

**EXPLORING SOLUTIONS TO REDUCE
RISKS OF CATASTROPHIC WILD-
FIRE AND IMPROVE RESILIENCY
OF NATIONAL FORESTS**

OVERSIGHT HEARING

BEFORE THE

SUBCOMMITTEE ON OVERSIGHT AND
INVESTIGATIONS

OF THE

COMMITTEE ON NATURAL RESOURCES

U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

Wednesday, September 27, 2017

Serial No. 115-23

Printed for the use of the Committee on Natural Resources



Available via the World Wide Web: <http://www.fdsys.gov>

or

Committee address: <http://naturalresources.house.gov>

U.S. GOVERNMENT PUBLISHING OFFICE

27-027 PDF

WASHINGTON : 2018

For sale by the Superintendent of Documents, U.S. Government Publishing Office
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**OVERSIGHT HEARING ON EXPLORING
SOLUTIONS TO REDUCE RISKS OF CATA-
STROPHIC WILDFIRE AND IMPROVE RESIL-
IENCY OF NATIONAL FORESTS**

**Wednesday, September 27, 2017
U.S. House of Representatives
Subcommittee on Oversight and Investigations
Committee on Natural Resources
Washington, DC**

The Subcommittee met, pursuant to call, at 3:01 p.m., in room 1334, Longworth House Office Building, Hon. Bruce Westerman [Chairman of the Subcommittee] presiding.

Present: Representatives Westerman, Labrador, Radewagen, Johnson, McEachin, and Clay.

Also Present: Representatives McClintock, Gosar, Gianforte, and Gomez.

Mr. WESTERMAN. The Subcommittee on Oversight and Investigations will come to order. The Subcommittee is meeting today to hear testimony on exploring solutions to reduce risks of catastrophic wildfire and improve resiliency of national forests.

I ask unanimous consent that the gentleman from California, Mr. McClintock, the gentleman from Arizona, Mr. Gosar, the gentleman from Montana, Mr. Gianforte, and the gentleman from California, Mr. Gomez, be allowed to sit with the Subcommittee and participate in the hearing.

Without objection, so ordered.

Under Committee Rule 4(f), any oral opening statements at hearings are limited to the Chairman, the Ranking Minority Member, and the Vice Chair. This will allow us to hear from our witnesses sooner and help Members keep to their schedules.

Therefore, I ask unanimous consent that all other Members' opening statements be made part of the hearing record if they are submitted to the Subcommittee Clerk by 5:00 p.m. today.

Without objection, so ordered.

STATEMENT OF THE HON. BRUCE WESTERMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ARKANSAS

Mr. WESTERMAN. Today, we will discuss one of the most serious threats currently facing our country—catastrophic wildfire. At a time when national attention is focused on the disastrous effects of multiple hurricanes, more than 8½ million acres of America has been ravaged by almost 49,000 fires this year.

Like the recent hurricanes, these fires have also destroyed homes, taken lives, threatened treasured sites, and cost our country billions of dollars. In fact, this will be the most expensive

year on record. Wildfire suppression costs already exceed \$2 billion for the U.S. Forest Service.

The Forest Service has reported that their firefighting activities already consumed \$300 million that they had to transfer from other accounts for fire suppression. It is estimated that the Agency will need to borrow up to a staggering \$600 million before the end of the fiscal year. Simply speaking, the Agency's mission of managing our national forests is threatened when firefighting consumes so much of its time and resources.

This problem will only intensify unless we act now. Fifty-eight million acres of our National Forest System are at a high risk of ecologically destructive wildland fire. According to the U.S. Department of Agriculture's Inspector General, hazardous fuels are estimated to be accumulating at three times the rate at which they can be treated.

It is clear that unsafe levels of hazardous fuels have accumulated in our Federal forests. Many are aware of the dire need of active management before more catastrophic fires strike and forest health continues to deteriorate. One Forest Service ecologist recently warned that forest fuels are at powder keg levels.

Without a change of course, forest fires will continue to destroy our valuable natural resources, devastate our communities, and overwhelm our Federal agencies.

Today's hearing will explore solutions to reduce the wildfire threat. We will discuss ways in which active management can boost forest health, and how the Forest Service can effectively partner with other stakeholders who share an interest in more resilient forest.

Fuels reduction activities, such as thinning, offer multiple benefits to both our national forests and surrounding communities. These treatments have proven effective at reducing excess trees and vegetation and, therefore, minimizing fires that reach disastrous proportions.

There is also an economic benefit to thinning. Forest products removed during these projects can generate revenue through commercial timber sales, which can offset the cost of other forest management activities and boost local economies.

As wildfire suppression costs over-run the Forest Service's budget, thinning provides an economically feasible solution to our wildfire crisis and forest management challenges.

Thinning can also increase the biodiversity of forests. For example, thinning and controlled burning projects contributed to successful breeding for red-cockaded woodpeckers in the southern United States. Thinning can also increase available surface water, thereby benefiting salmon habitats, reservoirs, and agriculture.

It is imperative that we identify and remove barriers to implementing critical risk reduction projects, actions that my bill, H.R. 2936, also known as the Resilient Federal Forests Act of 2017, seeks to address.

Last, it is important to acknowledge the need for the Forest Service to engage other stakeholders in combating our wildfire problem. Today, we will also examine ways to improve cooperation between the Forest Service and other partners to promote more efficient and effective forest management. The Forest Service has

several tools at its disposal to facilitate thinning and fuels reduction activities with the help of partners such as counties, states, tribes, and the private sector. These partnerships should be more widely leveraged to protect the safety and promote the prosperity of all stakeholders.

There is simply no excuse for allowing millions of Americans to remain in harm's way as our forests become more overgrown and the destructive impacts of catastrophic fire continue to spread. Irreplaceable natural resources and human lives are at stake, and we must focus on immediate solutions that are available.

I thank our witnesses for their attendance today as we work together to promote forest health and protect our citizens from the growing wildfire threat. I look forward to your testimony.

[The prepared statement of Mr. Westerman follows:]

PREPARED STATEMENT OF THE HON. BRUCE WESTERMAN, CHAIRMAN,
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

Today, we will discuss one of the most serious threats currently facing our country—catastrophic wildfire. At a time when national attention has focused on the disastrous effects of multiple hurricanes, more than 8½ million acres of America has been ravaged by almost 49,000 fires this year.

Like the recent hurricanes, these fires have also destroyed homes, taken lives, threatened treasured sites, and cost our country billions of dollars. In fact, this will be the most expensive year on record. Wildfire suppression costs already exceed \$2 billion for the U.S. Forest Service.

The Forest Service has reported that their firefighting activities already consumed \$300 million that they had to transfer from other accounts for fire suppression. It is estimated that the agency will need to borrow up to a staggering \$600 million before the end of the fiscal year. Simply speaking, the agency's mission of managing our national forests is threatened when fighting fires consumes so much of its time and resources.

This problem will only intensify unless we act now. Fifty-eight million acres of our national forest system are at a high risk of ecologically destructive wildland fire. According to the U.S. Department of Agriculture's Inspector General, hazardous fuels are estimated to be accumulating at three times the rate at which they can be treated. It is clear that unsafe levels of hazardous fuels have accumulated in our Federal forests. Many are aware of the dire need of active management before more catastrophic fires strike, and forest health continues to deteriorate. One Forest Service ecologist recently warned that forest fuels are at "powder keg levels."

Without a change of course, forest fires will continue to destroy our valuable natural resources, devastate our communities, and overwhelm our Federal agencies.

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Fuels reduction activities such as thinning offer multiple benefits to both our national forests and surrounding communities. These treatments have proven effective at reducing excess trees and vegetation and therefore, minimize fires reaching disastrous proportions.

There is also an economic benefit to thinning. Forest products removed during these projects can generate revenue through commercial timber sales which can offset the costs of other forest management activities and boost local economies. As wildfire suppression costs over-run the Forest Service's budget, thinning provides an economically feasible solution to our wildfire crisis and forest management challenges.

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There is simply no excuse for allowing millions of Americans to remain in harm's way as our forests become more overgrown and the destructive impacts of catastrophic fire continue to spread. Irreplaceable natural resources and human lives are at stake, and we must focus on the immediate solutions available.

I thank our witnesses for their attendance today as we work together to promote forest health and protect our citizens from the growing wildfire threat. I look forward to your testimony, and I now recognize the Ranking Member of the Subcommittee, Mr. McEachin of Virginia, for 5 minutes.

Mr. WESTERMAN. I now recognize the Ranking Member of the Subcommittee, Mr. McEachin of Virginia, for 5 minutes.

STATEMENT OF THE HON. A. DONALD MCEACHIN, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF VIRGINIA

Mr. MCEACHIN. Thank you, Mr. Chairman.

And I want to thank each of our witnesses for taking the time to be here today.

Before we get into the substance of today's hearing, I would like to express my support for our fellow Americans in the U.S. Virgin Islands and Puerto Rico after incurring severe hurricane damage. I have talked with many of my colleagues, watched the devastation on TV, and read reports that all indicate the need for major and immediate assistance.

As the committee of jurisdiction over the territories, we have a responsibility to hasten their recovery. It is imperative that we work across the aisle to make that happen.

Now, I would like to discuss the topic at hand. This hearing is more of the same. It is the same topic. This is the fourth hearing on wildfires and forest management in the past 5 months, and the eighth in the past two Congresses.

It is the same people. Two of the Majority's witnesses have already testified on this topic. One of them has been kind enough to testify four times in recent years. I think recycling is a good idea, but not like this.

Here is the kicker—during all this time we used to discuss the problem, the Majority simply refuses to talk about the primary driver of forest fires: climate change.

According to a *National Academies of Science* report, more than half of the increase in area burned by wildfire in the western United States can be attributed to climate change.

Since the 1970s, the average annual temperature in the western states has increased by 2 degrees. The fire season has increased by over 2 months. Snow packs are now melting 2 to 4 weeks earlier in the West. Drought has gripped large portions of the West making conditions drier.

We were warned a long time ago. The Intergovernmental Panel on Climate Change predicted that wildfires would increase in

frequency and intensity as the atmosphere warmed. Another major factor affecting wildfire risks is the growth of American homes and communities into areas adjacent to forests, known as the wildland urban interface.

Since 1990, over 60 percent of U.S. homes were built in these areas. As our communities grow into these areas, the risk and expense of fighting fires grows. This Committee should be spending its time trying to reduce the effects of climate change, and preparing for the atmospheric warming that is already in the pipeline.

Instead, the answers we hear are to weaken our bedrock environmental protections, deny our citizens the right to hold the government accountable when it fails to obey the law, give the timber industry more unfettered access to public lands, and let the states, instead of the Federal Government, handle fires.

On the latter point, a new report from the Center for Western Priorities shows that fire risk is the same on state and Federal lands overall. In fact, some states have a higher risk.

The idea that citizen-driven accountability for government is causing wildfires has been thoroughly debunked by this Committee, including, most recently, in this very Subcommittee.

Unrestricted commercial logging will not curb carbon pollution or make our communities safe. We cannot log our way to wildfire control. Catastrophic forest fires can pose a dangerous threat to the safety of our people and infrastructure across the country.

It is time to get serious about addressing them. It is time to talk about climate change. I yield back.

[The prepared statement of Mr. McEachin follows:]

PREPARED STATEMENT OF THE HON. A. DONALD MCEACHIN, RANKING MEMBER,
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

Thank you, Mr. Chairman. Thank you to each of our witnesses for taking the time to be here today.

Before we get into the substance of today's hearing, I would like to express my support for our fellow Americans in the U.S. Virgin Islands and Puerto Rico after incurring severe hurricane damage. I have talked with my colleagues, watched the devastation on TV, and read reports that all indicate the need for major and immediate assistance.

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It is time to get serious about addressing them. It is time to talk about climate change. I yield back.

Mr. WESTERMAN. The gentleman yields back. I appreciate the Ranking Member pointing out the importance and the emphasis that has been put on wildfires, not only in this Committee, but also I think the Senate had a hearing this morning. And I believe the Energy and Commerce Committee has a hearing scheduled on it. It is a major problem facing our country, and I am glad that we are continuing to focus on that, and that we have such a fine panel of witnesses with us today.

I will now introduce our witnesses: Mr. Philip Rigdon is the president of the Intertribal Timber Council of the Yakama Nation. Glad to have you with us today, Mr. Rigdon.

And I am going to yield 30 seconds to the gentleman from Montana for a brief introduction of our witness from Montana.

Mr. GIANFORTE. Great. Thank you, Mr. Chairman, Ranking Member, and members of the Committee. I am pleased to introduce Commissioner Greg Chilcott. Commissioner Chilcott has been a member of the Ravalli County Montana Board of Commissioners since 2003.

Prior to his election as a County Commissioner, he held positions in both the public and private sector. He has deep roots in Montana in the Stevensville area that date back to the 1860s.

In addition to his service in Ravalli County, he currently serves as the Chairman of the Montana Coalition of Forest Counties and the Chairman of the Montana Association of Public Lands Committee.

I have known Commissioner Chilcott for a number of years. I have visited forest fires with him, and I can attest personally to his expertise in this area. I want to thank him for his testimony today.

Mr. WESTERMAN. Thank you.

Dr. Dominick DellaSala is the chief scientist for the Geos Institute; and Mr. Lawson Fite is the general counsel for the American Forest Resource Council.

Let me remind the witnesses that under our Committee Rules, they must limit their oral statements to 5 minutes, but their entire written statement will appear in the hearing record.

Our microphones are not automatic. You will need to press the “on” button when you begin your testimony. When you begin, the timer light will be green for 4 minutes. Then the yellow light will come on reminding you that you have 1 minute. Your time will have expired when the red light comes on, and I will ask you to please complete your statement.

I will also allow the entire panel to testify before questioning the witnesses.

The Chair now recognizes Mr. Rigdon for his testimony.

**STATEMENT OF PHILIP RIGDON, PRESIDENT, INTERTRIBAL
TIMBER COUNCIL, YAKAMA NATION, TOPPENISH,
WASHINGTON**

Mr. RIGDON. Thank you, Mr. Chairman and members of the Committee.

The Intertribal Timber Council represents more than 60 tribes and organizations across the country. My testimony can be summarized in one sentence: Indian forests are able to prepare for and respond to fires better than other Federal lands, at a fraction of the cost.

Of 334 reservations in 36 states, the United States holds 18.6 million acres of forests and woodlands in trust for the benefit of tribes. We manage these lands holistically, sustaining a triple bottom line approach—ecological, economic, and cultural.

We care for these lands through active management and aggressively treating problems such as wildfire and disease before they can reach disastrous proportions. Indian tribes are neighbors to Federal forests. Many tribes retain and exercise treaty rights and reserved rights on these lands to hunt and fish, and gather foods and medicines. Unhealthy forests impact these activities on Federal lands, as well as on our own lands.

Our national forests are being lost by the failure to undertake active management. Tribes can offer Federal forest managers new tools and holistic approaches badly needed to restore these forests’ health.

First, tribes are able to accomplish more in their forests with far less funding than other Federal land managers. On a per-acre basis, tribes receive about one-third of the funding as compared to the Forest Service.

Using my own reservation as an example, the Yakama Nation is funded for fire preparedness at \$0.57 per acre, while the adjacent Gifford Pinchot National Forest is funded at \$1.18 per acre; the Mount Hood National Forest is \$2.11 an acre; and the Columbia Gorge National Scenic Area, which just experienced a big fire right now, is \$2.83 per acre, nearly five times what the Yakama receive on the reservation. This is not a sustainable approach, and I thank the House of Representatives for steadily increasing funding for BIA forestry.

Even with inadequate funding, tribes are more agile than other Federal managers to prepare our force for fire and recover after fire. Let’s start with the before wildfire. Tribes are effective in responding to bugs, disease, and overstocking. I would like to show you exactly what this looks like.

On the Yakama Reservation, we experienced a budworm infestation that also affected Forest Service land. The Tribe was more aggressive than the Forest Service in responding using timber sales to treat 20,000 acres of the budworm infestation a year. We also used a biological control agent on another 97,000 acres to control mortality.

Here you can see some of the treatments implemented on our land. The next slide shows what it looks like after that treatment.

On the next slide that we have, here is an example showing the difference between tribal and Forest Service treatments. On the left is the Mescalero Apache Tribe in New Mexico.

The next slide here is a view of tribal fuel breaks to protect Mescalero Forest from neighboring Forest Service fire threats.

And the next slide is a closer look at tribal treatments next to Forest Service lands.

And the final slide is an aerial view of that same area. As you can see, tribes are on the ground doing the work, protecting their lands from fire. We need more of this type of activity across the landscape.

Tribes also respond to fire more effectively. The average size of a fire on a BIA-managed land is one-third the size of fires on the Forest Service land. On a per-acre basis, suppression costs on BIA and BLM lands are one-fifth the cost of fires in the Forest Service lands.

After a fire, tribes are able to respond much quicker than other Federal agencies to recover value from the logs and recover the land. Tribes generally begin the NEPA process while the fire is still burning so that we are ready to recover salvageable logs quickly and before they deteriorate.

We have logs in the mill before other agencies have the drafted NEPA documents completed. We should apply tribal traditional knowledge and modern forestry to other Federal lands. The ITC supports the Resilient Federal Forestry Act that is sponsored by Chairman Westerman. The legislation would give other Federal land managers new tools to work with tribes and accomplish more to reduce the threat to wildfire.

Thank you for inviting me to appear today and for including tribes as a part of this solution.

[The prepared statement of Mr. Rigdon follows:]

PREPARED STATEMENT OF PHIL RIGDON, PRESIDENT, INTERTRIBAL TIMBER COUNCIL,
YAKAMA NATION

I am Phil Rigdon, President of the Intertribal Timber Council (ITC) and Natural Resource Deputy Director for the Yakama Nation in south-central Washington State. On the behalf of the ITC and its more than 60 member tribes and organizations, I appreciate the opportunity to discuss how tribes are actively managing Federal forests to reduce the risks of wildfire.

My testimony can be summarized in one sentence: **Indian forests are able to prepare for and respond to fires better than other Federal lands, and at a fraction of the cost.**

On a total of 334 reservations in 36 states, 18.6 million acres of forests and woodlands are held in trust by the United States and managed for the benefit of Indians. Pursuant to both tribal direction and Federal law, our forests must be sustainably managed. Indian tribes work in partnership with the Bureau of Indian Affairs and others to care for the land. We operate modern, innovative and comprehensive natural resource programs premised on connectedness among the land, resources, and people. Our approach is holistic—sustaining a “triple bottom line” of economic,

ecological, and cultural values. We care for the land through active management and do our utmost to aggressively treat problems such as wildfires and insect or disease infestations before they can reach disastrous proportions.

Indian tribes are neighbors to Federal forests and many tribes retain and exercise treaty and reserved rights on these lands to hunt and fish, gather foods and medicines and for other purposes. Unhealthy forests impact these activities on Federal lands, as well as on our own land.

Our national forests are being lost by the failure to undertake active management. Tribes can offer Federal forest managers new tools and a holistic approach badly needed to restore forest health.

Unlike Forest Service and BLM forests, Indian forests and their management are reviewed by an independent scientific panel every 10 years. In 2013, the Indian Forest Management Assessment Team (IFMAT) released its third report to Congress since 1993. On one hand, the IFMAT report shows that tribes are suffering from chronic underfunding and challenges created by the loss of leadership and staffing. On the other, it also shows significant progress being made on tribal forests.

Funding

One of the key findings of the IFMAT report is that tribes are able to accomplish more in their forests with far less funding than other Federal land managers. On a per acre basis, tribes receive about one-third the funding for forest and wildfire management as the Forest Service.

Using my own reservation as an example, the Yakama Nation is funded for fire preparedness at \$0.57 per acre per year while the adjacent Gifford Pinchot National Forest is funded at \$1.18 per acre per year; and the Mount Hood National Forest at \$2.11; the Columbia Gorge National Scenic Area at \$2.83—nearly five times what we receive at Yakama.

Unfortunately, the effect of underfunding has very real results. Again using the Yakama Nation as an example, we typically have 55 BIA forestry positions to help manage our forest. Currently 33 of those are vacant because of an insufficient pool of available manpower, BIA slowness and budget shortfalls. The tribe has diverted funds from other tribal functions to help mitigate that loss, but cannot do so in the long term without a decline in either our tribal services or production from our forest.

While Indian forests operate on a shoestring budget, that shoestring is about to break. The ITC continues to work with the Administration and Congress to increase funding for tribal forest management.

Wildfire and Recovery

Tribes are better able to use scarce resources to prepare our forests for fire, recover after fire and ensure the continuity of forest resources for generations to come.

First, tribes understand that a “let it burn” approach is not always acceptable given the forest health conditions found across our Nation’s landscape. Instead we are effectively responding to and reversing unnatural conditions in the forest. One such example is the response to budworm infestation on the Yakama Reservation. Timber sales were prioritized as a tool to treat areas that were most severely affected by the budworm. Between 1999 and 2003, silvicultural treatments were implemented on approximately 20,000 acres of budworm habitat per year; 97,000 acres were treated with a biological control agent between 1999 and 2001 to control tree mortality.

The epidemic peaked in 2000 when the budworm defoliated trees on 206,000 acres. As a result of the Yakama Nation’s silvicultural treatments, defoliation decreased dramatically. In 2002, only 1,207 acres were defoliated—a reduction of over 99 percent. Significant economic value was recovered from dead and dying trees, and forest density has been reduced, promoting forest health and resiliency. While such forest health treatments are common on tribal lands, it would be a challenge to find similar speed, scope and effectiveness on other Federal forests.

In addition to restoring forest resilience, tribes also respond to fires more effectively. While the comparison is not completely equivalent, the average size of a fire on BIA-managed lands is one-third the size of fires on Forest Service land. On a per-acre basis, suppression costs on BIA and BLM lands are one-fifth the cost of fires on Forest Service lands.

