RPTR ALLDRIDGE

EDTR ZAMORA

AIR QUALITY IMPACTS OF WILDFIRES:

MITIGATION AND MANAGEMENT STRATEGIES

THURSDAY, SEPTEMBER 13, 2018

House of Representatives,

Subcommittee on Environment,

Committee on Energy and Commerce,

Washington, D.C.

The subcommittee met, pursuant to call, at 1:15 p.m., in Room 2123, Rayburn House Office Building, Hon. John Shimkus, [chairman of the subcommittee] presiding.

Present: Representatives Shimkus, McKinley, Harper, Johnson, Flores, Hudson, Walberg, Carter, Duncan, Walden (ex officio), Tonko, Ruiz, Peters, DeGette, McNerney, Cardenas, Matsui, and Pallone (ex officio).

Staff Present: Samantha Bopp, Staff Assistant; Karen Christian, General Counsel; Kelly Collins, Legislative Clerk, Energy and Environment; Wyatt Ellertson, Professional Staff, Energy and Environment; Margaret Tucker Fogarty, Staff Assistant; Theresa Gambo, Human Resources/Office Administrator; Jordan Haverly, Policy Coordinator, Environment; Mary Martin, Chief Counsel, Energy and Environment; Sarah Matthews, Press Secretary,

Energy and Environment; Drew McDowell, Executive Assistant; Brannon Rains, Staff Assistant; Peter Spencer, Senior Professional Staff Member, Energy; Austin Stonebraker, Press Assistant; Hamlin Wade, Special Advisor, External Affairs; Everett Winnick, Director of Information Technology; Jean Fruci, Minority Energy and Environment Policy Advisor; Caitlin Haberman, Minority Professional Staff Member; Rick Kessler, Minority Senior Advisor and Staff Director, Energy and Environment; Alexander Ratner, Minority Policy Analyst; and Catherine Zander, Minority Environment Fellow.

Mr. Shimkus. I am going to call the committee to order and make a brief statement before I give my opening statement, is that we will have the chairman and the ranking member both come in their due time, and then we will break and allow them to do their opening statements. At least we can get started on time, if that is agreeable with everybody, which it seems like it is.

I now recognize myself 5 minutes for an opening statement.

A year ago, we took testimony to examine the air quality impacts of wildfires with the focus on stakeholder perspectives. Given the community's jurisdiction over air quality policies and public health, the goal then, as it is today, was to develop a better understanding of the health impacts of wildfires and what should be done to minimize those impacts.

We return to the topic this afternoon to look closely at the mitigation and management strategies for reducing air quality risks from wildfire smoke. In large part, these strategies involve efforts to reduce the intensity and frequency of wildfires that threaten communities.

The strategies also involve managing the inevitable smoke impacts, whether from wildfires or from what is known as prescribed burning. And they involve ensuring that effective actions are credited appropriately in air quality planning, air quality monitoring, and compliance activities, so States and localities are not punished for taking action that will improve public health.

Last year, some 10 million acres were burned in the United States by wildfires, the second worst fire season since 1960. As of last week, this fire season has resulted in more than 7 million acres burned, with acute impacts of smoke lingering for extended periods of time throughout California and the Pacific Northwest.

The urgency for reducing the severity of these fires is underscored by news

reports and reports from this committee's own members, including Chairman Walden, of the impacts of wildfire smoke. This smoke can smother communities with high levels of particulate matter and other respiratory irritants. These levels, which are manyfold over normal air quality, intensify asthma and chronic pulmonary diseases, and impact the lives of millions of people.

Against this backdrop are a panel of witnesses who can speak to the complex set of strategies that are needed to more effectively address wildfires and smoke risk. We will hear today from two State foresters who oversee and implement fire management strategies in their States: Sonya Germann from the Montana Department of Natural Resources and Conservation, Tom -- I hope this -- Boggus.

Mr. Boggus. Boggus.

Mr. Shimkus. Boggus. Thank you. Bogus was a word we used at West Point. Boggus is better, so -- the Texas State forester and director of Texas A&M Forest Service.

While the general approaches among State forestry officials to mitigating risks are consistent, there are regional differences that affect what is put into practice and can inform future policymakers.

We will hear a State air quality perspective. Mary Anderson, who is with the Idaho Department of Environmental Quality, can help us understand the practical challenges of managing wildfire smoke and how her agency works to address air quality risks.

Collin O'Mara, president of the National Wildfire Federation, has been before the committee before, brings an environmental perspective, but is also experienced as a former head of the State of Delaware's Department of Natural Resources and Environment Control.

And finally, we will hear from Oregon State Senator Herman Baertschiger from

southern Oregon, who has extensive experience in forestry and wildland firefighting. I am looking forward to his perspective on what to do and his perspective on the impacts of wildfires on his constituents.

Let me welcome the panelists. I look forward to understanding the challenges and the opportunities you face and what you can do to ensure our Federal air regulations accommodate these strategies.

And with my remainder of time, I would like to yield to the gentleman of Texas, Mr. Flores.

[The prepared statement of Mr. Shimkus follows:]

******** INSERT 1-1 ********

Mr. Flores. So thank you, Mr. Chairman, for yielding me a part of your time, and thank you for holding today's important hearing.

I am pleased to welcome my constituent, Mr. Tom Boggus, to today's hearing. He is testifying on behalf of the National Association of State Foresters. Mr. Boggus is a native of Fort Stockton, Texas, and he joined the Texas A&M Forest Service in 1980. He was appointed as the director and State forester of the Texas A&M Forest Service in February of 2010, and he has extensive familiarity with the issue we are going to be discussing today.

I look forward to hearing from him, along with the rest of our expert witnesses, on how we can appropriately manage our forests to minimize wildfire impacts.

Thank you, and I yield back.

Welcome, Mr. Boggus.

Mr. Shimkus. The gentleman yields back his time.

The chair now recognizes the ranking member of the subcommittee, Mr. Tonko, for 5 minutes.

Mr. Tonko. Thank you, Mr. Chair. And thank you to our witnesses for being here this afternoon.

As some of you may remember, this subcommittee held a similar hearing last year on wildfires and air quality issues. Since that time, we confirmed that, in 2017, more than 66,000 wildfires burned approximately 10 million acres. 2018 is proving to be another difficult year. Right now, there are over 80 active fires covering over a million acres and threatening people's health and safety and property, including the Mendocino Complex fire, the largest recorded fire in California's history.

Undeniably, these fires have become increasingly worse in recent years. Today, we will hear about the consequences of wildfires to both human health as well as forest

health. Smoke, which includes particulate matter, is harming people, and the growing number and size of these fires are erasing the gains that have been made under the Clean Air Act in reducing fine particulate matter pollution.

We will also hear about the best practices in forest management, including prescribed burns and other tools, that can mitigate some of the worst impacts of these fires and reduce the harm of smoke. While I do not follow this issue as closely as many of our western colleagues, my understanding is that historically the method for funding the United States Forest Service emergency fire response has been a major factor in limiting funding for more proactive forest management activities.

In March, Congress passed the fiscal year 2018 omnibus appropriations bill, which included a fire funding fix that will take effect in fiscal year 2020. I acknowledge that more may need to be done to promote better forest management techniques, but we must see how this fix plays out before adopting new major provisions that undermine environmental laws in our national forests.

As we discuss the devastation that can be caused by Mother Nature, we must also acknowledge our fellow Americans that are facing down Hurricane Florence. Whether it is hurricanes on the East Coast or fires out west, we are experiencing more frequent and costly natural disasters across our country. As with hurricanes, climate change creates conditions that make wildfires worse. Droughts, dryer soils, and higher temperatures, all associated with climate change, are resulting in a longer fire season and causing an increase in the severity and frequency of wildfires.

A 2016 study published in the Proceedings of the National Academy of Sciences concluded that human-caused climate change is responsible for the doubling of the area burned by wildfires since 1984. In 2017, the National Wildfire Federation, which is represented here today by NWF President Collin O'Mara, released a report entitled

Megafires, which examined how climate change and other issues, including the funding issues at the United States Forest Service, are contributing to this growing problem.

I appreciate our witnesses being here to discuss the consequences of wildfires, air quality being chief amongst them, as well as some of the potential mitigation options such as more proactive forest management. But we do ourselves a disservice if we continue to hold hearings only looking at the effects of these fires while ignoring the underlying causes, including climate change that will continue to exacerbate this problem.

Thank you again, Mr. Chair, and I yield the remainder of my time to my good friend and colleague, Representative Matsui of California.

[The prepared statement of Mr. Tonko follows:]

******** COMMITTEE INSERT ********

Ms. Matsui. Thank you, Ranking Member Tonko, for yielding. And I want to thank the witnesses for being here today.

I appreciate the subcommittee is holding a hearing on this important issue. California has had a historic year for fire. The Mendocino Complex fire consumed over 410,000 acres, burning for more than a month, and becoming the largest in our State's history. The Ferguson Fire took the lives of two brave firefighters and closed Yosemite National Park for 20 days. And the Carr Fire destroyed over 1,000 homes near Redding, north of my district.

While my district was fortunate and did not directly endure a wildfire this summer, Sacramento residents still had to contend with the smothering impacts of wildfire smoke. We had a record-breaking streak of 15 consecutive spare-the-air days when air quality was so poor that our air district encouraged people to stay inside and reduce pollution in any way possible.

If we don't take meaningful steps to reduce the risk and intensity of wildfires, then we will continue to face these overwhelming health, safety, and environmental challenges. That means we must adopt a sustainable approach to wildfire risk reduction. Management policies must recognize the impacts of climate change and the need to sustainably reduce the fuel load in our forests, ultimately moving their condition towards the pre-fire exclusion baseline.

Thank you, and I look forward to hearing the testimony from our witnesses.

I yield back.

Mr. Tonko. And I yield back our remaining 8 seconds. There you go.

Mr. Shimkus. The gentleman yields back his time.

The chairman is running over here. The ranking member, I can see, is still on the floor. So we will begin with our witnesses and then interrupt as we can.

We want to thank you all for being here today, taking the time to testify before the subcommittee. Today's witnesses will have the opportunity to give opening statements followed by a round of questions from members. Our witness panel -- and I have already announced the panel. So I would like now to turn to Mr. Baertschiger, Oregon State Senator. And I am sure Congressman Walden from Oregon will get here for most of your opening statement.

You are recognized for 5 minutes.

STATEMENT OF HERMAN BAERTSCHIGER JR., SENATOR, OREGON STATE SENATE; MARY ANDERSON, MOBILE AND AREA SOURCE PROGRAM MANAGER, AIR QUALITY DIVISION, IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY; SONYA GERMANN, STATE FORESTER, MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION, FORESTRY DIVISION; COLLIN O'MARA, PRESIDENT, NATIONAL WILDLIFE FEDERATION; AND TOM BOGGUS, STATE FORESTER, DIRECTOR OF TEXAS A&M FOREST SERVICE

STATEMENT OF HERMAN BAERTSCHIGER JR.

Mr. Baertschiger. Thank you, Chairman Shimkus, Ranking Member Tonko, and members of the committee. Thank you for letting me have the opportunity to testify before you today about wildfires and their impact on my constituents and the people of Oregon.

The lingering effects of smoke and large fires impact thousands of people in my State every year. Immediate suppression of wildland fires during peak fire season would alleviate the impacts to our communities. In exchange for a suppression model, we must be conscious of the fact that our forests still need management, and fire is one of those management tools. But this can be accomplished outside of fire season by controlled burning. Smoke from controlled burns is far less impactful to my constituents than these large fires during the summer months.

Other management activities, including commodity production, logging, field reduction, are also effective in reducing the risk of severe fire.

My name is Herman Baertschiger, and I am an Oregon State Senator representing southern Oregon. My background is in forestry and wildland firefighting. In more than four decades of firefighting in the west, I have never seen a catastrophic high-intensity

wildfire benefit our forests. However, I have seen many examples of low-intensity fire benefit our forests.

Fire has always been with us, and that is not going to change, likely. Large fires have affected the American people throughout our history. The fires of 1910 in Idaho, Montana, and Washington that burned 3 million acres changed how the U.S. Forest Service addressed fires. In Oregon, the Tillamook fires that occurred in the coast range four times between 1933 and 1951 forced Oregon also to address wildland fires. This approach is what, at times, having -- is having us fighting large fires rather than suppressing small fires.

