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Testimony: Federal Lands Oversight Hearing – “Seeking Better Management of America’s Overgrown Fire-Prone National Forests”

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Thank you Chairman McClintock, Ranking Member Hanabusa and members of this subcommittee for this opportunity to discuss forest health on our National Forests in California.

I am Steve Brink and have been Vice President of Public Resources for over 11 years with CalForests. We are a trade association representing private forest industrial landowners, sawmills, veneer mills and biomass powerplants. Prior to CalForests, I was with the Forest Service for 37 years in road engineering, forest engineering, and land management planning. I was Deputy Regional Forester in Alaska when I retired from the Forest Service in 2005.

I am also a board member of the Federal Forest Resource Coalition (FFRC), representing purchasers of Forest Service wood supply from 32 States. Collectively, FFRC members employ over 390,000 people and provide over \$19 billion in payroll. FFRC members’ purchase, harvest, transport and process federal wood supply into renewable wood products, paper products, and biomass energy.

## **I. Current Forest Health of our Federal National Forests in California**

The National Forests in California are in trouble. The 8.8 million acres of productive forest land on these Forests are grossly overly dense; recently experienced 5+ years of drought; experiences wildfires that on average burn 322,000 acres per year; and now are experiencing a major insect and disease epidemic that has killed trees on 4.5 million acres.

The 8.8 million acres of available productive forest land average 312 trees per acre on a landscape that can only sustain about 20-100 trees per acre depending on slope, aspect, and slope position.



(Overly Dense Forest Condition)

The available productive forest lands grow at a rate of about 4 billion board feet per year. Since the early 1990's, the Forest Service, California Region mechanical thinning program has been removing less than 10 percent of the annual growth. Forest health and hazardous fuels reduction projects average about 60-70,000 acres of mechanical thinning and 120,000 acres of prescribed burning and mechanical mastication of brush a year. With this in mind, the forests will continue to grow at a pace that far exceeds treatment – resulting in increasing density in forests that are already overcrowded and unhealthy.

California has a mediterranean climate typified by relatively mild winters and long, hot dry summers. Some years there is little or no precipitation from late spring to early fall. The result is often that by August or September (or sometimes sooner) the trees in the forest are water stressed and subject to natural disturbances such as wildfire, insect and disease. The overly dense forest condition just amplifies the risk of wildfire, insect, and disease taking over.

The Forest Service, California Region, recognizes that increased pace of forest health and fuels reduction is absolutely needed to restore ecological resilience. In a March 2011 Ecological Restoration: Leadership Intent paper, Regional Forester Randy Moore announced that they needed to more than double the pace from the current levels (about 190,000 acres per year) to near 500,000 acres a year of forest health and fuels reduction projects.

However, the myriad of environmental statutes, regulations, manuals, handbooks, letters of direction, and litigation make forest health and fuels reduction project development time consuming and costly. Many projects are stalled or stopped by litigation. As a result the Forest Service, California Region has not made any headway in increasing the pace.

## **II. The Impact of the 2012-2016 drought in California**

Droughts have been a part of California's climate for a long time and some have been dramatically more severe than the recent 2012-2016 drought. From AD 892 to AD 1112, California experienced a 220 year drought and from AD 1209 to AD 1350, a 141 year drought. Even so, the recent 5+ year drought coupled with overly dense National Forests created an unusual situation where wildfire, insect and disease have had a significant impact on the landscape.

## **III. The Impact of Wildfire**

Since 2001, California's National Forests have seen an average of 322,000 acres per year burned in wildfires. The number, size, and intensity of wildfire on these Forests has been and continues to increase. The burn intensity is of particular concern. In the mid-1980s, on average just over 20 percent of the burned acres were considered high-severity (greater

than 90 percent of the vegetation killed). In 2013, the portion of the Rim Fire on the Stanislaus National Forest had high-severity on 38 percent of the burned acres. And in 2014, the 97,000 acre King Fire on the Eldorado National Forest was 47% high severity.



