January 14, 2020

Chair: Senator Jeff Golden
Senate Interim Committee on Wildfire Prevention and Recovery
January 14, 2020 hearing and public testimony

Dear Chairman Golden and members of the Interim Committee:

I am Chief Scientist and President at Geos Institute, a climate-based non-profit organization, in Ashland Oregon (www.geosinstitute.org). I am submitting this testimony for the public record as substantive backup to my 5-minute slide show (with graphics and charts) presented at the open public session during the hearing.

I am an Oregon resident of 22 years, a post-doctoral fellow and Adjunct Professor (previously) of Oregon State and Southern Oregon universities, and a global biodiversity scientist. I have published over 200 scientific papers in peer-reviewed journals and several books covering forest ecology and management, conservation biology and climate change, wildfire ecology and management, and endangered species conservation. My two recent books most germane to this hearing – “Disturbance Ecology and Biological Diversity” (CRC Press 2019, coeditor) and “The Ecological Importance of Mixed-Severity Fires: Nature’s Phoenix (Elsevier 2015, coeditor) – represent much of the latest science on wildfire that you may not have heard from other witnesses or presenters on this issue.

Attached are two letters submitted previously on this subject: (1) science-based fuels reduction policy (sent to Senator Golden on December 18, 2019 by conservation groups); and (2) and Community Wildfire Protection Alternative (sent to Governor Brown on March 8, 2019 by conservation groups). I ask that these supplemental materials also be included in the record as to date we have not received a response from the governor or this committee on our concerns, and therefore welcome the opportunity to present them herein again.

For the past 3 years, I also have served on Governor Brown’s forest carbon task force and the ODF forest carbon stakeholder group, each reporting to the legislator and the governor on Oregon’s forest carbon stocks and flows. I will therefore summarize some of the key findings of my work on climate change and logging as the main problems confronting Oregon’s forests in a rapidly changing climate.
I. FIRE IS TO DRY FORESTS AS RAIN IS TO RAINFORESTS

While I appreciate the Governor’s Wildfire Council’s Report that places emphasis on wildfire as integral to Oregon’s ecosystems, the Council continues to make statements about wildfires being ecological catastrophic, and that fires are increasing in intensity and severity, which is simply not the case (see point #2). For decades, I have worked with scientists from all over the world documenting the unique plant and wildlife communities and their specialized adaptations to reoccurring fires of mixed intensities. Oregon’s dry conifer forests need fire to stimulate plant growth, recycle soil nutrients, and create diverse habitat for fire adapted species. Fires are not ecologically destructive, rather it is logging and industrialized fire suppression before, during, and after wildfires that has the biggest impact on water quantity, quality, wildlife and natural processes like wildfires (see below).

In our region, and much of the West, wildfires burn in a mixed pattern of severity effects on plant communities. The largest wildfires are not uniform conflagrations – rather they burn in a mosaic pattern of mixed severity effects (unburned, low, moderate, high severity burn patches). At the landscape scale, this pattern has been referred to as “pyrodiversity” and it is responsible for Oregon’s extraordinary levels of biodiversity present in wildfire burn mosaics1. Most notably, the high severity burn patches where most trees are killed (known as “complex early seral forests,” snag forests, or charcoal forests) are as bio-diverse as patches of old-growth forests. In 2016, over 200 scientists sent a letter to the U.S. House Committee on Natural Resources on the importance of complex early seral forests as among the rarest forest types in the West because they are almost always “salvage logged.” In addition to destroying these remarkable forests, post-fire salvage sets the landscape up for uncharacteristic wildfires (see below).

II. WILDFIRES ARE NOT INCREASING IN INTENSITY OR SEVERITY IN OREGON AND MUCH OF THE WEST AS OFTEN CLAIMED

While people may believe that large fires are increasing in their lifetimes, across the West, there is still a fire deficit in terms of acres burning compared to the period from the early 1900s-1930s2. As large wildfires are mostly driven by climate (high temperatures, drought, wind), I urge caution in framing up 2017 and 2018 very active wildfire seasons as attributed to an uncharacteristic fuel build up. While the number of acres that have burned has been increasing since the 1980s, the size of large (>1,000 acres) high severity burn patches (a key indicator of “megafire” potential) has not increased statistically since 1991 and thus their remains a deficit compared to earlier times (1900s droughts). In fact, the most extensive, peer-reviewed dataset ever analyzed on this subject confirms these findings3. My colleagues and I have found: (1) large burn patches are not homogenous tree-kill zones nor are they “unprecedented” in scale or frequency; (2) large burn patches are complex and internally heterogenous with sufficient seed sources present; and (3) even the largest patches are providing ample opportunity for seeds to

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recolonize severely burned areas.

Based on our observations on the ground forest plots (post fire), most forests appear quite resilient to even the largest high intensity burns – they rejuvenate fine on their own (if not logged) and we and other scientists have not been able to document a “megafire” problem in Oregon as often claimed.

III. INSECTS AND DISEASE OUTBREAKS ARE NOT COUPLED WITH LARGER OR MORE INTENSE WILDFIRES AND ARE OFTEN OVERSTATED IN FIRE RISK MODELS

Insects and disease are part of the natural disturbance cycles in forest and non-forested communities and like wildfires, plant and wildlife species are adapted to them. The overwhelming scientific evidence from multiple studies in the Pacific Northwest, Pacific Southwest, and Rockies shows that forests recently experiencing large insect outbreaks are actually less susceptible to subsequent fires because there is little fuel remaining in the canopy for fires to crown out. Fire risk assessment models that are typically used, perhaps better than those in the past, are still too coarse for local planning and do not reflect empirically based literature that decouples insect outbreaks from any fire increases.

Additionally, fire risk models typically used by land managers inappropriately show the Klamath-Siskiyou region of southwest Oregon and northern California as predominately a frequent low-moderate fire regime that is now out of bounds compared to historic conditions. But this is false based on several recent published studies and paleo-ecology evidence in the region that show contemporary fire cycles are of mixed severity effects (just like historic) and are operating within evolutionary bounds for those ecosystem types. Demonstration projects – such as those proposed by or being implemented by the Southern Oregon Forest Restoration Collaborative – that use outdated risk assessments and limited fire-scar sampling have been criticized by scientists and conservation groups for proposing ecologically inappropriate treatments. Thus, at least some of the collaboratives are not using best science and have excluded groups that question their findings.

IV. “ACTIVE MANAGEMENT” WILL NOT STOP WILDFIRES AND IN MOST CASES DOES NOT REDUCE FIRE INTENSITY ESPECIALLY IN A RAPIDLY CHANGING CLIMATE

“Active management” is often proclaimed as a panacea for reducing wildfire-human conflicts, yet it is seldom even defined. Active management can mean just about anything – clearcut logging, salvage logging, high-grade logging, fuels reduction, prescribed fire, thinning, road building, etc. And while degraded forests like plantations can benefit from ecologically appropriate thinning and other restorative actions (snag creation, down logs, road obliteration, weed removals), in most cases thinning – even if done properly – will not encounter a fire during

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the short period (10-15 years) of when fuels are lowest.

The Oregon landscape is so vast and efforts to spend billions of dollars on thinning are not likely to be effective nor will they make us safer. This is because we do not know exactly where wildfires will occur, and thinned forests will just grow back quickly in many cases. In fact, the largest empirical dataset ever assembled by researchers recently documented the low co-occurrence of wildfires and thinned sites. Some 99% of thousands of acres of fuels treatments on federal lands did not encounter a wildfire when fuels were lowest. Further, these same researchers found that despite the emphasis on the so-called WUI, codified in the Healthy Forest Restoration Act of 2003, most fuel treatments were being conducted outside this zone and in the back-country where they will do nothing to protect homes.

In addition, in 2016, my colleagues and I published the most extensive dataset ever on whether forests with the most active management had the lowest fire severities vs. wilderness and roadless areas. Our peer-reviewed research demonstrates that forests with the most logging burned in the highest severities likely due to extensive flammable tree plantations and logging slash. Our findings were later corroborated by researchers at Oregon State University for the Douglas-fire complex near Grants Pass that burned most severely under extreme fire weather in cut-over landscapes.

Logging and tree planting after fire damages fire-dependent ecosystems, degrades water quality, and increases fire risks. The scientific evidence is overwhelming that this activity – along with a dense road network - is most harmful to postfire ecosystems. Hundreds of scientists have published papers, written books and gone on record of how postfire logging increases fire risks and can emit more carbon than forest fires. Thus, there is an urgent need to reform forestry practices as noted below.

V. CLIMATE CHAOS, WEAK FORESTRY REGULATIONS, AND EXPLOSIVE GROWTH IN THE WUI HAVE CONTRIBUTED MOSTLY TO UNCHARACTERISTIC WILDFIRES

Climate change is now contributing to more extreme fire weather that will override fuel reduction efforts in Oregon and across the West. Recent studies have demonstrated the increasing role that climate change is having on extreme fire weather (uncontrollable fires burning during hot, dry, and windy conditions). This will only worsen in places as emissions from fossil fuels and logging continue to rise. In fact, logging is the leading cause of emissions in Oregon and on average contributes ~5 to 7-times more global warming emissions than wildland

10 Zald, H.S.J., and C. Dunn. 2018 (ibid).
12 https://www.pnas.org/content/early/2016/10/05/1607171113; also see Zald and Dunn (ibid).
fires, as recognized by the Oregon Global Warming Commission’s recent report to the Governor and researchers at Oregon State University. It is prudent to address the root cause of the problem and in Oregon that means transitioning quickly to clean, renewable energy and storing more carbon in forests through forestry reforms (see below).