After fires, tribes are able to respond much quicker than other Federal agencies to recover economic value and rehabilitate landscapes. However, salvage can come at a devastating financial and ecological cost. The 2015 fire season burned 338,110 forest acres on the Colville, Yakama, Nez Perce, Spokane and Warm Springs Reservations, damaging 1.2 billion board feet of tribal trust timber. Of this area,

126,393 acres of high and moderate severity burns required reforestation, salvage activities, road restoration and maintenance, fence repairs, resources for lost fish and wildlife, and risk for non-native invasive species and noxious weeds.

The cost of fire suppression on these 2015 fires exceeded \$97 million. Rehabilitation costs are generally equal to the suppression cost, but can be as much as three times higher. The Department of the Interior has estimated that the cost of rehabilitation for the five subject reservations at \$55 million. Only a fraction of the rehabilitation costs was made available.

Tribal interests in healthy landscapes goes beyond reservation boundaries. Many tribes maintain off-reservation treaty rights on ceded lands that now are National Forests. Catastrophic wildfire on these forests directly and negatively impact tribes. Many of these fires burn into tribal forests. Even with effective treatments to our own lands, severe wildfires from adjacent Federal lands inflict significant damage and economic costs to tribal forests.

Ecological Conditions

Tribal forests must meet—and often exceed—the same goals as other Federal lands—all subject to NEPA, ESA and other Federal regulations. But tribes are able to manage our lands in harmony, because we live with the consequences of our actions. Our ancestors have cared for this Nation for thousands of years and will for generations to come. We must meet the “triple bottom line.” If forests are overcut or devastated by wildfire, we lose revenue and jobs, a myriad of ecological benefits we rely upon from our forests, and the traditional and cultural sustenance our forests have provided since time immemorial. The active management tribes employ to realize the “triple bottom line” is facilitated by three elements:

- The fact that our forests held in Federal trust are for the use and benefit of our tribes and their members and, within the scope of the trust, are subject to the direction of our tribal governments,
- The Federal law guiding BIA and tribal management of these trust forests, the National Indian Forest Resource Management Act of 1990 (P.L. 101–630, Title III), is the most recent and most flexible Federal forest management statute, and,
- The Indian Self-Determination Act (P.L. 93–638) has enabled tribes to assume direct and comprehensive management of our forests.

While IFMAT certainly identifies possible improvements for tribal forest management, our existing successes offer empirical examples that can and should be replicated across landscape ownerships, including National Forest System lands.

Recommendations

The ITC supports the “Resilient Federal Forests Act” (H.R. 2936), sponsored by the Chairman of this Subcommittee, Representative Westerman. In particular, we believe that the tribal provisions of that bill would give other Federal land managers new tools to work with tribes and accomplish more to reduce the threat of wildfire.

Section 701 of H.R. 2936 improves the Tribal Forest Protection Act (TFPA). The TFPA, authorized by Congress 13 years ago, authorized the Forest Service and BLM to enter into agreements or contracts with tribes to address risks and threats originating on nearby Forest Service and BLM administered lands. Although well-intentioned in Washington, DC, the TFPA has not met expectations on the ground. Since 2004, only a handful of TFPA projects have been effectively implemented on Forest Service lands. One project proposed by the Tule River Tribe took over 10 years to navigate the Forest Service’s environmental review process.

Congressman Westerman’s bill would improve the TFPA by providing timelines for review, approval and implementation of projects on Federal land. The bill would also allow tribes to “638” contract the development and implementation of these projects, much in the way that states use Good Neighbor Authority.

Section 702 would give the Forest Service and BLM a new ability to have tribes carry out forest restoration projects in their traditional homelands. Improvement of forest health and ecological functions are vital to maintain watersheds and fish and wildlife habitat on lands that may be subject to federally reserved tribal rights. Acting through the Bureau of Indian Affairs, tribes would be able to restore lands using the Federal regulatory structure used on Indian trust lands. As the Committee has noted on several occasions, tribal forest management is able to achieve greater results faster and at lower costs than on Federal land. This provision would help bring that successful management approach to Federal lands sorely in need of restoration.

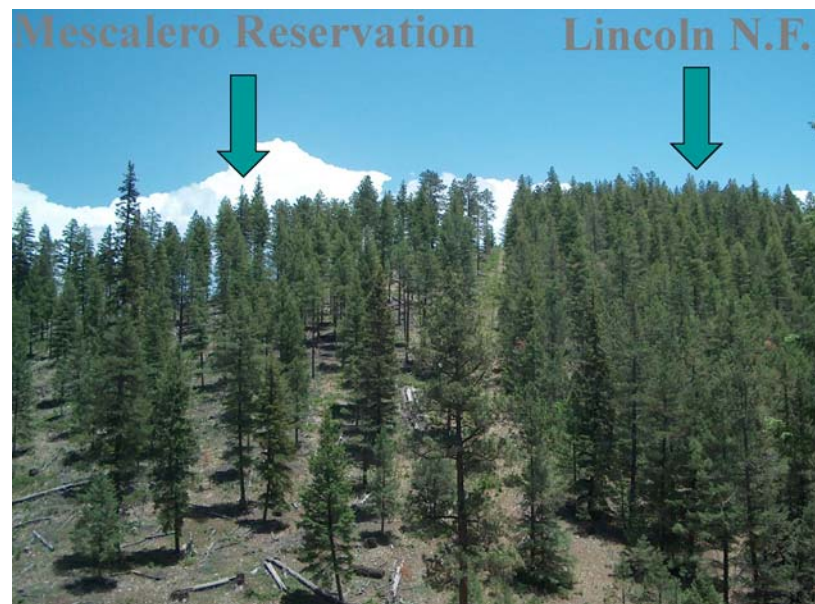
Summary

We believe the Nation would benefit by looking to Indian forestry as models of sustainability. We can help move the country forward to create a healthier, sustainable future for our forests and natural resources. We invite this Committee to come visit Indian forests for a firsthand look.

ATTACHMENTS

Yakama Nation- Before Silvicultural
Treatment



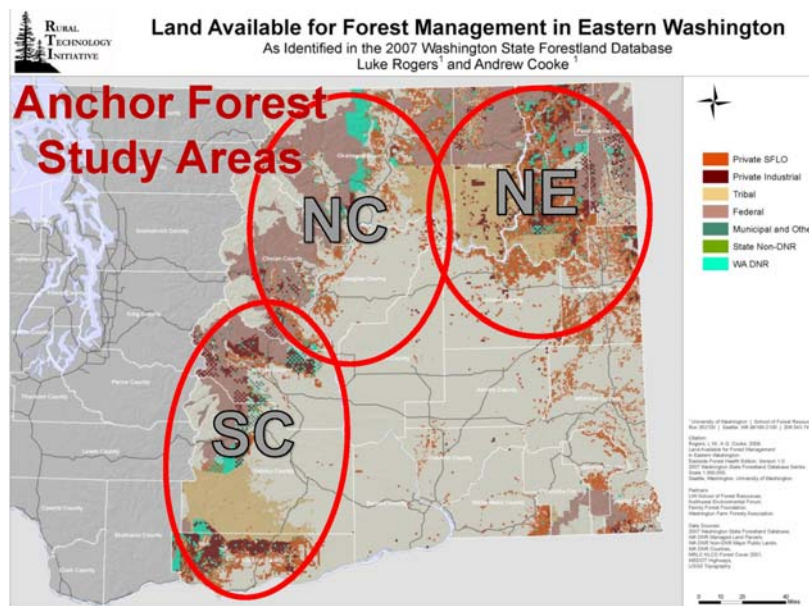
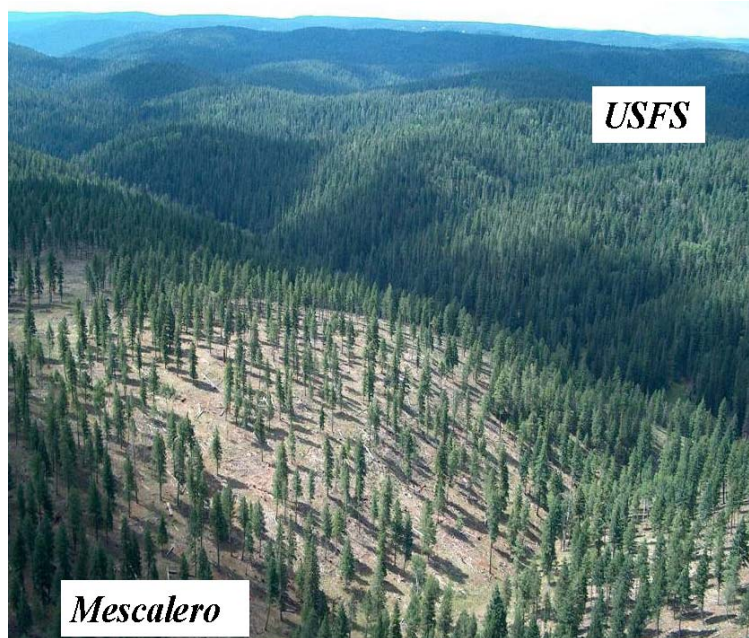


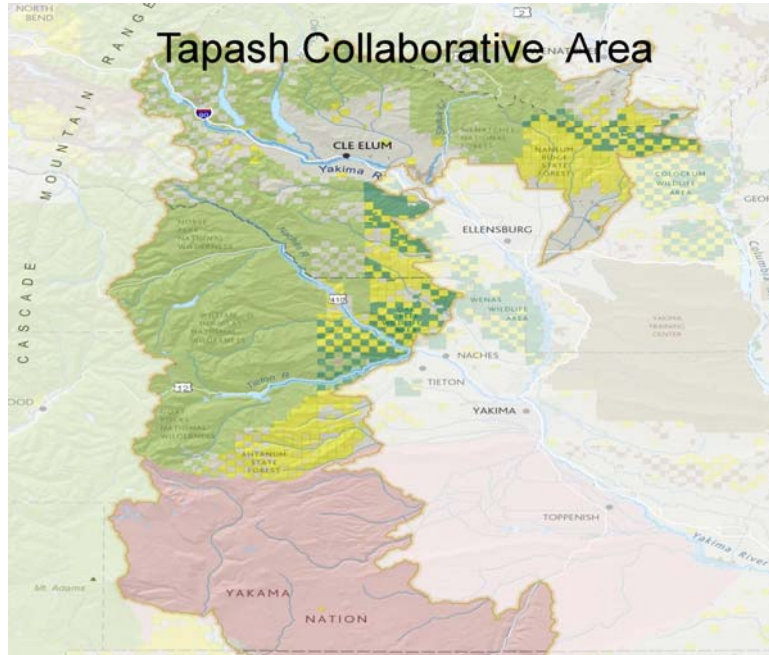
**Reservation Boundary
Skyline Fuel Break
Mescalero -- USFS**



USFS

Mescalero





Mr. WESTERMAN. Thank you for your testimony.
The Chair now recognizes Mr. Chilcott to testify for 5 minutes.

**STATEMENT OF THE HONORABLE GREG CHILCOTT,
COMMISSIONER, RAVALLI COUNTY, MONTANA**

Mr. CHILCOTT. Thank you, Congressman Gianforte, for your kind introduction.

And thank you, Chairman Westerman, Ranking Member McEachin, and Committee members for taking and holding this timely hearing as catastrophic wildfires continue to devastate forests and communities across this Nation.

My name is Greg Chilcott, and I have served on the Ravalli County Board of Commissioners since 2003. Ravalli County has a population of about 41,000 citizens and is located in western Montana, bordering Idaho. The Bitterroot National Forest, including its three wilderness areas, is predominantly located within my county.

I care deeply about my county, and I want to see it thrive and survive, but wildfires severely limit that opportunity. This year, over 1 million acres burned across the state of Montana at an outrageous cost of \$284 million. Tragically, two brave firefighters lost their lives combating fires in western Montana this season.

In July, the Meyers fire was started by a lightning strike and merged with the Whetstone fire, burning through portions of both the Beaverhead-Deer Lodge and the Bitterroot National Forest, scorching over 62,000 acres.

Since then, the Lolo Peak fire has burned nearly 54,000 acres in the Bitterroot Valley. It has devastated our landscape, destroyed wildfire habitat, emitted dense smoke, and jeopardized the health and safety of our citizens.

Our late summer air quality is commonly in the unhealthy or hazardous range. Active forest management will help us achieve the healthy forests that are essential to clean air and clean water. By improving forest health and reducing the dead and dying timber, we can re-establish a thriving ecosystem that improves the economy and the environment.

Local, state, and national economies all enjoy the benefits of responsible resource use and recreation. Nobody loses when our forests are healthy and resilient. Today, as you examine Federal policies to help address catastrophic wildfires, I would like to offer a few recommendations for your consideration.

First, we need Federal policy that promotes a local collaborative consensus-driven decision-making process. Counties know that forests can be actively managed in a sustainable manner ensuring the health of our Federal lands and our local communities.

Second, NEPA must be reformed. The time frame and process for forest management projects should be streamlined and inclusive of local government. It often takes years to get through a NEPA analysis. At some point, we choose either to maintain healthy forests, or risk catastrophic wildfires like those we are currently seeing.

Third, we must address the chronic litigation that is hindering our resource management professionals, and remove the financial incentives to litigate projects. The legal system is being abused by its special interest groups that sue to stop any sort of management project.

These suits can stop a project even if they are unsuccessful. And instead of managing resources, many agencies are managing paperwork and litigation. Congress can help by reforming the Equal Access to Justice Act, to ensure litigants are not able to exploit the law or avoid caps on attorneys' fees.

And finally, we need more stewardship contracting to improve forest health and reduce wildfire risk. Stewardship contracting demonstrates that a market-driven approach to forest management projects can achieve land management goals and increase production, county support, and our active partners in stewardship contracting initiatives.

Forest revenue sharing payments support critical county services such as transportation, infrastructure, and education. With the uncertainty surrounding the future of PILT and SRS, strengthening our forest revenue-sharing payments with counties, including stewardship contracts, is essential for promoting forest health and supporting services our citizens depend upon.

In closing, while the causes of catastrophic wildfire are complex, maintaining the status quo has exacerbated the present forest condition which presents a great risk to both our communities and the environment.

In the entire 20th century, fires in my county burned approximately 300,000 acres. However, in only the first 15 years of this century, almost 900,000 acres were lost to fire. Our once vibrant

timber economy has been left in shambles, our infrastructure decimated, and our scenic beauty scarred for decades to come. These trends will continue unless Congress acts.

We can manage our forests in a sound, scientific manner that benefits our economy and the environment. We urge you to craft viable legislation that can be enacted as soon as possible to help address the threat of wildfire.

Thank you for inviting me.

[The prepared statement of Mr. Chilcott follows:]

PREPARED STATEMENT OF THE HON. GREG CHILCOTT, COMMISSIONER,
RAVALLI COUNTY, MONTANA

Chairman Westerman and Ranking Member McEachin, thank you for holding this hearing to explore solutions to reduce the risk of catastrophic wildfire and improve the resiliency of our national forests.

My name is Greg Chilcott, and I have been a member of the Ravalli County, Montana Board of Commissioners since 2003. I am a past president of the Montana Association of Counties, and currently serve as the Chairman of the Montana Coalition of Forest Counties and the Vice Chairman of the National Association of Counties' Public Lands Steering Committee. My family roots in Ravalli County date back to the 1860s. Three of my grandchildren currently attend school in Ravalli County. I care deeply about my community, and want to see it thrive with greater access to recreation on public lands, safe and healthy forests, clean and healthy air, and clean water supplies. Unfortunately, as we have seen this year, the threat of wildfires in the West is a ticking time bomb that will negatively affect the economy and environment of places like Ravalli County.

Counties believe that active forest management will reduce the threat of wildfire to our citizens and local communities in the West. By reducing the fuel loads on our national forests we can re-establish a healthy, thriving ecosystem that improves the economy and the environment. Healthy forests are essential to clean water supplies and clean air. Biodiversity increases when we manage our forests with practical, sound, and scientific practices. Local, state and national economies enjoy the benefits of both responsible resource use and recreation. Nobody loses when our forests are healthy and resilient.

We can achieve these goals by increasing commercial timber harvests from our national forests, reducing fuel loads through more mechanical thinning and controlled burns, reducing the red tape to get through the National Environmental Policy Act (NEPA) process, and combating frivolous special interest lawsuits that serve only to delay much needed management of our National Forest System. Counties urge Members of Congress to reach across the aisle, and find common ground to reduce the threat catastrophic wildfire to our communities and environment.

About Ravalli County, Montana

Ravalli County is located in western Montana, bordering Idaho. Ravalli County is a rural county with a population of approximately 41,000, of which 3.9 percent are unemployed. Our poverty rate is higher than the state average at 16.8 percent, while the median income is nearly \$8,000 per year lower than the median income statewide. The county makes up approximately 2,400 square miles, and contains the majority of the Bitterroot National Forest. The Bitterroot National Forest is home to three large wilderness areas: the Anaconda Pintler Wilderness, Selway Bitterroot Wilderness, and the Frank Church River of No Return Wilderness, which is the second largest wilderness area within the National Wilderness Preservation System.

Ravalli County's government operates under the economic constraint that nearly 75 percent of the land within our jurisdictional boundaries is exempt from local taxation because it is under Federal management. We are caught in limbo when it comes to financing essential county government services because the Payments In Lieu of Taxes (PILT) program is subject to the annual discretionary appropriations process. Additionally, the Secure Rural Schools program has not been reauthorized for the past 2 years, leaving counties shortchanged while we try to provide important emergency services, like search and rescue operations, to visitors to our Nation's public lands. We respectfully request that Congress act on both of these vital programs to ensure continuity in county budgets in the long term.

Ravalli County is not only required to provide a broad range of local government services with a limited tax base, we must also deal with the complications presented

by the land management decisions made by Federal land management agencies. While we work closely with the U.S. Forest Service (USFS) to better manage the resources under their control, we are severely constrained in our ability to influence outcomes.

Ravalli County understands the need to protect our natural resources. Public lands recreation and tourism contributes to our service economy. However, tourism alone will not provide us with the diverse economy that is necessary for the long term.

Fire Threat and Impacts on Public Health and the Economy

The landscape-scale catastrophic wildfires in the national forests in Montana and other western states have had a disproportionately large impact on the ecological, social and economic life of the County and our neighbors. Fire seasons last an average of 78 days longer compared to 40 years ago. As the USFS wrote in its 2015 fire budget report, "The agency is at a tipping point." Every year, wildfire suppression eats up a greater share of the USFS budget. This, coupled with the approximately \$350 million a year the USFS spends complying with Federal law, ultimately reduces funding for other forest management priorities.

In 1995, 16 percent of the USFS's annual budget went to fire suppression. Today, that number is well north of 50 percent, and by 2025 will likely amount to two-thirds of their annual budget. Nature and poor policy decisions have forced the agency to change its focus. In the past, the USFS spent the bulk of its dollars on forest management, such as commercial timber harvests and mechanical thinning, whereas today, suppression has become its major priority. Today, more staff is devoted to fighting fires than managing the forests.

One major driver of this change in the USFS is abuse of the legal system by special interest groups who sue to stop any sort of management project on public lands. Litigation can halt a forest management project, even if the lawsuit is not successful. Agency employees must know not only the laws and regulations themselves, but must also understand past judicial precedent that governs the implementation of these laws and regulations. This nightmare of red tape and regulation forces agencies to create long "bullet proof" NEPA analyses that can still be held up by frivolous litigation. Rather than managing resources, the agency is forced to manage paperwork and litigation. This contributes to the unsustainable growth in fuel loads, leading to the explosion in catastrophic fires over the past few decades.

Furthermore, the USFS has to pull money from management accounts to help combat catastrophic fires, a process known as fire borrowing. This further delays much needed timber harvests, mechanical thinning, and controlled burns, leaving the USFS with fewer resources to meet its management objectives. Solving the problem of fire borrowing must also be a component of any action taken by Congress to improve forest resiliency.

Data indicates that in the last century (from 1900–1999), fires directly impacting Ravalli County, Montana totaled approximately 295,340 acres in comparison to the first 15 years of this century (2000–2015) when we catastrophically burned 897,208 acres. Our once vibrant timber economy has been left in shambles, its infrastructure decimated and our scenic beauty scarred for decades to come. Our citizens live with severely diminished air quality for weeks or months at a time. Both our human and wildlife habitat have been, and will continue to be, negatively impacted unless Congress acts to address the problem.

This year, 8.5 million acres have burned nationwide, costing \$2.5 billion to suppress. Over 1 million acres burned in the state of Montana alone, with a cost of \$284 million to fight these fires. The vast majority of the acres burned were caused by lightning strikes. Tragically, two firefighters lost their lives in western Montana this fire season.

On July 14, the Meyers fire was started by a lightning strike, and merged with the Whetstone fire, burning through portions of both the Beaverhead-Deer Lodge and the Bitterroot National Forests in Ravalli, Granite, Beaverhead, and Deer Lodge Counties. The fire is currently 90 percent contained after scorching 62,000 acres of Federal and private lands.

On July 15, the Lolo Peak fire was ignited by a lightning strike. Now 90 percent contained, the fire burned nearly 54,000 acres of land, primarily within the Bitterroot National Forest. This fire has devastated the landscape—destroying wildlife habitat, emitting smoke into the air, and jeopardizing the safety of residents.

Included with this testimony is a set of photographs from properties adjacent to the Lolo Peak fire. The photographs are an example of how an actively managed forest can stop a catastrophic fire in its tracks. The fire spread to these properties, one parcel owned by a private citizen and another owned by the state of Montana,

where it burned out quickly without destroying the strong, healthy trees or spreading to the nearby community of Florence. These properties were logged, mechanically thinned or had prescribed burns 10–15 years ago. This created a lighter fuel load on the ground, and helped the fire to burn out before it could reach residents.