(King Fire, Eldorado National Forest, High-Severity Burned Area, Rubicon Watershed)

In just six hours on the King Fire, 40,000 acres of high-severity burn occurred in the Rubicon River watershed. Following the 2014-2015 winter storms, it was estimated that 338,000 tons of soil was eroded from the burned area, which went in the river and then into the Oxbow Reservoir four miles downstream of the fire. This reservoir is part of Placer County's municipal water supply; a primary source of drinking water to the local communities. About 60 percent of California's water supply originates from the upper watersheds in the Sierra Nevada Mountains.



(Placer County Municipal Water Supply Oxbow Reservoir, Rubicon River Watershed; Spring 2015)

There are also substantial impacts to wildlife habitat from 15 years of large wildfires. Wildfire has burned at least 100 California Spotted Owl Protected Activity Centers.

Restoration and reforestation of burned areas within the perimeter of large wildfires is difficult to achieve. The Forest Service must follow the National Environmental Policy Act (NEPA), Endangered Species Act, and other environmental statutes' processes and procedures. It generally takes the Forest Service 12 to 18 months to complete the process before on-the-ground activities can begin.

A 12-18 month delay in restoration activities means deterioration of the trees can reduce the lumber value by 50 percent or more. The diminished opportunity for net revenue leaves minimal funds for reforestation. The

result is often a conversion of a large amount of the burned area from forest to shrub land.

The Forest Service, California Region, has an identified 583,000 acre reforestation backlog.

Scientists conclude that California will likely continue to see an increase in the number, size and severity of wildfires. The impacts to the National Forests' productive forest land and other watershed values will continue to grow dramatically.

#### **IV. The Impact of the Insect and Disease Epidemic**

Based on the fall 2016 Forest Service aerial survey, 7.7 million acres have been impacted by insect and disease in California. 60 percent of the impact is on the National Forests, 10 percent other Federal lands, and 30 percent private, state and local lands. Two million acres on six National Forests in the central and southern Sierra Nevada Mountains have the most severe impact where up to 80-85% of the trees are dead.

One example of the insect and disease impact is on the Sierra National Forest, east of Fresno. 60 percent (526,000 acres) of the entire forest's productive forest land is 80 to 85 percent dead.