Thus, in sum, what has contributed mostly to Oregon’s current fire problems can be summarized by these three factors:

1. Climate chaos – decreases in summer time precipitation (droughts), more rain/less snow in the winter, annual temperature increases have lengthened the wildfire season (although we are still in an overall fire deficit compared to earlier dry periods).

2) Road building and logging (“active management”) due to Oregon’s lax forestry laws and regulations – clearcut logging, salvage logging, roads, livestock grazing, and targeting large-fire resistant trees increases fire risks and so too can thinning under certain conditions (e.g., excessive canopy removal, removal of large fire-resistant trees, untreated logging slash, weed invasions, road-side ignitions).

3). Explosive growth in the WUI and excessive road densities contribute to human-caused wildfire ignitions.

Thus, based on these three primary factors (causative agents of uncharacteristic fire), I urge the committee to give priority to the following:

1). Reform Oregon’s forestry practices to be climate and fire safe – this means on public lands prohibiting logging in carbon-dense older forests and on private lands doubling timber harvest rotations while rewarding stewardship actions (carbon offsets) and penalizing polluters (carbon tax). Oregon will not meet its aggressive carbon emissions reductions without keeping more carbon in the forests by reducing logging-related emissions that are 5 to 7 times more than wildfire emissions. Oregon could be a leader in western states climate mitigation by reforming its forestry practices to be climate and fire safe.

2). Reduce ex-urban sprawl, inform homeowners and builders of the risks of building in fire-prone areas, increase funding for home hardening especially for low-income families.

3). Seasonally close roads and obliterate others – roads are ecologically destructive and are the “fuse” for the industrially created “fire-bombed” landscape. Travel management planning for fire needs to be emphasized by focusing on reducing human-caused ignitions.

References:
4). Focus treatments closest to homes in a narrow buffer (60-100 feet) and along egress/ingress roads within \( \frac{1}{4} \) mile of towns for escape and fire safety to increase the odds of success and prioritize spending where it is needed mostly.

5). Provide guidelines for demonstration projects to follow the best available science including the use of diameter limits (e.g., “Eastside” screens place a 21-in dbh cap on removal of large fire-resistant trees), slash removal, canopy retentions (>60% overstory retention), prescribed fire, road closure/obliteration, weed removal, and especially monitoring of endangered species and water quality. These need to be built into demonstration projects such as in southwest Oregon\(^{17}\) that have been controversial because they have not been based on best science and have excluded members of the environmental community and researchers that do not agree with aggressive treatments proposed within conservation priority areas (e.g., roadless areas, national monuments, spotted owl critical habitat, old growth forest reserves have been proposed or have been entered for logging/thinning as recommended by the Southern Oregon Forest Restoration Collaborative and The Nature Conservancy).

In closing, I am greatly concerned that the committee is lacking a detailed life-cycle analysis of carbon leaving the forests from logging. The Oregon Global Warming Commission’s 2018 report to the legislature and published literature shows that even in very active wildfire seasons, wildfires average \( \sim 11\% \) (some years as low as 1-3\%) of the states’ total greenhouse gas emissions compared to at least five times those levels from logging.\(^{18}\) I urge the committee to work with the Oregon Global Warming Commission and call for an honest carbon accounting of all forestry activities. In the face of a warming climate, we need to update and modernize our practices to be climate and fire safe.

Thank you for the time to address this committee and please let me know if you would like any follow up materials.

Sincerely,

Dominick A. DellaSala, Ph. D
Chief Scientist


Dear Senate Interim Committee on Wildfire Prevention and Recovery,

Thank you for continued hard work to develop legislation that increases the safety of our communities from growing wildfire risks. The undersigned organizations have collaborated over the past month to draft this letter outlining our collective position on fuels reduction policy. Below, we have detailed our shared vision for how a new fuels reduction demonstration project could help address some of the challenges fire poses to Oregon’s communities. We have also detailed the necessary ecological-sideboards that will ensure fuels reduction activities adhere to science-based practices and minimize or avoid negative impacts to forests, watersheds, imperiled wildlife, and the climate.

Before providing details on fuels reduction policy, we would like to emphasize what experts have found to be the most durable, successful strategies to protect homes and communities from fire risks. The best available science tells us that extreme fire weather, not fuels, is the primary driver of fire behavior in Oregon’s forests. With a rapidly changing climate, we must现代化 wildfire policies by moving away from landscape-scale attempts to “control” or “reduce” wildfire, and instead rapidly accelerate community adaptation and preparation efforts.

Researchers have found that the most effective strategies to mitigate wildfire risks are to: (1) retrofit homes with fire-resistant materials; (2) maintain defensible space within 60-100 ft of existing structures (“home ignition zone”); and (3) limit new development in fire prone areas. By working from the home-out rather than from the backcountry-in, Oregon can dramatically decrease the likelihood of losing homes to wildfire. Therefore, we urge you to prioritize these community adaptation measures over all other strategies.

Fuels Reduction Demonstration Project
We understand that a legislative concept has been introduced that would authorize a demonstration project that aims to reduce fuels on public and private lands. Our organizations recognize that forest management, like fuels reduction in priority areas, can play a role in contributing to wildfire risk reduction under certain conditions. However, careful scientific study has demonstrated that the benefits of mechanical thinning treatments is greatly overstated. We submit that in order for a fuels reduction demonstration project to actually contribute to community safety, the project must target areas immediately adjacent to homes and communities – not in backcountry areas removed from where people live.
According to Dr. Jack Cohen – former Forest Service scientist and specialist on wildfire and home ignitions – “It’s the local conditions around the house that are principally responsible for the ignition potential... The wildland urban interface fire problem is a home ignition problem, not a wildfire control problem.” Therefore, if fuel treatments are to have any meaningful impact on reducing wildfire risks to people and property, they must target vegetation directly adjacent to homes and structures.

With that context in mind, we would now like to outline our vision for a fuels reduction demonstration project:

General Guidelines
- In order to reduce risks to homes and communities from wildland fire, the State of Oregon will provide funding for the Oregon Department of Forestry (ODF) to conduct a fuels reduction demonstration project in a strategic landscape.
- The demonstration project is intended to bolster the safety and resilience of frontline communities, and therefore will only authorize fuels reduction treatments in forests nearest communities. The purpose of the project shall be to protect human life, property, and critical infrastructure – all other fuels reduction treatments shall not qualify.
- Fuels reduction treatments covered under this legislation shall be non-controversial, based on the best available science, and include robust environmental review that is made available to the public.

Landscape Identification
- The selected landscape shall be a forested area adjacent to a significant concentration of homes. Mechanical thinning work covered by this demonstration project should focus on forests within a 1/4 mile of homes or structures.
- Landscapes shall be selected jointly by the Oregon Department of Forestry, federal agencies, counties, and conservation organizations as defined herein.

Prescribed Fire
- Direct ODF to significantly expand its use of prescribed fire in appropriate ecosystems to accomplish fuels reduction and restoration objectives.
  - Provide $X for ODF to grow its prescribed fire capacity. With this increased funding, ODF should: hire X FTEs to accelerate prescribed fire work; hire at least one meteorologist; catalyze the statewide burn manager certification program; and provide Community Resiliency and Smoke Impact Mitigation grants.
  - Instruct ODF to work with relevant agencies, natural resource specialists, OSU Extension offices, and third parties to establish and provide an operating

1 Watch Dr. Cohen explain these points in this three-minute video:
https://www.youtube.com/watch?v=ubybKQ6ligY
framework for a statewide Prescribed Burn Manager Certification standard and program.

- Budget line item for participation in Potential Operational Delineations (PODs), especially where it can facilitate large scale burns.
- Budget for third party or multiparty monitoring of prescribed fire results and effects on communities.
- Remove disincentives to prescribed burning.
  - Review existing Standard of Care regulations for prescribed fire in Oregon and change Oregon’s prescribed fire Standard of Care from Simple Negligence to Gross Negligence.
  - Provide funding for the DEQ Community Resiliency and Smoke Impact Mitigation Grant Program. Grants assist targeted communities to develop local community response plans to achieve compliance with new Smoke Management Rules and achieve increased authorization for prescribed burning on adjacent forestlands.

**Sideboards to Mechanical Thinning**

- Prioritize non-commercial fuel treatments (prescribed fire, non-commercial thinning, etc). Mechanical thinning treatments covered by this demonstration project should only take place in forests within a 1/4 mile of homes or structures.
- Any thinning work outside of this proximity must demonstrate an improvement to community safety and be followed by prescribed fire (minor exceptions are allowed with adequate explanation).
- Commercial thinning projects conducted as part of this demonstration shall not take place in the following places:
  - inventoried or un-inventoried roadless areas;
  - riparian reserves and late successional (old-growth) reserves identified in the Northwest Forest Plan and BLM RMPs;
  - Wild & Scenic River corridors, National Recreation Areas, and National Monuments;
  - Critical Habitat for threatened and endangered species;
  - Areas of Critical Environmental Concern and Wilderness Study Areas.
- On federal public lands, this demonstration project shall prohibit:
  - cutting trees 21" DBH or greater in applicable areas east of the Cascade Crest (refer to Eastside Screens rule);
  - thinning in forest stands over 80 years old that are in the Northwest Forest Plan area or on western Oregon BLM lands.
- Scientists have found that timber plantations degraded by industrial logging are less resilient to climate change and more prone to uncharacteristically severe wildfire. Therefore, this demonstration project shall place special emphasis on thinning plantations close to homes and communities.
Accountability

- Require a complete carbon accounting of the carbon emissions of mechanical thinning and prescribed fire as compared to the carbon emissions from wildfire, along with an assessment of the probabilities that wildfire will encounter a specific area that is thinned or treated before it grows back.
- Require that ODF retroactively account for how much of total pilot program costs are offset by commercial timber receipts.
- Require that X% of the pilot program’s budget be allocated for ecological monitoring – especially of sensitive species, water quality, and weed response – to ensure the intent of this funding is reflected on the ground.