The aggressive fire suppression model changed about 30 years ago with the U.S. Forest Service. It changed from a fire suppression to a fire management. The comparison of fire suppression against fire management is best shown in a comparison of firefighting divisions of Oregon Department of Forestry and the U.S. Forest Service.

Oregon Department of Forestry has always employed an aggressive initial attack and suppression approach. The comparison of lands managed shows a shocking disparity between the two styles of firefighting. The U.S. Forest Service protects about 17 million acres of Oregon forestlands. And so far in 2018, 300,000 of those acres have burned. Oregon Department of Forestry protects about 16 million acres of forestlands in Oregon, and so far, only 70,000 of those acres have burned.

The two agencies protect about the same number of acres in Oregon but are having very different outcomes.

Also, the human factor can't be ignored. With over 300 million people in this country, we should expect more human-caused fire starts. Some people say that 9 out of 10 fires have a human element.

Due to severe wildfires, the lack of forest management and the different approach

to firefighting, our communities have suffered weeks from toxic smoke. This year's citizens in southern Oregon endured 34 days of unhealthy air quality, and Travel Oregon estimated last year that $51 million was lost from smoke in tourism dollars. The Shakespeare festival in Ashland has lost over $2 million this year; Hell's Gate excursion, $1.5 million. Smoke has led to cancellation and delays of school activities, church activities, and other events.

To provide our citizens with relief from catastrophic wildfire, Congress should take action to promote active forest management and provide oversight and assure accountability over the U.S. Forest Service.

Managing fire during peak fire season to treat fuels is no longer acceptable. We cannot manage our forests during peak fire season with fire at the expense of the health and welfare and the economic viability of our communities. We have got to do something else.

I appreciate this opportunity to testify, and I welcome any questions that you may have.

[The prepared statement of Mr. Baertschiger follows:]

******** INSERT 1-2 ********

Mr. Shimkus. The gentleman yields back his name.

The chair now recognizes the chairman of the full committee, another Oregonian, Chairman Walden, for 5 minutes.

The Chairman. Thank you very much, Mr. Chairman. I apologize for being a little late. We had the WRDA bill on the floor where a number of our provisions, including Safe Drinking Water Act and some provisions for drought relief in the Klamath Basin were before the House, so I needed to speak on that before coming here.

I want to thank you for holding this hearing, and I want to thank our witnesses for being here.

Today's hearing focuses on this topic that you have already heard from the Senator about, of great concern to Oregonians and those across the west who are experiencing terrible air quality. Hazardous, dangerous, unhealthy air quality smoke from these wildfires is literally choking people to death.

In my home State of Oregon alone, we have already seen over 700,000 acres destroyed by fire. These fires have left communities in my district blanketed with smoke and with the worst air quality in the world, period. Stop. Medford, Oregon, experienced the worst run of unhealthy air quality since the EPA began making such determinations in 2000.

The leading offender is particulate matter. An article in the New England Journal of Medicine in March pointed out the robust evidence linking exposure to particulate matter to cardiopulmonary mortality and issues with asthma and COPD. I heard from a woman yesterday on a tele-town hall: COPD. She was just getting out of the hospital all as a result of this smoke.

According to EPA research, premature deaths tied to wildfire air pollution were as high as 2,500 per year between 2008 and 2012. Other research out of Colorado State

University suggests it could be as high as 25,000 people per year die prematurely because of this smoke. This is a life-and-death matter in the west.

Making matters worse, it is hard to escape the smoke even in your own home. Curt in Eagle Point dropped off his air filter from his CPAP machine. I have got a picture of it up there. That filter is supposed to last for 2 weeks. That is, I believe, 2 days. You can see it up there and how dirty it got within 2 days inside his home during these fires.

Or take this car cabin air filter. It was replaced after 2 months during the fire season. You can see up on the screen what a new one looks like. Two months, that is what it looked like in his car.

Nearly three decades of poor management have left our Federal forests overstocked with trees and vegetation that fuel increasingly intense fires. Stepping up active forest management practices such as thinning, prescribed fire, and timber harvest, one of the best ways we could reduce the fuel loads and, therefore, the impact of the smoke from wildfires.

Sadly, bureaucratic red tape, obstructionist litigation by special interest groups, it has all added up to make it very difficult to implement these science-based management techniques that we know work. And we are left to choke on the resulting wildfire smoke.

In 2017, the number of fires started on lands protected by the Oregon Department of Forestry and the U.S. Forest Service Land were split nearly 50/50. Forest managed lands, however, accounted for over 90 percent of the acres burned. So that is the Federal ground. This is partly due to forest management but also how fires are fought.

As fires are managed rather than suppressed and back burned acreages increased,

there is a clear impact on air quality and, therefore, on the air quality and health of our citizens. These agencies need to do more to take this into account when they make their decisions.

As devastating as it is in the summer months, fire can also be a management tool. We know that. Prescribed fire, after mechanical thinning, can help reduce fuel loads and reduce emissions by up to 75 percent, if it is done at the right time and the right way. State smoke management plans set the process for these burns with an aim to protect public health, but also limit the work that gets done. According to Forest Service data, smoke management issues limited between 10 and 20 percent of their prescribed fire projects last year in Oregon.

I look forward to hearing from our witnesses today about your perspectives on these issues and how we get the right balance. I also want to thank Senator Baertschiger for joining us from Oregon. He is the co-chair of the bipartisan fire caucus in Oregon, has nearly 40 years of experience in wildland fire and forest management both. So thanks for flying out to be here.

And just to conclude, I would like to share a message I received from Jennifer. She is a mother in Medford, Oregon. Jennifer said: As a native Oregonian, living in southern Oregon my entire life, I write to express my extreme frustration with Oregon's lack of forest management. This is now the third or fourth year that we are hostages in our own homes, that my children are robbed of being able to play outside. I absolutely hate that nothing is done to prevent this from happening.

Well, we are here to help the concerns I hear from people like Jennifer and families across my district who have one simple message: Something needs to change.

And in conclusion, I just got an email from a friend of mine in Medford, who is on the Shakespeare board, the Oregon Shakespearian Theater board in Ashland. And they

said: I have exciting news. Our safety, health, and wellness manager sent this update. We are officially closing the smoke watch that started back on July 18 and returning to normal operations.

I believe they had to cancel 25 outdoor plays at the Allen Elizabethan, and one for the Bowmer, for a total of 26 cancellations for performances. And so this is a real bad thing for the economy. It is bad for our health.

Mr. Chairman, I appreciate your holding this hearing, and I thank the witnesses for being here. And I yield back.

[The prepared statement of Chairman Walden follows:]

******** INSERT 1-3 ********

Mr. Shimkus. The gentleman yields back his time.

The chair now would like to recognize Ms. Mary Anderson, mobile and area source program manager, Air Quality Division, Idaho Department of Environmental Quality.

You are recognized for 5 minutes.

STATEMENT OF MARY ANDERSON

Ms. Anderson. Thank you for the opportunity to provide some insight into how wildfires are impacting Idaho citizens.

Wildfires are the single largest air pollution source in Idaho. In the past, Idaho would experience severe wildfire season with heavy localized air quality impacts every 3 to 4 years. Now, we are seeing heavy regional air quality impacts every year from large, sometimes catastrophic wildfires in Idaho, central and northern California, Oregon, Washington, Nevada, and British Columbia. These catastrophic wildfires caused by fuels that have cumulated as a result of active fire suppression, drought, and climate change.

In 2017, wildfire smoke caused widespread impacts starting in early August. And by the first week of September, smoke thoroughly blanketed all of Idaho, exposing many Idaho citizens to potentially serious health impacts.

About 700,000 acres were burned in Idaho in 2017. Idaho is also surrounded by wildfires, meaning wind from any direction brought smoke into the State. Nearly 5.5 million acres burned in neighboring States and British Columbia in 2017. All these fires had direct impacts on Idaho residents at one time or another throughout the wildfire season. We are seeing similar impacts this year.

What I have described above is now the new norm. The public now experiences smoke impacts throughout the summer every year, with periods of very unhealthy to

hazardous air quality conditions. To deal with the smoke impacts, the public wants information so they can make decisions to protect themselves and, in the case of schools, those they are responsible for. Telling them to remain indoors and limit exposure is no longer sufficient. In many cases, the air quality indoors is just as bad or worse than the air quality outside.

Responding to wildfire smoke impacts requires significant resources from DEQ and other agencies throughout Idaho. To properly respond to wildfires and mitigate health impacts from smoke, the communities that are repeatedly hard hit from wildfire smoke must be made smoke ready before the smoke event occurs. This means working with communities to identify tools citizens can use to protect themselves from the smoke.

An example of a smoke ready community action is identifying the sensitive population, such as elderly people with lung or heart issues, and purchasing a cache of room-sized HEPA filters prior to the wildfire season so they can be distributed at the start of the emergency. Establishing a smoke ready community must be done prior to the wildfire season in order to respond to the emergency in a timely manner.

To be effective, smoke ready communities require funding similar in the way -- similar to the way firewise programs are funded. Funding for both these programs would allow communities to prepare for wildfires from both the fire safety and public health aspect.

We agree that prescribed fire is an important tool in reducing fuels that contribute to catastrophic wildfire, but prescribed fire also causes smoke that needs to be managed. When prescribed fire is being discussed as a way to mitigate wildfire impacts, it is important to remember that reasonable and effective smoke management principles and decisions must be used to truly lessen smoke impacts and not simply move smoke from one time of the year to another.

To manage smoke impacts from prescribed burning, the Montana/Idaho Airshed Group was created. This group implements a smoke management program for organizations that conduct large-scale prescribed burning and the agencies that regulate this burning.

Burn decisions in Idaho are very much driven and limited by the weather. Northern Idaho is very mountainous. Smoke from prescribed burning can sink into the valleys and impact communities. Using best smoke management practices requires good weather that will allow the smoke to rise up high into the atmosphere and disperse so as not to impact the public. The key to this airshed group is coordinating burn requests and approvals to looking at the regional picture, not just burns on an individual basis.

The Airshed Group uses a meteorologist to provide a weather forecast specific to prescribed burning. A coordinator evaluates all burns that are proposed, other burning, and emission sources occurring in the area, current and forecasted air quality, to determine if and how much burning can be approved. This process helps to ensure that smoke does not accumulate in valleys and impact the public.

DEQ works closely with the airshed group during the active burn season. We review the weather forecast, air quality data, and proposed burns, and provide recommendations to the airshed group on a daily basis.

There is no short-term quick fix. We need to address all causes of wildfire and look at new innovative solutions and mitigation strategies to address the matter. The key to success will be working in partnership with all stakeholders, air quality agencies, State and Federal land managers, large and small private prescribed burners, the general public, environmental groups, and others who use burning as a tool. The only way to make progress is to have an open, honest, and trusting dialogue based on facts and

science.

Thank you.

[The prepared statement of Ms. Anderson follows:]

******** INSERT 1-4 ********

Mr. Shimkus. And the chair thanks the gentlelady.

The chair will now recognize the ranking member of the full committee, Congressman Pallone from New Jersey, for 5 minutes.

Mr. Pallone. Thank you, Mr. Chairman, and thank you for letting me -- I know -- I was on the floor with our chairman.

It has been a year now since this subcommittee last held a hearing on wildfires. And since that time, the same regions of the country are suffering due to the large number and size of forest fires, causing tremendous damage. And this is, once again, particularly destructive to Western States.

We have all seen the devastating images of lives lost and homes destroyed. These extreme wildfires are also creating poor air quality in States far away from the fires.

Last month, the National Weather Service found that smoke from western wildfires has spread as far as New England. And these wildfires are tragic, but they should not be a surprise. For years, scientists have warned that climate change was very likely going to contribute to the increased fire intensity and frequency that we are seeing now. That is exactly what we are seeing, and we are not going to improve the situation by only looking at forest management or timber harvesting practices.

If this Congress wants to truly address the increase in extreme wildfires, we must act to slow the global warming that is driving changes in climate and weather patterns.

Unfortunately, the Trump administration and congressional Republicans refuse to address climate change and have instead pushed policies that will exacerbate our climate problems. Here is my list of President Trump's most significant climate actions.

First, he pulled the U.S. out of the Paris Agreement, giving up our spot as a global leader and turning his back on our allies. Then he proposed to replace the commonsense Clean Power Plan with a dirty power scam that lets polluters off the hook.

