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"Using Good Science, Collaboration and Planning to reduce impacts of forest wildfires on communities and air quality"

Submitted to the U.S. House Committee on Energy and Commerce,

Subcommittee on Environment

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The title of this hearing is, "Air Quality Impacts of Wildfires: Perspectives of Key Stakeholders"

Chairman Shimkus, Ranking Member Tonko, and Members of the Committee, and especially Full Committee Chairman Walden, thank you for the opportunity to participate in this important hearing about the impacts of wildfires on air quality. My name is Christopher Topik and for the past 6 years I have been the Director of the Nature Conservancy's *Restoring America's Forests* Program. The Nature Conservancy is an international, nonprofit conservation organization working around the world to protect ecologically important lands and waters for people and nature. We have hundreds of expert staff working all over the United States on related issues to bring science and community engagement together. Our mission is to conserve the lands and waters upon which all life depends. Prior to this job I worked as a forest ecologist at the USDA Forest Service for 16 years (10 years in support of forest management in the Oregon and Washington Cascades) and then 15 years as majority professional staff for both parties on the House Interior and Environment Appropriations subcommittee, responsible for the budgets and oversight of important natural resource and science agencies, such as the USDA Forest Service, BLM, and US Geological Survey.

The short version of my testimony is that we, at all levels of government, need to work with and support local communities to prepare for fire and to learn to live with fire (and smoke): we can reduce the harmful impacts of smoke if we increase and improve the use of safe fire. We need to alter the situation that has been so clearly displayed during this terrible wildfire season- by accepting that preparation and risk reduction works and reduces the multiple, negative of uncontrolled fires. We need to invest in upfront appropriate management, largely determined at the local level, to change our current emergency based culture of fire with a better, integrated use of good fire to reduce loss of property and harmful smoke impacts. Science and evidence based analysis of communities and landscapes is essential to guide our activities, and to do so at a much larger scale and pace. If we take too many shortcuts we can make large mistakes that can have harmful impacts on forests and communities that will last for years.

Once again I have to say that this has been a terrible wildfire season so far, fully recognizing that in many years the worst events can happen in October or even November. I know that the members of the Committee will join me in thanking the hard working and dedicated federal, state and local employees who have labored long this year to reduce impacts to communities and our environment.

There have been many costs this year- and not just the monetary costs of fire suppression, which set new federal records. I also mean costs like the long term health impacts of smoke, such as those experienced in Montana especially, which will reach far past the many weeks of dangerously bad air quality during this summer's extreme wildfires. One thing that all the Congressional Representatives should agree on is the

need for a comprehensive fire suppression funding fix. We have gone too long without regular and timely funding for emergency services for fire. And we need to get serious about investing in the up-front forest and land management, using locally based strategies, to reduce fire risk.

The tragic disasters that have struck the United States this year demonstrate that we all need to invest in preparedness and risk reduction. We have such good evidence that relatively small investments in helping communities reduce risks pay off in a big way, not just financially but also in reduced impacts to lives, health, and prosperity of our citizens. The appropriate application of science and environmental reviews is an integral part of such preparation.

Fixing fire funding is of national importance. The health and social impacts of wildfire smoke this summer were debilitating- from Portland Oregon's more than two million metro residents to Seeley Lake, Montana's less than two thousand people. The costs and negative impacts of extreme wildfires can happen anywhere and have large impacts on urban, suburban, and rural citizens. Half of Americans get their water from forests; forests are the cleansing agents that help clear our air and that sequester massive amounts of carbon emissions. All Congressional districts and States will benefit from science based fire management solutions.

National Cohesive Wildland Fire Management Strategy

There are many good things going on in America on this front. First and foremost, the National Cohesive Wildland Fire Management Strategy (https://www.fs.fed.us/restoration/cohesivestrategy.shtml) provides an action plan that

has been approved by all levels of government, from cities, counties, states, tribes and federal agencies, along with industry and NGOs. This approach requires: (1) better fire response (including use of managed fires), (2) appreciation of fire adapted landscapes; and (3) enhanced community adaptation.

It is clear from fire science and social science literature that fire is a key part of nature, and will continue to be such despite human efforts to stop it. Much of North America incudes natural ecosystems where fire plays a necessary and normal role- and as a result native species and habitats are fire adapted. As we occupy and alter more and more of the landscape, we also must learn to live with natural processes and use them to our benefit. Different ecosystems need different types of fire to remain healthy. Likewise, the human-created infrastructure in these varying types of landscapes require different strategies if they are to continue to co-exist with nature. As our climate continues to warm in the coming decades, scientists anticipate even more extreme weather and fire events will become the new normal.