Thank you for your strong leadership and your willingness to consult the science as you craft this legislation. Feel free to ask us any questions you might have – we look forward to working with you in the New Year.

Sincerely,

[Logos of various organizations]
To: Matt.Donegan@oregon.gov; Jason.miner@oregon.gov; alex.campbell@oregon.gov; Heidi.MOAWAD@oregon.gov
Cc: Eric.Hartstein@oregon.gov (OWEB); Rep.PamMarsh@oregonlegislature.gov; Paige.Prewett@oregonlegislature.gov; Serin.Bussell@oregonlegislature.gov; Malcolm_McGeary@wyden.senate.gov; ben_ward@merkley.senate.gov
Date: March 8, 2019
Re: Governor Brown’s Executive Order on Oregon’s Wildfire Response Council (OR 19-01)

Our organizations (listed below) are writing to share our thoughts as you convene the Governor's Wildfire Council and its subcommittees, and to express our interest in participating in it. Oregon and its federal partners have limited dollars to spend on wildfire and so we must spend them wisely. We have many homes in fireheds and smoke is impacting our communities. We have important science-based solutions to share to protect homes and communities while restoring and protecting Oregon’s natural landscapes and diverse watersheds. We also see great opportunities to shift the public’s understanding of how best to coexist with wildfire to meet the challenges ahead. We would bring deep knowledge and connections to many people directly affected by wildfire. And we believe there is an effective and science-based way to deal with these vital issues that we would like to share with the Governor’s Wildfire Council.

Our organizations have developed and submit for your consideration, a Community Protection Alternative1, summarized herein and attached, including supporting weblinks. We stress that community planning assistance is a first priority as it is widely recognized as the most effective means for reducing wildfire risks to communities2. We request that you add appropriate expertise in defensible space/wildfire risk planning, climate change, and forest-fire ecology and that you create a transparent process for the public and scientists to contribute to the Council’s mandate.

The Community Protection Alternative emphasizes:

- Needed policies to immediately prepare homes to reduce ignitability while discouraging new development in naturally fire-prone areas. Homes that are easily ignited by embers are responsible for urban conflagrations like those in Santa Rosa and Paradise, California and this risk can be greatly reduced by working from the home-outward instead of the working to reduce risks from wildlands-inward. Therefore, we recommend that the Council make community protection and health and safety its overriding objectives and include additional expertise as noted.
- Targeted thinning and prescribed fire treatments in strategic locations immediately surrounding communities on both public and private lands within a ¼ of a mile of residential lands.
- Specific measures to prepare communities for smoke, including improvements to air quality, creation of fire/smoke shelters, tax rebates for HEPA filters and HVAC systems, and aid to the most health-vulnerable segments of society by working with health care providers. This is needed because fire behavior and smoke are far more complicated than has been generally realized.

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1https://www.dropbox.com/s/0rh5f0qf3i1ytwf/Forest%2C%20Fire%20%26%20Smoke%20Policy.pdf?dl=0
Working with both managed wildland fires and prescribed burns under safe conditions for ecosystem benefits as the most cost effective and natural way to reduce fuels in forest systems. Fire is inevitable in dry forests of the West, despite all efforts to stop it. Aggressive suppression results in significant environment harm and has limited effect on large fires governed mostly by extreme fire weather.

A fully integrated and rapid transition to clean, renewable energy in conjunction with forestry reforms that lead to more carbon stored in ecosystems. We note that fire may continue to increase in extent due to climate change, although recent research shows carbon dense older forests of the Pacific Coast and western Cascades are the least vulnerable forests to drought and wildfire compared to other forests in western states. Prohibiting practices that can increase unnatural wildfire risks such as clearcut/modified clearcutting, postfire logging, removal of large fire-resistant trees, excessive opening of forest canopies, and commercial operations that produce excess slash that is highly flammable, expensive and most often not feasible to remove. Importantly, managers must realize that the probability of thinned sites encountering a fire when fuels are lowest is especially low (1% on average) and that thinning at landscape scales emits far more carbon pollution than forest fires. This means thinning as currently conceived by managers and decision makers is a large investment in dollars with extremely low odds of success, high impacts to the environment, and the climate. A more effective and efficient use of dollars is home defense.

The following summarizes our concerns with what we understand to be the Governor’s current approach to addressing wildfires and community safety.

1. **Attempting to put out all fires is neither feasible nor desirable and it misleads the public.** Both the Governor and the Rogue-Siskiyou Forest Supervisor have stated their intentions to put out every natural fire, suggesting a level of control that has never been achieved and is simply not feasible. Every fire suppressed is a fire delayed. Fire is a necessary and desirable ecological disturbance agent in Oregon’s forests and policies are needed to manage fire for ecosystem benefits under safe conditions. This means responsibly suppressing the fires or portions of them that are actually threatening communities and infrastructure, while working with fire for ecosystem benefits in the backcountry. Unrealistic suppression policies often lead to ineffective suppression actions with a low probability of success, severe ecological damage, substantial public expenditures, and extreme risks to firefighters. It is irresponsible to subject fire suppression personnel to high levels of risk defending unprepared homes, flammable tree plantations, private industrial timberland, and federal forests in the backcountry. The safety of homes, communities and firefighting personnel should be the upmost priority. The Council should adopt the National Cohesive

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5 https://www.pnas.org/content/114/18/4582
Wildland Fire Strategy of the US Forest Service\textsuperscript{7} for ways to work proactively with fire for ecosystem benefits and suppression for home safety.

\textbf{Industrial-scale logging has created flammable landscapes that endanger lives.} Current timber and fuel management can increase fire intensity of future wildfires as noted by forest researchers, including those from Oregon State University\textsuperscript{8}. Fire risks are greatest where natural, older fire-resistant forests are replaced by flammable tree plantations through clearcutting and postfire logging operations, treatments are not adequately maintained and followed with prescribed fire, and policies are promoted that remove excessive amounts of large trees and canopy cover. We are particularly concerned by proposals to increase logging in areas normally protected from logging, such as national monuments, roadless areas, mature and old-growth forests, and riparian areas as proposed by the Rogue Basin Forest Partnership. Many of these impacts, like those related to public safety, can be avoided by focusing thinning/prescribed fire on the millions of acres of existing plantations while protecting areas of conservation importance from logging.

\textbf{Climate change is contributing to more extreme fire weather that will override fuel reduction efforts.} Recent studies have demonstrated the increasing role that climate change is having on extreme fire weather (uncontrollable fires burning during hot, dry, and windy conditions)\textsuperscript{9}. This will only worsen in places as emissions from fossil fuels and logging continue to rise. In fact, logging is the leading cause of emissions in Oregon and on average contributes \textasciitilde7-times more emissions than wildland fires, as recognized by the Oregon Global Warming Commission’s recent report to the Governor and researchers at Oregon State University\textsuperscript{10}. Thus, it is prudent to address the root of the problem and in Oregon that means transitioning quickly to clean, renewable energy and storing more carbon in forests\textsuperscript{10}.

\textbf{Certain interest groups are misleading the public.} It is no secret that the interests that promote and/or conduct timber sales at taxpayer expense are pushing for the expansion of logging, especially on federal lands. If enacted, cumulative impacts are expected to water quality and fisheries, more severe fires, loss of older forests, and decline of imperiled species (e.g., spotted owl, salmon) that depend on intact areas. Many so-called collaborative groups use misleading euphemisms to describe fire remediation activities like “ecological thinning,” “active management,” and “restoration.” Such labels mask the true impacts of these actions. In fact, some proposals that rely on expansive logging purport to reduce wildfire risk to a broad suite of ecosystem values by 70 percent while also claiming to protect communities and eliminate smoke. However, these unsubstantiated claims are based on flawed modeling assumptions that have not been verified by scientists and can result in setting unrealistic expectations for the Governors’ office. Science and on-the-ground experience have shown that the most effective

\textsuperscript{7}https://www.fs.fed.us/restoration/cohesivestrategy.shtml
\textsuperscript{9}https://www.pnas.org/content/early/2016/10/05/1607171113
way to protect structures, in this case, is through defensible space, not logging away from homes\(^{11}\). Investments in home and firefighter protections will result in much greater chances of success than the highly improbable odds of thinning in the backcountry as noted.

**Address the particulate-matter pollution that can actually be addressed.** In inversion-prone airsheds such as the Rogue Valley, fine particulate matter (<2.5 microns) pollution will accumulate as long as we burn fossil fuels and wood in stoves. While some emissions come from wildfires, most is from other sources. Since large wildfires cannot be effectively controlled to reduce the smoke caused by them (and also since poor air quality episodes in the Rogue Valley are attributable to events as far away as forest fires in British Columbia and burning wheat fields in northcentral Oregon), to improve public health, it is all the more prudent for government to more aggressively address causes of PM 2.5 pollution that can be effectively mitigated: residential wood stove use, agricultural sources (dust, etc.), industrial (smokestack) emissions, and motorized vehicles.

In closing, we are concerned that the predominant policies and proposals for addressing wildfire are built on a house-of-cards assumption that logging can slow or stop fires and smoke, and even more suppression is necessary. Unfortunately, the fire situation in Oregon and throughout the West has become highly politicized at the expense of community and firefighter safety and taxpayer expense. This is especially pertinent given the recent article in the Oregonian titled, “Polluted by Money” that demonstrates disproportional influence of corporations, specifically the timber industry in state policy.

One or more of our organizations would be interested in participating at the subcommittee level in this process to help ensure more inclusive representation of the Council’s task.