The EPA even admits this proposal will result in 1,400 more premature deaths every year. Third, President Trump proposed to relax standards for fuel efficiency in vehicles, hurting consumers and ensuring more climate changing substances are emitted into the air. And fourth, he doubled down on a loophole in the Clean Air Act that allows more efficient and polluting heavy duty trucks on our roadways.

And then just this week, Trump relaxed controls on methane pollution from oil and gas operations and landfills. The President has also blocked all Federal agencies from considering or acknowledging the costs associated with climate change when making decisions, and he has proposed to cut funds for energy efficient programs and support for renewable energy. And finally, he continues to threaten to abuse emergency authorities to subsidize the oldest and least efficient coal plants in the country.

President Trump and his administration are doing everything possible to increase emissions and block any attempt to slow the rate of climate change. The result is rising seas, extreme weather events, severe drought and, of course, extended and intense fire seasons. And these are costing lives, destroying property and infrastructure, and costing us billions in disaster assistance.

And as we sit here, the southeast is about to be hit by another powerful hurricane devastating more communities. A new report from the researchers of Stony Brook University and Lawrence Berkeley National Laboratory finds that hurricane Florence is about 50 miles wider as a result of climate change. That means that hurricane can result in 50 percent more rainfall. Yet Republicans refuse to address climate change.

Even here today, the focus is not where it should be. How many more of these events do we need before Republicans join us in taking decisive action to combat climate change? When are Republicans going to stop actively pursuing policies that make the

problem worse?

If we are serious about stemming the terrible growth of the forest fire season as well as these other natural disasters, we need to abandon the disaster that is the Trump administration climate policy, and we need to do it immediately.

And with that, Mr. Chairman, I yield back. And thank you for the time.

[The prepared statement of Mr. Pallone follows:]

******** COMMITTEE INSERT ********

Mr. Shimkus. The gentleman yields back his time.

The chair now recognizes Ms. Sonya Germann, State forester, Montana Department of Natural Resources and Conservation, Forestry Division, on behalf of the National Association of State Foresters.

You are welcome and recognized for 5 minutes.

STATEMENT OF SONYA GERMANN

Ms. Germann. Thank you, Chairman Shimkus, Ranking Member Tonko, Full Committee Chair Walden, Ranking Member Pallone, and members of the subcommittee. It is a true honor to be before one of the Nation's longest standing committees to discuss wildfire impacts to air quality and strategies we are undertaking to mitigate those impacts.

My name is Sonya Germann, State forester of Montana. And like Mr. Boggus, I am here testifying on behalf of the National Association of State Foresters. I am also a member of the Council of Western State Foresters, which represents 17 Western States and six U.S.-affiliated Pacific islands. I have spent my life in Montana in the past 12 years in forestry, with an emphasis on active forest management, and I am honored to share the Montana perspective with you here today.

The 2018 fire year has been challenging, not only in severity and duration, but most importantly in the number of lives lost. There have been 14 fire-related fatalities, a devastating loss to families, the wildland firefighting community, and the greater public. Across the Nation and particularly in the west, wildfires are growing more intense and so large we are now calling them megafires.

In Montana, our fire season is, on average, 40 days longer than it was 30 years

ago. And as the chairman suggested, more than 7 million acres has burned since January 1 on a national scale. And let me put that in perspective for you.

In the past 16 years, we have surpassed the 7 million acre mark eight times and the 9 million acre mark five times. In the 10 years prior to that, we reached 7 million acres only once.

Although the 2018 fire year in Montana has thankfully been relatively moderate, our citizens and wildland firefighters are still reeling from 2017, which was our most severe season on record since 1910 with over 1.2 million acres burned, which is an area roughly the size of Delaware.

With severe fire years comes intense smoke. And according to the Montana Department of Environmental Quality, the air quality standards for particulate matter have been exceeded 579 times for wildfire over the past 11 years, with 214 of those occurring in 2017.

Fire is a natural part of our ecosystem. What is not natural are the unprecedented forest conditions we are facing. Nearly a century of fire exclusion has led to excessive fuel loading and changed forest types. These factors, in addition to insect epidemics, persistent drought, and climate change have resulted in a disproportionate amount of Montana's fire-adapted forests being at significant risk of wildfire. Today, over 85 percent of Montana's forests are elevated wildfire hazard potential.

As land managers, we understand the connection between fuels, wildfires, severity, and smoke. Consequently, we make concerted efforts to work with key partners to reduce fuels that in turn reduce wildfire risk and smoke-related impacts. Treatments like prescribed fire mechanical fuels reduction will not prevent wildfires from occurring but can influence how a wildfire burns. Experience shows that actively

managed forested stands often burn with less intensity and produce less smoke than stands with higher fuel loading. Additionally, active fuels reduction can create safer conditions for wildland firefighters and may also offer crews opportunities to keep those fires smaller.

Along with our key partners, we endeavor to get more prescribed fire and mechanical fuels reduction work done on the ground. And as Ms. Anderson described, we are a part of the Montana/Idaho Airshed Group. This group assures coordinated compliance with regulatory agencies and strives to help us accomplish more prescribed burning while complying with air quality standards.

In Montana, proof is in the air quality data. Over the past 11 years, prescribed fire has exceeded air quality standards only four times compared to 579 for wildfire. This group has been recommended as a model for other States to follow.

And lastly, with over 60 percent of forested land in Montana managed by Federal agencies, we strongly support authorities that facilitate fuels reduction projects and allow them to be completed more quickly through collaborative action. The Good Neighbor Authority and categorical exclusions for wildfire resilient projects represent two such authorities.

We strongly appreciate and value Congress' efforts to make authorities like these available to our Federal partners.

In closing, my written testimony has been made available to you, and I look forward to answering any questions you may have. Again, thank you for the opportunity to testify before you today.

[The prepared statement of Ms. Germann follows:]

******** INSERT 1-5 ********

Mr. Shimkus. The chair thanks you.

The chair now turns to Mr. Collin O'Mara, president and CEO of the National Wildlife Federation.

You are recognized for 5 minutes. Welcome back.

Mr. O'Mara. Thank you, Mr. Chairman, Mr. Tonko, Chairman Walden. You have my prepared testimony.

I actually want to have a -- kind of a real conversation today, because I think -- you know, I really appreciate the topic and actually focus on the health consequences. But the external debate on this issue has become a little ridiculous, right?

Like, one side is saying it is all about logging and, frankly, just kind of cutting everything down. The other side is saying it is all about climate. We need to actively manage and we actually have to address the climate stressors that are causing this system. And this is a more complicated conversation. It doesn't fit into the normal kind of right-left debate.

You are going to have almost unanimous agreement on this panel on 80 percent of the recommendations. I mean, that doesn't happen before this committee all that often, having been in the room with the chairman a handful of times.

One of the missed opportunities in the fire funding fix this year, and I am so grateful because so many of you played a constructive role in it, was delaying the funding for 2 years, to not have it take effect till 2 years. I mean, we need that money in Oregon right now. We need that money in California right now.

And I get it. But leadership, when they jumped in, they didn't listen to some of you, and Congressman Simpson and others. It is billions of dollars of potential -- of missed opportunity to do restoration work.

And, look, I mean, the appropriation minibus is already moving. It is probably

too far down the line. But there has to be a way to get a slug of money, because the Forest Service is basically out right now. I mean, they have hit the caps they would have hit end of the month. And if we don't get these projects on the ground, we are going to continue to have more and more of this kind of restoration deficit, if you will, that we are trying to undo. Because we have basically starved ourselves for 40 years, right? I mean, at least the last 25.

And you are talking about a lot of funding. There is great reports. There is a great one just put out by Oregon State looking at how to get more prescribed burns on the ground.

Look, there are things we need to do, like making sure that the ambient air quality standards aren't overly prohibitive and making sure that we are accounting for the impacts of prescribed burns in a way that is actually rational, and not discounting natural kind of anthropogenic emissions in a different way than we are treating manmade ones, especially if the manmade ones are going to save us 90 or 100 percent of emissions compared to the alternative.

But most of the problem here is actually funding in collaboration. And Secretary Perdue put out a great report just a few weeks ago talking about shared stewardship, talking about how to use some of these tools that all of you put together in the last fire funding package and actually trying to get more projects on the ground. And there are things around good neighbor provisions that we absolutely have to fund. There is stewardship contracting provisions we have to fund. There is some mechanical issues that we could work through and actually use your help trying to make sure that the good neighbor provisions have the right accounting behind them so States are incentivized to do the work.

I mean, there are some things -- there are some additional tools that folks like

Congressman Westerman is working on, like Chairman Barrasso, and Senator Carper, some additional little tools on the management side.

But this is like one of those conversations, like, let's not score points on it, right? Like, folks are hurting right now. I talked to my friend who is an air director up in Oregon right now. They are trying to rewrite their smoke plans right now. It is a good collaborative process. It is a few years too late. I would have liked to have seen it a few years ago.

I mean, the leaders that you have on this panel actually have a lot of the solutions. And so I am like if you do the talking points, you can't have this conversation without talking about climate. You got dryer soils. You got less snow pack. You have warmer temperatures. I mean, the fact that it is not a -- I am going to steal your line, I apologize, that it is no longer a fire season, it is a fire year.

This is a serious conversation. And, you know, I know there is a lot of other votes going on, but not a lot of folks are here right now. And so I would just -- I would encourage -- if there is folks that want to have this conversation in a real way -- and it is not just the E&C. I mean, it affects Natural Resources. We obviously have jurisdictional issues all over the place.

We got to fix the funding issue. That is the first thing. We have to figure out -- we have to figure out some of these collaborative measures and how we basically bolster the collaboratives in a big way, because the collaboratives are the way to get good products on the ground. There is huge opportunity there. And there is some commonsense things that could be fit into the farm bill.

Advancing prescribed burns in a smart way, and there is some guidance -- we don't actually need to change the Clean Air Act, but there is some guidance coming out of EPA related to how they actually measure different types of emissions that have to be

fixed. I think Administrator Wheeler could get this done. I think, frankly, Gina McCarthy would have agreed with him on some of these things. This is one of those areas, again, that it is not particularly partisan, and frankly, getting those products on the ground.

Because right now, it is easier to try to respond after the fact than it is to actually do the prescribed burn on the front end. Because it is just a headache. The level of review that is necessary to do it is complicated. These folks do it better than most places. The folks in the southeast are probably doing it the best right now.

But there is models there that we have to figure out how to actually get off the ground, because the scale of restoration that we need is massive. I mean, we are gone from doing, you know, a few million acres here. We need tens of millions of acres of your active management across the board. This is a big conversation we need to have.

We can't have this conversation without talking about acting on climate. I know it is a partisan issue. It shouldn't be. We need to figure out ways to reduce emissions, because they are heating up these systems and making them worse.

There is a big oversight role for all of you too. I do worry about the fire funding fix when it kicks in. The extra money needs to go towards restoration. It needs to go towards active restoration, active management. It can't just go to other programs. That is going to require some oversight, because the way the language is written, it doesn't quite do that.

And then finally, I would encourage, especially folks in the west, to try to figure out ways to get more members out to see the impacts. Because right now -- I mean, I spend a lot of time in the west. I don't think folks can fully appreciate the level of devastation in the southern California airshed, in these States. I mean, breathing the soot for day after day, this is a big issue. And at a time when we are preparing for

massive hurricanes, this is the time for serious people. And I would love to work with all of you, because as, you know, the great American poet Elvis Presley said, you know, a little less conversation, a little more action.

Thank you.

[The prepared statement of Mr. O'Mara follows:]

******** INSERT 1-6 ********

Mr. Shimkus. The gentleman's time expired.

Defending my colleagues here, I think this is actually a pretty good turnout. We do have a bill on the floor. We do have a Health Subcommittee hearing upstairs. So this is not bad, so --

The Chairman. Mr. Chairman, you might point out that this is a subcommittee too. When we are in full committee, all these seats are filled, as they were this morning. So just for the audience.

Mr. Shimkus. I would agree.

Reclaiming my time. The chair now recognizes Mr. Boggus, the State forester and director of Texas A&M Forest Service, on behalf of the National Association of State Foresters.

STATEMENT OF TOM BOGGUS

Mr. Boggus. Thank you --

Mr. Shimkus. You are recognized for 5 minutes.

Mr. Boggus. -- Chairman Shimkus and Ranking Member Tonko and Committee Chair Walden. I am glad all of you are here. And I am glad to be here, so -- to talk about this important issue today on air quality and wildfire.