Fires like the Lolo Peak have had a detrimental effect on local public health. Thick clouds of smoke billow into the air, and citizens breathe it in. This particularly impacts our children, sick people, and the elderly. Air quality is commonly in the “unhealthy” or “hazardous” range during July and August. Warm air in the daytime sometimes helps to lift smoke higher into the atmosphere, but when cooler weather sets in at night, the smoke descends back into our communities. Unfortunately, being indoors does not help the situation, especially when many residents sleep with their windows open in the cool mountain air. Montana’s Constitution guarantees our citizens a right to clean air and clean water—a right taken away by current forest management practices. We must address the impacts of catastrophic wildfire to guarantee the state constitutional right to clean air and clean water.

Opportunities to Address Wildfire Threats

For the 26 percent of counties across the United States that are home to Federal forest lands, the health of our national forests has a direct impact on the health and safety of county residents. Healthy forests are less prone to disease, insect infestation, and wildfire. While the causes of catastrophic wildfire are complex, the status quo of inaction has exacerbated present forest conditions, which now present a great risk to both communities and the environment. The good news is we can manage our forests in a sound, scientific manner that benefits our economy and environment. This is not a binary choice. There are many recommendations that can help guide more effective Federal land management and best practices, including:

- Counties believe that active management of Federal lands and forests must be done in a sustainable manner that ensures the health of our Federal lands for generations to come. One way to help ensure a balanced approach to address natural resource management challenges is by promoting locally driven collaborative processes that promote consensus driven decision making.

Counties across the United States have engaged in collaborative efforts to address their natural resources challenges. By bringing a broad cross-section of local stakeholders into collaborative processes, counties, industry, recreation groups, conservationists and Federal and state land managers have built consensus on some of the most complex natural resource management challenges. Authorizing limited and reasonable categorical exclusions for projects that improve forest health, and have been developed through consensus-based collaborative processes, will increase the number of acres treated and help to reduce the threat of wildfire.

- NEPA must be reformed as well. Streamlining the process for projects with strong local support, collaborative support and support of local land management professionals should be categorically excluded from litigation. We need to allow our professional land management agencies to get back to managing the land rather than managing litigation.

Congress should require the costs and benefits of a proposed forest project be weighed against the costs and benefits of doing nothing to address wildfire threats, disease and insect infestation, and their impacts on local water supply, air quality and wildlife habitat. The choice not to manage the forest is a management decision that directly impacts public health. Additionally, the USFS should expedite regulatory analyses for timber salvage after major wildfires and other natural disasters. This will provide the USFS with some of the revenue it needs to execute critical and time-sensitive post-fire reforestation work.

- In addition to improving forest health and reducing wildfire risk, increased active management will generate more revenue for the Federal Treasury and the critical services provided by counties, and promote job creation and economic growth in counties across the Nation. The growth in stewardship contracting in recent years has shown that a market-driven approach to forest management projects can work to achieve both forest management goals and increased forest production. Counties support and are active partners in stewardship contracting initiatives across the United States. Forest revenue sharing payments support critical county services such as transportation infrastructure and education. America’s counties look forward to working with

Congress to further strengthen forest revenue sharing between counties and the Federal Government.

Partnering with private sector commercial foresters to more efficiently provide vegetation management and commercial thinning is a win/win proposition for taxpayers, as well. Not only do commercial projects fulfill vegetation management objectives and priorities, they generate revenue for Federal agencies and local governments, while providing good-paying jobs in predominantly rural parts of the country.

- We must address the chronic litigation that hinders our resource/land management professionals and provides financial incentives to litigate projects. The Equal Access to Justice Act (EAJA) must be reformed to ensure litigants are not able to exploit the law, and avoid legal caps on attorney's fees. EAJA's original intention was to compensate small business and individuals who do not have the financial means to challenge Federal actions in court. While individuals with a net worth greater than \$2 million and organizations with a net worth above \$7 million are not eligible for reimbursement of legal fees, nonprofit organizations are not subject to these limitations. Additionally, some litigants suing to stop land management projects have successfully argued their expertise is specialized, and therefore not subject to the cap. EAJA should be reformed to prevent this abuse of a system designed to protect the vulnerable.

CONCLUSION

Chairman Westerman and Ranking Member McEachin, thank you for the invitation to testify. I urge Congress to work together across the aisle and craft viable legislation that can be enacted as soon as possible to help to slow the threat to Federal lands, neighboring private lands, and public health.

Thank you again for the opportunity to tell you Ravalli County's story and to share some of our ideas for improving the health of our Federal forest lands.

ATTACHMENTS







Mr. WESTERMAN. Thank you, Mr. Chilcott, for your testimony.
The Chair now recognizes Dr. DellaSala to testify for 5 minutes.

**STATEMENT OF DOMINICK A. DELLASALA, CHIEF SCIENTIST,
GEOS INSTITUTE, ASHLAND, OREGON**

Dr. DELLASALA. Chairman Westerman, Ranking Member McEachin, and Subcommittee members, thank you for the honor to testify today on the ecological importance of wildfires.

I am the chief scientist for the nonprofit organization Geos Institute in Ashland, Oregon. We work on climate change. I also am on the Oregon Global Warming Commission, Task Force on Forest Carbon, have served on the Spotted Owl Recovery Team, and have written numerous publications on fire-dependent ecosystems.

I want to make two main points in my testimony today:

One, proposals that call for increased logging and decreased environmental review are not science-based, and, in many cases, will make the problem you want to solve worse.

Two, the recent spat of wildfires and insect outbreaks in the West is mainly the result of climate change triggering more extreme fire weather. No amount of logging or suppression will stop weather-driven fire events.

My testimony is aided by the charts in front of you, supported by peer-reviewed scientific publications that illustrate the importance of wildfires as an ecosystem benefit. And the main drivers of diminished forest resilience are climate change and an expansive logging footprint.

I will close with some top-line recommendations.

First, what do we know about recent forest fire increases? Chart 1 of my testimony shows that fires were burning over large landscapes in the early 1900s during extended regional drought cycles governed mainly by global climatic forces.

By the middle of the 20th century, that shifted to a cooling trend with reduced acres burning, and it is shifting back now as a result of human-caused climate impacts. A change in climate means more extreme fire weather—hot, dry winds and low fuel moisture that will overtake suppression efforts regardless of how much we spend, or whether those areas have been thinned or logged.

Without measures to curtail greenhouse gas emissions, suppression costs and impacts to ecosystems will only rise. We cannot log our way out of an emerging novel fire climate era, as climate, not fuels, will increasingly be the main driver of fire behavior.

Another reason for wildfires that are increasing is development, as you heard from the opening remarks. We now have a human-caused fire season, which is three times longer than the lightning-caused fire season, adding 40,000 new wildfire ignitions on average per year across the United States.

This will only worsen with expansion into the wildland urban interface (WUI). There are already 46 million homes. It is only going to get worse as homes continue to get built into that area.

What do we know about fire and active management? First, at the scale of land-use categories, wilderness and other protected areas are not the problem. Chart 2 of my testimony is a summary of the most extensive peer-reviewed analyses ever done on this subject. It shows how logged areas burn are naturally intense in forest fires compared to protected areas, thus removing environmental protections to increase logging will not lessen fire intensity.

Second, regarding pre-fire treatments, thinning from below of small diameter trees followed by prescribed fire in certain forest types can reduce severity. However, there are numerous limitations to consider. First, fires occurring during extreme fire weather will burn over large landscapes regardless of thinning, sometimes racing through hundreds of thousands of acres thinned and unthinned as a matter of weather, not fuels.

There is a low probability of intersecting a thin site when a fire is occurring, about 3 to 8 percent chance. Logging of large fire resistant trees can increase the rate of spread and reduce resiliency, and thinning also requires an extensive and impactful road network.

And third, regarding post-fire treatments, post-disturbance logging can intensify all of those impacts by degrading forest resilience and reducing the ability of forest to rejuvenate after forest fires.

In closing, rather than policies to increase logging and curtail science review of harm from these projects, policies are needed to discourage continued growth in the WUI as suppression costs will only increase with more development. Allocating funds for creating defensible space in already-developed areas should be a priority.

Any new development must include defensible space and construction using nonflammable materials. That is the only way to save homes from fire risks. No amount of logging or suppression can stop or slow large fires under extreme fire weather. Logging may, in fact, make the amount of unnatural disturbances even more so, and effective policies are needed to reduce greenhouse gas emissions.

Finally, public lands are what remains of America's dwindling natural inheritance to provide us with clean water, habitat for fish and wildlife populations, outdoor recreation, and carbon sequestration. Increasing logging will not maintain their resilience.

Thank you.

[The prepared statement of Dr. DellaSala follows:]

PREPARED STATEMENT OF DR. DOMINICK A. DELLA SALA, CHIEF SCIENTIST,
GEOS INSTITUTE, ASHLAND, OREGON

Chairman Westerman, Ranking Member McEachin, and Subcommittee members, thank you for the opportunity to discuss wildfires on national forests. I am the Chief Scientist of the nonprofit organization, Geos Institute in Ashland, Oregon. Geos Institute works with agencies, landowners, and decision makers in applying the best science to climate change planning and forest management. As a scientist, I have published in peer-reviewed journals on fire ecology and climate change, I am on the editorial board of several leading journals and encyclopedias, and I have been on the faculty of Oregon State University and Southern Oregon University. A recent book I co-authored with 28 other scientists outlined the ecological importance of mixed-severity fires in maintaining fire-resilient ecosystems, including ways to co-exist with wildfire (DellaSala and Hanson 2015).

Wildfires are necessary natural disturbance processes that forests need to rejuvenate. Most wildfires in pine and mixed-conifer forests of the West burn in mixed fire intensities at the landscape scale that produce large and small patches of low to high tree mortality. This tapestry of burned patches is associated with extraordinary plant and wildlife diversity, including habitat for many big game and bird species that thrive in the newly established forests. From an ecosystem perspective, natural disturbances like wildfires are not an ecological catastrophe. However, given there are now 46 million homes in naturally fire-prone areas (Rasker 2015), and no end in sight for new development, we must find ways to co-exist with natural disturbance processes as they are increasing in places due to climate change.

In my testimony today, I will discuss how proposals that call for increased logging and decreased environmental review in response to wildfires and insect outbreaks are not science driven, in many cases may make problems worse, and will not stem rising wildfire suppression costs. I will also discuss what we know about forest fires and beetle outbreaks in relation to climate change, limitations of thinning and other forms of logging in relation to wildfire and insect management, and I will conclude with recommendations for moving forward based on best available science.

WHAT WE KNOW ABOUT RECENT FOREST FIRE INCREASES

Recent Increases in Acres Burned of Forests are Mainly due to a Changing Climate—Scientists have known for sometime that fire activity tracks regional weather patterns, which in turn, are governed by global climatic forces such as the Pacific Decadal Oscillation (PDO—a recurring long-lived El Niño-like pattern of Pacific climate variability—see Chart 1). For instance, the very active fire seasons of the 1910–1930s, occurred during prolonged drought cycles determined by the PDO that resulted in much larger areas burning historically than today (Powell et al. 1994; Interagency Federal Wildland Fire Policy Review Working Group 2001; Egan 2010) (Chart 1). In fact, compared to the historic warm PDO phase of the early 1900s, most of the West is actually experiencing a *fire deficit* (Littell et al. 2009, Parks et al. 2012). However, with warming temperatures, early spring snowmelt, and longer fire seasons over the past few decades more acres are burning each year (Westerling et al. 2006; Littell et al. 2009) (Chart 1).

For instance, wildfire season in the West has lengthened from an average of 5 to 7 months, and the number of large wildfires (>1,000 acres) has increased since the 1980s (Dennison et al. 2014) from 140 to 250 per year (UCS 2017). This is occurring as average annual temperature in the West has risen by nearly 2 degrees F since 1970s and winter snow pack has declined (UCS 2017). If measures are not taken to stem greenhouse gas emissions, wildfire acres are projected to increase further in dry areas as annual temperatures are expected to rise another 2.5 to 6.5 degrees F by mid century (UCS 2017). Some researchers estimate more than half of the increase in acres burned over the past several decades is related to climate change (Abatzoglou and Williams 2016). This increase is expected to continue with additional warming leading to even greater suppression costs if the agencies continue to suppress fires across the landscape (Schoennagel et al. 2017).

Increasing Human Development is Lengthening Wildfire Seasons and Adding to Fire Ignitions—The direct role of human-access via roads and development in the Wildlands Urban Interface (WUI) is increasing wildfire activity. Scientists recently evaluated over 1.5 million government records of wildfires nationwide from 1992 to 2012 (Balch et al. 2015). During that time, human-caused fire ignitions have vastly expanded the spatial and seasonal occurrence of fire, accounting for 84 percent of all wildfire starts and 44 percent of the total area burned nationally. We now have the phenomenon of a human-caused fire season, which was three times longer than the lightning-caused fire season and added an average of 40,000 wildfires per year across the United States over this 20-year period of time. Ignitions caused by people—whether accidental or arson—have substantial economic costs. This will only worsen with continued development of the WUI adding to the 46 million homes (Rasker 2015) already in these fire-prone areas.

Thus, given expansion of homes in the WUI, the best way to limit damage to homes is to reduce fire risks by working from the home-outward instead of the wildlands-inward (Syphard et al. 2013). For instance, if a fire-brand travels miles ahead and lands on a flammable roof that home is very likely to burn compared to a home that has a fire-resistant roof and cleared vegetation within a narrow defensible space of 100–200 feet immediately surrounding the home (Cohen 2000). Logging outside of this narrow zone does not change home ignition factors.

WHAT WE KNOW ABOUT FIRE AND FOREST MANAGEMENT

Wilderness and Other Protected Areas are not Especially Prone to Forest Fires—Proposals to remove environmental protections to increase logging for wildfire concerns based on the assumption that unmanaged—or protected areas—burn more intensely are misplaced. For instance, scientists (Bradley et al. 2016 of which I was a co-author) recently examined the intensity of 1,500 forest fires affecting over 23 million acres during the past four decades in 11 western states. We tested the common perception that forest fires burn hottest (most intensely) in wilderness and national parks while burning cooler (less intensely) or not at all in areas where logging had occurred. What we found was the opposite—fires burned most intense in previously logged areas, while they burned in natural fire mosaic patterns in wilder-

ness, parks, and roadless areas, thereby, maintaining resilient forests (see Chart 2). Consequently, there is no reason for reducing environmental protections.

State Lands are not at Lower Wildfire Risks Compared to Federal Lands—There is much discussion about whether state lands are being managed in a way that reduces fire occurrence and intensity. However, in a recent report of wildfire risk (that included acres likely to burn), scientists (Zimmerman and Livesay 2017) used the West Wide Wildfire Risk Assessment model, an important assessment tool of the Council of Western State Foresters and Western Forestry Leadership Coalition. They evaluated risk for western states based on historical fire data, topography, vegetation, tree cover, climate, and other factors. According to the Center for Western Priorities analysis, state (22 percent) and Federal (23 percent) lands have approximately equivalent levels of fire risks in the West, and for some states, risks were higher than Federal lands. Notably, allegations of higher fire risk based solely on the number of Federal acres burned in a fire season are misleading as there are over seven times as many Federal lands (362 million acres) in 11 western states as compared to state-owned lands (49 million acres) (Zimmerman and Livesay 2017).

Thinning is Ineffective in Extreme Fire Weather—Thinning/logging is most often proposed to reduce fire risk and lower fire intensity. Thinning-from-below of small diameter trees followed by prescribed fire in certain forest types can reduce fire severity (Brown et al. 2004, Kalies and Kent 2016) but only when there is not extreme fire weather (Moritz et al. 2014, Schoennagel et al. 2017). Fires occurring during extreme fire-weather (high winds, high temperatures, low humidity, low fuel moisture) will burn over large landscapes, regardless of thinning, and in some cases can burn hundreds or thousands of acres in just a few days (Stephens et al. 2015, Schoennagel et al. 2017). Fires driven by fire weather are unstoppable and are unsafe for firefighters to attempt putting them out, and, as discussed, are more likely under a changing climate.

Further, there is a very low probability of a thinned site actually encountering a fire during the narrow window when tree density is lowest. For example, the probability of a fire hitting an area that has been thinned is about 3–8 percent on average, and thinning would need to be repeated every 10–15 years (depending on site productivity) to keep fuels at a minimum (Rhodes and Baker 2008).

Thinning too much of the overstory trees in a stand, especially removal of large fire-resistant trees, can increase the rate of fire spread by opening tree canopies and letting in more wind, can damage soils, introduce invasive species that increase flammable understory fuels, and impact wildlife habitat (Brown et al. 2004). Thinning also requires an extensive and expensive roads network that can degrade water quality by altering hydrological functions, including chronic sediment loads.

Post-Disturbance Salvage Logging Reduces Forest Resilience and can Raise Fire Hazards—Commonly practiced after natural disturbances like fires or insect outbreaks, post-disturbance logging hinders forest resilience by compacting soils, killing natural regeneration of conifer seedlings and shrubs associated with forest renewal, increasing fine fuels from slash left on the ground that aids the spread of fire, removing the most fire-resistant large live and dead trees, and degrading fish and wildlife habitat. Further roads that increase sediment flow to streams triggering widespread water quality problems (Lindenmayer et al. 2008).

WHAT WE KNOW ABOUT BEETLE-KILLED FORESTS AND FOREST MANAGEMENT

Beetle Killed Forests are Not More Susceptible to Forest Fires—Forests in the West are being affected by the largest outbreaks of bark beetles in decades, which has caused concern about forest resilience and wildfire risk and led to proposals for widespread tree removals. Such proposals stem in part from the rationale that bark beetle outbreaks increase wildfire risks due to dead trees and that logging in beetle-affected forests would therefore lower such risks. However, beetle-killed forests are not more susceptible to forest fires (Bond et al. 2009, Hart et al. 2015, Meigs et al. 2016). This is mainly because when conifers die due to drought or native bark beetles, the combustible oils in the needles quickly begin to dissipate, needles and small twigs begin to fall to the ground. Without the fine fuels that facilitate fire spread, potential crown fires are actually lowered in forests with beetle mortality (Donato et al. 2013). The beetle-killed standing dead trees (snags) are the least flammable part of the forest and act more like a large log in a campfire, rather than kindling which is what causes fire spread.

In fact, studies of beetle-killed forests in the West found that when fires occurred during or immediately after the pulse of snag recruitment from beetle kill, fire severity consistently declined in the stands with high snag densities in the following decades (Meigs et al. 2016). In pine and mixed-conifer forests of the San Bernardino

National Forest (CA), fires occurred immediately after a large pulse of snag recruitment from drought and beetles. However, scientists (Bond et al. 2009) found “no evidence that pre-fire tree mortality influenced fire severity.” In studies of beetles and wildfires across the western United States, scientists (Hart et al. 2015) stated “contrary to the expectation of increased wildfire activity in recently infested red-stage stands, we found no difference between observed area and expected area burned in red-stage or subsequent gray-stage stands during 3 peak years of wildfire activity, which account for 46 percent of area burned during the 2002–2013 period.” And finally, in a comprehensive review of fire-beetle relations in mixed-conifer and ponderosa pine forests of the Pacific Northwest, scientists (Meigs et al. 2016) found: “in contrast to common assumptions of positive feedbacks, we find that insects generally reduce the severity of subsequent wildfires. Specific effects vary with insect type and timing, but insects decrease the abundance of live vegetation susceptible to wildfire at multiple time lags. By dampening subsequent burn severity, native insects could buffer rather than exacerbate fire regime changes expected due to land use and climate change.”

Most importantly, climate change is allowing more insects to survive the winter, triggering the rash of recent outbreaks (Meigs et al. 2016).

Thinning Cannot Limit or Contain Beetle Outbreaks—Once beetle populations reach widespread epidemic levels, thinning treatments aimed at stopping them do not reduce outbreak susceptibility as beetles over-run natural forest defenses with or without thinning (Black et al. 2013).

CLOSING REMARKS AND RECOMMENDATIONS

In sum:

- Recent increases in wildfires and insect outbreaks are a result of a changing climate coupled with human-activities including expansion of homes and roads into the WUI that will only continue to drive up fire suppression costs.
- Policies should be examined that discourage continued growth in the WUI; any new development must include defensible space and construction from non-flammable materials.
- The most effective way to protect homes is to create defensible space in the immediate 100 feet of a structure and use of non-flammable materials. Wildland fire policy should fund defensible space, not more logging and thinning miles away from communities.
- No amount of logging can stop insect outbreaks or large fires under extreme fire weather. Logging may, in fact, increase the amount of unnatural disturbances by homogenizing landscapes with more even aged trees, residual slash left on the ground, and compounding cumulative impacts to ecosystems.
- Thinning of small trees in certain forest types, maintaining canopy closure and in combination with prescribed fire can reduce fire intensity but treatment efficacy is limited in extreme fire weather, and by the small chance that a thinned site will encounter a fire during a very narrow window when fuels are lowest.

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ATTACHMENTS

Chart 1. Fires track regional climatic variations governed by global processes such as the Pacific Decadal Oscillation (PDO). The PDO is recurring pattern of ocean-atmosphere (El Niño-like) climate interactions centered over the mid-latitude Pacific basin. When the PDO is warm, fire activity is high and vice-versa (modified from Littell et al. 2009).