Dominick A. DellaSala, Ph. D  
Geos Institute, Ashland OR

Luke Ruediger  
Klamath Forest Alliance, Applegate Watershed Network, Applegate, OR

Kimberly Baker  
Environmental Protection Information Center  
Arcata, CA

Steve Pedery  
Oregon Wild, Portland, OR

Gabe Scott  
Cascadia Wildlands, Eugene, OR

Randi Spivak  
Center for Biological Diversity, Portland, and DC

Stanley Petrowski  
Umpqua Watersheds, Roseburg, OR

\(^{11}\)Jack Cohen on defensible space [https://www.youtube.com/watch?v=vL_syp1ZScM](https://www.youtube.com/watch?v=vL_syp1ZScM)
Information and Policy Recommendations Pertaining to Forest, Fire and Smoke Management in Southwestern Oregon

Applegate Neighborhood Network (ANN)
Klamath Forest Alliance (KFA)

February 18, 2019

For more information:
Luke Ruediger
Program Director for ANN & Conservation Director for the Siskiyou Field Office of KFA
siskiyoucrest@gmail.com
Information and Policy Recommendations Pertaining to Forest, Fire and Smoke Management in Southwestern Oregon

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Executive Summary

Following Oregon’s 2018 fire season significant debate has ensued throughout the state surrounding forest, fire and smoke management. The current policy debate surrounding wildfire in Oregon has ignored the needs of communities and focused instead on federal land management and the needs of the timber industry. Many of the current legislative and administrative approaches do not address the issue of home ignition, do not adequately provide for community fire protection, and are based on misconceptions about contemporary wildfire and its effects.

Despite the socioeconomic concerns associated with fire and smoke, it is important to acknowledge the role of wildfire and smoke in our region’s ecology. Recent wildfire activity in southwestern Oregon has included largely characteristic and beneficial ecological effects. Smoke inversions, although challenging for nearby communities, tend to moderate burn severity and heavily influence the regional fire regime. The role of wildfire and smoke to wildlife, native plant communities, forests, and fisheries is just now being realized by scientists and regional fire ecologists.

It is imperative that the policies developed by state lawmakers reflect the best available science and are designed to most effectively protect Oregon communities from adverse wildfire effects, including home loss and fatalities. Legislative efforts should be focused on working from the home and community outward, to best protect human infrastructure and public safety. Providing incentives and programs to reduce home loss and protect public safety will better serve Oregon residents and communities than backcountry logging and aggressive, environmentally damaging fire suppression efforts.

We encourage legislators to consider forest, fire and smoke management policies that reflect ecological, economical and societal needs and realities. The future of Oregon’s environment depends on the decisions made today.

Our top recommendations for Oregon legislators include:

- The Governor’s office should convene a “Home Ignition and Community Fire Safety Task Force” to analyze the most effective and cost-efficient way to reduce home losses and provide for public safety during wildfires.
- Focus fire mitigation efforts inside and directly adjacent to communities. Consider firewise tax incentives or financial assistance programs to implement defensible space work, ingress/egress work, fuel maintenance directly adjacent to homes, and to support “home hardening” efforts
- Encourage zoning and building code policies that will reduce development in high wildfire risk areas.
- Encourage strategic fuel management strategies on public and private land and within ¼ mile of communities at risk.
Reform the Oregon Forest Practices Act to encourage more responsible, firewise forest management on private timber lands.

**Information and Policy Recommendations Pertaining to Forest, Fire and Smoke Management in Southwestern Oregon**

**Applegate Neighborhood Network (ANN)**
**Klamath Forest Alliance (KFA)**

**Introduction**
Our organizations are reaching out to provide recommendations regarding forest, fire, and smoke management in southwestern Oregon. Our perspective is rooted in science and built from years of experience in forests, studying wildfires, and living close to the land. We represent the rural conservation community of southwestern Oregon and are supported by your constituents throughout the region.

Applegate Neighborhood Network (ANN) is a community and conservation organization based in the Applegate Valley of southwestern Oregon. We speak on behalf of the region’s wildlands and the conservation community in the Applegate River Watershed. Residents in the Applegate Valley and the adjacent Rogue Valley heavily support our organization.

In the Applegate Watershed we recently experienced the 2017 Miller Complex Fire and are pleased with the results. The fires burned beautifully through our mixed conifer forests and were managed responsibly by the Forest Service. Our communities were adequately protected and no homes were lost. The Forest Service steered the fires into our backcountry forests where they cleared undergrowth, enhanced habitat conditions, consumed fuels and created more fire-adapted forest conditions. The responsible management of the Miller Complex Fire was perhaps the most important and successful restoration and fuel reduction effort ever conducted by federal land managers in the Applegate Watershed.

As rural residents we appreciate the efforts of the Forest Service to protect our homes and communities, but we also appreciate the care in which they did so. Due to largely responsible fire management strategies, intact, fire-adapted forests, and dense smoke inversions, the Miller Complex burned in a healthy mixed severity fire mosaic, providing significant benefit to our forests, reducing fuel and restoring fire on over 30,000 acres surrounding communities in the Upper Applegate Valley. Despite heavy smoke and multiple evacuations, the fires were a positive natural event, managed by the Forest Service to maximize benefits and minimize impacts. If the fire had been more aggressively suppressed these benefits may have been replaced with extensive fire suppression impacts, damaging sensitive ecological areas. We support the patient and thoughtful approach utilized on much of the Miller Complex Fire and we see it as a model for fire management in southwestern Oregon.
For more information on the Miller Complex Fire and its management please read the KFA’s Miller Complex Fire Report at the following link: https://www.dropbox.com/s/xiduhukhzldljb/2017%20Miller%20Complex%20Fire%20Report.pdf?dl=0

Klamath Forest Alliance (KFA) is a regional conservation organization with a heavy emphasis on wildfire management, fire ecology, and forest management in the Klamath-Siskiyou Mountains. We currently run two Field Offices, one in Orleans, California on the Mid-Klamath River, and another in southwestern Oregon focused on the Siskiyou Mountains. Many of our staff, volunteers, board of directors and supporters are rural conservationists who have experienced wildfire firsthand; some have even lost their backcountry homes to fire. Many of us have lived in the remote portions of the region for decades and are no strangers to wildfire.

ANN and KFA often work together in the Siskiyou Crest region. We share concerns with the current legislative and administrative approach to forest, fire, and smoke management in Oregon. We believe many of the current proposals are counterproductive, biased towards timber production, environmentally damaging, fail to address the vital issue of home ignition, do not effectively provide for community fire protection needs, and are based on misconceptions about contemporary wildfire and its effects.

We are reaching out to political representatives throughout the state of Oregon to express these concerns and advocate for better outcomes. We hope that progressive politicians in the state will take progressive, forward-looking positions. The decisions made today will either sustain or permanently degrade Oregon’s environment.

**Contemporary Fire Effects**

The Klamath-Siskiyou Fire Reports Program is the most detailed fire monitoring effort in the West. This innovative program is used to analyze regional wildfires, their effects and management. KFA has published ten major fire reports in the southern Oregon and northern California region since 2012. We are also studying numerous 2018 fires, including the Klondike, Klamathon and Natchez Fires.

Our findings suggest, that from an ecological perspective, much of the wildfire activity in our region has been highly beneficial and has restored natural process (i.e. fire) to millions of acres in the Klamath-Siskiyou Mountains. Recent fires have actively thinned forests, enhanced wildlife habitat, invigorated native plant communities, and maintained fire resilience. They have also done so more effectively and often at a lower per acre cost, than any well-intentioned habitat restoration project in the region. If managed responsibly, these benefits can be achieved while suppressing wildfires or by managing them for resource benefit.

The Klamath-Siskiyou Mountains support a mixed severity fire regime, predicated largely by localized weather patterns, dense smoke inversions, complex topography, slope position, aspect and vegetative structure. Contemporary wildfires in the Klamath-Siskiyou region are burning in a complex pattern of fire severity consistent with historic conditions and precedents.
Recent wildfires have enhanced the region’s world-class biodiversity by maintaining many fire resistant forests with low severity fire and regenerating plant communities adapted to high and moderate severity fire effects.

Although weather is the overriding factor, fire severity tends to be lower in the canyon bottoms and on north- and east-facing slopes where fire resistant forests often sustain vast understory burns or patchy mixed severity fires. On south- and west-facing slopes fires tend to burn with more intensity, regenerating patches of montane chaparral, mixed hardwood stands and high elevation forests. (Taylor & Skinner. 1998).

Significant acreage burned throughout southern Oregon in 2018. The duration of the fires and the heavy smoke they created have generated significant controversy, yet most of the fire behavior was quite moderate, creating beneficial, characteristic, and largely low severity fire effects. Much of the area “treated” (to use restoration terminology) by these wildfires was also extremely remote, rugged and ecologically sensitive. These areas are inappropriate for manual fuel treatments, and due to topography, terrain, safety and access issues, will not be treated with prescribed fires; instead, in these remote areas, wildfire is doing the work for us. Despite the smoke, which we understand is a socio-economic problem, and perhaps partially on account of the heavy smoke inversion, the fires were quite moderate in their severity during the 2018 fire season.

Figure 1. The severity of contemporary wildfires in southern Oregon and northern California studied by KFA’s Klamath-Siskiyou Fire Reports Program.

