changes in fire frequency on national forest lands in California