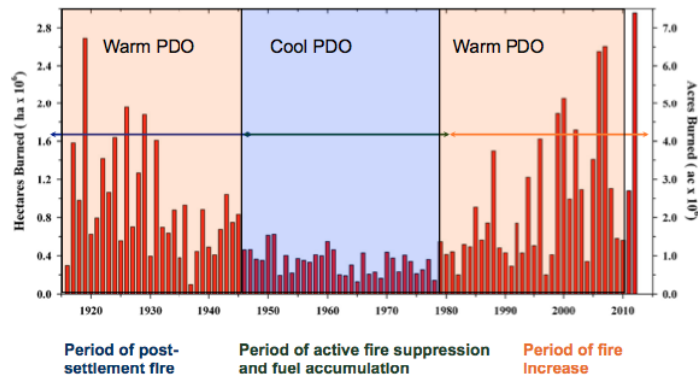


Chart 2. Burn severity (cool to hot fires) classes arranged by land-use categories from maximum protection (parks, wilderness) to minimal (private lands). Fire severity was assessed from the Monitoring Trends in Burn Severity project (<http://www.mtbs.gov>) managed by USDA and USDI. Fire severity data in acres burned and severity classes were available from 1984 to 2014 and analyzed for 1,500 fires affecting ~24 million acres burning in mixed-conifer and pine forests of 11 western states using GIS and robust statistical analyses (Bradley et al. 2016). The chart reflects average burn severities for land categories.

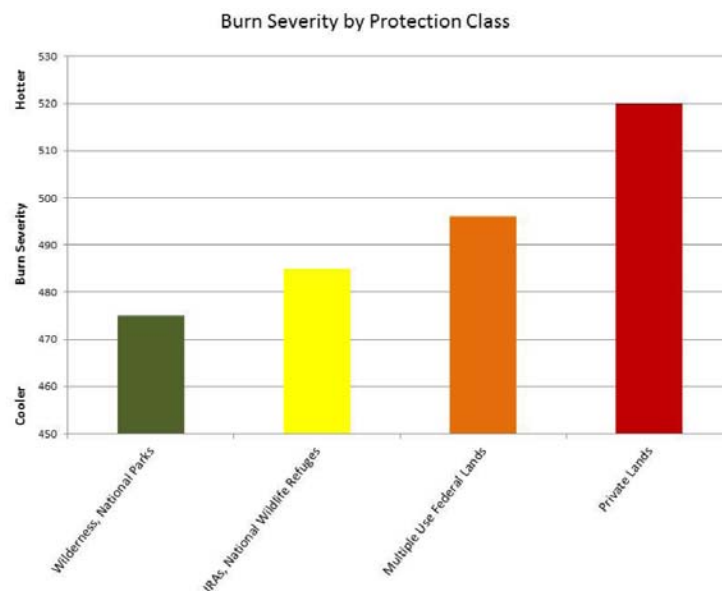


Chart 3(A). Google Earth image of the Douglas-fire complex, southwest Oregon showing the burn perimeter in red. This 2014 fire burned mostly on private lands and in high fire intensities when it encountered densely stocked tree plantations and logging slash that acted as kindling. A similar fire nearby in 2012, Oregon Gulch fire (not shown), blew up when it encountered slash piles on private lands the height of three story buildings. The Google image is illustrative of the general pattern of uncharacteristic fire intensity observed in “actively managed” forests by Bradley et al. 2016. The area was also extensively post-fire salvage logged leading to chronic impacts to forests and streams that accumulate in space and time and predispose fire-rejuvenating forests to the next uncharacteristic high intensity burn (i.e., a perpetual intense fire-logging-intense fire feedback loop)..

3(A)



Chart 3(B). The so-called “checkerboard” of private and Bureau of Land Management (BLM) lands, southwest Oregon, showing extensive fragmentation by roads and clearcuts. Flammable tree plantations on private lands have replaced most of the fire-resistant/resilient older forests that once dominated the Pacific Northwest. Remaining older forests are mainly on public lands and provide myriad ecosystem benefits in the form of outdoor recreation, carbon sequestration and storage, clean water, aquatic strongholds for salmon, and unique habitat for species that are reduced in intensively/actively managed areas.

3(B)



Both landscapes have been extensively damaged by decades of clearcutting and road building. High road densities fragment wildlife habitat and cause chronic water quality and invasive species problems. Increasing logging on Federal lands, where the last intact forests and watersheds remain, will make forests and aquatic systems less resilient to natural disturbances especially when coupled with the emergence of a new fire-climate era and an increase in human-caused wildfire ignitions. Unprecedented cumulative impacts from logging and climate change will likely trigger the onset of a wave of species extinctions in terrestrial and aquatic systems.

Chart 4. Post-fire logging within a late-successional reserve (LSR) managed for spotted owls and other old forest species (under the Northwest Forest Plan) in the Biscuit fire area 2002 (upper left) vs. the same LSR 10 years later (upper right). Upper right panel shows lack of conifer establishment mainly when loggers dragged logs up steep slopes killing most of the naturally regenerating seedlings (Donato et al. 2006). Bottom photo just upslope of the logged LSR was from an unlogged botanical area with abundant “biological legacies” (large snags) that protected soils, shaded conifer seedlings from intense sunlight, and provided soil nutrients and moisture for the developing forest. Notice the difference in forest establishment. A detailed study was conducted in the Biscuit burn area (Donato et al. 2006) and documented statistically significant losses of conifer establishment due to logging and higher fuel accumulations in post-fire logged plots from slash. Thus, these photos are illustrative of the general negative impact of post-fire logging on forest resilience.



Citation: Donato, D.C. et al. 2006. Post-wildfire logging hinders regeneration and increases fire risks. Science Brevia 5 January 2006/Page 1/10.1126/science.1122855.

Chart 5. Wildfires in western pine and mixed-conifer forests produce mixed fire effects on the vegetation (known as fire severity). This pattern of large and small patches consists of unburned/low (U/L), moderate (M), and high (H) burn severity patches (“pyrodiversity”) associated with extraordinary levels of plant and wildlife richness, including habitat for rare plants, songbirds, woodpeckers, big game, small mammals, and spotted owls. Alpha (number of species at stand level), beta (number of species summed across burn patches), and gamma diversity (number of species at regional scales) are ways to measure diversity at different spatial scales. Burned areas are rich in these diversity metrics and are not ecological “catastrophes.”

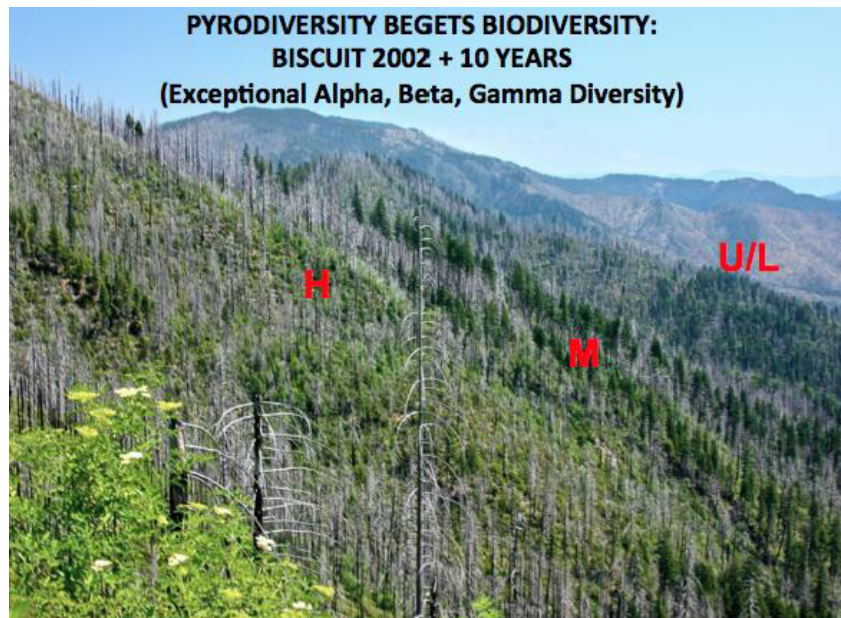


Chart 6. A tale of two connected forests. The old-growth forest (left), rich in plant and wildlife diversity, eventually burned (right). The burned forest is known as “complex early seral forest” with the dead standing trees (snags) acting as “biological legacies” that connect the various stages of forest succession through time. Soon after the fire in the old growth, colonizing plants and wildlife occupy the site and richness of species accumulates, quickly rivaling that of an old-growth forest. A forest fire is not an ecological “catastrophe” but is a resetting of nature’s successional clock that forests have been resilient and uniquely adapted to for millennia (DellaSala and Hanson 2015). Logging in these forests degrades forest resilience and is not restoration.



QUESTIONS SUBMITTED FOR THE RECORD BY REP. MCEACHIN TO DOMINICK A. DELLA SALA, CHIEF SCIENTIST, GEOS INSTITUTE

Question 1. Please elaborate on Southwest forest ecosystems with regard to fire and active management.

Answer. In low-mid elevation ponderosa pine and mixed-conifer forests of the Southwest, natural historical fire regimes were typically dominated by low/moderate-severity fire, but included the occasional high-severity fire patches as well. Because of this heterogeneity in fire effects, forests historically were quite variable in tree density, ranging from open to dense. This characterization is based on fire-regime reconstructions using historical field data (Odion et al. 2014, Williams and Baker 2014), fire-scar records from tree rings (Roos and Swetnam 2011), and paleoecological research using charcoal deposits (Jenkins et al. 2011). During warm, dry periods, especially following wet years, “large crown fires” occurred periodically in these forests historically (Roos and Swetnam 2011). Although there is currently considerably less fire in southwestern forests than historically, similar to other western U.S. conifer forests (Roos and Swetnam 2011, Odion et al. 2014), annual area burned has increased from the 1970s through 1980s. Importantly, high-severity fire in the Southwest, as in most other western conifer forests (Roos and Swetnam 2011, Odion et al. 2014), has not increased in total acres or percentage of fire acres from 1984 to present, the period during which we have good satellite data (Baker 2015a, Keyser and Westerling 2017).

Though some southwestern forests have high densities of very small, the largest recent fires in southwestern forests, such as Horseshoe2 fire of 2011 (226,000 acres), Wallow fire of 2011 (564,000 acres), and Whitewater-Baldy fire of 2012 (307,000) have nevertheless been comprised mostly of low/moderate-severity fire effects

(www.mtbs.gov). In the high-severity fire patches, post-fire forest regeneration has occurred naturally. Conifer establishment occurs in more dense concentrations closest to low/moderate-severity areas, and in more open patterns in the interior areas of larger high-severity patches (Haire and McGarigal 2010). In general, these mixed-severity fires in this and other fire-dependent forests support high levels of biodiversity (DellaSala and Hanson 2015). Mexican spotted owls, for example, preferentially hunt in such fire areas, due to increased small mammal prey abundance.

Contrary to Representative Gosar's false assertion during the hearing about the lack of pine regeneration in high intensity burns in the Southwest, a new study was covered on October 5 in the *Arizona Daily Sun* that shows this is clearly not the case for these forests: http://azdailysun.com/news/local/study-finds-surprising-ponderosa-regrowth-after-severe-wildfires/article_7569e37f-d7ac-577f-b301-c9b640d2bd60.html#tncms-source=home-top-story-1.

Finally, active management is defined and discussed in detail in the following sections.

Question 2. Please further explain the graph about warm and cool phases to address the claim that the lower levels of fire correspond with periods of most active management.

Answer. Scientists have known for sometime that wildfire activity tracks regional droughts and high temperatures (Whitlock et al. 2015) influenced mainly by climatic forces such as the Pacific Decadal Oscillation (PDO), the El Niño-like pattern of alternating warm and cool phases in the Pacific region.

Congressman Westerman contended that the period when fewer acres burned in the cool mid-20th century PDO (Chart 1) was due to higher levels of logging or active management. If increased logging was the driver of fewer acres burned, then that pattern would have continued through the height of logging in the 1970s–1980s (Chart 2). Indeed that is the premise of the Westerman bill—that more logging will reduce fire risk. However, as active management ramped up in the 1970s through the early 1980s, **fire activity increased, not decreased**. And this trend of increasing fire continued despite mechanized fire suppression. The period of time that Congressman Westerman referred to included the near wholesale liquidation of mature and old-growth forests, decimation of streams and watersheds, sediment loading of streams and loss of native fish runs. In the Pacific Northwest, ~2 square-miles per week were being clearcut on national forests during this time (DellaSala et al. 2015). Logging also increased on private lands (Law and Waring 2015) yet acres burned continued to rise.

Chart 1. Area in western forests from 1900s through 2000s (J. Littell, personal communication).

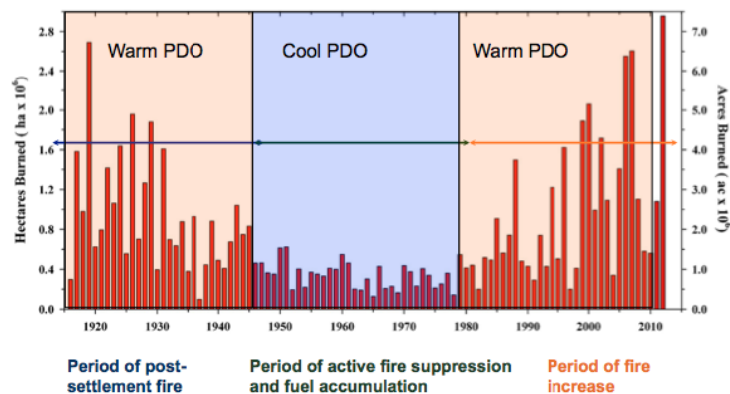
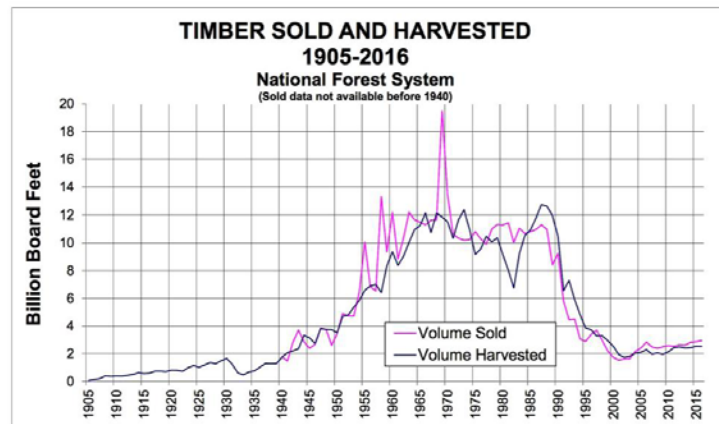


Chart 2. Timber sold and harvested over roughly the same period in Chart 1. Note an unprecedented increase in logging was taking place during the cool PDO (1950s–1980s) when fire activity was low.



It is much more likely that regional climate—governed by top-down global climate forces—is mainly responsible for contemporary increases in acres burning (Little et al. 2009, Schoennagel et al. 2017). Additionally, recent increases in human-caused fires has made the length of fire season three times longer than the lightning caused season, contributing to an average of 40,000 fire starts each year as more and more homes are built in the wildland urban interface (Balch et al. 2017).

Question 3. What is your definition of and approach to active management and its role in wildfire management? What is your definition of “catastrophic” and how does it relate to fire management?

Answer.

Active management—Witnesses or congressional members never defined this term at the hearing; however, H.R. 2936 would expand hazardous fuels (thinning) treatments and Categorical Exclusions for post-fire logging that have nothing to do with forest resilience as follows.

- *Post-disturbance clearcut (“salvage”) logging*—Clearcutting of large swaths of live and dead trees after a natural fire or other natural disturbance. Post-fire logging is often followed by herbicides to reduce competition from naturally regenerating shrubs and other plants, and to allow for subsequent planting of nursery stock trees. Logging and replanting, rather than letting the forest naturally regenerate, can create a dangerous feedback loop where fires burn initially and naturally in fire-resilient native forests that are then logged and planted in dense rows only to burn hot and to be logged and planted again, and so on (Odion et al. 2004, Thompson et al. 2007). Logging after a disturbance also removes the most ecologically valuable components of a forest—dead still standing trees (“snags”) and fallen, downed logs. These legacy trees anchor soils, provide shade for developing seedlings, “nurse logs” for new plant growth and soil moisture retention, habitat for aquatic species when snags fall in streams. Importantly these legacies store vast amounts of carbon, decay and some release of carbon occurs slowly from decades to centuries. They also provide habitat for scores of insect eating bats, birds, and other small mammals that help keep native insect populations in check.

- *Forest thinning*—Partial removal of trees used for a variety of silvicultural purposes, including reducing competition among tree stems, increasing tree vigor, and accelerating tree growth for so-called “forest health” (typically undefined or based on timber harvest definitions) purposes, including reducing “hazardous fuels.” Thinning small diameter trees from below while maintaining appropriate canopy cover can in certain circumstances change fire behavior. However, there are some significant drawbacks to relying on landscape-scale thinning to address increased fire activity in a warming period. These are: (1) there is a very low probability (2–8 percent) that a thinned site will encounter a fire during the narrow period of 10–15 years of reduced “fuels;” (2) excessive thinning can increase wind speeds in a stand that consequently increases rates of fire spread; (3) opening up a stand to greater light penetration results in rapid understory growth that in turn contributes to future fire spread; (4) thinning needs to be followed by prescribed fire; and (5) thinning can damage wildlife habitat because it often removes medium and large diameter trees. When extreme fire-weather (high temperatures, low fuel moisture, low humidity, high winds) encounters a thinned stand there can be little to no reduced fire intensity (Schoennagel et al. 2017). In a warming climate, thinning will become increasingly less effective.
- *Road building*—Thinning and post disturbance logging require an expansive and expensive to maintain road system. Roads are associated with water quality degradation, aquatic species declines (e.g., salmon), spread of invasive weeds, human-caused fire ignitions, and loss of wildlife habitat (Ibisch et al. 2017).

Excluding the above “active management” provisions that are incompatible with forest resilience, there are plenty of approaches that would be supportive of resilience, including:

- Removal of human-caused stressors to ecosystems that compound in space and time (e.g., livestock grazing, Off-Highway Vehicles).
- Removing damaging roads and re-contouring the road prism to natural features to reduce sediments to streams and to improve hydrological function.
- Reintroduction and management of viable populations of endangered species and their habitats.
- Removal of invasive species.
- Managing wildfires for ecosystem benefits with prescribed fire in appropriate forest types.
- Thinning and girdling of small trees in young plantations created by prior clearcuts to accelerate development of older forest structures.
- Replacing ineffective culverts (especially important in areas where climate change will trigger more floods).
- Restoring floodplains so they can naturally store more water (e.g., by reintroducing beavers) and attenuate floods.

Catastrophe—A natural disturbance that wreaks havoc on human communities is a catastrophe that needs to be avoided. However, the term “catastrophe,” as repeated by witnesses and congressional members throughout the hearing has no scientific basis; it is value-laden and inconsistent with how ecosystems function.

Wildfires do not “destroy” fire-dependent ecosystems, rather, they are natural disturbance agents that have been shaping the ecology of forest ecosystems for millennia. Many forest ecosystems are uniquely adapted to reoccurring fires that rejuvenate them. For instance, certain lodgepole pine populations in the Rockies require intense heat to open their pinecones (serotinous) and release the seeds. The real ecological calamity is the wanton destruction of mature and old-growth forest ecosystems (~2 percent remains in the lower 48 states with most concentrated in the Pacific Northwest where >80 percent were destroyed by logging—Strittholt et al. 2006), and logging of irreplaceable post-fire habitats that would expand under H.R. 2936. Those catastrophes are human-caused and have triggered widespread declines of hundreds of plants and wildlife, including the culturally iconic Pacific salmon (FEMAT 1993). Thus, the term catastrophe should be reserved for only the affects of natural disturbances on people, not ecosystems.

Question 4. Please expand on your statement that logging, not fire, is the real threat to spotted owls.

Answer. In 2006–2008, I served on the U.S. Fish & Wildlife Service recovery team for the threatened northern spotted owl. I also have conducted independent field research and published on the habitat needs of the owl in scientific journals (e.g., see DellaSala et al. 2013). During the oversight hearing, I responded to erroneous claims made by Mr. Fite that forest fires—not logging—were the main threats to owls and that to save the owl we needed to reduce fires by “active management” (i.e., more logging). I was surprised to hear Mr. Fite was concerned about the owl given that the timber industry has been responsible for liquidating most of the old-growth forests within the owls’ range. Rather than acknowledge that logging has been the major reason for habitat loss, Mr. Fite blames wildfire. To begin, the owl would not have been historically present in dry forest regions of the Pacific Northwest unless it could co-exist with forest fires that periodically maintained owl habitat (see Baker 2015b).

When I was on the northern spotted owl recovery team, there was considerable debate among recovery team members about whether wildfire was a significant threat to owls. In fact, the U.S. Fish & Wildlife Service was criticized by scientific societies such as The Wildlife Society and Society for Conservation Biology in peer review for overstating fire risks to owls. Most recent studies show that spotted owls in the dry forest portion of their geographic range (e.g., southwest Oregon) are quite resilient to forest fires, but only if owl territories are not logged post-fire (e.g., Clark et al. 2013). Wildfires of mixed intensities produce what is commonly referred to as the “bedroom” and “kitchen” effect with the bedroom being low-moderate severity patches where most large trees (nest sites) survive and the kitchen being the high severity burn patches (most trees killed) that provide owl-prey habitat for small rodents and woodrats that readily populate burn patches after fire (e.g., Bond et al. 2013).

Mr. Fite also mentioned a recent study in the King fire area of California where spotted owls abandoned territories post-fire. What he failed to include is that owl populations in that area were already declining from extensive pre-fire logging. In fact, most of the owl territories that were erroneously claimed by the Forest Service to have been rendered “extinct” by the King fire had actually lost occupancy prior to the fire’s occurrence due to extensive logging (Hanson et al. in peer review). Owls also abandoned nest sites following substantial post-fire logging in their home ranges. Mr. Fite also failed to mention another published study in the Sierra that examined spotted owl occupancy after the Rim fire of 2013 on the Stanislaus National Forest. This study found that occupancy of spotted owls after the Rim fire (but before post-fire logging) was the *highest* of any location studied in the Sierra (Lee and Bond 2015). Thus, large fires can potentially benefit spotted owls, not harm them, so long as post-fire logging does not occur in the owl habitat. Fire is not the main problem for spotted owls (Baker 2015b), but rather post-fire logging causes territory abandonment.