<table>
<thead>
<tr>
<th>Fire:</th>
<th>Low Severity</th>
<th>Moderate Severity</th>
<th>High Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 Fort Complex Fire</td>
<td>68%</td>
<td>27%</td>
<td>5%</td>
</tr>
<tr>
<td>2013 Big Windy Fire</td>
<td>89%</td>
<td>10%</td>
<td>1%</td>
</tr>
<tr>
<td>2014 Whites Fire</td>
<td>65%</td>
<td>30%</td>
<td>5%</td>
</tr>
<tr>
<td>2014 Happy Camp Fire</td>
<td>77%</td>
<td>22%</td>
<td>1%</td>
</tr>
<tr>
<td>2014 Beaver Fire</td>
<td>66%</td>
<td>28%</td>
<td>6%</td>
</tr>
<tr>
<td>2015 Buckskin Fire</td>
<td>72%</td>
<td>22%</td>
<td>8%</td>
</tr>
<tr>
<td>2016 Gap Fire</td>
<td>67%</td>
<td>26%</td>
<td>8%</td>
</tr>
<tr>
<td>2017 Miller Complex Fire</td>
<td>66%</td>
<td>27%</td>
<td>7%</td>
</tr>
<tr>
<td>2017 Eclipse Fire</td>
<td>74%</td>
<td>18%</td>
<td>8%</td>
</tr>
<tr>
<td>2017 Salmon August Fire</td>
<td>60%</td>
<td>25%</td>
<td>15%</td>
</tr>
</tbody>
</table>

*Fire Severity is measured in soil burn severity, the most common and publicly available measure of fire severity provided by the Forest Service.
Figure 2. The fire severity for 2018 Fires in southern Oregon and northern California

<table>
<thead>
<tr>
<th>Fire:</th>
<th>Low Severity</th>
<th>Moderate Severity</th>
<th>High Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klondike/Taylor Fire</td>
<td>78%</td>
<td>20%</td>
<td>2%</td>
</tr>
<tr>
<td>Natchez Fire</td>
<td>76%</td>
<td>23%</td>
<td>1%</td>
</tr>
<tr>
<td>Miles Fire</td>
<td>68%</td>
<td>21%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Figure 3. Fire Severity in Recent Wildfires

For more information: [www.klamathskiyoufirereports.org](http://www.klamathskiyoufirereports.org)

The Connection Between Smoke and Fire Severity

Although smoke and air quality are significant socio-economic concerns, it must also be acknowledged that a direct connection exists between dense smoke and low to moderate fire severity. The development of dense smoke inversions is often heavily influenced by the steep topography of the region and strong temperature differentials. Smoke inversions are a function of our climate and environment and are associated with significant moderating effects on wildfire behavior.

Dense smoke inversions from large wildfires often become trapped between air masses and fill valleys or canyons with smoke in southern Oregon and northern California. The sun cannot
effectively penetrate the dense smoke, reducing solar radiation below the trapped smoke layer. By reducing solar radiation, ambient air temperatures drop, relative humidity rises, fuel moisture content responds and fire behavior is naturally reduced. (Robuck 1988; Estes et al. 2017; Miller et al. 2012). This condition can become self-reinforcing because dense smoke layers strengthen the cooling effect, which in turn stabilizes the inversion (Estes et al; Robuck 1988; Skinner et al. 2006). Often associated with minimal air movement and stable atmospheric conditions, smoke inversions can last for weeks or even months dampening fire behavior on the landscape scale. (Estes et al. 2017; Miller et al 2012; David et al. 2017).

Large lightning events like we had in southern Oregon in 2017 and 2018 are often associated with multiple wildfire ignitions and heavy smoke inversions that challenge nearby communities. Recent research conducted in northwestern California demonstrates that persistent smoke inversions are one of the most dominant factors affecting fire severity in our region (Estes et al. 2017; Gabribinski-Parker 2005). Smoke inversions are a natural feature of our regional fire regime and help to create the diverse mixed severity fire mosaic so important for our region’s biodiversity. (Martin and Sapsis. 1992).

For the past two summers heavy smoke inversions have impacted local communities and economies in southern Oregon. Despite the claims of “catastrophic” fire perpetuated by the timber industry, ODF, and others, fire behavior was actually moderated by stable, long lasting smoke inversions during most of 2017 and 2018. The impact of dense smoke pooling in valleys and canyons can create short-term impacts to public health and economies, but can also provide long-term benefits by maintaining fire adapted habitat conditions, landscape scale vegetation mosaics, biodiversity, our landscape’s wild natural character and beautiful scenic qualities. This in turn has significant benefits to Oregon’s outdoor recreation and tourism economy.

Smoke and Salmon
The Klamath-Siskiyou Mountains have evolved with large wildfires and persistent smoke inversions. Recent research conducted on the Klamath River shows that dense smoke inversions not only moderate fire severity, they can also reduce stream temperatures and improve habitat conditions for anadromous fisheries throughout large landscapes. Smoke induced reductions in stream temperatures are often sustained during the critical periods of late summer and early fall, when stream flows are low and water temperatures are elevated to critical levels (David et al. 2018). During this period, fisheries and other aquatic species are especially vulnerable to temperature related stressors. The role of fire and smoke in maintaining healthy fisheries, water quality and habitat is only now being discovered. Many of our native aquatic species, including anadromous fisheries, are cold water adapted and dense smoke inversions “may be a mechanism for climate change resilience” in aquatic ecosystems (David et al. 2017).

Wildfire can directly benefit riparian habitats by recruiting large snags along riparian corridors, depositing significant pulses of large wood directly into streams, and increasing stream flows by
reducing evapotranspiration through vegetation mortality. Smoke, as noted above, provides indirect benefits to water quality and fisheries across the region.

Smoke Management

Fire and smoke are an inevitable part of our regional environment and ecology. Southwestern Oregon is a Mediterranean climate with pronounced summer droughts, seasonal lightning storms, often widespread lightning ignitions and persistent seasonal smoke inversions. Our main source of wildfire ignition can be attributed to lightning, which often starts wildfires in remote, rugged and mountainous terrain where wildfires cannot be safely or effectively suppressed.

Fire season in southern Oregon also coincides with active fire season across the West, making firefighting personnel and resources extremely limited. In many cases, the resources are simply not available to effectively suppress hundreds of fires spread out across millions of mountainous acres. Often due to the steep topography, dry fuels and inaccessible terrain, fires grow into large conflagrations producing smoke and persistent smoke inversions.

Dense wildfire smoke is not a new development in southern Oregon. In fact, early accounts demonstrate that dense smoke from regional wildfires has been a nuisance since the 1860s. In the pre-suppression era, hundreds of fires would burn throughout the region after large lightning storms, and nearly all forest and fire ecologists agree that forests historically burned more frequently, producing large volumes of smoke in the summer months. Due to aggressive fire suppression, the disruption of indigenous burning, urban development and technological advances in fire suppression, we currently support a growing fire deficit throughout the region. (Littell et al. 2009, Stephens et al. 2007). It is estimated that seven times more smoke emissions were produced in the pre-industrial era than at present (Leenhouse, 1998), leading to smoky skies throughout the West.

Figure 4: Historic documentation of smoke

“Last Thursday was the smokiest day ever witnessed...The hills less than a mile distant were obscured by the view” -Jacksonville Democratic News, August 14, 1869

“Smoky weather has become a nuisance” -Jacksonville Democratic News, September 24, 1870

“The hills are covered with scattered timber, not dense enough to be called forests, or places with shrubby chaparral. The whole of this wild landscape was bathed in a smoky vapor, and the mountains faded in no great distance” -William H. Brewer describing Seiad Valley and the Klamath River in the 1860s

“Of the hundreds of persons who visit the Pacific slope in California every summer to see the mountains, few see more than the immediate foreground and a haze of smoke which even the strongest glass is unable to penetrate” C.H. Merriam, Division of Biological Survey 1898
While wildfire smoke is temporary and episodic; it can have impacts to human health and the regional economy. It is also a natural event that our communities must expect and plan for. Like hurricanes, tornados, and earthquakes these natural events cannot be completely suppressed, but we can adapt and evolve to better cope with them.

Forest management and fire suppression strategies intended to reduce smoke impacts will likely, at best, put off the inevitable. Because lightning ignitions are random and unpredictable and fuel treatments are temporally limited in their effectiveness, the likelihood of manual fuel treatments or purposefully lit prescribed fires contributing to fire containment or reducing fire severity is between 2% and 8% (Rhodes. 2008).

Because 100% successful wildfire suppression is unattainable and nearly all strategies intended to reduce smoke impacts will produce smoke as well (e.g. backburns or prescribed fire), it is highly likely that smoke from management activities will only create additional impacts. It is also very likely that thinning and fuel reduction treatments will have little impact on the development, growth or spread of large wildfires following region-wide lightning ignitions. For example, on July 15, 2018 over 145 separate lightning ignitions occurred throughout the region and only a handful of those, located in the most remote, inaccessible terrain, grew into large fires. These fires burned largely due to the rugged terrain in which they were lit, not due to the density of the forests or the intensity in which they burned. Many were burning at low severity, but either no crews were available or the terrain did not allow safe engagement for direct fire suppression resources. Large region-wide lightning ignitions overwhelmed the available firefighting resources and will continue to do so.

Although we support the use of prescribed fire and judicious, well placed, manual fuel treatments, we do not believe they will significantly reduce smoke impacts or eliminate summer wildfires in our region. The claims that logging, prescribed burning and manual fuel reduction treatments can or will reduce smoke impacts are slick marketing strategies, and although popular with the public, are not credible forest management strategies supported by scientific data.

**Home and Community Fire Protection**

The 2017 and 2018 fire season in southwestern Oregon produced a lot of smoke and political rhetoric, but few homes were lost and communities were generally well protected by federal fire suppression efforts. On the other hand, in California, the past two fire seasons have been deadly and devastating to towns and human communities. The fires in California were quite different than those in Oregon; the two regions support different fire regimes, weather patterns, vegetation and human development patterns, all of which create different outcomes, public safety concerns and fire behavior.