My name is Tom Boggus, and I am the State forester and director for the Texas A&M Forest Service. I am here to testify on behalf of the National Association of State Foresters, where I serve on the -- member of the Wildland Fire Committee, as well as the past president of the Southern Group of State Foresters, which represents the 13 southeastern States.

I have spent 38 years in forestry and fire, and I am honored to share some of that experience with the subcommittee today.

The NASF and the regional associations like Southern Group represent the directors of the Nation State forestry agencies. We deliver technical and financial assistance, along with fire and resource protection, to more than two-thirds of our Nation's 766 million acres of forestland. We do this with critical partnerships and with investments from the Federal Government, including U.S. Forest Service State and Volunteer Fire Assistance Grants, which provide equipment and training to the firefighters who respond to State and private land where over 80 percent of our Nation's wildfires begin.

This has been a heck of a year across the country. You have heard that. And Texas was no exception. We had over 8,000 wildfires burning over half a million acres so far in 2018. The fire activity impacts responders at local, State, and national levels.

The first impact is to communities. And what many people don't understand and realize is that, in Texas, 75 percent of our wildfires occur within 1 mile of a community. Most of these fires, historically 91 percent, are suppressed by the local responders. The other 9 percent, when their capacity is exceeded, require local, State, and often national resources to control.

Wildfires affect us all. I don't care whether you are rural or urban, local or State or national. At the State and national level, demand to respond does not go away. And you just heard from my colleague here that in the wildfire community, we have quit using fire season and we started using fire year, because it is much more accurate. Because there is a wildfire season somewhere, and wildfires are happening somewhere across America at any time.

Fire has always been a natural part of the ecosystem in Texas, in the south, and, really, a lot of parts of the country. However, for many reasons, wildfires have become increasingly detrimental to the forests and communities around them, including the generation of catastrophic amounts of air pollutants. That is why we are here today.

So what can we do to address the massive amounts of wildfire smoke? My State forester colleagues and I put a great deal of emphasis on proactive prescribed burning. During the times of year when fire risk is low, you have already it, where fire size and smoke emissions and community notification can be managed effectively as compared to an unplanned or an often catastrophic wildfire.

In the southern part of the country, we have a long history of getting prescribed fire accomplished on the ground. We have formed a fire management committee in the States consisting of a fire director from each of the 13 States, and we work together on shared practices, best management practices. For example, we created the Southern Wildfire Risk Assessment Portal, or SouthWRAP. And it is especially important in an

urbanizing State like Texas.

We build and maintain strong partnerships with landowners and local governments in implementing partnerships with State environmental quality agencies, Federal land management agencies to get prescribed burning done and forest management done collaboratively.

In Texas, unlike the west, 94 percent of our land is privately owned, and prescribed fire is primarily conducted by private landowners. Texas is a big and diverse State. And the reasons for conducting prescribed burning are just as diverse as our geography.

We recently developed a State smoke management plan to provide best management practices for our landowners and these cooperators and certified burners. The plan provides resources for these professionals to utilize in order to minimize the smoke from their prescribed burns.

Environmental regulations such as air quality are under the authority of the Texas Commission on Environmental Quality, the TCEQ. Now, they are also -- that is a great conversation in the education process, but they are a great partner, and they understand and have said last week at a hearing in the State that we need more fire on the ground in Texas and more prescribed fire and not less.

So once again, I want to thank you for this opportunity to testify and appear before you. I look forward to answering any questions. And if I can share more expertise that we have in Texas and the south related to wildfire, hazardous fuel reduction, and prescribed burning.

Thank you, sir.

[The prepared statement of Mr. Boggus follows:]

******** INSERT 1-7 ********

Mr. Shimkus. Thank you very much.

Seeing no other members of the panel, I would like to recognize myself 5 minutes to start the round of questions.

And, Mr. O'Mara, I want to go with you just because of your opening statement. And I think you alluded to a missed opportunity in the minibus. I mean, I know you can fill the space, just briefly tell me, what was the missed opportunity?

Mr. O'Mara. Yeah. In the fire funding fix that was passed in March as part of a big budget deal, there was a provision that was snuck in at 3 a.m. that basically moved it from being 2018 fiscal year to 2020 fiscal year. There is no increased funding through the fire fix for the next fiscal year. So you are not going to have the additional money that you all passed for 14 more months. There is some supplemental money that folks here and, you know, Udall and Murkowski put in, but the actual tool isn't available when we are having these horrible conditions.

Mr. Shimkus. Great. Thank you very much.

Let me go to Ms. Anderson and Ms. Germann. Compare and contrast for me the risk challenges and the environmental quality aspects of a forest fire and the resulting smoke and stuff versus auto emissions in coal-fired power plants.

Ms. Anderson. So in Idaho, we don't have any coal-fired power plants. The next biggest emitter are -- you know, we do have quite a bit of open burning. We have agricultural burning, backyard burning, a lot of auto emissions. We don't have a lot of industry in Idaho. So by far, the wildfire emissions are the biggest air pollution source that we just can't manage. We have to react to.

Mr. Shimkus. Ms. Germann.

Ms. Germann. Yes. Thank you. I lack the specifics on any type of coal emissions. But I can say anecdotally, certainly, wildfire smoke is, by far, the largest

polluter within the State.

Mr. Shimkus. Great.

Let me go to Mr. Boggus. In your testimony, you say that, and I quote, "Our forests are currently more fire prone than ever." I think Mr. O'Mara may have alluded to that. Some of the opening statements would.

Why do you believe that is the case?

Mr. Boggus. We need more active management. And I think several people on the committee have alluded to that. And I think when you have a built up of fuel -- and what we haven't even really talked about is the land use changes that have happened. We have got more people living in and around our forests, but the fuel loads are increasing every year.

Mr. Shimkus. And when you use that terminology for, the fuel load is increasing, what are you referring to?

Mr. Boggus. There is more to burn -- available to burn in the woods than there ever has been.

Mr. Shimkus. So, you know, Mr. O'Mara, I am not picking on him. I mean, he mentioned the threat of clear cutting. We are not talking about clear cutting large swaths of ground. We are talking about what?

Mr. Boggus. No. We are talking about active management, forest management of the resource.

Mr. Shimkus. Removing some of those fuels.

Mr. Boggus. Yeah. That doesn't mean harvesting, that doesn't mean thinning. But that means keeping forests healthy. And I have great examples, and we won't have time to get into them, but examples in Texas where a managed forest, even if you have severe drought or you have wildfires, the managed forests bear better and you don't

have the damage -- catastrophic damage that you do to wildland -- wildlife habitat and the resources that you do with unmanaged forests.

Mr. Shimkus. Let me go to Mr. Baertschiger -- Senator, I am sorry -- for that same question.

Mr. Baertschiger. Well, you know, from a fire science perspective, you always have to remember, you have to have drying of the fuels to a point where they will -- can be ignited and sustain ignition, and you have to have ignition. You can have the driest and even huge fuel loadings, and if you don't have ignition, you have no fire.

And so when I talk about the human element, that is something that I have been tracking now for about 10 years of really looking at it. So we are having more and more of these fires that are caused by the human element. And when we get more and more fires, then we spread our resources and we can't concentrate on putting one out because it is kind of like whack-a-mole, you know.

Mr. Shimkus. Of the fires that -- I mean, of the fires we are experiencing, percentagewise, how much are natural caused and how many are caused by human intervention, a fire not left, or someone -- we have had some intentional fires set.

Mr. Baertschiger. Yeah. When I referred to human cause, I am not talking about an arsonist. I am talking about it can be a power line failure, it can be a chain dragging from a vehicle down the road. It is something that has to do with a human, that we wouldn't have that fire if we didn't have that human element into it. And it is getting close to 9 out of 10 fires.

Mr. Shimkus. Okay. Great.

My time is close to be expiring. I will turn to the ranking member, Mr. Tonko, for 5 minutes.

Mr. Tonko. Thank you, Mr. Chair. And again, welcome, to all of our witnesses.

Thank you for your expert testimony.

And, Mr. O'Mara, you made the observation that a great many of us agree about the severity of the problem and the need to move forward. And I am hoping that somehow we can be inspired to come up with solutions that incorporate the professionals that manage these resources in such an outstanding manner.

I want to start with the big-picture question before we get into the specifics on forest management. How important is addressing climate change which we know contributes to conditions that exacerbate the number and severity of these fires for a long-term fire mitigation and our forest management strategy?

Mr. O'Mara. I mean, look, I mean, we have to address the underlying stressors of the system long term. You know, those aren't improvements that will happen overnight. There is a lot of things we have to do in the near term. But if we want to have long-term kind of sustainable health, we have to kind of bend the curve on the warming planet.

Mr. Tonko. And in March, Congress passed the fiscal year 2018 omnibus appropriations bill, which included changes to how we fund the United States Forest Service's fire response beginning in 2020. And you alluded to that funding.

Does everyone agree it is important to provide greater funding for more proactive forest management to reduce the risks of these large wildfires?

Mr. O'Mara. Absolutely. I mean, I think the more that we can do, to my colleague's point, about -- thinking about private lands, State lands, federal lands -- I mean, these are the same landscapes. You know, the ownership might be different, and I do think providing additional funding for certain tools like prescribed burns could be very effective.

I actually don't think that the fix itself is going to end up being sufficient long term,

even just given the scale of the -- you know, we are talking, you know, another 10 million acres this year probably by the time we are done. I mean, we are escalating in a pretty concerning way. And I think you are going to need more money, frankly, not less.

Mr. Tonko. So is that the additional work that we need to secure here, or is there something more than just the dollars that are required as we go forward with the fix?

Mr. O'Mara. From my point of view, I think there are additional tools that we can provide. I think there are some very important tools that were provided as part of the funding fix in March.

I mean, a few of the ones that, you know, just kind of come to mind, top of mind, is there is like the collaborative forest landscape program that is a very effective tool that is in the current draft of the farm bill, assuming that gets done. There is some things around funding disease and infestation. There is things around Good Neighbor Authority, like you mentioned, making sure that works for everybody, you know, including Tribes, including other partners, counties in some cases that are bigger.

There is some innovation programs for trying to have markets for some of these products, because one of the worries I have is that if we don't create robust markets and trade comes into this, because, you know, a lot of the timber guys are struggling right now because the markets are closing, in China in particular. And so there is a bigger conversation with the economic consequences, making sure they have a place to put this material into good use.

Mr. Tonko. Thank you.

And based on the recommendations of NWF's Megafires report, do you have other suggestions on how Congress and the administration can help reduce the threat of wildfires?

Mr. O'Mara. I mean, I would encourage this committee to convene some of the stakeholders and the agency heads that are involved. Secretary Perdue and his team have done a really nice job, Acting Director Administrator Christiansen and Jim Hubbard.

I think pulling together some folks at EPA and having conversations about how we encourage more prescribed burns and the way they are protective of public health, having some more clear guidance could be helpful. And then also highlighting the success of particularly the Montana-Idaho collaborative event, because I do think that is a model that could be replicated in other places. There is good collaborative in California as well that could be replicated. But we have to elevate these best practices in other places, because we are going to see the impacts get worse over time.

Mr. Tonko. And a few people have mentioned forest provisions included in the House farm bill, H.R. 2, although there have been criticisms that they go too far in undermining environmental laws, including NEPA and the Endangered Species Act.

Do you have any thoughts on those provision?

Mr. O'Mara. Yeah. I am happy to provide additional detail, kind of point by point on them. I think there is a series of them that are very bipartisan. I think there are a few that probably go a little too far in some of the categorical exclusions. You know, we probably should be using the ones that we have right now. I think the one that was passed before was the most important one from March.

And I think, you know, the more that those conversations are being directed by the science, by the experts, the better. But I do think there is a suite of four or five of them that easily could move through this farm bill. And I would love to work with you offline to tell you exactly which ones those are.

Mr. Tonko. Sure. I appreciate that.

With that, Mr. Chair, I yield back.

Mr. Shimkus. The gentleman yields back his time.

The chair recognizes the chairman of the full committee, Mr. Walden.

The Chairman. Thank you again, Mr. Chairman. Thanks to my colleagues for participating in this hearing and to all our witnesses for being here today.

I want to talk about some of the issues that we have run into, some of the data that we have. According to the Georgia Institute of Technology, when they did a study on this, found that wildfires burning more than 11 million acres spew as much carbon monoxide into the air as all the cars and factories in the continental U.S. during those same months. I am sorry, that was California Forestry Association. You are probably familiar with these data points.