Smoke management is indeed an important component of fire management. I have had personal experiences with wildfires and I have seen the impacts on my elderly family members suffering during wildfire events in California. Recent science on western U.S. wildfire smoke emissions and forest management indicates that controlled burning is the most efficient and effective way of reducing overall smoke impacts on air quality in fire prone landscapes. A comprehensive, recent paper (Liu, et. al; J Geophysical Research Atmospheres, Vol 122, issue 11, June 16, 2017 “Airborne measurements of western U.S. wildfire emissions: Comparison with prescribed burning and air quality implications”) indicates that smoke from controlled burns has only 1/10

the negative impacts of smoke from uncontrolled wildfires. Much of our American forest and shrublands are ecologically primed to burn at some time, so to really reduce smoke impacts on air quality, we need to invest in more deliberate use of controlled burns.

In areas where the cultural use of fire has not been lost, or where it has been reestablished, we have a much greater chance to minimize destructive megafires. These areas include some southern forests dominated by longleaf pine and increasingly, areas of shortleaf pine in places like Arkansas. Other pyrogenic landscapes, such as the chaparral or shrub of extensive areas in California and surrounding states, will most certainly burn at some time- and they can burn explosively. Defensible space, sufficient ingress/egress routes, and controlled burning in the cooler and wetter months are essential to protect people and property.

There are also millions of acres of dry forests, especially in the western states dominated by pines, where our previous over-zealous fire suppression policy led to extensive areas of dense unhealthy forests that burn explosively. Many of these areas would benefit from strategic fuels treatment, followed by controlled burning, to return them to the frequent, low intensity fire regimes that dominated this part of the continent for thousands of years. The Forest Service estimates that there are about 11 million acres in the National Forest System that are not in reserved areas or municipal watersheds that would benefit from strategic fuels treatment and controlled burns. I encourage those here today to focus on these areas that are known priorities with well accepted scientific treatments, rather than pursue more general demands to increase timber harvests.

Almost everyone agrees that healthier fire on the landscape- from grasslands to shrublands to forests- would be beneficial. There have been substantial increases in the amount of good fire on the landscape in recent years, yet we are having a hard time making the dramatic increases in acres treated that are necessary to effect real change. The scale and pattern of current treatments is not even close to being commensurate with the need for restoration and maintenance. Besides the clear need for more controlled burns on all ownerships of fire-prone lands, we also need to be more aggressive about using wildfire events, where safe, to increase acres treated. Fire use is not without risks, but if leaders clearly articulate the benefits, we could implement much healthier and lower impact burning. I am encouraged by the desire of the Wildland Fire Leadership Council to take on the issue of smoke management so that we can better understand the trade-offs between smoke during controlled conditions versus the devastating air quality suffered during catastrophic and enduring fire events. Communities will fare better when they can play a role in deciding when, where, and in what duration smoke affects them. Controlled burning provides this opportunity.

Proven Solutions: Fire Learning Network and Fire Adapted Communities Learning Network

I encourage the Committee to look at examples of successful programs that are helping people learn how to live with fire and smoke while strengthening local partnerships and increasing capacity for cross-boundary restoration and fuel reduction. The Fire Learning Network (http://www.conservationgateway.org/fln), a cooperative program of the US Forest Service, Department of the Interior agencies—Bureau of Indian Affairs, Bureau of Land Management, Fish and Wildlife Service and National

Park Service—and The Nature Conservancy, has a 15-year proven track record of helping restore our nation's forests and grasslands and making communities safer from fire. Since its start in 2002, the FLN has supported 162 landscapes in 40 states and worked with more than 1,440 partner groups. Through collaboration, the Fire Learning Network helps build trust and understanding among stakeholders, access training and capacity building that helps fire professionals work with local communities, and builds public support for forest and fire restoration- all while also benefitting from being in a national network that increases knowledge sharing and generating new ways of doing business.

Recent examples of the Fire Learning Network's success relevant to controlled burning and smoke management include:

- In both central Oregon and Ashland, FLN partners are seeing the importance and the power of having a multi-faceted strategy about smoke outreach. The partners are reaching an ever-growing and diverse audience of locals and visitors who care deeply about the region's forests. Key communications, delivered through social media, TV, radio, newspapers and at movie theaters during the spring controlled burn season, helped increase support more broadly for tolerating associated smoke when paired with proactive protection and mitigation strategies for smoke-sensitive populations and individuals.
- In California, our work with a diverse partnership of National Forest, Tribes, communities and CALFIRE through the Western Klamath Mountains and California Klamath-Siskiyou FLNs has led to community engagement in planning, training, and implementation, which resulted in significant improvements of fuels treatment, forest restoration, and community wellbeing.