Driven by high winds, extended droughts and extreme fire weather, numerous fires in California burned rapidly through dry grasslands, oak woodlands, and dense chaparral. With little time to
evacuate or prepare, ember cast and/or fire fronts descended on whole communities where house-to-house ignition spread the fire across whole neighborhoods. Much of the habitat was not forested or was forested in scrubby fire-dependent pine species like gray pine and/or knobcone pine. These fire-dependent plant communities require periodic, high severity fire and were abundant in the Klamathon, Carr, Woolsey and Camp Fires of 2018, as well as the 2017 Thomas and Tubbs Fires. In California, many of these fire-dependent habitats have been developed into towns, businesses, and high density residential areas, creating substantial levels of wildfire risk and significant home loss in recent years.

In southwestern Oregon, despite the significant acreage burned in the summer of 2018, only three homes were lost in the Miles Fire in the Cascades Mountains. The most damaging fire in our immediate region was the Klamathon Fire, which burned 31 homes, just south of the Oregon border in Hornbrook, California. This fire started in dry, flashy fuels (dry grassland and oak-juniper woodland) within the community of Hornbrook, and pushed by high winds, the fire quickly raced through town and jumped I-5, burning homes, taking a life and closing traffic on the freeway. In California, many of the most damaging wildfires have been human-caused and have burned through non-forest or fire-dependent plant communities. The Klamathon Fire is consistent with this pattern.

In contrast, the 2018 fires in southwestern Oregon began in remote locations and burned through mostly public forestland to the edge of numerous communities. These fires were effectively suppressed at the margin of numerous rural, residential communities, and nearly all the fires that burned adjacent to communities in southwestern Oregon were a result of backburning by fire suppression crews. These controlled backburns protected communities such as Selma, Merlin, Wonder and Wilderville, by starving the fire of fuel as it approached settled areas. The controlled backburns were conducted responsibly and created beneficial fire effects that mimicked natural wildfire effects. They also produced heavy smoke emissions and increased the acres burned. Despite the temporary impacts to air quality and public health, these large backburns were the safest, most effective way to contain the large fires as they expanded towards residential communities.

Fire managers in southwestern Oregon can often, but not always, contain fires burning on federal land before they impact homes and communities. Usually fires burning on public land stay largely on public or private forestland and lead to minimal, if any home losses. The most dangerous fires are often those started within communities as accidental human-caused ignitions. These fires immediately threaten homes and communities, but are being ignored in the policy debate.
In some situations, extreme wind and weather events can push wildfires over containment lines and into surrounding communities. When fire weather is simply too volatile and fire crews cannot keep fires away from homes and communities, or ember cast becomes a significant problem, the most important factor predating if a home survives a given wildfire event is home ignitability. This includes the materials from which a home is built, how it was constructed, if it was regularly maintained to withstand a wildfire, and what natural or domestic fuels are located in the immediate area (130') surrounding the home. The vast majority of home losses can be attributed to conditions at the homesite itself, not wildland fuels or fire behavior on distant public lands (Cohen. 2000). According to leading wildfire researcher, Jack Cohen, “The WUI fire loss problem can be defined as a home ignitability issue largely independent of wildland fuel management issues” (Cohen. 2000).

A recent Forest Service Briefing Paper exploring home loss and wildfire management concerns in the Pacific Northwest also came to two very important conclusions: 1) Fire intensity in areas distant from homes has little influence on home loss. 2) “USFS land is not the dominant contributor to overall housing-unit exposure in the Pacific Northwest. Fires with the potential to affect housing units tend to start near housing units, and the land surrounding housing units is generally not USFS ownership”.

This same study identified Medford, Oregon as the third highest in “Community Exposure Ranking.” Interestingly, there is very little public land adjacent to Medford, Oregon, but there are significant tracts of dry, non-forest fuels on private land. In fact, of the 24 southwestern Oregon communities listed in Oregon’s top 50 communities exposed to wildfire risk, only 7 have significant interface with public lands (Ashland, Williams, Cave Junction, Selma, Ruch, Takilma, and Trail) (Scott 2018).

Despite having much more bearing on home loss and public safety, private lands and homesite ignitability are receiving far less attention from lawmakers than federal land management. Currently many of these vulnerable communities are ignored in the policy debate. More needs to be done to protect these communities from fire. That work must be done within our communities and around our homes, not in our backcountry. Public land logging and manual
fuel reduction projects are receiving a disproportionate emphasis in this debate, to the
detriment of community fire protection needs.

We support a strong emphasis on working from within communities to make homes, buildings
and infrastructure more fire wise. Some call this “Home Hardening,” which consists of a
combination of home ignition mitigation and defensible space work within 130’ of homes and
other buildings. If public safety and home loss are concerns, public policy must reduce home
ignitability and increase community fire planning and maintenance to facilitate safe and
effective evacuations and community safety zones. Human lives, communities and property
should be our first priority.

We also support targeted thinning and prescribed fire treatments in strategic locations
immediately surrounding communities. If these treatments are to be effective, they must
include both public and private lands within a ¼ mile of residential lands. In many cases, private
ranch lands, rural residential lands and private timberlands surrounding communities may need
to be prioritized for treatment. These strategically managed fuel load reduction zones can be
locations to both ignite periodic prescribed fires and to aid containment in future fire
suppression operations. Land managers should work with willing landowners to focus resources
on the most effective community fire protection measures possible including those within the
communities and immediately surrounding them.

Current Federal Forest Management
The current assumption by policy makers is that “active management” meaning landscape scale
logging (e.g. thinning) and prescribed fire will reduce fire risks and protect nearby communities.
We support some these actions, if they are truly intended to facilitate more fire-safe
communities; however, many of the projects recently proposed by the BLM and Forest Service
as “fuel reduction” or “restoration” thinning will not achieve these goals. Most of these projects
are located far from communities at risk and have included old forest logging, the removal of
large, fire resistant trees, the dramatic opening of forest canopies, and in turn significantly
increased brush and vegetative response.

Not all federal timber management is “restoration” or provides for fire resilience. In many
situations, regional timber sales have been documented to increase fuel loading and reduce
resilience to natural disturbance processes such as wildfire, bark beetles, severe droughts,
storms, etc. For example, the BLM recently proposed the Clean Slate Timber Sale outside
Selma, Oregon and the Griffin Halfmoon Timber Sale near Howard Prairie Lake. Both timber
sales were approved during the 2018 fire season, yet they included logging in old-growth
stands, the removal of large, fire resistant trees, and extreme canopy cover reductions to
between 15% and 30%. Both timber sales proposed replanting the units following logging
operations, creating plantation-like stands of young, even-aged trees shown to increase fire
severity (Zald. 2018, Odion. 2004). According to the BLM, these stands “...could exhibit higher
flame lengths, rates of spread and fire intensity. Fires started within these stands could be
difficult to initially attack and control. For five to 20 years following planting, the overall fire
hazard would increase in these stands” (Clean Slate EA P. 192, Griffin Halfmoon EA P. C-17).
Many of the recently proposed or implemented timber sales on federal lands would similarly impact fire resistance and fuel loading by removing large trees, logging currently fire resistant stands, removing excessive levels of canopy cover or creating highly volatile plantation stands. This includes the Upper Briggs Restoration Project and the Chetco Bar Fire Salvage Project on Rogue River-Siskiyou National Forest land, as well as the Pickett West Timber Sale, the Nedsbar Timber Sale, Sterling Sweeper Timber Sale, Bald Lick Timber Sale, O’Lickety Timber Sale, Cheney-Slate Timber Sale and many other timber sales recently implemented on BLM land. These timber sales are actually reducing fire resilience, while impacting important public lands, wildlife habitat, biodiversity and wildlands.

Private Industrial Forest Management

Private industrial timberland in Oregon is predominantly managed through even-aged, clearcut logging. Large swaths of forest are often cleared of all vegetation and each successive logging operation is followed by plantation development. Under this form of management, conifers (often Douglas fir or ponderosa pine) are planted in a high density grid. Hardwoods and shrubs are often treated with herbicides utilizing aerial herbicide application or more targeted “hack and squirt” applications. Hack and squirt treatment involves killing trees by physically injecting them with herbicides. Hack and squirt treatments have been banned in Mendocino County, California due partially to concerns with increased fire risks.

The Oregon Forest Practices Act currently encourages logging companies to significantly increase fire risks throughout the state. Under the Oregon Forest Practices Act logging companies can leave excessive amounts of activity slash strewn across the landscape. This slash increases future fire intensity. Likewise, herbicide-killed hardwoods fall to the forest floor to become ground fuel, and dense conifer plantings, as well as the natural regeneration associated with canopy removal and ground disturbance, combine to create uncharacteristically flammable fuel loads. The heavy fuel continuity in these stands can create extreme fire effects, threatening nearby communities and public land, while increasing fire severity (Keys. 2000).

Although these plantation stands are the most flammable portions of the landscape, the Oregon Forest Practices Act encourages their development across many thousands of acres each year. According to research conducted in the 2013 Douglas Complex in southwestern Oregon, plantation stands burned more severely than in adjacent unmanaged stands (Zald. An example of fire behavior in clearcut and closed forest habitat in the 2013 Douglas Fire Complex in southwestern Oregon. Photo credit: Inciweb.
Research throughout the Klamath-Siskiyou Mountains demonstrates higher levels of fire severity in plantation stands (Harma 2003. Odion 2004, Weatherspoon & Skinner, 1995).

Although private timber companies often create explosive fuel loads through even-aged management, they financially benefit from federal and state fire management. In many cases, the public expends large sums of money to protect private timber resources from wildfire. Yet following a wildfire of any severity, emergency post-fire harvest permits approved by ODF and allowed under the Oregon Forest Practices Act, encourage clearcut logging and plantation establishment. This is the most common response to wildfire by industrial landowners and has been shown to significantly increase future fire risks.