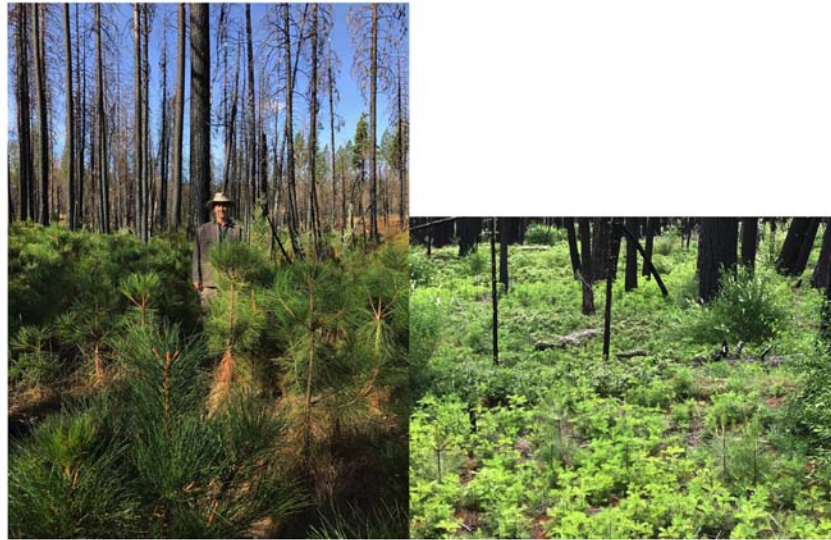
Question 5. Please elaborate on the emissions associated with fire and forest fire and how carbon sequestration operates after a forest fire.

Answer. For the past 2 years, I have served on the Oregon Global Warming Commission’s Task Force on Forest Carbon that reports to Governor Kate Brown. The Task Force is about to release a new report—based on the latest emissions data—showing that emissions from wildfires typically represent only 1–3 percent of the state’s annual greenhouse gas releases.

Contrary to assertions at the hearing, the vegetation killed by forest fires does not completely volatilize or release most of its carbon to the atmosphere. Most of the carbon remains on-site and is stored in the stem wood, branches, and logs unconsumed even by high-severity wildfires (Meigs et al. 2009, Mitchell 2015). A relatively small percent, from 5 to 35 percent (averaging ~10 percent) combusts in mixed severity fires typical of the northwestern United States. Most of the combusted material is from burning of the duff layer, forest litter, small branches and small vegetation. About half of the burned carbon is stored in soils for ~90 years; the other half persists for over a thousand years (millennia) as charcoal. Importantly, large dead trees are not “consumed” by fire, rather, carbon remains stored in tree boles for decades to centuries at the same time new plant growth is rapidly sequestering carbon (Meigs et al. 2009, Law and Waring 2015). The claim made at the hearing, that the Rim fire resulted in emissions of over 12 million tons of CO₂ is wildly exaggerated. It was presumably based on an unsubstantiated assumption that 85 percent of the above-ground biomass is consumed in high-severity fires (see

Garcia et al. 2017). However, actual studies of forest fires, based on field data, show considerably less consumption (~10 percent average). Additionally, even severely burned forests rapidly begin sequestering carbon during new forest growth (Chart 3).

Chart 3. Natural post-fire regeneration in the Rim fire area 4 years post-fire. Note: extensive plant growth that corresponds to carbon uptake (photos: C. Hanson).



In contrast, tree removal via forest thinning and post-fire logging reduces carbon storage (e.g., Chart 4). Further, because managers end up thinning much more area than actually would have burned during the period of treatment efficacy, there is much more carbon emitted from thinning and wood processing compared to what would have been emitted during a forest fire (Meigs et al 2009). In contrast, restrictions on Federal lands logging in the Pacific Northwest, as a result of the Northwest Forest Plan protections, switched public forests from a source of emissions in the 1980s (the height of Federal timber harvest) to a forest carbon sink that is now storing vast amounts of the region's global warming emissions (Krankina et al. 2012).

Chart 4. A human-caused catastrophic disturbance, post-fire logging, on Stanislaus National Forest in the Rim fire area, Sierra Nevada. Nearly all of the natural post-fire conifer regeneration was killed by post-fire logging. This activity would be expanded under H.R. 2936 with minimal environmental review (C. Hanson).



Thus, if this Subcommittee is truly concerned about global warming emissions, then storing more carbon in forest ecosystems by increasing, not decreasing, protection of older carbon-dense forests and post-fire forests would more than make up for the small contribution of wildfire emissions (Krankina et al. 2012, Law and Waring 2015).

Question 6. Please discuss carbon storage and sequestration when it comes to forests, forest management and forest fires.

Answer. Carbon sequestration in relation to forest fires was discussed in #5 above.

Accurate assessment of whether a particular forest practice yields carbon benefits requires managers to conduct a full life-cycle analysis of carbon losses and gains. While this is beyond the scope of this question, I will elaborate in general on the movement of carbon into and out of a forest due to natural and human-caused disturbances. I will also provide an example of carbon flux from logging vs. protection of the Tongass National Forest in southeast Alaska where I have conducted such analyses. In sum, the simple answer can be boiled down to what Dr. Beverly Law (carbon scientist at Oregon State University) refers to as “slow-in” and “fast-out.”

In general, forests are a critical part of the global atmospheric carbon cycle that overtime contribute to climate stabilization by absorbing (sequestering) and storing vast amounts of carbon dioxide (CO₂) in trees (live and dead), soils, and understory foliage (i.e. “slow-in”). As a forest matures, it continues to accumulate and store carbon, functioning as a net carbon “sink” for centuries as long as there are no major disturbances. Ongoing carbon accumulation and storage have been measured in forests >800 years old (Luyssaert et al. 2008).

When an old-growth forest is cut down, up to two-thirds of its stored carbon (after accounting for carbon stored in wood products) is released as CO₂ switching it from a sink to a net “source” or “emitter” of CO₂ (i.e., “fast-out”). Carbon is quickly released via decomposition of logging slash, fossil-fuel emissions from transport and processing of wood products, and decay of short-lived wood products in landfills (Harmon et al. 1990). Planting or growing young trees does not make up for these

losses. Indeed, after a forest is clearcut, it remains a net CO₂ emitter for its first 13 years and even if not cut down again will not reach the levels of carbon stored in an old forest for centuries (Turner et al. 2004) (“fast out”).

Globally, deforestation (8–15 percent of emissions) and forest degradation (6–13 percent of emissions) contribute significantly to the world’s annual greenhouse gas pollutants,¹ more than the entire global transportation network, which is why many countries are seeking ways to reduce emissions by protecting their forest sinks via the Paris Climate Change Agreement. Thus, protecting carbon sinks and lengthening timber rotations would contribute to climate stabilization as well as other co-benefits such as clean water, climate refugia, fish and wildlife habitat, pollination, and outdoor recreation (Brandt et al. 2014).

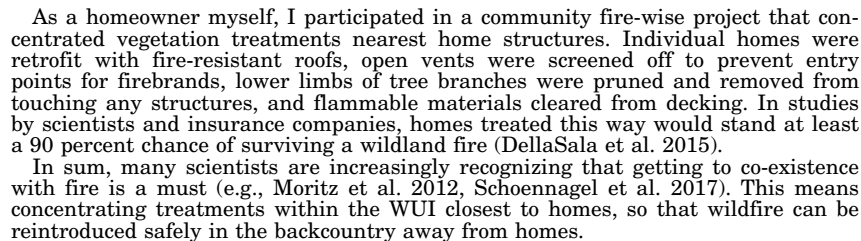
As an example, I would like to refer the Subcommittee to proposed logging alternatives on the Tongass National Forest (2016 forest plan amendment), the Nation’s largest forest carbon sink that annually sequesters about 8 percent of total U.S. emissions. The agencies’ preferred alternative would log 43,167 acres of old growth and 261,850 acres of young growth in the next 100 years, resulting in the equivalent emissions of ~4 million vehicles annually on Alaska roads. These estimates account for carbon stored in wood products and capture of carbon by forest regrowth. Tongass logging would release ~175 times more emissions than the “reference point” for project emissions recommended by the White House’s Council of Environmental Quality (CEQ). Emissions would also result in a “social cost of carbon” estimated at >\$100 million in global warming damages by the end of the century. These costs are ~10 times the projected timber revenues on the Tongass. In contrast, an alternative proposed by conservation groups (but dismissed by the Forest Service) would rely predominately on 76,000 acres of low controversy young growth timber to support the industry’s transition out of old-growth logging. This alternative would yield a tenth of the emissions compared to the agencies’ preferred alternative.

This kind of carbon analysis is completely lacking from H.R. 2936 that would instead greatly increase logging on national forests through the use of Categorical Exclusions (CEs) resulting in post-fire clearcuts.

Question 7. Please explain the science and efficacy of home ignition zone treatments.

Answer. Some 46 million homes now exist within the Wildland-Urban Interface (WUI) as development continues to push into fire-unsafe terrain (Rasker 2015). Ex-urban sprawl is now combining with human-caused fire ignitions associated with high road densities and development that is causing much of the escalating demand for and costs of suppressing wildfires. Passing these costs on to FEMA will not solve the problem of forest fire damage to structures as climate change and develop trigger more fire. What’s needed are effective policies to address global warming pollution (e.g., U.S. participation in the Paris Climate Agreement), land-use zoning to limit ex-urban sprawl in unsafe areas, and reducing fire risks to existing structures using proven methods (Chart 5 below). Logging outside this zone will not improve the chance that a home will be safe in a forest or grassland fire (Cohen 2000, Syphard et al. 2012).

¹These estimates are conservative as they were mainly derived for the tropics where the majority of forest losses occur—boreal and temperate forest losses and degradation also contribute significant emissions but are not included in these estimates. *Intergovernmental Panel on Climate Change*. 2007. Synthesis report. An assessment of the IPCC on climate change. Houghton, R.A., B. Byers, and A.A. Nassikas. 2012. A role for tropical forests in stabilizing atmospheric CO₂. *Nature Climate Change* 5:1022–1023.



Answer. As a scientist and citizen, I strongly support public and scientist involvement in forest planning decisions as vital to our democracy and to disclose a project's impacts negative or positive so that the public is well informed and can then weigh in to make those projects better.

First, with respect to the assertion that there is too much NEPA litigation, according to a GAO (2010) report on projects promoted as fuel reduction (2006–2008), only 2 percent of those projects were litigated. The few projects litigated were because the Forest Service did not obey the laws passed by Congress or did not use the best available science.

For example, conservation groups on the Siuslaw National Forest in Oregon have not filed an appeal since the Northwest Forest Plan (1993) shifted logging out of old growth and into thinning prior clearcuts. Similarly, there have been virtually no appeals or litigation in over a decade in Colville and Wenatchee-Okanogan National Forests due to a shift away from old growth logging.

Provisions in the H.R. 2936 that would severely limit science-based review and public input in forest management, would create more not less controversy. Below are a few examples where the NEPA process has improved project design and implementation and others where irreparably harm to the environment was disclosed due to citizen involvement.

Lost Creek Boulder Creek Project and Middle Fork Weiser River Project, Payette National Forest, Idaho—Two landscape scale projects were developed in partnership with the Payette Forest Collaborative (PFC). For each, the agency developed alternatives based on “fuel” treatments, wildlife habitat, and fisheries. The collaborative recommended combining the best of each alternative emphasizing watershed restoration and fuel treatments. The agency’s final decision was a combination of the

best parts of alternatives that was more responsive to community concerns than a “one-size-fits-all” single alternative that would otherwise occur under a CE.

Crystal Clear Timber Sale EA, Mt. Hood National Forest, Oregon—This was a straight-forward timber sale of 12,725 acres presented to the Wasco Collaborative Group with a reoccurring theme of “if the area was left unlogged, the trees *might* die from insects, disease or fire” (emphasis added). The project lacked a proper environmental and economic analysis, most notably, it would impact spotted owl habitat, degrade naturally dense wet forests through wholly inappropriate logging, and increase fire risks resulting from the proposed removal of fire-resistant trees while leaving logging slash on the ground. The project is still in comment phase as the Forest Service considers appropriate changes suggested. If this project had been conducted under a CE, stakeholders in this national forest would not have had the most basic understanding of the details, or precise location of treatments, to be able to comment and require the Forest Service to properly disclose harm to the forest and wildlife.

Roseburg BLM District White Castle Project, Douglas County, Oregon—A pilot project was proposed to implement an “ecological restoration” approach using clearcuts in mature moist forests. The Court found BLM violated NEPA by not issuing an EIS, failing to consider a reasonable range of alternatives, and did not take the required hard look at the project’s environmental impacts caused by clearcuts. If the project had gone through a CE, old-growth forests would have been clearcut and fuel hazards elevated with the public shut out of the process.

Jazz Thin, Clackamas River Watershed, Oregon—This project called for restoration of plantations through thinning 2,000 acres in moist mixed conifer to lower tree density. Conservation groups commented, appealed and litigated because most of the logging was within Riparian Reserves and Late Successional Reserves, and required building 12 miles of roads to “restore” this part of the forest. Additionally, because the project was analyzed through the NEPA process, local citizens were provided with location of the 82 thinning units as well as new roads that were being proposed. This enabled them to ground-truth the sale before logging commenced. Without this, citizens would not have been able to report to the Forest Service that many miles of roads were not being proposed for decommissioning, and culverts were not being removed as required. The Forest Service relied on this post-project monitoring to correct the problems and ensure the appropriate work was followed.

Sunny South, Tahoe National Forest, California—This logging project was conducted through a CE authorized by the 2014 Farm Bill. Because it was categorically excluded from public involvement and analysis of harmful impacts including a range of alternatives to limit harm, the public did not find out until after the project’s public notice was released that the project included intensive logging within five occupied California spotted owl territories. The Forest Service claimed to satisfy its obligation to “collaborate” under the 2014 Farm Bill CE provision by simply consulting the local logging industry. Given the magnitude of impacts, a CE was clearly inappropriate to properly assess environmental damages and inform the public of trade-offs.

Conclusion

The stated purpose of NEPA is “to declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man . . . NEPA requires Federal agencies to assess whether certain actions significantly affect “the quality of the human environment.” It was passed by Congress and signed into law by President Richard Nixon principally because the environment was being polluted, destroyed, and degraded by widespread industrial activities. NEPA includes CEs, defined as “a category of actions which do not individually or cumulative have a significant effect on the human environment.” It was meant for small-scale projects, such as campground modifications and installation of toilets, not large-scale logging projects that harm the environment as currently proposed by H.R. 2936. In sum:

- The NEPA process, including the opportunity to object, is an important avenue for public participation—it works to ensure the agency takes input from the public in managing public lands, and does not ignore or dismiss that input arbitrarily. Under a CE, there is very little or no opportunity for meaningful input from the public.

- NEPA alternatives provide a critical tool for the Forest Service to design a project and evaluate its effects on the environment so that the public can be properly informed about how decisions are made and whether changes are needed to minimize harm to the environment.
- Collaboratives do not replace the importance of NEPA. Only NEPA requires agencies to incorporate public comment and/or respond to it. Moreover, some collaboratives have failed because of the agency's unwillingness to meaningfully incorporate input from the public in structuring alternatives.
- The vast majority of projects are not litigated and are benefited from public and scientific input. A minority of projects is litigated because the agency is not following the law.

Thus, in reducing the decision-making authorities of NEPA to a binary response—action vs. no action—H.R. 2936 is inconsistent with the principals of a democratic society, shuts the door on public and scientist input, obscures otherwise transparent decision making in safeguarding the environment, and puts the Nation on an dangerous downward spiral of environmental destruction not unlike the time before Congress passed the Nation's landmark environmental laws (NEPA, ESA, Clean Water Act) that ensure our public lands continue to provide clean water, carbon sequestration, hunting and fishing and other outdoor recreation opportunities that the public strongly supports. Unless of course shutting the public out is precisely the goal of the sponsors and supporters of H.R. 2936.

Question 9. Do wilderness restrictions prevent firefighters from aggressively fighting fires and protect communities?

Answer. The short answer is no, absolutely not. This false statement was repeated at the hearing by witnesses and lacks a factual basis. There are no restrictions on fighting fires in wilderness except for provisions that require a Regional Forester's written permission to allow bulldozers. Wilderness fire management is about philosophy and guidelines, there are no laws, regulations, or other rules that I know of that restrict managers from deploying crews in wilderness. It all depends on each Forest Plan and the personal discretion of individual managers what will or will not happen in wilderness. Also, there is rarely any need to go into a wilderness to fight a fire because these areas provide opportunities to manage fire for ecosystems benefits consistent with the intent of the Wilderness Act. They are also generally far removed from human communities, and mainly in unsafe areas for firefighters because of steep terrain.

I also want to discount Mr. Fite's erroneous testimony about the Chetco Bar fire in southwest Oregon as his account of the fire contradicts the incident commander's informative reports of how fire was being handled. The reason the Chetco Bar was allowed to burn in the Kalmiopsis Wilderness is because the benefits of fire in maintaining ecological values, and the benefits of limiting firefighter exposure to the safety hazards of firefighting in the remote and rugged terrain of wilderness, outweighed the risk of fire spreading outside the wilderness and threatening other values. It was completely unsafe to place firefighters in harm's way in some of the most remote and steep country in the Nation. The access points in and out, due to steep canyon country are limited, and dangerous to firefighters especially when fire was burning under 115 degree temperatures and 45 mile-per-hour winds, as was the case during periods when the fire was spreading.

Question 10. The Chairman introduced a study into the record called "Carbon, Fossil Fuel, and Biodiversity Mitigation With Wood and Forests" in the Journal of Sustainable Forestry. Please respond to the study's assertion and compare its findings to the bulk of the scientific evidence.

Answer. I am a member of the Oregon Global Warming Commission's Task Force on Carbon (although these are my views only), and based on my understanding of the forest carbon life cycle analysis literature, the cited study is not supported by the wide body of scientific literature and uses unsubstantiated claims and calculations to reach bizarre conclusions that seem to defy the laws of physics. I cannot tell if it even went through peer review as no reviewers are acknowledged, which is customary practice for most journals. I recommend that the Subcommittee dismiss this study.

One of the main reasons why this study is suspect is the authors appear to assume there are no carbon losses associated with the product life span of buildings by substituting wood for steel (that is—buildings store carbon indefinitely!). However, the general assumption for many *modern* buildings is that they will outlive their usefulness and be replaced within several decades. For instance Architecture 2030 cites the current average life span of buildings is 80 years, and suggests that

over the next 20 years globally, we will build, tear down and rebuild ~900,000 billion square feet of buildings in urban areas (e.g., see http://architecture2030.org/buildings_problem_why/). That is a lot of carbon decomposing and being emitted to the atmosphere, as a building's "life span" is typically less than the carbon stored in an unlogged forest and carbon is emitted every step of the way through the wood processing chain. If the authors were to acknowledge the carbon emitted when buildings "decay," they would find that the product substitution benefit does not increase forever.

Question 11. Do Federal conservation designations like wilderness increase wildfire risk?

Answer. The short answer is no, absolutely not, and the reverse in fact is true given that fires burn hottest in intensively managed areas. During the hearing, there was a great deal of anecdotal information presented by witnesses about how active management can stop or slow down fires and how wilderness areas intensify fires. Some of that evidence was presented as photos on one side of the road (unthinned) vs. the other side (thinned) with claims made that thinning reduced fire intensity when in fact the forest type (lodgepole pine) was actually in a stand where forests are adapted to high intensity burns. Mr. Fite's testimony did not acknowledge the ecologically appropriate fire regime was indeed high intensity, not low intensity. He presented no data or scientific studies to back his assertions, just unsubstantiated claims about thinning based on two photos.

As a scientist, I deal with data, statistically representative sample sizes, robust analyses, and peer-reviewed science to guide my views on fire and forest management. The study that I cited by Bradley et al. (2016, I am a co-author) was the most comprehensive analysis ever done to address the management vs. protection question around fires and it went through rigorous peer review. To reiterate, we examined **1,500 fires** using four decades of government fire records and conducted a massive computer (GIS) analysis of 23 million acres of burned areas to test the assumption that fires burn more intense in "unmanaged" areas (e.g., wilderness, national parks, roadless areas) compared to "actively managed" areas. What we found was the opposite—fires burned unnaturally intense in areas of intense management. This was most likely because logging slash and densely packed tree plantations promote intense burning (e.g., Odion et al. 2004).

In addition to the peer-reviewed studies, I presented Google Earth images to illustrate general findings about how heavily logged areas burn intensely while nearby remote areas burned less intensely during the same fire weather. To reiterate, logging does not stop or slow large forest fires burning under extreme fire weather but may, in fact, intensify fires.

Question 12. Does public review of Federal land management decisions increase wildfire risk?

Answer. No, absolutely not and please see my answer to the NEPA question #8. Public review of "hazardous fuels projects" has improved many projects while objections to projects are often because the projects would increase fire risks to communities, particularly those that reduce overstory canopy closure to unnaturally low levels (e.g., 30–40 percent), leave logging slash on the ground, do not follow thinning with prescribed burning, and remove large-fire resistant trees. Those project conditions are known to raise fire risks and are often included in fuel reduction projects by Federal agencies. Under H.R. 2936, I would expect to see many more of these projects go through with minimal public input and environmental review.

Question 13. Generally, younger trees grow faster than older trees. Does that mean we should cut down as many trees as possible to deal with climate change?

Answer. No, absolutely not, and this would result in increasing fire risks while emitting more carbon to the atmosphere via logging (also see Question 6). For example, in a peer-reviewed study, Law and Waring (2015) state:

"While some suggest that shorter rotations would provide more effective carbon sequestration (e.g. changing from current 80–90 year rotations to 40–50 years), research in the PNW [*Pacific Northwest*] shows that the total carbon accumulated from longer rotations is superior to that from e.g. 40- to 50-year rotations. When trees are harvested, the carbon released to the atmosphere from increased decomposition, and in the product chain needs to be accounted for when assessing carbon sequestration potential. There is considerable potential for increasing carbon sequestration in PNW forests by using longer rotations, particularly in those forests dominated by Douglas fir in climatically buffered areas, because they can continue, if undisturbed, to accumulate carbon for centuries."