And the Intergovernmental Panel on Climate Change, the IPC's fourth assessment report on mitigation said in 2007, quote: In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest stocks while producing an annual sustained yield of timber, fiber, energy from the forest will generate the largest sustained carbon mitigation benefits.

So, basically, healthy green forests sequester carbon. Dead, dying, old ones and ones that burn and re-burn actually emit carbon.

So one of the provisions in the farm bill is something that we do on those other landscapes you referenced, Mr. O'Mara, and that is, after a fire, you harvest the burn dead trees where it makes sense and you replant a new green forest which will sequester carbon.

Is that one of the provisions you oppose -- your organization opposes or supports?

Mr. O'Mara. No, no. We have been supportive.

The Chairman. Of the House farm bill provision?

Mr. O'Mara. And the only thing -- we just want to make sure we are planting

kind of smartly, right, in terms of what is going to be sustainable in the long term.

The Chairman. Sure.

Mr. O'Mara. Oh, no. Absolutely. We -- I mean, yes. Absolutely.

The Chairman. Yeah. I mean, because it will be the types of trees for that area and the environment and all that. I mean, we got to be smart about it.

But what I hear, and, Senator, you may want to speak to this, because you both have been on the forest management side and had a career on the forest firefighting side, so you have seen both. Tell me what happens in these fires the second go-around after the trees on Federal ground have not been removed, the burned dead ones. What happens there when a fire breaks out the second time, which often is the case?

Mr. Baertschiger. Well, on Forest Service lands, they are not going to replant after a fire. So when you have the first fire go through, the mortality rate of the live trees is pretty high. The second time or the third time it goes through, it takes out the rest of the trees. So there is no trees to cone out. Cone out means when a tree is starting to die, they will drop cones and reseed and start all over again. But after the second or third burn, there is no trees to do that. And so it changes the entire ecosystem of that forest. You will not have the same forest that you had. And that is what we are seeing in -- and the dirt. Yeah. I mean, catastrophic high-density fire.

The Chairman. This is the dirt which remains, which is called ash.

Mr. Baertschiger. Yeah.

The Chairman. And on the second fire, doesn't it make it even harder to maintain any kind of vegetation, frequently, because it burns the soils, it sterilizes the soil so deeply?

Mr. Baertschiger. Our common terminology is it nukes the soil.

The Chairman. Nukes the soil. How far down will it nuke the soil on a bad fire?

Mr. Baertschiger. Just depends how hot it gets. And in southern Oregon, northern California where we have extremely high fuel loadings, in other words, tons per acre, we have a very hot, hot, hot fire. We can have 400-foot flames from some of those fires.

The Chairman. Four hundred feet high?

Mr. Baertschiger. Four hundred feet high, the flames. So depending on the severity, the hotter the fire, the deeper it is going to go into the soil. It can go pretty deep.

The Chairman. Mr. O'Mara, I fully agree with you on the need to solve the fire borrowing issue. I have been an advocate of doing that from day one. It makes no sense. I am told there are statistics that -- you know, it costs four to five times as much to fight a fire as it does to do the kind of work you and I agree needs to be done on the forest.

I had somebody in region 6 Forest Service at one point tell me 70 percent of the Forest Service budget for these projects goes into planning, planning and appeals. And it seems like we have got a broken process, then, if all the money is going into the planning and not going to the ground. Do you agree?

Mr. O'Mara. Yeah. And I think there is two issues there. One is that -- I mean, I think there is some redundancy in the planning process. There is some things they could be streamlining. We are not bolstering the collaborative enough. If we have to go through a collaborate process, there should be a way of --

The Chairman. I was a cosponsor of that legislation to do landscape scale collaboratives that we are using in Oregon today.

And I think you said something too about we got to do bigger expanses on these collaboratives, right? Or on the treatment, because we are millions of acres behind.

One of the others provision in the farm bill would extend the categorical exclusions out to 6,000 acres. We have got millions we need to do. Three thousand is currently on the books, but only on certain forests in certain States have certain governors identified certain lands.

So in southern Oregon where the Senator is from, our Governor didn't designate any of those lands. But the provisions in the farm bill in the House would allow for a 6,000-acre CE where you could go in and begin this catchup work. And so I am hopeful we can get that into law.

Our committee -- while we want to believe we have complete jurisdiction over every issue on the books in the Congress, and I think we would be better off if we did, doesn't fully have Forest Service jurisdiction, but this is our hook, because what is happening on Federal lands is dramatically, dangerously affecting the health of our citizens, and that is why linking to the air quality is so critical.

Do you want to respond?

RPTR DEAN

EDTR ROSEN

[2:16 p.m.]

Mr. O'Mara. Just one thing. Your point on the carbon emissions, in 20 to 30 percent of the global solution could come from repairing these kind of natural systems.

The Chairman. Absolutely.

Mr. O'Mara. It could be 10 to 15 percent of this country. When you are talking about the impacts just to the forests for the last few years, I mean you are talking 36 million cars. Right? This is one of the most potentially bipartisan ways we restore our forests, we reduce emissions. It is a win for everybody.

The Chairman. And you haven't talked about the habitat, the water quality, et cetera, et cetera. My time is expired. The chairman has been very generous. Thank you, Mr. Chairman.

Mr. Shimkus. The chairman is always generous to the chairman. So the chair now recognizes the gentleman from California, Dr. Ruiz, for 5 minutes.

Mr. Ruiz. Thank you very much. And chairman, I agree with you, this is a definite public health concern. And there is two main points: One is that it is a public health concern, just recently in the fires in my district, I had to give a warning on social media to anybody who can smell smoke or see ash, especially vulnerable populations, the older, the young, and people with lung illnesses, that they should be inside in a closed air conditioned unit.

The second main point that this tells us is that these fine particles, particle matter 2.5 microns and substance from a fire in California can be -- can travel clear across the country. So whether you are in a fire-prone State or not, it is an American issue and all of our public health can be in gem pardon.

As we sit here today, there are 17 active wildfires burning across the State of California. The ongoing wildfire season has resulted in over 1.4 million acres burned, and the worst is likely yet to come due to climate change. As we know, that climate change can fuel the severity, frequency and the size of wildfires by increasing the duration of droughts, causing long stretches of low humidity and high temperatures, and initiating early springtime melting, which leads to dryer lands in summer months. So we need to address and recognize climate change and do everything possible, or else we are not being as effective as we can.

In August, the Cranston fire burned over 13,000 acres in my district outside of the community of Idyllwild. This fire exposed the residents of those mountain communities to numerous risks beyond just the flames themselves. While the fire burned, residents across southern California were subjected to increased air pollution as the smoke traveled across the region; these are kids with asthma; elders with COPD; people with pulmonary fibrosis, et cetera, were having more shortness of breath, visiting emergency departments, requiring more intensive care.

The smoke and pollution from wildfires can affect populations far removed from these fires themselves. The fires in California can cause vast clouds of hazardous smoke that can affect the air quality for residents in Arizona, and Nevada and further east.

So wildfires are regional disasters with national implications. And earlier this year, my Wildfire Prevention Act was signed into law, which extended the Hazard Mitigation Grant Program to any fire that receives a fire management assisting grant. Previously, this funding was only available to declared major disasters and not fire. Hazard Mitigation Grant Program funds may be used to fund projects that will help prevent and mitigate future fires. Some examples can include receding construction of barriers, hazardous fuel reduction or reinstalling ground cover. So Mr. O'Mara, can you

speak to examples of mitigation projects that can be taken in the wake of wildfires that would be most helpful to preventing a repeat event?

Mr. O'Mara. This is one of those great examples of an ounce of prevention would be worth a pound of cause. There are things you do on the landscape. You talked a lot about prescribed burns, you talked a lot about active management practices, they are ecologically sound, but there is also some common sense. We were building further and further into the wildland urban interface.

Mr. Ruiz. Right.

Mr. O'Mara. And you get folks that are building up into the hills. There is some common sense that we are putting people in harm's way. And I do think there has to be some kind of accounting for that, and making sure we are not putting additional folks aren't in harm's way. It is unfortunate in some cases. These are beautiful places, but we allow people's desire to live in the middle of the woods.

Mr. Ruiz. What are some examples, specific examples that households can do and that we can do as policymakers?

Mr. O'Mara. Sure, there are things on building codes, making sure more fire resistant products and things like that, and some States have done that, or some local governments. There are things in siting that can be incredibly helpful. Making sure climate science is part of your planning process. There are a wide range of things that have people in less harm's way.

Mr. Ruiz. Ms. Germann, as a State forester, can you give examples of how you would use additional hazard mitigation funds to prevent future wildfire damage?

Ms. Germann. Yes, thank you. I can think of several. And I will speak specifically to working on private lands. Any funding that we get through State and private forestry, we are targeting lands within the wildland urban interface to work with

landowners to reduce the fields in and around their home, and educate them on things like the home ignition zone. And we are finding that a lot of fires, they also start -- homes also burn because of the expanse around the home, if they are not necessarily going to be planting fire resistant material, or shrubs, we try to work with people to educate them on the best type of landscaping that they can have. So it is going to take a couple of things, fuels reduction outside of that home and ignition zone and also work within and around homes.

Mr. Ruiz. It is amazing to see the photos of the houses that were spared because of what they did around their house to mitigate the propagation of fires, it works, it definitely works. I yield back.

Mr. Shimkus. The gentleman yields back. The chair now recognizes the vice chairman of the subcommittee, Congressman McKinley from West Virginia, 5 minutes.

Mr. McKinley. Thank you, Mr. Chairman.

Unfortunately, the ranking member from New Jersey has left. I wanted to thank him for his opening statement, because it gave us -- those that are here -- a little snapshot of what life could be like after November, if he becomes the chairman, a diatribe of challenging President Trump for everything on climate change. It just shows that such a distraction is going to take place in this committee in the years ahead when we try to deal with all the matters that come before this committee.

And perhaps, it was just meant to be a distraction from the economic insurgence that has taken place across this country. And I appreciate you, Senator from Oregon, that you didn't blame President Trump for one of those nine of ten fought fires being started. He got blamed for waters rising in the oceans, blaming Hurricane Florence. It is just inexcusable, but that is what we are going to see. So it is a little vignette of what we might be able to see in the future.

My question -- further with remarks would be, we had some discussion a couple years ago about the CO2 emissions out in the atmosphere. And I quoted O'Mara, I quoted from Al Gore's book that the largest producer of the CO2s into the atmosphere is not from coal, it is coming from the deforestation of tropical rain forests. So the idea of what we are seeing in Oregon, California and elsewhere is we are contributing to this. That is why we need to address those problems and solutions so that we are not allowing this uncontrolled burn in our forests and allow that to take place.

Now, I go to West Virginia and there we have the Mon, which is about 1 million acres. Like I say, Mr. O'Mara, with all due respect, it has been groups like yours and others that have prevented the logging in the Mon forest. It is a million acres, and they have only received about $1 million worth of harvest. Think about that: $1 per acre is all they are getting out of that forest. But yet, you go to the Allegheny Forest in Pennsylvania, and it is getting $12 per acre. So we think about what the situation is we have in the Mon. I want to learn from what testimony has been given here, that we may be sitting on something that is a very aging force in West Virginia in the Mon. And it is a tinderbox, because people are preventing us from logging and perfecting the situation that we have in West Virginia.

So I am looking for some guidance as to how we might be able to approach this, because I am afraid we are going to start experiencing the same problem in West Virginia in the Mon that you all were experiencing out west because of environmental groups do not want to have -- I have got here, the West Virginia legislature was trying to do some in the State forest, but the environmental groups prevented that from happening.

What advice can you give us for other areas? We have seen the devastation and we have seen the collection that the chairman has of soot from out west, what do -- how do we prevent that from happening in the east as well? What would you suggest, any of

you? Don't be shy. There is nothing we can learn?

Ms. Germann. Is the question what would we --

Mr. McKinley. What would you recommend? How should we go about this, because the National Forest, because of the environmental movement, is preventing us from thinning that and addressing the problem? We are only get one-twelfth of the wood products out of the Mon that people are getting at other national forests. It is becoming a nursing home for wood.