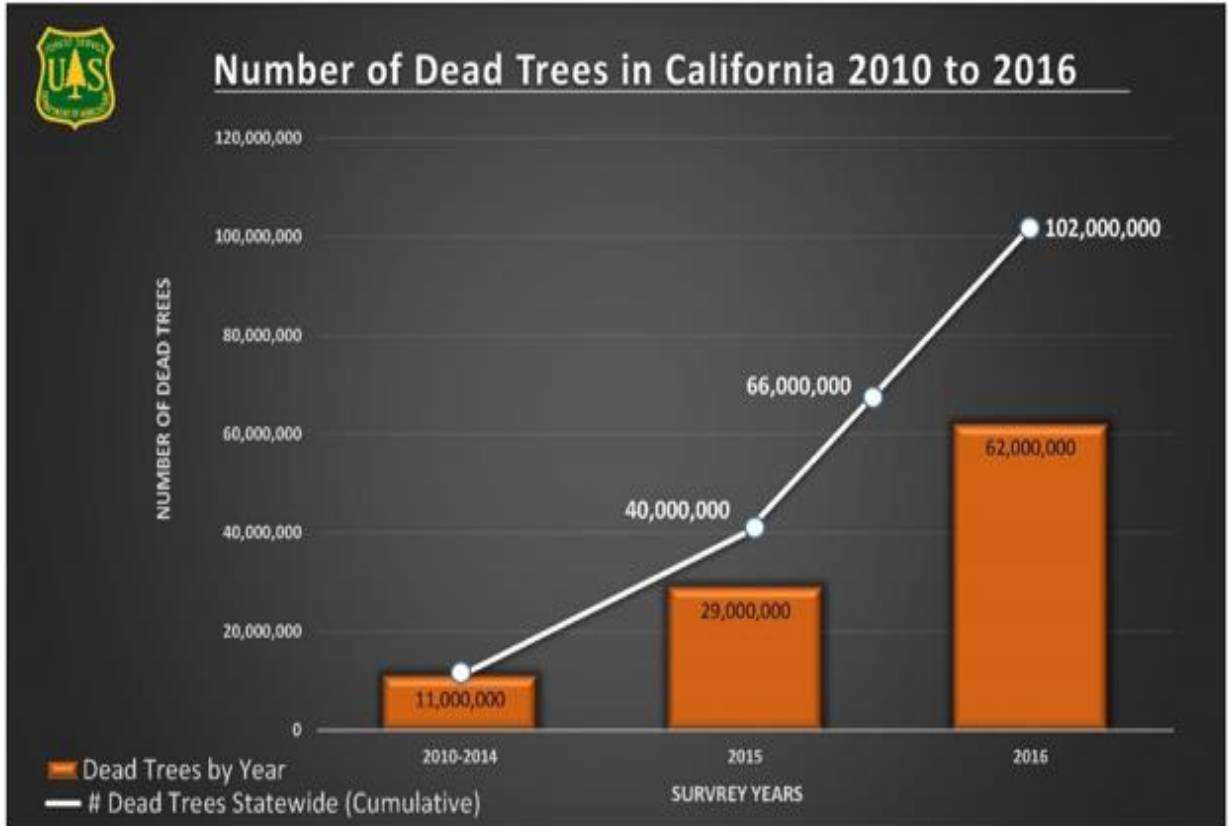
The combination of 5+ years of drought and the insect and disease epidemic has led to rapid deterioration of the insect and disease-killed trees. Experience to date has shown that once a tree dies, it only has usable lumber value for about 4 months. After 4 months, blue stain and wood borers have degraded the trees eliminating the ability to capture any significant lumber value that would generate revenue for site preparation and replanting.

It is difficult for the Forest Service to complete the statutory and regulatory processes in a timely manner. The process includes:

- Initiate and prepare a project on-the-ground;
- Complete wildlife, archaeology, and botany surveys;
- Perform a Categorical Exclusion;
- Where threatened and endangered species are present, prepare a biological assessment and evaluation, and obtain a biological opinion from U.S. Fish and Wildlife Service;
- Advertise a contract;
- Select a contractor, and have that contractor working on-the-ground.

It's nearly impossible for the Forest Service to complete the process in less than 4 months to be able to realize the lumber value in the dead trees. Without significant lumber value, there's not sufficient revenue to remove the dead trees and certainly not sufficient revenue to cover the cost of reforestation.

The insect and disease epidemic has been most pronounced over the past 2 years where the epidemic's expansion has been dramatic. The 2016-2017 winter that produced near 200 percent of normal precipitation will hopefully stop the expansion of the epidemic but there will still be continuing mortality.



Being unable to remove the dead trees from the National Forests quickly means that the primary value is chips for biomass powerplants. But this comes at a very high cost that is generally not economically feasible. The net cost is about \$2,000 per acre to remove, grind, and haul the dead trees in the form of chips to the nearest powerplant. Then, where needed, an additional \$1,500 per acre is needed to prepare the site and replant with tree seedlings. These would be costs experienced on productive forest land where the dead trees are not hazards to roads, utility lines, residences . . .

The highest priority has been and continues to be cutting down the insect and disease-killed trees that are hazards to roads, utility lines, residences, developed recreation sites, and other infrastructure. The cost to remove individual trees adjacent to infrastructure often requires a crane and can easily cost \$1,000 per tree. The costs of hazard tree removal around infrastructure are staggering.