The authors go on to state “If rotations in managed forests were extended to 100+ years, the benefit would be significant in terms of carbon stocks per unit ground area.”

Generally, higher levels of forest protection are associated with higher carbon storage (e.g., Mitchell et al. 2009), while logging reduces carbon storage. For instance, older forests globally store 30–70 percent more carbon than previously logged forests (Mackey et al. 2016). Thus, only a no-harvest approach would continue to sequester and store carbon long-term in forested ecosystems (Leighly et al. 2006, Krankina et al. 2012).

Question 14. In his recent review of National Monuments, Secretary Zinke has proposed commercial logging in some National Monuments managed by the National Park Service. Will logging in National Parks decrease the occurrence or intensity of wildfires?

Answer. This is completely false for the reasons already stated. In my testimony (and Question 11), I cited a peer-reviewed study by Bradley et al. (2016) that examined this question using the largest dataset ever. As mentioned, national parks/monuments, roadless areas, and wilderness were characterized by fires that burned in lower intensities compared to intensively managed areas. This is corroborated by studies of fires in Yosemite National Park that burned in natural mixed intensity patterns compared to outside the park where fires burned more intensely (e.g., Miller et al. 2012). Secretary Zinke’s call for commercial logging is clearly misplaced and will come with stiff opposition from the public that cherishes the few areas remaining in America where one does not have to view stump fields or large clearcuts. Again, the parks and protected areas are not the problem. Logged areas are the problem.

Question 15. A ‘snag forest,’ which is created by patches of high-intensity fire, is important wildlife habitat. Can that habitat be recreated by clearcutting, as proposed in H.R. 2936?

Answer. As a scientist, I base my understanding of ecosystems on fieldwork, rigorous experimental design and statistical analyses of observations in nature. I submit my work to peer review to ensure that my assumptions are based on the best available science (peer review is the gold standard in science). My published work from the Sierra and Pacific Northwest regions shows that snag forests have comparable levels of biodiversity to the more heralded old-growth forests, yet snag forests are even rarer because they are frequently logged after a fire (Swanson et al. 2011, DellaSala et al. 2014, DellaSala et al. 2017). Snag forests with the highest ecological values are called “complex early seral forests” because, in part, they have abundant large “biological legacy” trees—live and dead trees remaining post-fire that “lifeboat” a forest through successional stages from young to old-growth forest. There is only one ecological pathway to a complex early seral forest—a severe natural disturbance in an older forest that kills most of the trees (Swanson et al. 2011).

Clearcuts before or after fire in no way resemble the complexity of a complex early seral forest because they lack the very structural elements—biological legacies—that a young forest needs to become established (DellaSala et al. 2014) (e.g., compare Chart 3 vs. 4). Clearcutting after fire (which would accelerate under H.R. 2936), damages soil horizons, requires an extensive roads network that delivers chronic sediment to streams and degrades water quality while killing fish spawning beds, can introduce exotic species to a site, and is often followed by herbicides, livestock grazing, and burning of slash piles (see Lindenmayer et al. 2008, DellaSala et al. 2015). Studies have shown that such logging activities after fire also kill most of the natural conifer establishment (Donato et al. 2006; also see Chart 4). Dense tree planting from small trees grown in tree nurseries then set the site up for the intense fire-logging-intense fire feedback system I discussed in Question 3. This type of logging produces biologically impoverished plantations and is inconsistent with the science of forest resilience.

Question 16. Can you please tell us more about the ecological value of mixed-intensity fires, including large fires, for native biodiversity?

Answer. For over a decade, I worked on rain forest ecosystems internationally and in old-growth forests of the Pacific Northwest, British Columbia, and Alaska. Naturally, I trained myself to view forests as green and verdant. It was not until my 8-year-old daughter and I took a hike in a large burn patch near my home in Ashland, Oregon that I began to question my own assumptions on what makes a forest, a forest. During our hike, she was excited to see how full of life the snag forest was because it included colorful flowering plants, small trees and shrubs,

prolific butterflies, dragonflies, songbirds, bats, and woodpeckers—this was not an end but rather a beginning—a resetting of nature’s successional clock. As a scientist and father, I then began to look more closely at the complexity and beauty of nature after a large disturbance and decided to team with other scientists also studying post-disturbance landscapes to see if this phenomenon was consistent in other regions. What I found was surprising and exciting.

Large forest fires are not “catastrophes” of nature but rather produce a living tapestry of patch severities (fire effects on vegetation) that provide habitat for scores of wildlife across the full successional gradient—everything from woodpeckers that require severe burn patches and deer that live off the bounty of newly establishing plants to spotted owls that nest in the low-moderate burn patches and forage in severe patches (DellaSala and Hanson 2015). It turned out that my daughter was correct and I have been publishing on the importance of these forests in peer-reviewed journals since, including a book that I co-edited/co-authored and collaborated on with 27 scientists from around the world (DellaSala and Hanson 2015). In sum, the biodiversity after large forest fires is extraordinary and was found repeatedly in fire-adapted ecosystems of the American West, Canada, Australia, Africa, and Europe. And it was true for aquatic ecosystems as well, where intense fires produced a pulse of nutrients delivered to streams that within 1–3 years after fire was associated with increased productivity of aquatic invertebrates and fish, provided those areas were not logged as stated in Question #15.

I would invite any member of this Subcommittee to take a walk with me in a burned forest before pre-judging that these areas are ecological catastrophes. I will also bring my daughter along for further explanation as a budding scientist in training!

Question 17. Some advocates for increased logging in national forests claim that there is scientific consensus that active management decreases forest fire extent, severity and impacts. As a scientist, would you agree that there is scientific consensus in this area?

Answer. Certain types of active management (e.g., thinning-from-below of small trees) may lower fire intensity but only under very narrow conditions and not during extreme fire weather (see Question 3). Other types of active management (pre- and post-fire clearcutting) compound disturbances to ecosystems for the reasons stated. In general, industrial-scale logging practiced in different regions of the country over different time periods has liquidated nearly all the Nation’s old-growth forests and is now poised to do the same for complex early seral forests, if logging proposals such as H.R. 2936 are passed. To reiterate, it is important to first define what active management means.

Notably, the claim about consensus was actually made by a non-scientist during the hearing—Mr. Fite. Instead, Bradley et al. (2016), using the largest analysis of data on this question ever conducted by scientists, found higher amounts of intense fire in actively managed areas.

Question 18. Is there anything else you would like to add?

Answer. Public lands are the Nation’s best chance at maintaining intact and fully functional forests and watersheds that support clean water, carbon sequestration, habitat for fish and wildlife (hunnable, fishable, endangered), pollination services, and outdoor recreation opportunities among other benefits. H.R. 2936 would turn much of the Nation’s forests into fiber farms populated by post-fire clearcuts, artificially planted trees, and heavily roaded and damaged ecosystems that will burn more intensely in fires, compounding disturbances in space and time. H.R. 2936 is based on unfounded assumptions, has no scientific basis, and would prevent the public from having a say in how their public lands are to be managed. This QFA is an addendum to my testimony and a supplemental rebuttal to much of the misinformation presented by members of this Subcommittee and the witnesses during the hearing that lacked any science credibility.

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Mr. WESTERMAN. Thank you for your testimony.
The Chair now recognizes Mr. Fite for 5 minutes.

**STATEMENT OF LAWSON FITE, GENERAL COUNSEL,
AMERICAN FOREST RESOURCE COUNCIL, PORTLAND,
OREGON**

Mr. FITE. Thank you, Mr. Chairman. And I offer my thanks to Chairman Westerman and Ranking Member McEachin for the opportunity to address you today.

Speedy action by Congress to enable active forest management is the best way to reduce risks of catastrophic wildfire and improve the resiliency of our Federal forests.

I am with the American Forest Resource Council, and we are a nonprofit trade association that represents manufacturers, mill workers, loggers, and private forest landowners in Washington, Oregon, Idaho, Montana, and California. Our members care deeply about the health and sustainability of public forestlands. These are the lands on which their businesses and communities depend.

Our Federal forests, managed both by the Forest Service and the Bureau of Land Management, urgently need active management to reduce the risk of severe wildfire. At least 58 million acres of national forests are at high or very high risk of severe wildfire.

Over 4.5 million homes in this country are at risk from wildfire. Over 1.1 million acres of national forest need reforestation. But last year, the U.S. Forest Service treated less than 204,000 acres, a small fraction of what is needed. This is largely because it takes too long to move projects through the administrative and legal process.

Active management works. Thinning overstock stands, reducing understory fuels, and other similar techniques reduces the fuel base for any subsequent fire. Students learn in elementary school that there are three elements to fire: heat, fuel, and oxygen—of these three, fuel is the one that we have the most ability to manage over the medium to short term.

I brought some photographs with me to demonstrate how thinning and well-designed forest management projects can improve resilience of forests. Both this photograph and the subsequent photograph were taken from the same spot just facing different directions.

In the first photograph, you can see the green overstory there. The fire swept through, took out some of the understory. But the larger and more resilient trees went through the fire in fairly good shape.

The next photograph, though, shows you an area where no thinning occurred, blackened forests, dead trees, and likely sterilized soil. That is the difference that active management can make. It makes the difference between a living forest and a dead forest.

The extent, behavior, and impacts of recent megafires are without precedent. Warmer climate combines with overstressed kindling-like forests to create firestorms that outpace anything we have seen.

It is no coincidence, for example, that over 90 percent of the burned acres in Oregon were on Forest Service lands, which comprised just over 50 percent of Oregon's forestland, and where active management is nearly at a standstill. Again, that is only about 50 percent of the forestland, but over 90 percent of the fires.

Science continues to recognize the dangers of these severe fires to ecological resources as well. It is not simply the timber resources or recreational uses, but ecological resources.

In one 2014 fire, for example, nearly 20,000 acres of high-quality spotted owl habitat were destroyed. Wildfire is now the number one source of loss of habitat for the northern spotted owl, 10 times as much as any other source, including timber harvest.

And a recent study showed that the probability of extirpation of a California spotted owl increased by seven times in areas that had been burned by severe fire.

We in the Forest Products Industry are ready to partner with interested parties, including government, nonprofits, and other entities in order to make our forests more resilient, more resistant to fire, and to support the jobs and communities that these resources can bring.

I thank the Chairman for his leadership in bringing forth H.R. 2936, which has a tremendous array of useful tools that are worthy of this Committee's consideration.

[The prepared statement of Mr. Fite follows:]

PREPARED STATEMENT OF LAWSON FITE, GENERAL COUNSEL, AMERICAN FOREST
RESOURCE COUNCIL, PORTLAND, OREGON

Thank you for the opportunity to address the Subcommittee on Oversight and Investigations regarding urgently needed reforms to allow for effective management of our Federal forests. Speedy action by Congress to enable active forest management is the best way to reduce risks of catastrophic wildfire and improve the resiliency of our Federal forests.

The American Forest Resource Council (AFRC) is a nonprofit trade association that represents manufacturers, mill workers, loggers, and private forest landowners in five western states: Montana, Idaho, Washington, Oregon, and California. Our members care deeply about the health and sustainability of public forestlands, on which their businesses and communities depend. The forest products industry is the lifeblood of many rural communities throughout the West. In many of these areas, logging or milling is the only plentiful source of family wage jobs, particularly for workers without college degrees. These blue-collar middle-class jobs bring the American dream to rural communities.

My remarks will focus on the need to conduct more robust active management of Federal forests to address the wildfire crisis and ensure stability of rural communities. With active management as a tool, we can have Federal forests that are resilient, diverse, productive and which serve the multiple uses for which they are designated.

FEDERAL FORESTS URGENTLY NEED ACTIVE MANAGEMENT

Our Federal forests, managed by the Forest Service and Bureau of Land Management (BLM), urgently need active management to reduce the risk of severe wildfire. At least 58 million acres of national forest are at high or very high risk of severe wildfire, and over 4.5 million homes are at risk. Over 1.1 million acres of national forest need reforestation. But last year the U.S. Forest Service treated less than 204,000 acres, a small fraction of what's needed. A significant part of the problem is process and paperwork. It typically takes 18 months to 4 years for Federal agencies to develop and implement forest projects. Forest Service employees typically spend 40 percent of their time doing paperwork instead of managing forests.

In the West, this year's wildfire season has been one of the worst on record. It started earlier and fire activity is far above average. Nearly 9 million acres have already burned. Portland and Seattle have both been covered in smoke for days on end, with ash falling in the streets, schools canceled, children huddled inside, and health-sensitive individuals suffering distress. The more than 40,000-acre Eagle Creek Fire devastated many treasured recreational sites in the Columbia River Gorge and closed a key Interstate highway for weeks. Across the country, nearly 4.5 million homes are at risk from wildfire.

Near Brookings, Oregon, the Chetco Bar Fire burned nearly 190,000 acres—an area four times the size of the District of Columbia. This fire started in a Wilderness

Area where active management is prohibited, so the Forest Service did not immediately move to suppress it. The fire grew and spread to nearby Federal lands. After burning for over 2 months, it was only 53 percent contained as of mid-September, at a cost to taxpayers of over \$57 million. This fire caused the ash clouds and haze to cover the coastal town of Brookings.

Catastrophic fires are the result of decades of fire suppression, coupled with unprecedented fuel buildups due to a lack of forest management activity. These catastrophic fires destroy valuable timber resources but also degrade many of the other uses of healthy forests. In one 2014 fire, nearly 20,000 acres of high-quality northern spotted owl habitat burned. In fact, over the past two decades, wildfire has become the greatest source of habitat loss for the northern spotted owl. Between 1995 and 2015, according to the Forest Service, habitat impact attributed to wildfire was *ten times* the impact from timber harvest. Since 2015, wildfire impacts have only worsened. One recent study showed that probability of extirpation of California spotted owls increases by a factor of *seven* after a severe fire.

There is scientific consensus that active management decreases forest fire extent, severity, and impacts. An actively managed forest will exhibit fire behavior more consistent with the historic role of fire in forested ecosystems. Owing to this scientific consensus, many groups—including environmental organizations—have changed their positions on active management, at least in the roared “front-country.” At AFRC, we are deeply involved in collaborative efforts with such groups, and our attorneys are representing collaborative groups in litigation throughout the West. Following the science, projects developed in collaboration between industry, environmental groups, recreational users, local government, and others have made significant strides in forest restoration. But more is needed.

Some deny the fire science because it conflicts with their ideology. They deny that these fires are actually catastrophic, or they point to climate change to deny that fuel buildup plays any role in fire intensification. Climate change is certainly a factor, but it is not working alone. It is not an either/or question. Warmer climate combines with overstocked, stressed, kindling-like forests to create firestorms that outpace anything the country has seen in living memory. It is no coincidence that over 90 percent of the burned acres in Oregon this year were on Forest Service lands which comprise just over 50 percent of Oregon’s forestland and where active management is nearly at a standstill. The state and Federal Government have about equal amounts of land in Oregon, and experience equal numbers of fire starts. But burned areas are overwhelmingly concentrated on Forest Service lands. Active management will make these Federal forests more resilient to these extreme events.

Attached to this testimony are two photographs demonstrating how active management can work. The photographs were taken in the same spot, facing different directions, by AFRC’s field forester. Both areas were affected by the National Fire on the Umpqua and Rogue-Siskiyou National Forests in southern Oregon. The first photograph shows where thinning occurred in the “D-Bug” project. There, the fire crept on the ground and left the overstory intact. The fire crews were able to hold the fire south of Oregon Highway 230 in these thinning units. The second photograph, taken from the same spot in the other direction, is 100 percent black in the overstory and understory—this is where thinning did not occur. This is a stark demonstration of how active management can restore the historic role of fire.

Unfortunately, there are too many bureaucratic and legislative roadblocks tying land managers’ hands. Because of these roadblocks, forests have been burning before they have been treated. At least three major projects have been planned in recent years which burned before implementation. The 2014 Johnson Bar Fire in Idaho burned the area of an in-progress collaborative restoration project; when the Forest Service attempted to build on that work to conduct post-fire work. Yet a fringe group sued and obtained an injunction—resulting in the closure of a sawmill in Orofino, Idaho. In 2016, the Pioneer Fire destroyed the area of the Becker Project on the Boise National Forest, putting a whole year’s timber volume for southern Idaho at risk and resulting in severe environmental and recreational impacts. To its credit, the Forest Service used all available tools and put two post-fire projects together in only 9 months. However, those projects are the subject of threatened litigation under the Ninth Circuit’s mistaken *Cottonwood* decision.

The Stonewall project on the Helena-Lewis & Clark National Forest is a true cautionary tale. After a fringe group sued, the district court, acting under the *Cottonwood* decision, issued an injunction. The court noted that an injunction would be a “wise course” because “the risk of fire is not imminent.” This was despite the fire history in the area of two fire starts every year for the past 10 years. Mere months later, the project began burning in the 18,000-acre Park Creek Fire, which was contained only after expenditures of over \$10 million in suppression costs.

We need common-sense reforms to lighten the burden of redundant administrative process and continuous litigation. Forestry is traditionally an area of bipartisan progress, and it still can be. There are a number of measures with support from Republicans and Democrats, environmentalists and industry. The Committee should take quick action to advance forestry reform legislation to give us the best chance to mitigate future wildfire seasons.

THE RESILIENT FEDERAL FORESTS ACT OFFERS COMPREHENSIVE SOLUTIONS TO THE
FOREST HEALTH CRISIS

H.R. 2936, the Resilient Federal Forests Act (RFFA), offers the management agencies the tools they need to address the forest health crisis. The Act would give additional tools to remove dead trees after wildfires, creating new revenue to replant and rehabilitate burned forests. It would also enhance the ability to create young and mixed-age forest habitat to support wildlife. It would incentivize and fast-track forest projects developed by local collaboratives, usually consisting of conservationists, timber industry and elected officials. And it would provide an alternative to costly and obstructive litigation from special interest groups. In sum, the Act would reduce project planning times and lower costs to American taxpayers. The RFFA was reported favorably out of the Natural Resources Committee in June. Several of these provisions, if enacted into law, would give the agencies tools they need.

The Act contains provisions that would fix the disastrous *Cottonwood* decision from the Ninth Circuit. This echoes bi-partisan legislation in both chambers (S. 605 and H.R. 1483). In brief, fixing *Cottonwood* will allow projects to move forward under existing forest plans if an appropriate plan-level ESA consultation is completed. It will eliminate any requirement for the Forest Service or Bureau of Land Management to *reinitiate* consultation due to new ESA listings or critical habitat at the plan level—and only at the plan level. The bill does not change existing law regarding applicable requirements to consult on individual projects, new forest plans or plan revisions. The Ninth Circuit requires consultation on new plans, while the Tenth Circuit does not. The Act would leave this circuit split in place.

The RFFA provides Categorical Exclusions (CEs) under the National Environmental Policy Act will allow needed forest management projects to be more quickly prepared, analyzed, and implemented. Specifically, it authorizes a CE to remove hazard trees and salvage timber to protect public safety, water supply or public infrastructure where forest management activities are permitted. The Act will also allow forest recovery projects to proceed more quickly, addressing a dire need created by recent wildfire seasons. The Forest Service has long experience with management techniques to reduce forest pests, thin hazardous fuels, create and maintain habitat for species, recover damaged timber and protect water quality. These projects mitigate risk and help create early successional forest habitat which is good for wildlife.

H.R. 2936 addresses both the excessive analysis requirements imposed on even modest forest management projects, as well as the dysfunctional system of funding suppression costs out of forest management program accounts. Provisions in the bill limit the acreage of Categorical Exclusions, and prohibits their use in sensitive areas. The legislation provides access to the disaster relief fund for wildfire suppression expenses in excess of the 10-year average.

The Act contains provisions to improve the ESA consultation process. It allows the Forest Service and BLM to make Not Likely to Adversely Affect determinations for listed species. This makes use of the extensive biological expertise at both agencies and allows the consulting agencies (Fish & Wildlife Service and NOAA Fisheries) to concentrate their resources and expertise on projects where adverse impact is anticipated. The RFFA also establishes a 90-day deadline for projects conducted under a CE for which formal ESA consultation is required.

Another provision that is crucial to forest health is the “Eastside Screens” fix in section 905 of the RFFA. The “Eastside Screens” were put in place administratively in 1995 to forbid harvest of trees above 21 inches in diameter in six National Forests in eastern Washington and Oregon. After more than 20 years, these screens have become a hindrance to effective forest management. Many forests in these areas have too little Ponderosa pine, the historically dominant and most resilient species. Instead, younger larger lodgepole pine is crowding them out. Good forestry and wildfire protection weighs in favor of selectively removing these lodgepoles, but the screens’ blunt instrument prevents that. Courts have blocked efforts to relax the screens even in the context of well-designed forest management. As a result, congressional action is needed to ensure the health of these Eastside forests.

CONCLUSION

The legislative solutions before you can mitigate the horrific effects of catastrophic fire and restore the health of forests and rural communities. Now is the time for Congress to make effective active management a reality.

ATTACHMENTS



Mr. WESTERMAN. I thank the gentleman for his testimony.

I thank all the witnesses for your testimony today.

As we have heard concerns expressed during the testimony about greenhouse gas emissions and climate change, I would like to enter into the record this study published in the *Journal of Sustainable Forestry* recently. It is called, "Carbon, Fossil Fuel, and Biodiversity Mitigation With Wood and Forests." It is by scientists from the University of Washington and Yale University. And it identifies how forest management and the efficient use of wood products contributes the most to carbon dioxide savings.