Ms. Germann. If I may, I think something it that is happening right now, and I think you see it through the panel and Mr. O'Mara and my colleague, Mr. Boggus, we are talking about a lot of the same things. I think there is an opportunity that is happening right now is we are all interested as land managers, and as people who are interested in getting restoration and protecting water quality and air quality. We are wanting to focus on taking a cross-boundary approach. So we call it "All lands, all hands." I think that is something we talk about across the Nation. But we have this opportunity right now to be doing more, but we have to be making sure that we are not only going to be doing more on private lands, we have to have the funding through our agencies for State and private forestry within our State. Other things like Good Neighbor Authority. So it is an excellent partnership between the Federal Government and the States. Working with collaboratives, working with local governments --

Mr. McKinley. Again, those are great ideals, but it is not happening. So Mr. Boggus, what would you suggest? What do we have to do to try to encourage the Forest Service to eliminate these hazards so that we don't experience this same problem?

Mr. Boggus. Well, you have to keep the dialogue open. We are an early adapter, Texas is an early adapter for the Good Neighbor Authority, where you have these agreements -- even before there was Good Neighbor Authority, we went into

agreement with our State -- our national forest folks in Texas, and to help them with prescribed burning. We had an agreement in 2007 and 2008 for that. Then we had the Good Neighbor Authority, which means the States can help the U.S. Forest Service get management done on their lands. And you all's thank you for the fire fix as has been said before, but that is a great help to us, because a lot of times, the money we have and for reaching and technical assistance and the money that people don't talk about is the State and private funding that comes from you all; the borrowing came from State and private often, and so that is where we can reach out and do more on U.S. Forest Service lands, but also on technical assistance and helping the State and the private landowners across the State, which we heard was most of the land. Most of the forest land in this country is on -- what you are talking about in the east and the south is on private lands. And those folks need technical assistance.

So these programs like stewardship, Urban and Community Forestry and the Good Neighbor Authority help us put things not just in a plan, but put them on the ground and manage and make our forest healthier.

Mr. McKinley. Thank you very much. I yield back.

Mr. Shimkus. The gentleman's time has expired. The chair recognizes the gentlelady from Colorado, Ms. DeGette, for 5 minutes.

Ms. DeGette. Thank you, Mr. Chairman. I know some of you were worried there weren't a lot of members here, but you had members represent the entire Rocky Mountain west and west coast, so that is pretty darn good, because we are the ones dealing with these issues every day.

I just want -- I think Mr. O'Mara is correct, we don't have any silver bullets for solving this problem. You know, being from Colorado, I see this firsthand, and believe you me, we couldn't see the front range for most of August in Denver because of the

smoke.

Then I went to Oregon, and the same smoke was in Oregon, and then I went to Vancouver and it was still there for 1 month. This is not normal summer weather for us in the West. The thing we have to realize is there is no one solution. It would be super great if we could just go in and clear out all of this extra wood, and then we wouldn't have as big of a fire risk. Number one, that is not the best management technique for a lot of these areas. But number two, for those of you not from the Rocky Mountain west and west, it is millions and millions of acres that we are talking about. There is no way, even if we had adequate funding, we could go in and clear out this wood.

Secondly, in some of these areas, we really do need to have prescribed burns. We need to have forest management programs that are appropriate for those forests. And I am delighted to see our whole panel sitting here today agreeing with these concepts.

So what can we do? There is a couple of things. Number one, several of you said we have to have adequate funding. And this is such -- this is a bipartisan issue for those of us from the west where our colleagues don't seem to understand how important funding is for forest management, no matter what those techniques are.

The second thing is, we have to think about long-term planning. We are not going to be able to solve this air quality issue, or the other related issues, without the long-term planning.

Mr. O'Mara, you talked about the dry soils, the water and everything else from climate change, but there is other issues too. Let's see if they have my picture, if the clerk has my picture to put up. This is a picture that I took in the Pike and San Isabel National forest last month. It is always really fun to go hiking with me, because I stopped and said take a look at this forest. See the trees on the ground? Those trees

would not have been on the ground 10 years ago, that is Ponderosa pine, it was all killed by the pine beetle, and they died and they fell down on the forest floor. Then you can see the aspens now that have grown up because of the death of the pine forest. But then, if you look closely you can see the new baby Ponderosa pines growing up.

So this is something the forest has tried to do to naturally recover from the pine beetle infestation. We -- in Colorado, we think it is a miracle that all of these millions of acres that look like this have not burned. We have had some devastating fires the last few years, but we did not have devastating fires this year. I don't know why, I think probably luck. But if you want to solve this problem -- so these could all be burning.

Now, we all said in Colorado, we need to be able to remove this dead Ponderosa pine, and we did in many areas. But it is millions of acres; it is wilderness areas; it is national forests; it is BLM land. So we have to think of ways where we are going to aggressively address climate change issues, because it is not just the carbon emissions that we are seeing and everything else, it is a whole ecosystem that is impacted.

So I just really want to say, Mr. Chairman, I so appreciate you having this hearing. And I think that there are ways that we can aggressively work in a bipartisan way. But to think we can go down and clear out all the deadwood or just have a few controlled burns, that is not going to solve this problem over this entire massive and beautiful region. Thanks, and I yield back.

Mr. Shimkus. The gentlelady yields back. The chair recognizes the gentleman from Texas, Mr. Flores, for 5 minutes.

Mr. Flores. Thank you, Mr. Chairman. This has been an enlightening panel today. Mr. Boggus, I have a couple of questions for you if we could. We have got something called Good Neighbor Authority, and we have had several people mention that, but nobody's described it. Can you describe Good Neighbor Authority for us?

Mr. Boggus. I guess the easiest answer is, it is a partnership, an agreement we go into with the U.S. Forest Service where they often have either lost the expertise or do not have the personnel available to help them with timber sales, with prescribed burning. And now you have added road building in the latest version into there to help with the management activities on the U.S. Forest Service lands, so we go in partnership with them and help them manage their -- the Federal assets, the Federal force.

Mr. Flores. And how does this authority work for the State of Texas? You are the chief forestry officer in the State, how does that work for you?

Mr. Boggus. It is a dialogue that has to go on, and it is something you learn as you go. Like I said, we were an early adaptor, we saw the benefits of this. In Texas, again, we are a private property State, the U.S. Forest Service is only 635,000 acres of forest land in Texas. But that is extremely important because the things that happen on that forest impact the private landowners around the forest. So with insects and disease, with fire and so forth and so, we work with them because we want to help make sure there are other some other programs. Like we had the southern pine beetle prevention program; it is Federal funding through the U.S. Forest Service that we would help with those private landowners get their property thinned and managed around, we kind of call it beetle proofing around the U.S. Forest Service land. We also now, with Good Neighbor Authority, we can work with the U.S. Forest Service partners and get those same -- on the inside of the red paint, and get those protected as well and help do some thinning, and keep the forest healthy, that is the whole idea, we want to keep our forests healthy.

Mr. Flores. In your testimony, you mentioned that last year, Texas used prescribed fires on over 200,000 acres. And you also said that burning like this is pretty common across the south. Some States even do high amounts of prescribed burning.

What are the challenges that exist with -- well, let me rephrase the question. What are the challenges of dealing with prescribed burns versus the challenges of dealing with uncontrolled burns?

Mr. Boggus. A wildfire is much more challenging and much more destructive. Now, a prescribed fire or controlled burn, says what it is, it is prescriptive, you have very set weather parameters, it is lower intensity. So you have less particulate matter, and so what it does is, it fireproofs communities, it fireproofs the area, so it keeps a catastrophic wildfire from happening. It prevents that fire. It is almost like saying fighting fire with fire, because you are making it where the fuel loading is less, you are keeping those four. It is a fire ecosystem in Texas so we are keeping those forests and those lands healthy, and keeping the fuel loading down. So if you were to have a wildfire break out, an uncontrolled, unplanned fire break in through there, it would be much less destructive.

Mr. Flores. And then you also do this adjacent to communities in order to protect those communities from the impact of the wildfire. What do you do to protect the community in the controlled burn process?

Mr. Boggus. Well, obviously, the biggest thing we do, and I guess I will give an example, is our Jones State forest in Texas, which is almost in the city limits of Houston, so it is surrounded by subdivisions. So it is a very difficult place to burn. We have to plan, and part of these things is working with our environmental quality folks, and also working with the community around there, the landowners and homeowners around there, for them to understand if they do have issues, breathing issues, when we are going to it. So there is a lot of communication back and forth that those homeowners and landowners to say here is what is going to happen. If at first, if they are urbanized, urban dwellers, they are not used to seeing smoke. You know, if you didn't grow up in

the country and burning your leaves and seeing smoke, it is disturbing. They think it is a wildfire.

So we let them know what is -- and we also show them are before and after and the benefits of that fire, the prescribed fire. And now, some of our biggest advocates are the ones that say, Yes, if you have anybody that is against prescribed fire, tell them to call me. So we have a lot of peers that will help and come to our defense, landowners and homeowners.

So you have got to do a lot of outreach with the group, and you have got to do a lot of preparation and planning ahead of time. So the weather has to be right, conditions have to be right so that the smoke cannot be an adverse condition for those homeowners and landowners around the fire.

Mr. Flores. And, of course, one of the ways that the prescribed burns are safer is you do it seasons when you are less likely to have it migrate into an uncontrolled burn.

Mr. Boggus. Absolutely.

Mr. Flores. I am going to try to squeeze in one last question. A controlled burn has an environmental impact, a wildfire has a huge environmental impact. So because a controlled burn has an environmental impact, you have to work with the Texas CEQ on that. Describe that relationship.

Mr. Boggus. That is an ongoing relationship, and that is one of the things we hope to get done, and just started 2 years ago, working with them to look at their rules. We would like to see prescribed fire treated differently than a wildfire, than smoke stacks, than car emissions. It ought to have some lesser because of the good it does and will help in the long-term prevent catastrophic particulate matter getting with a wildfire. So we would like to see the TCEQ treat prescribed burning and those that are done by trained, certified, prescribed fire managers, not just anybody, but that they would have a

look at the smoke and emissions from a prescribed fire differently than they do -- we are not there yet, but we are having those conversations. And like I said, last week, the chair of the TCEQ said, We need to have more prescribed fire on the ground in Texas, not less. So we are getting there.

Mr. Flores. Thank you. I have a couple of other questions, but I will ask you to respond supplementally to those. We will send those to you. I yield back.

Mr. Shimkus. The gentleman's time has expired. The chair recognizes the gentleman from Georgia, Mr. Carter, for 5 minutes.

Mr. Carter. Thank you, Mr. Chairman. And thank all of you for being here. This is certainly a serious problem, particularly in the State of Georgia. Georgia is the number one forestry State in the Nation. As you know we have over 22 million acres of privately owned land, and only about 1.7 million acres of government land. So we are a little bit different from, I think, the scenario that exists out west.

However, we have had our share of fires. We had the West Mims fires, the Okefenokee swamp is in my district. It is truly one of the national treasures of our country. It is a beautiful, beautiful area that I have had an opportunity to visit on numerous occasions.

We had a very serious fire there this past year, the West Mims fire. One of the adjacent property owners to that was telling me about this, and I met with him because he lost a lot of land as a result of the fire that started on the swamp, but spread to his private land. And I will start with you, Mr. Baertschiger, because I see that you worked as a fire training instructor, and a national type 3 incident commander.

I just wanted to ask you, one of the things that was brought to my attention by the private landowner was that they didn't utilize the air support. If they had been able to utilize it quicker, that they could have contained it possibly. Now in all fairness, a

swamp fire is a little bit different than other kind of fires, because you have, from what I understand, and I know you all know it a lot better than I do, but the Peat moss, and it is hard to put out, because the water has to rise up, and again, you understand it much better than I do.

But he did make that point that if -- and he attributes it to being a problem with the -- whether it was low funding and they couldn't afford to utilize the air support, the helicopters that were available. Is there something that you experienced before?

Mr. Baertschiger. Well, there could be -- I wasn't there, I don't know what the conditions were. And certain tools work good under certain conditions. If you have a wind blowing in excess of, say, 25 miles per hour, aviation stuff really doesn't help you much. And swamp is tough, because you can't use dozers and other mechanical equipment because they don't go through the swamp very well. So there is challenges with every fire.

But the example you give is very good; it is every forester in this country is exposed to catastrophic wildfire. And our history shows that going back to 1812, but the great Maine and New Brunswick fire, who would have thought that northern Maine and Brunswick would burn up, I think it was 3 million acres, and kill a lot of people.

So, you know, it is hard for me to comment on a fire that I don't have any specifics, but not all the tools work all the time. In Oregon this year, landowners lost 33,000 acres of private timberlands from fires burning off of the Forest Service on to the private lands.