(Crane Used To Remove Dead Trees In Segments To Avoid Damage To Adjacent Infrastructure)

## **V. Cumulative Impact of Wildfire and Insect and Disease**

Post wildfire or insect and disease restorative and reforestation activities require NEPA. In contrast, the State of California has an emergency exemption process for restorative activities following major disasters. Within a week following a wildfire, or insect and disease, a private landowner can be actively removing dead vegetation from his/her land. This, of course, means for trees greater than 10" in diameter that the lumber value can be realized and the net revenue will generally cover all the costs associated with removing the dead vegetation, site preparation and reforestation.

The cost of the statutory and regulatory burden of providing sustainable forestry on our National Forests cannot be overlooked.

## VI. Moving Towards Healthy Forests

We can proactively reduce the tree density of our remaining productive “live” forest to promote resistance to wildfire, insect and disease. For these National Forests, a dramatic increase of 2 to 2 ½ times in the pace of forest health and fuels reduction projects would be required.

The Forest Service Pacific Southwest Research Station and their scientists have been directly involved in experiments in variable tree density thinning and fuels reduction on the Stanislaus Experimental Forest east of Sonora, CA. This demonstrates we know how to move these National Forests to a resilient condition.



(Stanislaus Experimental Forest Variable Tree Density Thinning)

Forest health and fuels reduction activities are maintenance activities that should have minimal if any NEPA burden.

## VII. Summary

The 8.8 million acres of the National Forests' productive forest land available for active vegetation management are in trouble. Wildfire and the insect and disease epidemic disturbances in recent years have dominated the National Forest landscape in California.

Approximately 30 percent of the 8.8 million acres are no longer productive. About 583,000 acres are identified as in need of reforestation. Translated that means these lands were considered high-severity burn in a wildfire and are now predominately shrub lands.

The insect and disease epidemic so far has affected about 4.5 million acres of National Forest land in California. Scientists believe that the number, size and intensity of wildfires will increase in the coming decades. The near 200 percent of normal precipitation in the winter of 2016-2017 may curtail expansion of the insect and disease epidemic but there will still be continued localized mortality. About 2 million of the 4.5 million acres affected on the National Forests are up to 85 percent dead.

A rapid increase in pace of forest health and fuels reduction activities on the 6 million acres that have not yet experienced a recent major disaster is imperative. By moving the remaining 6 million acres rapidly to a resilient condition, scientists predict a dramatic reduction in risk of large, high severity wildfire and reduction in intensity of insect and disease mortality.

Serious consideration has to also be given to restoration and reforestation of:

- The 583,000 acres of productive forest lands that have been consumed by wildfire and are now unproductive;
- A percentage of the 2 million acres to date that have up to 85 percent mortality from insect and disease.

Unfortunately the cost of the above mentioned restorative and reforestation activities are staggering. To reforest the 583,000 acres identified as a need would cost around \$1.2 billion.

To cut, remove, chip and haul insect and disease-killed trees to a biomass powerplant is a net cost of about \$2,000 per acre plus the cost of \$1,500 per acre to reforest. If even restoring and reforesting 1/2 million acres of insect and disease-killed trees was the goal, the cost would be \$1.7 billion.

## **VIII. Conclusion**

Dramatic streamlining of processes and procedures are needed for forest health and fuels reduction projects to dramatically increase the pace. Otherwise, large, destructive wildfires and insect and disease will continue to dominate the National Forest landscape in California.

A rapid increase in pace of forest health and fuels reduction projects on the National Forests' productive forest land can move these lands to healthy forests, which can provide:

- A decreased risk of large wildfires and insect and disease;
- A decreased risk of soil erosion;
- Having abundant water in both quantity and quality;
- Safe forests to recreate in;
- An abundance of forest-related jobs in our rural communities.

Forest health and fuels reduction activities are "maintenance" activities. With the existing set of standards and guidelines and best management practices, maintenance activities should be able to move forward with minimal additional NEPA burden.

For post-major disaster restorative and reforestation activities, Congress needs to consider ways to recognize that these activities are part of the "emergency".

Thank you for this opportunity to address the Subcommittee.