We have already heard from some of our witnesses about the benefits of thoughtful use of our forest resources, and I am looking forward to continuing that discussion during the question-and-answer portion of the hearing.

I will remind Members that Committee Rule 3(d) imposes a 5-minute time limit on questions, and I will now recognize Members for any questions that they may wish to ask. I will remind Members that we will have votes scheduled around 4:15, so I am going to be a stickler on the 5 minutes.

I will recognize myself first for 5 minutes of questions.

Mr. Fite, many of us here are familiar with the term "fire borrowing" and the problem that the U.S. Forest Service has and how fire suppression activities are impacting the Forest Service's budget. Do you believe that simply throwing more money at the Agency will sufficiently address the fire borrowing issue?

Mr. FITE. No, Mr. Chairman, I don't believe that simply throwing more money at it—certainly fire borrowing is an issue that needs to be fixed, and it needs to be fixed in a way that is manageable for the future.

But we are looking at a framework where a forest management project can take 6 years to go through the NEPA process, a forest management project covering a few hundred acres, maybe 1,500. And you compare that to the NEPA process for a construction project.

So, if there isn't some management reform that is implemented, as in H.R. 2936, some of the provisions there, we are not going to be able to use any additional funds in a reasonable and efficient way to give the taxpayer a good return on their investment.

Mr. WESTERMAN. Would you say if we just throw more money then we will be back here later throwing more money if we don't address the root problem?

Mr. FITE. I have no doubt we would be, Mr. Chairman.

Mr. WESTERMAN. And, Mr. Rigdon, you mentioned in your testimony that nearby Federal lands receive nearly five times the fire preparedness funding per acre per year as your tribal land. Despite the reduced funding, can you describe how the fire spread and fire damage on your land compares to that on surrounding national forests?

Mr. RIGDON. Thank you, Mr. Chairman.

When we have had fires over the last couple years, we have witnessed some pretty devastating fires. Currently, this summer, we are watching the Columbia Gorge, and that type of fire is, sending it into some of the pictures that Mr. Fite showed, the stands are replaced and there is nothing there.

Our goal and what we are trying to do is, I think we need to remind ourselves that we need all of the tools in the toolbox as we talk about this. And, stopping fire, I think, is important now and using it as a tool, when it is appropriate doing prescribed burning. But you need to thin the forest down through both commercial thinning and precommercial thinning in a manner that helps get the place where it is set up so that you can have effective fire and do the type of things that will enhance the forest health. I think that is a real important part of that discussion.

Mr. WESTERMAN. So, wildfire does not know that there is a man-made boundary when it is burning through the forest, and it crosses the different jurisdictions and landownership boundaries. So, while the tribes have implemented management strategies on their own lands to reduce wildfire risk, you are still subject to fires from adjacent national forests threatening your land.

Can you share some of the impacts that fires originating on Forest Service land have had on the tribes and tribal forest?

Mr. RIGDON. As we witnessed in 2009, the Cold Springs fire in the Gifford Pinchot National Forest burned over into our forest. The Warm Springs Tribe continually has those type of problems with those fires, and those have direct and heavy impacts on Warm Springs in Oregon.

And the real thing is, as fires come onto the reservation, they are coming off these very hot, intense fires from the Federal lands, and then they hit the reservation.

If we don't have our treatments and try to do boundary protections, they will actually devastate into our lands and cause damages that are unforeseen or can have a great impact onto both the ecological things that we want protected but also our economy that depends upon some of the timber.

Mr. WESTERMAN. Despite being required to comply with many of the same Federal environmental laws, what approach to forest management and institutional differences do you believe set tribal forests apart from other federally managed forests and contribute to a willingness to engage in active management?

Mr. RIGDON. Well, I think it is important to recognize that our tribal trust lands follow—we have NEPA, we do ESA consultation for spotted owls on our reservation, and we follow all those laws.

The one thing that I think is really important is that our constituents, our community is tied to these things. What we do and the activities that we are doing, our community understands and is well-engaged into that, and that is the local community, the tribal community. I will go into Safeway and someone will tell me if they don't like something that has happened in our forest. And I know that connection took place. That place where we come from is a real critical part.

Mr. WESTERMAN. Mr. Rigdon, following my own rule, I am going to have to close my time here and recognize the Ranking Member, Mr. McEachin, for 5 minutes.

Mr. MCEACHIN. Thank you, Mr. Chairman.

Dr. DellaSala, what is the evidence that climate change is currently the biggest driver of forest fires? Why isn't the fire deficit the biggest driver?

Dr. DELLASALA. Well, we look at long periods of time in terms of how fire behaves in relation to drought cycles, for instance. When we go back into the early 1900s, there was a period of extended drought and a very active fire season. You can see that from Chart 1.

The evidence that we are now in a warming period is overwhelming. The IPCC report that you quoted shows there is a direct climate signal that is affecting wildfire behavior in many places around the globe, including the western United States.

We can now attribute about half the acres that have been increasing in recent decades to a warming climate that is providing the conditions for more extreme fire weather, such as high winds, dry conditions, drought. All that adds to how a fire behaves across an area and explains a good chunk of why we are seeing these increases right now.

Mr. MCEACHIN. Thank you for that.

Since we will be seeing more tinderbox-like conditions that are going to make these types of fires common and more intense, what type of activities should we be advocating to both prevent and prepare for these types of fires?

Dr. DELLASALA. Well, thank you for asking that. I want to refer to two charts in my testimony. First of all, a visual, Chart 3A and B. Those are the kinds of activities that are not going to make forests resilient. This is going to worsen the problem.

The top photo is from the Douglas fire complex in southwest Oregon. There were two other fires burning at the same time under similar weather conditions in remote areas. Those two fires burning in remote areas burned in a very healthy ecosystem wildfire pattern.

The fire that burned through those private lands with plantations blew up when it hit the small trees that were densely packed and logging slashed as high as three-story buildings. That is the kind of activity that will promote more and intense fires.

And it is not just anecdotal. This chart here shows 1,500 fires that were examined over four decades using peer-reviewed science showing very similar results that areas with intense logging had the highest severity of fire.

If we are going to get through this period of warming climate, we have to learn how to co-exist with these fires by directing more funds to helping people that are preparing their homes for the event of more fire, by reducing this kind of logging in the back country, and focusing activities on working with fire and not suppressing every fire under safe conditions.

Mr. WESTERMAN. Let me ask you, because we only have literally 2 minutes left. Let me ask you a little open-ended question, and that is, you have heard a lot said today. Is there anything that has been said today that would prompt you to comment in any way that you care to, please?

Dr. DELLASALA. Yes, absolutely. First of all, the fires that are burning in these ecosystems are not ecological catastrophes. They are catastrophes, no question, when they affect people. But these are not ecological catastrophes. I have been working with scientists all over the world for the past decade documenting the biodiversity that occurs in these fire-dependent systems.

Even the slide that was shown before, that was a lodgepole pine forest that needs high-intensity burning to open up the seed cones. By thinning that forest, you are actually going against its fire regime because it needs a hot fire to prop open those cones.

I just want to point out the ecology of these areas. The same thing with the spotted owl. I served on the recovery team. The owl is not at risk from forest fires. What happens to the owl is that it abandons its territory when there is a post-fire logging operation.

They do quite well in a mixed severity fire event. It is not an ecological catastrophe. We have to figure out how to manage these fires in a way that allows for ecosystems to get through this change in climate. More logging will not do that.

Mr. MCEACHIN. Thank you. We have just about run out of time, so I yield back.

Mr. WESTERMAN. I thank the gentleman.

I have been informed that votes have been pushed back to 4:45, so we have a little bit more time, but we are still going to stick strictly to our 5-minute rule.

I will now recognize the gentleman from Louisiana, Mr. Johnson.

Mr. JOHNSON. Thank you, Mr. Chairman.

It was said earlier that there have been a number of hearings, multiple hearings on forest fires. But I just want to go on record to say I appreciate the hearing and the opportunity. I am one of a few new Members of Congress on this Committee. This is valuable to us, so thank you for your time, all of you, in being here.

Mr. Chilcott, the urgent threat to human health and safety requires us, I think we all agree, to address the spread of these catastrophic wildfires as soon as possible, and it mandates a decisive response. I think it is critical that all of Congress, everyone understands the impacts that fires are having on Americans' lives.

I am from the state of Louisiana. We have fires but certainly not to the extent that they have them out West, so it is important for folks in different regions of the country to understand all of this.

Mr. Chilcott, do you think that forest fires spreading to areas of the country that don't usually experience wildfires is something that we need to contend with going forward?

Mr. CHILCOTT. Thank you for the question, Congressman.

We absolutely need to prepare for wildfires, no matter where they are coming from. Our human population is also part of our environment and part of our community, and that is why we need a strong partner like the Federal Government to come up with the policies that help us actively manage these fires and these stands where we can protect our community and protect our environment, to say nothing of our water and air quality. Thank you.

Mr. JOHNSON. I have one more for you. The thing that jumped out to me in your written testimony was the references you made to these frivolous special interest lawsuits. And that is a big problem in a number of places across the country. And as you point out, it serves to delay much-needed management of the National Forest System.

You talked about, in your written testimony, how it provides financial incentive to litigate the projects. Can you expand on that a little bit more today?

Mr. CHILCOTT. I am certainly not an expert, Congressman. But I would say that we have created a second-tier industry in Washington of attorneys who can sue the Federal Government at will, recover their attorney's fees, and stop or delay a project until it loses its value.

I think that is a problem, when we have professional land management folks out there that we have hired to go out and assess the resources out on the ground and come up with a recommendation to better treat them and take care of them for the American people and provide for the protection of our citizens.

Mr. JOHNSON. So, it hinders the efforts of people that are trying to properly manage the forest system, right?

Mr. CHILCOTT. They have become managers of paperwork and litigation rather than resources.

Mr. JOHNSON. Thank you.

Do you have particular reforms in mind that you are prepared to talk about today on how we could fix that? Because I think there would be a consensus among us that we would want to try to solve that problem or help with it.

Mr. CHILCOTT. I know that the National Association of Counties has policy on this, and I would be happy to get that back to you shortly, by the end of the week.

Mr. JOHNSON. That would be great. I think that would be valuable to us.

Mr. Fite, I think that perhaps some of your slides or some of the information you have presented has maybe been called into question here in the last few minutes. Would you want an opportunity to rebut that or respond?

Mr. FITE. Certainly. Thank you, Congressman.

I want to talk about just the idea that this is all climate change and we should just let everything go. Where we are at in the western dry forest is we have catastrophic wildfires, the likes of which we have not seen. And this is a century of fire suppression, lack of active management, and a warming climate on top of that.

So, if you are in a hurricane zone, you are still, regardless of whether folks argue about whether hurricanes have something to do with the climate, you are still going to put your house on stilts. And that is what we are talking about. If you do more active management, then you can build a more resilient forested landscape.

The photographs were from a fire called the National Fire in southern Oregon. Lodgepole pines, in certain respects, are fire resistant, especially the old ones. But the natural role of fire is they come through, and you still retain some live trees. That is what you have when you have a living forest. You do not have everything die like it did in the unthinned stands.

And also, just to address your question about forest fires spreading to new areas, we saw in 2015 a forest fire that lasted 6 months or more in the Olympic National Forest, which is basically a rain forest, and that shows you where we are out of balance in how we are managing our forests.

Mr. JOHNSON. Thank you.

I am out of time. I yield back.

Mr. WESTERMAN. The gentleman yields back.

You know it is a good hearing when you hear discussion about the serotinous cones of lodgepole pine, and then an attorney talks about frivolous lawsuits all in one meeting. As we continue on, I recognize Mr. Clay for 5 minutes.

Mr. CLAY. Thank you, Mr. Chairman, and I thank the witnesses for their participation today.

Mr. DellaSala, we hear the claim that the intense fires we are seeing recently are due to forests being poorly managed by the Federal Government. But based on your testimony, it seems like a lot of science has gone into helping land managers make educated decisions about fire, climate change, native species, and the wildland urban interface, and how they are affecting forestlands.

My question is, do you think that our national forests are suffering from a lack of active management and that they are overgrown and unhealthy?

Dr. DELLASALA. Thank you for that question.

First of all, as a scientist, I don't deal in anecdotal observations, and I have been hearing a lot of anecdotal observations about fire behaving one way or another. I deal in data. When I look at how a fire is behaving, I look at it over a statistically representative sample size, and I am not hearing that in a lot of the statements.

So, when I look at the full range of data, over 1,500 fires were looked at, areas intensively managed, burned in the highest intensities, areas protected in national parks and wilderness areas burned in lower intensities.

The problem is not the national forests. The problem is—this landscape will burn as a firebomb. Plantations burn hotter in a forest fire than native forests do. We know this from numerous studies based on peer-reviewed science.

When we talk about active management, we need to be clear, what do we mean? Are we talking about thinning? Salvage logging? Clear-cut logging? They all have different effects on fire intensity.

Clear cuts, by and large, will make the area a firebomb. Thinning may reduce fire intensity, but not under extreme fire weather. Post-fire logging will only reduce forest resilience because it removes the very components that forests need to come back.

For example, this beautiful picture here, I had to retrain my eye in terms of what a forest was. I was working in rain forests for 10 years, and then I started to look at fire-dependent forests. I was used to seeing this beautiful old-growth forest.

But that beautiful old-growth forest, at some point, is going to burn, and it is going to look like this beautiful blackened forest. The two of them are linked together. You cannot have one without the other. When you pull out these big trees, whether they are alive or dead, that prevents the forest from going through its natural process of becoming an old growth over time.

That is what logging removes. That is not resilience. That is setting the area up for something other than a forest over time and increase in fire hazards.

Mr. CLAY. It sounds like one of the problems is that we have some science deniers here.

Let me ask you this—every year, the Forest Service spends more money and puts more and more firefighters at risk with multiple fatalities each year. If climate change continues to go unabated, is

there anything that will reduce the risks to firefighters, or reduce the amount the Forest Service spends on firefighting?

Dr. DELLASALA. Great question. Thank you for that. I just went through a very active fire season in southwest Oregon. The Chetco Bar fire was burning essentially pretty close to where I live, and the Forest Service did the right thing.

It is incredibly steep canyon country, some of the steepest country in the world. This is why wilderness areas are still wilderness. They are remote. Putting firefighters into that area would have been a death trap.

And if my son or daughter was a firefighter, I would not have wanted them in the Chetco Bar fire area. It would have been hazardous. There was no way out. The Forest Service made the right call. The fire burned naturally, and then the winds kicked up, the temperature increased to 115 degrees and the fire took off.

That is the new novel climate that we are headed to. If we want to solve this problem, we need to work on greenhouse gas emissions, mostly coming from the burning of fossil fuels and deforestation globally.

That is the real driver of hurricane intensity, of fire increases, of sea-level rise, of melting glaciers. This is happening all over the planet. There is no one-size-fits-all solution to getting out of a climate change fix.

Mr. CLAY. Sounds as though we need to look at the data and the science and start making decisions based on what is real. I thank you for your answers, and I yield back.

Mr. WESTERMAN. The gentleman's time has expired.

I now recognize the gentleman from Idaho, who has certainly seen his share of forest fires in his state, Mr. Labrador.

Mr. LABRADOR. Thank you, Mr. Chairman. And thank you for holding this hearing today. The topic we are discussing could not be more relevant to what is happening on the ground in Idaho right now.

This year is one of the worst fire seasons in U.S. history. Nationwide, over 8.5 million acres have burned, and in Idaho almost 600,000 acres have burned. Idahoans have suffered throughout a summer of terrible smoke with air quality reaching unhealthy, and even hazardous levels. I know that the lack of proper forest management by the Federal Government is not the sole cause of these fires, but the lack of management is definitely a major factor.

Mr. Rigdon, do you consider yourself a science denier?

Mr. RIGDON. No, I do not.

Mr. LABRADOR. No. Mr. Chilcott, do you consider yourself a science denier?

Mr. CHILCOTT. No, sir, I do not.

Mr. LABRADOR. Mr. Fite, do you consider yourself a science denier?

Mr. FITE. I do not, Congressman.

Mr. LABRADOR. All right. So, Commissioner Chilcott, when I travel throughout my district, I hear the same two things from my County Commissioners—first, that they are scared that the unhealthy conditions of the Federal forests that surround their communities pose significant risks to the safety of their constituents; and second, that they are concerned about the impact

that the lack of active management is having on their local economies.

I believe that we can address both of these concerns by increasing active management on our Federal forests. Do you believe that the lack of management has led to an over-accumulation of hazardous fuels in the forest?

Mr. CHILCOTT. Yes, sir, I do.

Mr. LABRADOR. And that is because you deny science?

Mr. CHILCOTT. No, sir, I do not deny science.

Mr. LABRADOR. Is this over-accumulation of hazardous fuels a safety threat in your county?

Mr. CHILCOTT. It is.

Mr. LABRADOR. Why do you say that?

Mr. CHILCOTT. It is a threat to not only our public safety personnel who address the fires, fight the fires, and evacuate the citizens, but to our respiratorily-compromised population who has to leave our jurisdiction to find clean and safe air; the impact to our water and water quality; the impact to our economy through the loss of revenue from the tourism base; from the cost to local government to mitigate the impacts of the fire and to pay the personnel that are responding to the fire.

That is why we need a partnership with our Federal Government and our state to better address the problems that are facing our citizens and our economies.

Mr. LABRADOR. What impact would an increase in active management have on the fuel load and the economy in your county?

Mr. CHILCOTT. What impact?

Mr. LABRADOR. Active management, what would it do for your community? What would it do for the fuel load in the forest, and what would it do to your community?

Mr. CHILCOTT. Thank you, Congressman. Sorry for interrupting.

Mr. LABRADOR. No, it is all right.

Mr. CHILCOTT. It would reduce the fuel load, increase jobs, enhance the economy, produce revenue for not only loggers or people on the ground but also for the Agency and for local government to produce revenue to create infrastructure and education opportunities for our students.

Mr. LABRADOR. Thank you.

Mr. FITE, opponents of active forest management offer the argument that fire is a natural part of the landscape and, therefore, we should not manage the forest to prevent wildfires. In your written testimony, you state that fires and actively-managed forests actually behave more consistently with the historic role of fires in the ecosystem. Can you explain why this is the case?

Mr. FITE. Absolutely, Congressman, that is because of a lack of active management and decades of fire suppression led fuels to build up well above the historic ranges, and the composition of forests are outside the historic range of variability.

So, when a fire comes through, it doesn't act like fire has historically. What it acts like is the catastrophic fires that we have seen. And, in fact, the science bears this out. There are several scientific studies each year about the threat of megafires, for example, to old forest species.

Mr. LABRADOR. But your colleague sitting right next to you says the opposite, that science actually shows that active management increases the intensity of fires.

Mr. FITE. Well, I respectfully disagree. And I would point out, we at the industry, we have worked with a lot of conservation-minded organizations and that is because they are following the science to where we need to do active restoration work in a lot of our Federal forests.

So, I think that if you follow the broad stream of where the science is taking you, without cherry-picking, that is, I think that is where you should end up.

Mr. LABRADOR. Let's talk about cherry-picking. Are you familiar with this chart that he just presented? He says that between 1950 and 1980, there were less fires. Wasn't there more active management of forests between 1950 and 1980?

Mr. FITE. There was, Congressman.

Mr. LABRADOR. Thank you.

Mr. WESTERMAN. The gentleman's time has expired.

I now recognize the gentlelady from the beautiful island of American Samoa, who is blessed with a beautiful tropical rain forest, for 5 minutes, Mrs. Radewagen.

Mrs. RADEWAGEN. I want to thank you, Mr. Chairman, along with the Ranking Member for holding this oversight hearing to explore solutions to reduce the risks of wildfires.

I also thank the panel for your appearance today.

You know, Mr. Chairman, as we all do, when the fire bell rings, there are no politics among the response of our brave men and women in the firefighting corps. The firefighting family is a very close-knit group extending throughout the United States and all its territories, including a small place where I come from, American Samoa.

Firefighters from American Samoa, based in the National Park of American Samoa, just this past August, recently fought side by side with their fellow firefighters in Modoc National Forest in Alturas, California, and Sheehy Memorial Fitness Park in Redding, California, last year.

The Samoan firefighting crew responded to the call to help their fellow firefighters in multiple instances in California and Nevada over the past several years. And last year, I visited our Samoan firefighters at their work site in Redding, California.

There is a long and proud tradition of courage in both Samoan and firefighting culture, and I commend all the firefighters in the states and territories for putting themselves in harm's way in order to protect the natural beauty of all our parks, for the recreation and enjoyment of everyone.

I have a question for Mr. Chilcott. In addition to a reduced wild-fire threat and an economic boost from timber harvest, what other benefits might communities and the surrounding ecosystems enjoy from healthier actively managed forest?

Mr. CHILCOTT. Thank you, Congresswoman.

The benefits are broad. Certainly, the economic benefit you mentioned is critical to our communities. The impact of an enhanced environmental position where we do not have to breathe in hazardous smoke, the improvement of our water quality are important.

We have seen scarring that lasts for decades from these catastrophic wildfires in a valley that is 73 percent owned or managed by the Federal Government, limiting what we can do and perform to protect our viewshed. So, active management is critical, and your partnership is critical for us to move forward. Thank you.

Mrs. RADEWAGEN. Mr. Rigdon, how do other important natural resources on tribal land depend on effective forest management, and how does the successful forest management ensure that the tribes can continue to utilize those resources?

Mr. RIGDON. I think that a critical part of this conversation is, historically, our lands are shaped by the use of fire by my ancestors, by the people there before that lit fires and created the habitats that were necessary, that made the West what the West was with the large ponderosa pine and savannah forests of those areas. There is food. There are natural resources. There are things that our community depends upon today. There are cultural practices today that are dependent upon that type of habitat that is there. It is important that the role fire plays was historically done through our people. And sometimes I get it, kind of, management has always been a part of the land, and I think it is an important part. Our people did it in a way to sustain our way of life in that place there. That traditional ecological knowledge is a very important part of the history of what the land tells us, and 100 years of not recognizing that science, and fire suppression, and those activities have helped lead to where we are with some respect to the unhealthiness of the forest you see.