Mr. Carter. Let me ask you, I met with him as I mentioned before, and he owns a lot of forest land in the area in Georgia. And when I met with him, he said a lightning strike is what this originated from. And that generally, the Federal Government will just let it burn out and not even respond to it, is that --

Mr. Baertschiger. You know, it just depends where it is, and, you know, I think -- I believe you mentioned it was in a wilderness.

Mr. Carter. Yeah, oh, yeah, in the middle of the swamp, or at least it started, and now it spread on to the private lands.

Mr. Baertschiger. In wilderness comes certain engagement rules, and I think some of that needs to be reviewed.

Mr. Carter. I appreciate that. Let me move to -- I wanted to get to Ms. Germann.

Ms. Germann. I am Germann.

Mr. Carter. I wanted to ask you -- now you are in Montana, right?

Ms. Germann. Yes.

Mr. Carter. Okay. The practices in Montana, I suspect, are a little bit different than I described in the State of Georgia, particularly in the swamp, and I asked about that in my district. We are not all swamp in Georgia, but in my district we are. I am in south Georgia. But I wanted to ask you about the practice, the forestry practices that you have in Montana. Can you describe those very quickly?

Ms. Germann. Sure. Absolutely. So we have, I will say that 60 percent of the forested land within the State of Montana is managed by the Forest Service. And we have active forest management taking place on State, private and Federal lands. And anything else that you want to --

Mr. Carter. I want to ask you specific about the State information implementation plans, and I guess this is kind of a broad question, and I am out of time, but nevertheless, these have to be approved by the EPA. Is that the way I understand it?

Ms. Germann. Yeah. And I don't have expertise on the State implementation

plans. I might ask that my colleague from Idaho --

Mr. Carter. I was just wondering if there were any type of barriers that you are having, or any kind of constraints, and how soon did they approve those? How quickly do they approve?

Mr. Shimkus. Quickly, please.

Ms. Anderson. It normally takes an 18-month period for EPA to approve those. So any changes to, like Idaho rules we submit for EPA. It is a very long, drawn-out process.

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

Mr. Carter. Thank you very much.

Mr. Shimkus. Chair recognizes the gentleman from California, Mr. Cardenas, for 5 minutes.

Mr. Cardenas. Thank you very much for having this hearing. Hopefully we can see through the smoke of politics and get things a little more right, than not, in this great country. We have -- don't we have some of the best response systems in the world? I mean, aren't we like in the upper tier when it comes to being able to respond to fires and trying to protect life and property? I think everybody pretty much agrees with that. I am not saying we are the best, but we are definitely in the upper tier, right? We have got all that capacity and capability, thank God.

One thing I would like to point out is the wildfires that have been ravaging through California are in excess of anything we have ever seen in the past. For example, 25 years ago, if you had a 4,000-acre fire, that was considered big. Now we have these mega fires that are consuming over 100,000 acres per fire. And then all of a sudden, you have now where people talk about fire season. It is kind of like fire year now, there really isn't a 3- or 4- or 5-month season. Now the situation is so bad, so dire, our forest

and our vegetation has dried up so much that the -- honest to God truth, as they say, protect yourself and hope and pray that there is not a fire, because there is no season anymore; it could erupt at any given time, and then when it does, we see these mega fires and some of them are raging as we speak.

Another thing as well, I would like to point out this is a responsibility that we need to hopefully get right as policymakers, and as organizations, whether it is local or State or Federal. We need to make sure that we can work together to minimize the negative effects of these devastating fires.

For example, according to the U.S. Forest Service alone, they have spent $2 billion last year just with the fires. That doesn't include the economic loss, et cetera. That is just the Federal investment in that. I truly do believe that we can always do better if we take the opportunity to learn from the past, to learn about what is going on today, to learn about what it is that -- how we are going to deal with this issue that many scientists are claiming that some of finest universities, Columbia University, et cetera, are saying that climate change is, in fact, contributing tremendously to some of the fires that are going on today.

I hope we don't argue about the simple fact that we do have a different environment now when it comes to the vegetation, when it comes to the ability to -- for Mother Nature to protect itself, and we, as human beings, have to make up the difference. Again, a 4,000-acre fire, not too long ago, was considered big, 100,000 acre fire is now becoming commonplace.

So with that, I would like to also ask the chair and the ranking member coming from California in the future, we can try to glean through the wonderful experts, like the ones we have here today. Maybe we can get somebody from California up here because our disproportionality of being affected by fires as of late is just tremendous.

Again, I don't know if that is a complaint or what have you, I think it is an observation with five members from the California delegation on this subcommittee. Hopefully in the future, we can be a little more --

Mr. Shimkus. Would the gentleman yield?

Mr. Cardenas. Yeah, absolutely.

Mr. Shimkus. You do know the process by which the people are asked are both from the majority and the minority side.

Mr. Cardenas. And that is why I mentioned to both of you, the chair and the ranking member.

Mr. Shimkus. Just wanted to make sure it was clarified.

Mr. Cardenas. But since you brought it up, maybe it is four to one, because we get one person and you get four.

Mr. Shimkus. Will the gentleman yield?

Mr. Cardenas. I will yield.

Mr. Shimkus. These negotiations are always done between the parties, and I see no objection.

Mr. Cardenas. Okay, thank you.

So again, that is why I say it is not so much a complaint, it is just an observation. And hopefully, we can get fortunate enough to have some folks who are dialed in directly within the California scene, especially since it is one of the most dire in the country now when it comes to our fires.

Mr. O'Mara, what will the effect beyond California fire seasons, or as I just called it, fire years, actually if we continue to roll back clean air standards?

Mr. O'Mara. You mean, the challenges that as the fires get worse, the displacing a lot of the air quality benefits that we have accumulated through cleaner power plants,

cleaner cars, energy efficiency, all the work that you are doing at State level.

I actually worked for the mayor of San Jose for 3 years and a lot of the work they have been doing -- you could undo a lot of that progress unless we deal with the underlying issue: the public health consequences of uncontrolled fires.

Mr. Cardenas. Again, Mother Nature can -- if we don't help, can wipe things out, set us back decades, actually.

What holistic steps can Congress, and State and local governments take to do our part in reducing the devastating blazes across California and the U.S.?

Mr. O'Mara. I think we talked a lot about funding today, making sure that we have the resources for the proactive work, through the proactive restoration work. I think there are things we can do to help individuals, make sure there is mitigation money and things like that. But also, making sure we are doing prescribed burns, making sure we are doing good management. And frankly, you have some of the best people in the country in California. The challenge is they don't have the resources they need to do the scale of restoration they need, given the scale of the impacts, and we have to help solve that problem.

Mr. Cardenas. Thank you, Mr. Chairman.

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

The chair recognizes the gentleman from the South Carolina, Mr. Duncan, for 5 minutes.

Mr. Duncan. Thank you, Mr. Chairman. Just like hurricanes aren't limited to Florida or the Gulf of Mexico, wildfires are not limited to the west. In 2009, Horry County fire down in Myrtle Beach, same place being affected by Hurricane Florence, experienced 24 miles, 20,000 acres burned, 70 homes destroyed, 2,500 people evacuated. In my district, we have Sumter National Forest, which is 370,442 acres. So

national forests and forest fires are not limited to the west.

My wife owns property in Montana. We have been out there since I graduated college in 1989. We have seen what the spotted owl controversy did to the timber industry in the west. I believe that was the beginning of the change of mitigation practices and how forests were managed all throughout the west, not just in Montana. Families that were supported by timber dollars lost their jobs. Ms. Germann from Montana can probably attest a number of saw mills are lost, a number of timber families have been displaced, and the lack of timber activity that you saw in the late 1980s and 1990s; it went away, it went away. And at that point, we started managing our forests differently.

So I traveled to Montana, I was out there this summer in August. I saw all the smoke. I experienced the smell. I saw that all the tourists that came into the Kalispell and Glacier National Airport to go to Glacier National Park, probably didn't see the beautiful scenery of that national park due to the fires, and that was before the Lake McDonald fire. While we were there, had a lightning storm, four lightning strikes, caused four fires, one of them was a Lake McDonald fire. Burned all the way down the lake right there in Glacier National Park. Three of the other lightning strikes from the same storm didn't burn near as much, because they actually hit on property that had been managed properly, and the fires were able to be contained a lot quicker than that in the national park, because we don't do any sort of mitigation efforts in national parks. I am not advocating for that, but I think we ought to at least think outside the box when we are talking about managing fires.

Last summer, not this past August, but a year ago, I was also in Montana, and the Gibraltar Ridge fire, which you are probably aware of up in Eureka, Montana, that was burning very close to our property. So I took it as an opportunity upon myself, and I

challenge every Member of Congress and on this committee, to go to a fire camp and visit with the people that are fighting the fires in the fire camp like I did in Eureka, Montana, and then get in the truck with the forest manager, and go out to the fire line and see how these fires are fought. Because I went to the Gibraltar Ridge fire, and I spent 3 hours on the fire line to see the techniques that were being used, mainly mitigation efforts to keep that fire from moving towards where people live, and that personal property to keep it from being destroyed. Other than that, it was just trying to contain the fire, keep more forest acreage from being burned. But they weren't trying to put the fire out at all.

In fact, on in the wilderness study area, there is minimally invasive suppression techniques, missed techniques. So they weren't doing anything up there, but maybe trying to contain it a little bit. Very difficult to get to, I get that.

Having said all of that, we need to back up as a Nation and start talking about how we manage our forests. That means, more timber activity. This is the American taxpayers' resources and it is growing, it is going to regrow. We have practiced timber sales forever. And one of the ways that we can mitigate the pine beetle is cut the timber. She said we don't have a funding stream to do some of these clearing techniques. Guess what? It is called timber sales. They pay for themselves, actually provide revenue back to the government to provide revenue for these expenses.

So let's manage our forests, let's sell some of the timber, and then let's look at shading along roads and near where residential areas are, let's look at fire breaks. Let's look at prescribed burning.

I mentioned the Horry County fire earlier. The reason that fire was so bad and got out of control, and even the firefighters had to employ shelters to let the fire go over and to keep from losing their lives is because the northerners that moved down to South Carolina and occupied in Myrtle Beach, did not like the smoke from prescribed burning.

And so prescribed burning didn't happen. And because the prescribed burning did not happen, there was a lot of fuel there. Once that fire started, it burned out of control, because there was so much fuel for it. If we don't manage these fires out west and even in South Carolina with prescribed burning and good management techniques, we are going to see, continue to see, out-of-control wildfires that are very difficult to contain and we are going to pray for a snowfall to put these doggone things out, because that is what they pray for out west is that snow to get there. They see a thunderstorm come in August, that is kind of a double-edged sword. It is providing some moisture to help contain some of that fire, but it is also providing additional lightning strikes.

I was talking to Brian Donner at the Kootenai National Forest Service, a forest ranger there. You may know Brian. He said while they were fighting one fire, a lightning storm came in, they saw lightning hit over on a hill. They saw the tree it hit. They knew right where to go, but before they could get there, because of the amount of fuel that was there, there was 5 or 10 acres already burning and that was very difficult to start containing at that point on the top of that mountain. Had they done prescribed burning and that fuel had gone away, that fire would have been contained a lot quicker.

The last thing I will say, Mr. Chairman, because --

Mr. Shimkus. Your time has expired.

Mr. Duncan. -- she said in her statement -- thank you -- over the past century -- and this was a good statement by the way, by Ms. Germann -- over the past century a cultural fire exclusion unfortunately removed the natural role of fire from the public consciousness, when combined with a reduced level of forest management in many areas of the country, fire exclusion led to the buildup of forest fuels to unprecedented levels. Despite our attempts to manage away wildfire, many our forests are more fire prone than ever. And that is the truth.

And with that, I yield back.

Mr. Shimkus. The gentleman yields back his time. The chair now recognizes the gentleman from California, Mr. Peters for 5 minutes.

Mr. Peters. Thank you, Mr. Chairman. My constituents in San Diego are acutely aware of these issues. I do think it was progress to do the fire fix. I worked really hard on that to make sure that we weren't spending prevention money fighting fires because it just makes it harder to do. You are never going to catch up.

Mr. O'Mara, I have two questions for you, though. Specifically on the Clean Air Act in your testimony, you noted the strange thing where, in terms of calculating your compliance, whether you are in attainment of the National Ambient Air Quality Standards, you are penalized for prescribed burns, but not necessarily for natural burns that happened as a result of not taking care of things. You suggest that EPA can take care of this themselves. Is that not something Congress has to do? Tell me why EPA can change that?