It is time for Oregon’s private timberlands to do their part and manage their forestlands for timber and fire resilience. We believe that legislators should consider reforms to the Oregon Forest Practices Act requiring timber companies to implement longer harvest rotations, discontinue herbicide applications, conduct only selective logging in fire prone areas, retain large diameter, fire resistant trees, eliminate loopholes encouraging clearcut post-fire logging and more stringently regulate the removal of activity slash for all timber harvest permits.

**Current Fire Management Proposals**

The current proposals being discussed to completely suppress all wildfires during the summer months are unrealistic and will contribute to the buildup of forest fuels associated with fire suppression. Full suppression of all wildland fires is unrealistic because of the rugged, inaccessible terrain and the often widespread lightning ignitions in our region. When hundreds of lightning ignitions occur throughout the region, fire crews are quickly overwhelmed and often the most remote, inaccessible fires become large conflagrations.

Many of our wildfires grow large because direct attack is simply too dangerous for fire crews or the region’s fires are simply too numerous to successfully put them all out at minimal acreage. Both the 2017 and 2018 fire seasons demonstrate this point. Fire managers were not letting fires burn, rather they did not have the resources available to contain all the fires while relatively small. In some situations, resources are available, but the specific resources needed for our rugged terrain are not available to local fire managers.
Fire suppression is not a benign activity, and the level of fire suppression being called for by politicians, the timber industry, the Oregon Department of Forestry (ODF) and media outlets like the Medford Mail Tribune, comes with significant impacts to our watersheds, forests, wildlife, and wildlands. These impacts would increase under current proposals but are not being publicly discussed. The physical impacts associated with ODF style fire suppression on all federal lands would likely entail building hundreds of miles of bulldozed fireline, cutting thousands of old-growth trees and snags in backcountry firelines (i.e. linear clearcuts), removing vegetation across vast areas, building large bulldozed safety zones, staging areas and helicopter landing pads, applying hundreds of thousands of gallons of fire retardant (which is toxic to aquatic species), and extensive damage to environmentally sensitive areas such as wilderness areas, national parks, botanical areas and old-growth forests. These impacts can and should be avoided on sensitive federal lands, while effectively protecting homes and communities from wildland fire.

Although some are praising the Oregon Department of Forestry for their suppression response, they are also well known for the extensive environmental impacts that they create while suppressing fires. For example, ODF crews bulldozed over 30 miles of fireline, east to west, across the Soda Mountain Wilderness Area in the Cascade-Siskiyou National Monument while suppressing the 2018 Klamathon Fire. Although almost none of this fireline was utilized for direct containment of the fire, it will leave long-lasting impacts on an otherwise intact wildland habitat. These impacts include the bulldozing of rare plant populations, streams, Native American archeological sites, recreational hiking trails and important wildlife habitats. These were the very types of impacts protection of the Cascade-
Siskiyou National Monument was designated to prevent. Additionally, similar impacts were sustained in the Siskiyou Wilderness Area, the Kalmiopsis Wilderness, and numerous Roadless Areas this summer due to overly aggressive, and in many cases entirely unsuccessful or unnecessary, fire suppression actions.

By promoting aggressive fire suppression on all fires, these impacts would exponentially grow more severe. An aggressive suppression response often leads to the implementation of suppression actions with low probabilities of success. In many cases, these actions create unnecessary ecological impacts and compromise firefighter safety, while facilitating little to no increase in fire containment.

Aggressive fire suppression has also been shown to create substantial impacts to native forest communities by eliminating fire cycles, increasing fuel loads, shifting species composition and encouraging increasingly more flammable landscapes. Suppressing all fires will not only compound current impacts associated with fire suppression, but it is physically impossible given the climate and terrain of southwestern Oregon.

Many fire managers and scientists agree that managed wildfire must be part of any responsible and realistic forest restoration strategy. Due to physical, administrative and societal constraints, prescribed fire and manual thinning will never “treat” the acres required to actually affect fire behavior, fire spread or smoke production on the landscape scale. In fact, Forest Service fire managers have publicly stated that portions of the southwest Oregon landscape are simply too rugged and inaccessible for the safe and effective use of prescribed fire. Only managed wildfire has the capacity to “treat” much of the rugged, remote terrain commonly found throughout southern Oregon.

Given the ecologically beneficial effects of contemporary wildfires and the inability to otherwise treat many of these remote, rugged locations, managed wildfire is the most viable, responsible and fiscally prudent option available to land managers. Progressive fire management policy includes the support of “Appropriate Management Response” in all wildland fires, allowing land managers the flexibility to restore habitats with wildland fire.

**Aggressive Suppression and Firefighter Safety**

Portions of the southwestern Oregon landscape are simply too dangerous to utilize aggressive, direct attack fire suppression methods. It is extremely important to acknowledge the significant exposure to risk that firefighter personnel must take on, when aggressively suppressing all wildfires. Many of the fires that grow large in southwestern Oregon start in locations that pose significant risks to fire crews. For example, experienced smoke jumpers were rappelled into the 2002 Biscuit Fire, the 2017 Chetco Bar Fire and the 2018 Klondike Fire in the Kalmiopsis Wilderness Area when these fires were small, but on each occasion fire crews called off direct attack suppression efforts due to unacceptable firefighter safety risks and a lack of acceptable escape routes. These were not “let burn” fires, they were simply too dangerous to suppress at minimal acres and a more indirect approach was necessary to meet containment needs and
protect the lives of firefighters. The same is true in many large wildfires, especially in steep, inaccessible terrain.

The political pressure to aggressively suppress all wildland fires may force fire crews into dangerous situations with little to no probability of success. To risk the lives of firefighting personnel suppressing ecologically beneficial backcountry fires, and implementing actions with a low probability of success, is irresponsible. The current policy debate ignores the real risk to firefighting personnel who will have to implement this unrealistic, politically motivated and physically impossible position on wildfire suppression. The political pressure being exerted on federal fire managers will undoubtedly lead to the completely avoidable loss of life.

In many situations, indirect fire suppression strategies are more effective at containing large wildland fires. They are also often much safer for firefighting personnel. Although some perceive indirect fire suppression tactics as less aggressive, they are actually a smarter, safer, more effective way of suppressing wildfires.

**The Rogue Basin Cohesive Forest Restoration Strategy**

The Southern Oregon Forest Restoration Collaborative (SOFRC) has recently promoted the Rogue Basin Cohesive Forest Restoration Strategy (RBS) as a solution to fire, smoke and forest management concerns in our region. The Medford Mail Tribune, along with some local land managers and politicians are supporting the proposal. We believe the RBS is overly optimistic, scientifically flawed, and ignores the real environmental concerns associated with its implementation.

The RBS was designed with almost no input from conservation organizations and is opposed by many conservationists throughout the state. Recently over 20 environmental organizations met with the Nature Conservancy and representatives of the SOFRC expressing their concerns in regard to the RBS. Opposition to this proposal is growing throughout the state, but is centered in local communities that will be negatively impacted by its implementation.

The RBS calls for a massive increase in commercial logging on federal land (nearly 500,000 acres in 20 years), yet fails to accurately consider the actual on-the-ground impacts of commercial logging operations to soils, streams, endangered species, fuel loads, roadless areas and habitat connectivity. The proposal currently contains no diameter limit to reduce its impact on old-growth forests and large, fire resistant trees. In fact, the proposal actually encourages logging in fire resistant old-growth forests by prioritizing late successional forests for treatment. The proposal includes a “priority multiplier” that encourages logging old, closed canopy forest rather than young, highly flammable plantation stands.

The RBS claims that our region contains an “excess” of closed canopied, late successional forest. This finding is contrary to decades of science demonstrating an enormous loss of late successional habitat throughout the state, including southwestern Oregon. Based on this flawed assumption, the RBS recommends converting thousands of acres of late successional, closed canopy forest into open-canopied stands. The conversion would be achieved by
removing large, old trees, reducing canopy cover to 30% and removing Northern spotted owl habitat while the species continues to decline.

Rather than reducing fuel loads, these treatments would remove large, fire resistant trees and replace mature, closed canopied forest with highly flammable young forest regeneration. This influx in low statured vegetation creates more fire available fuel and extensive fuel ladders leading into crowns of residual trees. Extensive canopy reduction will also increase fuel loading in affected stands by increasing solar radiation and exposure to drying winds, which desiccate forest fuels, increases fire intensity and extends fire seasons. Many scientific studies have demonstrated that open stands often burn at higher severity than mature, closed canopy stands (Weatherspoon and Skinner. 1995).

The Medford District BLM has already begun using the RBS to implement highly controversial timber sales. The Pickett West Timber Sale was not only the first timber sale designed to comply with the RBS, it was also the largest old-growth logging project proposed on federal land for many years. 56% (or 3,025 acres) of the Pickett West Timber Sale was identified as “Restoration Thinning,” modeled off the RBS. These “Restoration Thinning” units included forest stands between 180 and 240 years old and proposed logging them to 30% canopy cover. The idea (borrowed from the RBS) was to “balance” successional stages across the landscape by converting closed canopy old-growth forest to open canopied forest.

The result was a highly controversial timber sale and old-growth logging project disguised as “restoration.” The project proposed to remove or downgrade 3,223 acres of suitable Northern spotted owl habitat, creating significant forest fragmentation, and increasing fuel loads due to the excessive removal of canopy and large, fire resistant trees. After multiple years of planning the BLM withdrew the project due to strong community opposition (including a record 29 Administrative Protests) and substantial impacts to the red tree vole, a prey species for the Northern spotted owl.
The RBS is also inconsistent with numerous existing environmental safeguards and proposes commercial logging in many conservation areas where such activities are either currently discouraged or prohibited. The RBS proposes logging treatments within Inventoried Roadless Areas, Botanical Areas, Research Natural Areas, Late Successional Reserves, National Monuments, and other important conservation areas. The RBS threatens decades of environmental policy intended to protect old-growth forests, biodiversity, water quality and wildland habitats. These proposals will lead to significant public controversy and will be heavily opposed by the environmental community.