Mrs. RADEWAGEN. Thank you, Mr. Chairman.

I yield back.

Mr. WESTERMAN. The gentlelady yields back. The Chair now recognizes the gentleman from California who is also no stranger to catastrophic wildfire in his district, Mr. McClintock, for 5 minutes.

Mr. MCCLINTOCK. Thank you, Mr. Chairman. When the Ranking Member complains we have done too many hearings on catastrophic wildfires, I think maybe his perspective would be different if he could have been at the command center at the King Fire a few years ago, for example, in my district where we were in imminent danger of losing two entire towns, Georgetown and Forest Hill, to that fire. One of the firefighters, with tears in his eyes, came to me and said, "Congressman, I can't even get to this fire on the ground. We used to have good timber roads. I could get equipment there. All I can do now is drop stuff from the air and pray to God the wind shifts."

The wind shifted. Those towns were saved. If it hadn't, we would have lost not only those towns, the fire would have burned into the Tahoe Basin, which is catastrophically overgrown. I wish you could have been at the Rim Fire. We were told we rely too much on anecdotes. When I was at the command center for the Rim Fire, which took out several thousand acres, I asked the firefighters there, "What message can I take back to Congress, in your name?" They said two words: treatment matters.

Where the fire hit treated areas, it slowed, it broke up, they could put it out. But they said there is just too little of it here. That is the advice of the people actually on the ground.

But I want to explore this notion that, oh, it is just climate change. We really cannot manage our way out of it.

Mr. FITE, if the climate is growing warmer, and it is. It has been on and off since the last ice age, that is undeniable. And we are looking at less precipitation. I am told that snow in overcrowded forests is trapped in the canopy and ends up evaporating rather than being absorbed into the ground as groundwater. And I am told the transpiration rate of overcrowded forests is a huge problem, even in normal years. In a drought, it is absolutely lethal. If we are looking at warmer temperatures and less precipitation, doesn't it make more sense to thin our forests so that we can match the tree density to the ability of the land to support it?

Mr. FITE. Absolutely.

Mr. MCCLINTOCK. The assumption is that increasing levels of carbon dioxide in our atmosphere are creating an artificial global warming. What is the effect of wildfires on carbon dioxide?

Mr. FITE. Congressman, catastrophic wildfires like we have seen, they shoot tons and tons of carbon into the atmosphere.

Mr. MCCLINTOCK. Well, in fact, there was one estimate that just a single fire in California recently released more carbon dioxide into the atmosphere than had been saved by all the Draconian California laws over a period of 3 years, making a mockery of all of those laws. Yet, we are told, "Don't worry, just let the fires burn, they are nature's friend."

How is that a consistent scientific argument? I don't understand it.

Mr. FITE. I don't believe it is consistent. When you have forests that are in need of management, if they are managed, they become good stores of carbon, and you can produce products with wood. You can build things that are so much less carbon-intense.

Mr. MCCLINTOCK. In fact, trees are a huge source of sequestration for carbon, are they not?

Mr. FITE. Absolutely.

Mr. MCCLINTOCK. What absorbs more carbon, a young adolescent growing tree or on an old tree?

Mr. FITE. Generally, the younger tree. And if you don't have enough—

Mr. MCCLINTOCK. Doesn't it make sense to harvest the older trees and replace them with young growing trees to sequester more carbon?

Mr. FITE. It depends on the specific landscape.

Mr. MCCLINTOCK. When we mill timber, isn't that carbon then sequestered indefinitely in that milled timber? Hundreds of years it was used for a building, for example.

Mr. FITE. It is, and that is a much less intense process than some other building materials.

Mr. MCCLINTOCK. Our Committee, in the hearings that we have had, has often been shown aerial photographs of forests throughout the western United States. And you can very clearly tell the boundary between managed land and neglected land simply by the condition of the forest. It is absolutely dramatic. I have seen it myself from the air on aerial tours in the Sierra. You can tell exactly where the property line is.

How clever of it is the climate to know exactly where the boundaries are between privately-managed lands and the public lands?

Mr. FITE. It seems quite clever.

Mr. MCCLINTOCK. We are told that controlled burns are an important tool. They are. But the Detwiler Fire that we just had in the Sierra, near Yosemite Valley, as a matter of fact, we were told that they cannot get permits for controlled burns.

Mr. WESTERMAN. The gentleman's time has expired. I appreciate the gentleman joining the Committee today. Also, another new Member of Congress, but certainly no stranger to forest fires from the great state of Montana, Mr. Gianforte, for 5 minutes.

Mr. GIANFORTE. Thank you, Mr. Chairman, and Ranking Member.

Forest fires have devastated Montana this past summer. I have been on the ground on five of those fires, and I have seen firsthand the result of failing to manage our forests. We burned over 1.2 million acres in Montana this past summer. That is equivalent to the state of Delaware—blackened. We lost lives fighting those fires, livelihoods were threatened, habitats were destroyed, and we had dangerous air quality in our communities throughout the entire summer. Our fire season is longer, and it is further depleting these resources and extinguishing habitat.

Commissioner Chilcott, in your testimony, you highlighted the growing costs associated with wildfire suppression. And you believe that, from your testimony, that the Forest Service's hands are really tied when it comes to forest management because of the onerous NEPA process and also the Endangered Species Act. You also mentioned Equal Access to Justice being an impediment. You advocate for more active forest management.

Could you provide some examples from your community in the Bitterroot, about forest management on private land adjacent to Federal lands, how the fires reacted when they came off the public lands onto the private lands that had been managed?

Mr. CHILCOTT. Thank you, Congressman. It is a great question. Yes, I would be happy to.

In my written testimony, I included pictures of the Tabke private land, as well as state trust lands that had been mechanically treated and had harvested timber that were adjacent to the Lolo Peak Fire. When the Lolo Peak Fire hit those managed lands, the fire intensity dropped to the ground and was able to be controlled, in my opinion, saving the community of Florence, Montana. These are examples that demonstrate how active management partnership between public agencies and the private sector work. And they also protect an enhanced stand, our stands of trees, and reduce the mortality. That is why I am here today, to ask for policy that promotes that partnership.

Mr. GIANFORTE. Commissioner, we have heard other testimony today from the panel that forest management and thinning really does not help. In fact, it makes things worse. I have been in Ravalli County, the Roaring Lion Fire last year. It was a devastating event. We almost lost the town of Hamilton. I remember the fire coming down the hill, and it intersected with the Roaring Lion Ranch there, which had been managed. And the fire behavior changed dramatically when it hit that boundary.

You have been out on-site with these fires in Ravalli County. Can you describe what it looks like when a fire comes off of these unmanaged lands onto a managed forest?

Mr. CHILCOTT. Again, thank you for the question, Congressman.

Yes, when we see the fire and the fire crews fighting a fire that is catastrophically engaged and it is coming down a mountain toward one of our—in fact, our largest community in Ravalli County—and it hits these managed lands that were done on private property, and the fire intensity drops almost immediately and gives our fire suppression personnel an opportunity to engage the fire head on, and stall or stop the fire at that point, it will work around those managed lands and stay in the untreated land and continue to create havoc. But they are critical to the survival of our communities.

Mr. GIANFORTE. I recognize that is just an anecdote. But when I was on the ground there meeting with the sheriff in Ravalli County, he told me that because those lands had been managed, hundreds of homes were saved. I just say that is a pretty good anecdote.

We had over 40 fires burning in Montana just a month ago. And many of our communities were choking on smoke. I know your community was one of those.

Can you talk briefly about the impact of the smoke on your county and on your people there, particularly those with breathing disorders like asthma or other?

Mr. CHILCOTT. Again, thank you.

Air quality in our community often in late summer is unhealthy or hazardous forcing our respiratorily-compromised population to find another place to reside at their own cost. Our visitors don't visit, our hikers don't hike, and our fisherman don't fish. The economic impact is incredible on a tourism-based economy. Our residents go inside to escape the thick, dense, hazardous smoke. It still permeates our buildings. It particularly hits our elderly and our young. Active management will help mitigate the impacts of this smoke.

Mr. GIANFORTE. Thank you, Commissioner.

I yield back, Chairman.

Mr. WESTERMAN. The gentleman yields back. The Chair now recognizes the gentleman from Arizona who is certainly familiar with dry climates and forest fires, Dr. Gosar.

Dr. GOSAR. Thank you very much, Mr. Chairman.

Dr. DellaSala, in your professional opinion, would you say that the Southwest ponderosa forests are healthy?

Dr. DELLA SALA. I don't know what "health" means. I would have to have a definition of your health versus my health.

Dr. GOSAR. Well, then tell me what your definition of health is.

Dr. DELLA SALA. Well, I look at ecosystems in terms of—

Dr. GOSAR. Well, then, let's get right after it.

Tell me about the ecosystem of the Southwest forest on ponderosas.

Dr. DELLA SALA. OK. Southwest ponderosa pine forest is—

Dr. GOSAR. Is it healthy?

Dr. DELLA SALA [continuing]. Predominately a low intensity fire system with frequent return intervals. There are examples in the

Southwest where, because of suppression, there has been a buildup of small trees. And there are some good thinning projects going on in that system because it is a low-intensity fire system. And there are also other factors that are out of balance with the Southwest ponderosa pine system. The loss of old growth, the extensive road densities that are in that system, the diminished water quality because the sediment related to logging impacts along roads, salvage logging. I can go on.

Dr. GOSAR. So, tell me also, give me an example—is the sterilized soil that we had in the Lolo Fire, is that a healthy ecosystem?

Dr. DELLASALA. Again, it depends on what your definition of “health” means. A fire does not destroy soil horizons. A fire—

Dr. GOSAR. No, no, no. Unfortunately, it does. Typically, in a ponderosa fire, you have low level fires that are in grasses because a ponderosa tree has a very thick bark. It is very fire retardant. So, what ends up happening, typically in the past, we have seen these grass fires that were really incidental. But now what we see are crown fires that burn so incendiary that we actually sterilize the very topsoil that we don’t get growth for up to 50 years, sir.

Let me ask you another question since you are the scientist here. If I was an M.D., and I actually admitted 100 patients to a hospital, and three of them survived, would I be a good physician?

Dr. DELLASALA. Absolutely not.

Dr. GOSAR. You bring up the endangered species, because that is the rate, less than 3 percent of species have we been able to take back off the endangered species list because of poor management by the Fish and Wildlife Service. That is hardly a success story that I want to talk to you.

Let me ask you another question. Are you a lobbyist?

Dr. DELLASALA. No, I am not a lobbyist.

Dr. GOSAR. Whoa. Whoa. Whoa.

On your CV that you submitted, you said that you are a lobbyist since 1995.

Dr. DELLASALA. I am not a registered lobbyist.

Dr. GOSAR. You said you are a lobbyist.

Dr. DELLASALA. I come here and I lobby to Congress like every other American citizen does.

Dr. GOSAR. Let me ask you another question. There is plenty more on your CV here.

So, who do I believe? The false scientists or the fake lobbyist when you testify?

Dr. DELLASALA. I am not a fake lobbyist.

Dr. GOSAR. You put it on your CV.

Dr. DELLASALA. OK.

Dr. GOSAR. President Rigdon, I want to thank you so very, very much for the way the tribes handle their forests. In the Wallow Fire—by the way, in my first two terms, I had the largest, worst fire in Arizona history, the Wallow Fire. Where did it stop? Where the White Mountain Apache had thinned the forest. I mean incredibly. It knocked it down. Plenty of facts along that aspect. But it goes over and over again what your tribes have been able to do that we haven’t been able to do. So, I want to say thank you so very, very much in regards to that.

Is there more that you can do? I know that Steve Pearce from New Mexico has really sought to get the tribes involved in forest management to lands associated and close by the proximities of the tribes.

Mr. RIGDON. An important part of the Westerman bill, the activities that we talked about are the provisions for tribes, the Tribal Forest Protection Act and the concept of anchor forests I think are critical. So, I would say those type of things play a key role for allowing us to play a part into the resource discussion that is out there.

Dr. GOSAR. Mr. Fite, would you see the same incidence where working with the tribes in surrounding areas would be a benefit and very, very helpful?

Mr. FITE. Absolutely, Congressman. There are a number of areas in the areas where we work where tribal forests and state or Federal forests are next to one another, and it is important to coordinate those activities just like it is important to work with your neighbors to make sure your neighborhood stays clean and safe. It is important for those owners to work with one another to manage their forests.

Dr. GOSAR. Mr. Chilcott, in regards to the Federal Government, wouldn't it be very wise to work with the tribes as well as the state forestry agencies to expand the forest management?

Mr. CHILCOTT. In my opinion, absolutely.

Dr. GOSAR. And how fast do you think that could be done.

Mr. CHILCOTT. By the Federal Government?

Dr. GOSAR. No. By the state government.

Mr. CHILCOTT. I think the state of Montana works very well with our tribal partners.

Dr. GOSAR. I appreciate it.

Thank you, Mr. Chairman. I yield back.

Mr. WESTERMAN. Thank you, Dr. Gosar.

The Chair now recognizes the Ranking Member, Mr. McEachin, who wishes to enter something into the record.

Mr. MCEACHIN. Thank you, Mr. Chairman. I would ask unanimous consent to enter into the record a report by the Dogwood Alliance that details exactly why logging, even when it results in durable forest products, does not result in a net gain in carbon emissions. Again, I ask for unanimous consent to enter this into the record.

Mr. WESTERMAN. Without objection.

I thank the witnesses for their valuable testimony and the Members for their questions. The members of the Committee may have some additional questions for the witnesses, and we will ask you to respond to these in writing. Under Committee Rule 3(o), members of the Committee must submit witness questions within 3 business days following the hearing by 5:00 p.m., and the hearing record will be held open for 10 business days for these responses.

If there is no further business, without objection, the Subcommittee stands adjourned.

[Whereupon, at 4:21 p.m., the Subcommittee was adjourned.]

[ADDITIONAL MATERIALS SUBMITTED FOR THE RECORD]

Rep. Westerman SubmissionsNATIONAL WILD TURKEY FEDERATION,
EDGEFIELD, SOUTH CAROLINA

June 26, 2017

Hon. ROB BISHOP, *Chairman*,
Hon. RAÚL GRIJALVA, *Ranking Member*,
House Committee on Natural Resources,
House of Representatives,
Washington, DC 20515.

Dear Chairman Bishop and Representative Grijalva:

On behalf of the National Wild Turkey Federation (NWTf) and its 230,000 members, we urge you to take swift Committee action on H.R. 2936 the Resilient Federal Forest Act of 2017. The NWTf is a leader in wildlife habitat conservation in North America and is dedicated to the conservation of the wild turkey and preservation of our hunting heritage. We are currently working toward our 10-year Save the Habitat. Save the Hunt. initiative in which we aim to conserve or enhance 4 million acres of critical habitat, recruit 1.5 million hunters and open 500,000 acres for outdoor enjoyment.

Active forest management is crucial to establishing healthy and sustainable forests and decisions for forest management should be based on sound science. As such, the common sense solutions offered in H.R. 2936 are imperative to the health and future of our nation's forests and important to the NWTf to help achieve our objectives. In total, H.R. 2936 has many reasonable solutions to the challenges that the managing agencies face to increase the pace and efficiency of active forest management on our nation's federal lands. We take this opportunity to highlight those solutions that we believe will make the most immediate difference and offer recommendations as to how we believe the bill can be further improved.

We support increased availability for Categorical Exclusions (CE) in order to deal more effectively and efficiently with threats like pests and disease and for addressing urgent wildlife needs like critical habitat for endangered species. We are especially supportive of the CE that will allow for activities that enhance early successional forests for wildlife habitat. Unlike some critics of CEs who will suggest, they do not exempt the action from the National Environmental Policy Act (NEPA), rather they apply the NEPA review to like or similar actions to expedite the process. These are administered under Council on Environmental Quality regulations and other guidance. Increased use of CEs is one of the best opportunities we have in the short term to increase the pace of active forest management.

Funding the cost of fighting catastrophic wildfires outside of the agency budget is paramount to the agency's ability to deliver on other aspects of their mission. We are supportive of a fix that will allow catastrophic wildfires to be considered a disaster. Until agencies are freed from the burden of fighting catastrophic wildfires through their annual budgets we will be unable to make meaningful progress toward proactive forest management. We recommend capping the firefighting budget at the current 10-year average to protect further erosion of the U.S. Forest Service budget in other important mission delivery areas.

We support the bill's provisions for large scale reforestation on fire-impacted lands. While public input and review is essential to public lands management, currently it can result in delayed action and result in an inability to accomplish the necessary objectives. We believe the deadlines set for plan development and public input, as well as the prohibition on restraining orders and preliminary injunctions strike a reasonable balance. We recommend that this provision of the bill clarify that proper ecological restoration is allowed as a mechanism to salvage forests post catastrophic events as reforestation may not always be the best action for the ecological good.

The NWTf strongly supports arbitration as an alternative to litigation. This will conserve valuable U.S. Forest Service resources and expedite work getting done on the ground. Additionally, we support the provision that does not allow plaintiffs challenging a forest management activity to receive any award or payment obligated from the Claims and Judgment Fund.

We support the approach for allowing evaluation of only action/no-action alternatives for collaborative Forest Plans, Resource Advisory Committee and

Community Wildfire Protection Plan projects. Limiting the number of alternatives will expedite the development of environmental assessments and allow work to get done on the ground more quickly. We also support the requirement to look at consequences of a no-action alternative as a no-action decision would still have an impact on the resource.

We understand budget concerns counties face and are supportive of a portion of retained receipts from stewardship contracts going to the counties. Stewardship Contracting is an important tool for active forest management. Ultimately this change will remove one impediment to utilizing Stewardship Contracting and help garner support from the counties. We recommend modifying this section to reflect that payment should come only from retained receipts on completed projects, versus strictly from timber value within ongoing projects. This will maintain the “exchange of goods for services” function of Stewardship Contracting while also preserving the balance of timber dollars and the investment of matching funds from organizations like the NWTf to expand the scope and scale of projects, thus accomplishing more active management and fire protection across the landscape and within counties.

We appreciate the recognition of the importance of funding planning activities for forest management. We are concerned that the provision could potentially provide justification for the U.S. Forest Service staff to refrain from fully utilizing product value and partner match dollars for on the ground work. While we feel the 25% threshold is too high, the provision of allowing some of the stewardship project revenues to cover the costs of planning additional projects could be beneficial and incentivize project planning.

We also appreciate the common-sense amendments to the Endangered Species Act (ESA) that will improve the process of protecting endangered and threatened species and their habitat. The bill overturns the “Cottonwood” court decision, which directs that if additional critical habitat is designated under an approved Forest Plan or Resource Management Plan, a section 7 programmatic re-consultation of the entire Forest Plan needs to be done. The U.S. Fish and Wildlife Service and the Obama Administration argued that the section 7 consultation needs only to be done on the portion of the project covering the additionally designated acreage of critical habitat. The remedy in this bill will greatly reduce the debilitating process that the federal court decision directs. The bill also affirms current U.S. Fish and Wildlife Service policy that no ESA section 7 consultation is required if the U.S. Forest Service or Bureau of Land Management determines through informal consultation that the proposed action will not likely have an adverse affect on species or critical habitat. We further support the 90 day threshold on a CE established by this bill because it will conserve agency resources and expedite management activities on the ground.

We commend Congressman Westerman, the co-sponsors, and Chairman Bishop for their dedication to restoring and maintaining our federal forests under management informed by science, and offering the appropriate reforms to management practices. We respectfully urge that you expeditiously report H.R. 2936 out of Committee and to the House floor.

Sincerely,

REBECCA A. HUMPHRIES,
Chief Executive Officer.

NATIONAL WILD TURKEY FEDERATION,
EDGEFIELD, SOUTH CAROLINA

September 27, 2017

Hon. BRUCE WESTERMAN, *Chairman,*
House Subcommittee on Oversight and Investigations,
Committee on Natural Resources,
Washington, DC 20515.

Dear Chairman Westerman:

Thank you for your continued dedication to improving the management of our federal forests to reduce wildfire threats and improve wildlife habitat, by holding today’s hearing “Exploring Solutions to Reduce Risks of Catastrophic Wildfire and Improve the Resiliency of National Forests.” As you know, the National Wild Turkey Federation (NWTf) strongly supports H.R. 2936, your “Resilient Federal Forests Act of 2017.” We request that you submit this letter and the attached letter that

we provided for H.R. 2936 previously, for the record of today's Subcommittee hearing.

The NWTF is committed to working with you to pass H.R. 2936, and to working with the Senate on their Federal forest reform and fire-borrowing legislative initiatives. We acknowledge the Senate's 60 vote threshold to pass a bill, and are prepared to work with the House and Senate to achieve a bill that satisfies our principles, can get 60 votes in the Senate, and that will be signed by the President. Please let me know what else we can do to help you in this effort. Thank you for your continued commitment to science-based natural resources management.

Sincerely,

REBECCA A. HUMPHRIES,
Chief Executive Officer.

[LIST OF DOCUMENTS SUBMITTED FOR THE RECORD RETAINED IN THE
COMMITTEE'S OFFICIAL FILES]

Rep. Westerman Submissions

- Article titled “Carbon, Fossil Fuel, and Biodiversity Mitigation With Wood and Forests,” from the *Journal of Sustainable Forestry*, published March 28, 2014.
- Letter from James D. Ogsbury, Executive Director of the Western Governors' Association to Chairman Bruce Westerman and Ranking Member A. Donald McEachin dated September 26, 2017.

Rep. McEachin Submission

- Report titled “The Great American Stand: U.S. Forests and the Climate Emergency—Why the United States needs an aggressive forest protection agenda focused in its own backyard,” published by Dogwood Alliance.