Mr. O'Mara. Yeah, if you go back to the record -- the Clean Air Act amendment to 1990, this anthropogenic versus natural kind of distinction isn't as clear-cut as you might think. I mean, it has been an administrative practice, and the challenges that seems to build your prescribed burn and your State implementation plan and basically account for it, a wildfire you have to -- it is excluded. You had to get an exemption, because it is kind of considered natural. The challenges -- I was in Delaware at the time we were trying to prescribe burns, Delaware has -- they have so many challenges being downwind, pollution from coal plants out in the Midwest, there is nowhere to put it in a ship. You have to find a different place in some of those sources to offset. And so it becomes a big burden, so you end up not doing the very thing that would help protect you long-term because of the potential penalty.

Mr. Peters. So you think that that can be addressed at an administrative level?

Mr. O'Mara. I believe so.

Mr. Peters. One other question for you, I like what you did, which was sort of threw out your notes, so I will throw out my notes a little bit and ask you if you were in charge of allocating money for fire, where would you put it first? What would be, you think the highest priority for new fire money?

Mr. O'Mara. There are great collaborative plans that have been on the books for years that don't have the resources to get on the ground. I mean, I think I would prioritize on the interface projects that have the potential of loss of human life. But I would pour money into mitigation, I would pour money into prescribed burns. I would pour money into the collaborative plans that already have buy-in among communities, because they are going to move faster through the process. But we need to move from a couple acres a year to tens of millions of acres a year. We don't have the capacity at this point. I mean, the Forest Service has been, through sequester, their resources were taken down so far in addition to not having the money because of the fire borrowing issue. We have got to rebuild fire capacity in this country at both at Federal and State level.

Mr. Peters. The collaborative plans you are talking about are regional collaborative plans?

Mr. O'Mara. The regional level, yeah.

Mr. Peters. And what sort of management reforms would you like to see enacted, management reforms? I have to confess, I hear a lot of discussion back and forth. It sounds like disagreement, but never quite understand, kind of, what is it that we are fighting over?

Mr. O'Mara. Look, I mean, I think there are places where you could have more

efficient processes. There are things where maybe not having to go through the same level of review for individual parts of project if you actually do the analysis at the landscape level. We layered on so many parts of the process.

Mr. Peters. How do I write that down? How do I write that down from here? What does that mean?

Mr. O'Mara. There are ways to do it. I mean, there is some language that Senator Cantwell was working on around Ponderosa pine, basically trying to say Look, if it fits this kind of landscape project, we will have kind of one analysis, one environmental impact review as opposed to having them do every individual discrete component.

So there are some things we can do at the landscape level. Some of that could be done administratively. And if the Forest Service has predictable resources to be able to do that kind of planning, but a lot of these forest plans are 20, 30, and 40 years old. It means we are updating project plans, we are not looking at the landscape level. I think -- we would love to work with you on that, because I think that could be bipartisan. I don't think that would be a controversial issue.

Mr. Peters. Obviously, I am particularly interested in the urban forest interface. And I am concerned about the fact that it is not even October and we have already had fire season, we are not even into October. So we are getting ready for what we hear from our local firefighters is as bad a condition or worse than 2003 and 2007, which were the fires that cost San Diego County a lot of property, and money, and damage. So we are very interested in taking you up on that and look forward to talking to you.

Mr. Chairman, I yield back.

The Chairman. [Presiding.] The gentleman yields back. The chair recognizes the gentleman from Ohio, Mr. Johnson. Thanks for joining us. You are recognized for 5 minutes.

Mr. Johnson. Thank you, Mr. Chairman and thanks for holding this hearing today.

You know, while most of our witnesses, many of our witnesses are from western States, these issues are certainly relevant to where I live there in Ohio. I have a significant portion of the Wayne National Forest within my district which will, from time to time, carry out prescribed burns. The Wayne is a patchwork of public and private lands. So these burns are meant to protect human property and reduce potential damages from wildfire, but they can also encourage the growth of plant life, and help ensure oaks, for example, remain prevalent within the forest.

So while we have heard about the benefits of these practices, prescribed burns today, whether that is air quality, safety, et cetera, I would like to discuss the planning that is undertaken before a burn happens. It is crucial that many factors are considered before conducting a burn, such as temperature, humidity, atmosphere stability, wind direction and speed, as well as smoke dispersion.

So a question for either Ms. Germann or Mr. Boggus, or both, along with other resource constraints and other issues, I am sure these factors that I just listed inhibit the ability to accomplish all that is needed to be accomplished over the course of a month or a year. So how do you balance the factors in planning with the need to efficiently manage healthy forests?

Mr. Boggus. You mentioned it already that is planning, you have got to look out. We have a meteorologist on staff because of the very conditions you are talking about. And we have an urbanizing State. I know Montana has 1 million folks, we have 28 million; in Ohio, the same way, a very populated State. You have to take those into consideration. We have 94 percent privately owned. So we don't have the luxury of -- if a fire starts, we have got to get on it, and we suppress them all because there are

human lives and property, and improved property at stake. And so you have got to plan that. And because of that, you have got to have folks that are dedicated to, we call them predictive services. So they are telling us days and weeks ahead what the weather is going to look like, when is it going to be right,

And so you have these plans written way ahead of time. And you know this is the time, this is the window that this particular piece of land will burn. So then you have Good Neighbor Authority on Federal lands that you work with those, with our partners there. And so, we have got those agreements done well in advance. So you are not like, Oh, my gosh, it is a good day to burn, and you go out and burn. So the planning is crucial.

Mr. Johnson. Sure. Ms. Germann, do you have anything to add?

Ms. Germann. Certainly. I think one of the challenges we were talking about before this hearing is the social license that you have with this. And something that we constantly face, our Federal partners, we as State agencies face when we are planning prescribed burning, the communication piece, so educating the public, getting them to understand the benefits of that.

In the State of Montana, we burn, on average, about 30,000 or 40,000 acres of forested land per year, prescribed burning. We need to do about 10 times that, from an ecological perspective, to really have an impact on fuels reduction. And one of the things that we find the most challenging is getting the public buy in. So I think in addition to all the planning is the communication piece of that that we need to constantly be doing better.

Mr. Johnson. Gotcha. Well, along those same lines, how do you choose what section of forest to address next, particularly if you can't treat every section that needs to be treated? You said you are doing 10, or you are doing 45,000, you need to do 10

times that many. How do you decide which 45,000 acre lot to do?

Ms. Germann. So there is a number of different filters. And I want to clarify that in the State of Montana, we don't just put prescribed burning on the ground, we have to do active mechanical fields reduction before we do that, because our fields are at such unprecedented levels. We use a number of different things statewide, and I will talk about our forest action plan that we are going to be undertaking. What we did do in the State of Montana is our governor did identify 5 million acres of priority treatment, and that was on Forest Service land, under the authority of the 2014 farm bill.

So we match that along with high severity areas, identified by community wildfire protection plans. We use collaborative groups to really help identify where we need to be focusing our treatment. A lot of that is driven by forest pests, insects and disease occurrence, fuel loading, wildfire hazard. We have a lot of that data, and that is where we typically plan our priority treatments.

Mr. Johnson. Thank you, Mr. Chairman. I yield back.

The Chairman. The gentleman yields back. The chair recognizes the gentleman from California, Mr. McNerney, for 5 minutes.

Mr. McNerney. Well, I thank the chairman and ranking member. It feels kind of strange, this morning we were talking about hurricanes, and now we are talking about wildfires. But both of those have some connection to climate impact, so this has to be a holistic discussion.

Now, it seems to me the difficulty is managing forests to prevent and minimize damage, but also protecting health and safety. On the other hand, is it necessary, or will it be necessary at all to prevent -- to manage development, so that we don't put people and property at risk at these high risk areas. So my question was sort of a general one for whoever wants to answer: How should we be thinking more holistically about forest

fires and management?

Mr. Baertschiger. I would like to respond to that. In your State, which I have been down many times fighting fire, has that Mediterranean climate, and your fuels cure much earlier in the season, and they stayed cured much longer, and then you have the Santa Ana wind event in the southern California. So dispensable space around houses and evacuation routes need to be a lot more thought through because fire in your State burns very quickly. As a firefighter, we say in Oregon, sometimes you can't run fast enough. In California, you can't drive fast enough. So I think that is something you need to take into consideration as you build your communities and expand them into what we call the urban interface, that those conditions are really taken into consideration, defensible space and evacuation routes.

Mr. McNerney. Well, I would like to direct this toward Ms. Germann. How are you working with communities to manage building in these high risk areas?

Ms. Germann. You know, in Montana and some research just came out from one of our groups out of Bozeman that showed that tremendous amount of money is being spent in urban interface in suppressing fires. And I will say, in Montana, we are in the infancy of talking about this from a land use planning perspective. But what we do is DNRC, we are really trying to interface with the local government to help them organize around the tenets of the cohesive strategy. Talk to them about fire-adapted communities, the stuff that we are experts at, at forest management, really helping local governments do that treatment in and around homes; and educate people on the risk of living in the wild land, but urban interface. But from a planning perspective, it is really pretty much in its infancy in the State of Montana.

Mr. McNerney. So do you feel the local communities are responsive to your advice and input?

Ms. Germann. Certainly, absolutely. We pride ourselves in really excellent relationships with local governments. We have a local government forest adviser who is engaging with county commissioners and volunteer Fire Departments on engaging with the Forest Service, which is the predominant landowner, forest landowner around the communities about suppression efforts, about forest fuels reduction, and certainly, we help deliver a lot of that education to private landowners within our communities.

Mr. McNerney. Mr. O'Mara, is there a lack of funding that we can address at the Federal level to improve how we as a Nation handle wildfire management?

Mr. O'Mara. Yes. I mean, I think it is amazing what the Congress did in the last session, fixing the fire borrowing practice; it is still an underinvestment. I can say all Americans are Libertarians until they need help. We have to figure out a way to monetize some of these costs. They are putting people in harm's way, they are putting firefighters in harm's way. It is the same thing in flood insurance, it is the same thing. We are basically paying people to be on the -- be in more risky areas. I just think -- I think we are billions of dollars short in terms of the amount of money that is used toward active restoration annually, that is the kind of level of funding that we are going to need, because Chairman McKinley and I have gone back and forth on many issues. He is exactly right. I want to say when he is not here. Because we are not talking the east coast forest enough. The east coast forests and the Great Lakes forests have equal threats, they are just a couple of years behind in terms of the temperature patterns.

Mr. McNerney. Well, I think one of the big controversies or areas of disagreement is whether we should use suppression or management. From the science that I have seen, the fires can be managed better, and it gives the forest a better chance to recuperate and create national fire breaks and natural water sheds and so on. So I wouldn't rush to one or the other. But I would lean toward management, in my opinion.

Thank you, I yield back.

The Chairman. The gentleman yields back, I want to thank our panelists for being here, we will send Mr. McKinley a video of your comments where you agree with him. I don't know how that is going to play out. But we do appreciate it. Our work is better informed by your participation, I know some of you, including the Senator, have traveled great distances, and we thank you for doing that.

Seeing there are no further members to ask questions for the first panel, I would like to thank all of our witness for being here today. Before we conclude I would like to ask unanimous consent to submit the following documents for the record: Two academic reports entitled Prescribed Fire in North American Forest and Woodlands, and Prescribed Fire Policy, Barriers, and Opportunities; and document from the National Academy of Sciences, called, The Impact of Anthropogenic Climate Change on Wildfire Across the Western U.S. Forests; an article from GeoHealth, Future Fire Impacts on Smoke Concentrations, Visibility and Health in the Contiguous United States; Washington Post editorial board, We Won't Stop California's Wildfires if We Don't Talk About Climate Change; New York Times article, Trump Inaccurately Claims California is Wasting Waters as Fires Burn. The Scientific American article Fuels by Climate Change Wildfires Erode Air Quality Gains; and a document from the National Wildlife Federation, Mega Fires.

And in pursuant to committee rules, I remind members they have 10 business days to submit additional questions for the record. I ask that our witnesses respond to those questions within 10 business days upon receipt of those questions. And so again, thank you all for participating in this very important hearing, and without objection, this subcommittee is adjourned.

[The information follows:]

******** COMMITTEE INSERT ********

[Whereupon, at 3:15 p.m., the subcommittee was adjourned.]