For more information on the Rogue Basin Strategy please read this detailed blog post: 
https://thesiskiyoucrest.blogspot.com/2018/10/the-rogue-basin-cohesive-forest.html

To view a scientific critique of the Rogue Basin Strategy:
https://www.dropbox.com/s/n00khwhog2eq0ph/TNCSOFRCresponse.pdf?dl=0

For further information scientific critique of the Rogue Basin Strategy

Feedback on the Rogue Basin Strategy from local, regional and national conservation organizations:
https://www.dropbox.com/s/4rc4t71t946lzpt/SOFRC-11-29-18%20%283%29.pdf?dl=0

**Collaboration or Collaboratives?**

Although our organizations support and participate in collaboration between the public, environmental organizations, the industry and our federal land management agencies, we are concerned by the growing trend towards “collaboratives.” Many of these collaboratives centralize power and influence in the hands of a minority and work to undermine the more open, public involvement process. Collaboratives often promote a particular viewpoint and are closed to other competing perspectives. They are not a space for collaboration among varied viewpoints; on the contrary, they serve to elevate and reinforce a specific perspective and benefit specific organizations and businesses.

Many of the collaboratives are made up of representatives from non-profit organizations, private “restoration” companies, the timber industry and others with a financial stake in public land management. The organizations and companies represented in the collaboratives often directly benefit from contracts or grant funding directly associated with federal land management projects in which they participate, creating a conflict of interest.

The main function collaboratives play is to act as intermediaries, channeling grant funding to federal agencies for project process, design, layout, implementation and monitoring. The benefits enjoyed by collaboratives often come through approval of “Master Stewardship Agreements” with federal agencies. These agreements require a financial match from
participating organizations and businesses. In return, participating organizations and businesses receive additional oversight and influence over federal land management projects.

In some cases, “collaborative partners” are actually funding the work, designing timber sale units and layout, marking the trees, logging the trees and selling those trees to timber mills. This transfer of money and power creates favored relationships with federal land management agencies. In return for the funding, federal land management agencies are reinforcing monopolies within the timber industry and “forest restoration” community by funneling their support, their resources and offering vast publically-owned landscapes as a resource and land base from which collaboratives can operate.

The process quickly becomes a pay-to-play scenario, where organizations or communities without the funding capacity to bring large sums of money and matching funds to the table are limited in their influence. At the same time, those organizations with more funding capacity gain power, influence and additional funding opportunities through their often exclusive relationship with federal land managers. Public land managers often sponsor or sign onto projects or grant applications for regional “collaboratives,” providing exclusive access to public lands and public funding. Funding sources such as Oregon Watershed Enhancement Board (OWEB) and National Forest Foundation grants becomes more available to collaboratives recognized by federal partners such as the Forest Service, BLM, Fish and Wildlife, etc.

Our local “collaborative,” known as the Southern Oregon Forest Restoration Collaborative (SOFRC) lacks an actual collaborative structure and is instead governed by a seven-member board of directors. Work is not vetted through a public process or among other stakeholder groups, projects and proposals are simply agreed upon by the Board of Directors.

For example, the draft version of the RBS was supposed to be vetted by collaborative partners, the public and non-profit organizations, yet when the Applegate Valley conservation community and numerous environmental organizations reached out to express concerns and share science during this vetting process, our concerns were ignored. We sent them written documents laying out our concerns and providing extensive scientific citations. We received no adequate response and they have not identified how the public can meaningfully participate in the supposed “collaborative” process.

Not one of our concerns or objectives was incorporated into the RBS and the final version was published with very few, if any alterations. Although often referred to by SOFRC as a “living document,” since publication of the RBS numerous environmental organizations have reached out with concerns about the RBS and its proposed implementation. SOFRC has responded by doubling down on its media campaign without any alterations to the proposed management strategy. Unfortunately, there is no process built into SOFRC’s structure that allows public influence or meaningful involvement in regard to decision making. Despite numerous communities and environmental organizations from across the state reaching out again to share concerns, these concerns have not adequately been addressed.
The public process is often undermined when “collaboratives” are elevated in the federal land management planning process above true collaboration. We ask our elected officials to encourage collaboration and consider strengthening the existing public involvement processes. Local collaboratives can participate in that process just as any other individual or entity. We believe this is a far more democratic, open and transparent process. The public process is open to all citizens, not just exclusive groups with the funding to buy influence.

Policy Recommendations

Homesite & Community Fire Protection

- The Governor’s Office should convene a “Home Ignition and Community Fire Safety Task Force” focused specifically of the safety of homes and communities in wildfire events. This task force should identify the most effective and cost-efficient means of protecting homes and providing for community safety during wildfires. The goal would be very different from the Oregon Wildfire Response Council already convened by Governor Kate Brown. Instead of studying wildfire suppression response, this task force would study and identify ways to create more fire resilient communities by making the communities themselves more safe and prepared. This will save lives and homes throughout Oregon.

- Focus fire mitigation efforts inside communities. Consider funding “fire-wise incentives” for private landowners. This could include tax incentives and/or financial assistance for private landowners and homeowners to implement defensible space work, ingress and egress work, and for maintenance of existing fuel treatments. Similar incentives should be created for home hardening, including renovations that reduce the likelihood of home ignition. Focus these efforts on screening vents, attics and vulnerable openings on existing homes, converting flammable roofing materials to more fire-safe materials, and reducing flammable materials adjacent to homes.

- Fund a position at each regional office of the Oregon Extension Service with a “home ignition reduction specialist.” The responsibilities of this position could include inspecting homes before fire season, making recommendation to reduce homesite ignition, evaluating homes and properties for cost-share funding to reduce fire risks, and inspecting work completed by contractors to reduce fuel loading and home ignition risks. The local “homesite ignition reduction specialist” could oversee local cost-share grants and tax incentives by administering funds and overseeing work by contractors.

- Consider special funding to subsidize home hardening and defensible space activities for the elderly, disabled and low-income homeowners in high fire hazard areas.

- Consider legislation that reduces urban sprawl and incentivizes counties that adopt strict fire-safe zoning measures. Avoid new construction in high fire hazard areas, areas with poor access and/or no escape routes.

- Provide incentives to high fire hazard counties that pass strict fire-wise building codes requiring proper screening, metal roofing and other fire-safe building codes.
• Support fire safe communities by focusing fuel reduction and fire prevention treatments within ¼ mile of communities. Consider an all lands approach with treatments in strategic locations on both private and federal land.

Federal Forest and Fire Management

• Maintain current land management regulations and restrictions on commercial logging, road construction, road reconstruction, etc. in designated conservation areas. This should include Roadless Areas, Wilderness Areas, Late Successional Reserves, Botanical Areas, Areas of Critical Environmental Concern and Research Natural Areas. Published research and anecdotal on-the-ground evidence from the last seven years of the Klamath Siskiyou Fire Reports demonstrate that protected landscapes contain more intact plant communities and overall, lower levels of fire severity (Bradley et al. 2016). These areas also tend to have little if any influence on public safety due to their largely remote and isolated locations.

• Focus management activities (manual thinning and prescribed fire) on strategic locations (roads and ridges) within ¼ mile of communities.

• Promote federal forest management that retains large, fire resistant trees, encourages prescribed fire and maintains levels of canopy cover in dry Douglas fir and mixed conifer stands that can suppress understory growth (60% minimum). In most locations, a combination of non-commercial treatments and/or prescribed fire are adequate and from an ecological standpoint commercial thinning operations are often unnecessary.

• Encourage manual treatments and prescribed fire in the front country (i.e. near communities) and managed wildfire in the backcountry. Full suppression of all fires is not a viable or realistic solution. Maintain all available options for federal land managers and encourage the implementation of Appropriate Management Response on all wildland fires. Responsibly managed wildfire is part of a comprehensive restoration and fuel reduction strategy.

• Treat existing plantation stands on public and private land with manual thinning and prescribed fire treatments to reduce fuel loading and restore more natural conditions.

• Facilitate public involvement in the federal land management planning process by expanding existing comment periods, objection periods and other forms of public process. Promote credible collaboration between stakeholders, not “collaboratives” that centralize power and influence. True collaboration will reduce conflict and increase efficiency.

Oregon Forest Practices Act

• Reform the Oregon Forest Practices Act to prohibit clearcut, even-aged forest management both before and after wildfires, require adequate slash removal, prohibit herbicide application, eliminate loopholes for post-fire clearcut logging, and encourage selective harvesting.
References

Bradley, C. M., C. T. Hanson, and D. A. DellaSala. 2016. Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western United States? Ecosphere 7(10):e01492. 10.1002/ecs2.1492


Zald, Harold S. & Dunn, Christopher J. (2018) Severe fire weather and intensive forest management increase fire severity in multi-ownership landscape. Ecological Applications 0(0), 2018. Pp 1-13

Applegate Neighborhood Network
Po Box 114
Jacksonville, Oregon 97530

Klamath Forest Alliance
PO Box 1155
Jacksonville, Oregon 97530
The 2018 Taylor Fire burned in a beneficial mixed severity fire mosaic in the rugged mountains west of Grants Pass, Oregon.

Beargrass blooming in a high severity burn patch on the Siskiyou Crest.

Natural understory fire in the 2012 Fort Complex Fire in the Upper Applegate River Watershed.