These efforts, along with the initiation and expansion of Prescribed Fire Councils in the west, started with important discussions about smoke in WA, CA, and OR and have also been key in influencing the Western Regional Cohesive Strategy Team to expand their leadership to further enable important collective impact towards the goals of the Cohesive Strategy.

- And specifically, today (October 4), there are five Prescribed Fire Training Exchanges (TREX) currently taking place in New Mexico, California, and Washington, where professional fire workers from across the country (and even internationally) are building local fire management capacity while completing controlled burns and other fuel reduction treatments that help communities and ecosystems. Participants get hands-on experience in ecological burning, receive training in communicating with the media, develop their fireline qualifications, and learn about local ecology and conservation issues, all in a setting that emphasizes safety, learning and cooperation.

The most cost effective and under-valued solution to harmful fire is through structured engagement of communities at risk. It is essential to develop local skills and local visions for how communities should take action to protect themselves and their surrounding wildlands. Different places will have different needs and differing cultures will, and should, generate different solutions. As a nation we don't hesitate to respond in massive fashion during immediate emergencies, but we are not so good at funding the preparedness that we all know has a great return on investment. It is encouraging that the US Fire Administration is taking a more holistic view of fire preparedness and hazard mitigation; other governmental bodies and industries should do the same.

Another example of a cost effective program is the Fire Adapted Communities Learning Network (http://fireadaptednetwork.org). Launched in 2013, and rooted in the lessons of the FLN, FAC Net now engages well over 100 community leaders in 28 states, ranging from small communities in the wildland matrix to huge cities like Austin, Texas. The purpose of these networks is to significantly accelerate the spread and adoption of concepts and actions that will help communities help themselves become better adapted to fire.

The values of the Fire Adapted Communities Learning Network are:

- Adaptation is critical to a positive future.
- Collaboration and partnerships are keys to successful adaptation.
- Investment in local-level capacity, partnerships and responsibility yields the best outcomes.
- Supporting the coordinating function within communities is essential to leveraging the range of resources, institutions and individuals necessary to build fire adapted communities.
- Investing in learning across communities and geographies is a strategy that works at multiple scales, including:
- Facilitating the adoption of best practices and innovations;
- Building a community-of-practice to fuel inspiration and innovation;
- Aggregating lessons learned to advise the design of programs and policies in support of fire adapted communities; and
- Leveraging lessons learned to inform policy and resource allocation, as appropriate.

Proven Solutions for Federal Forests: Collaborative Forest Landscape Restoration and Joint Chiefs' Landscape Restoration Partnership

Nearly half of America's forests are publicly owned, highlighting the need for collaborative active management. The Collaborative Forest Landscape Restoration Program of the USDA Forest Service (CFLR) demonstrates that collaboratively-developed forest restoration plans can be implemented at a large scale with benefits for people and the forest. This is a model approach that brings citizens, local government and federal staff together to determine effective management that is locally appropriate and provides jobs, sustains rural economies, reduces the risk of damaging fires, addresses invasive species, improves wildlife habitat, and decommissions unused, eroding roads. This program should have its authority extended to 2024, and funding increased to at least $60 million per year. A funding increase will guarantee the existing 23 successful projects can continue, and additional critical projects across America can begin.

The Joint Chiefs' Landscape Restoration Partnership of the Natural Resources Conservation Service (NRCS) and the Forest Service provides targeted funds that help local communities and land owners, including cities and counties, to do cross-boundary work to improve conditions on both public and private lands together. It is a great example of USDA Secretary Perdue's call for shared stewardship of our nation's forests. So far more than 50 individual projects are completed or under way to improve forest and rangeland ecosystems so they are healthy and resilient. Such healthy lands produce better water and less harmful smoke when experiencing wildfires.

Federal Policy needs:

The Congress can make a real difference at reducing wildfire smoke impacts by supporting policies that maintain healthy and resilient forests. We need to increase the long-term protection of forest resources from threats such as catastrophic wildfire, insects, and diseases- and promoting the use of fire as an important forest management tool will help us achieve the goal of maintaining healthy and resilient forests. We cannot just log our way out of the fire problem. Appropriate timber harvest, when coupled with fire that emulates natural processes, is one of the tools needed, but we need to implement the entire forest restoration package. This will vary tremendously depending on the natural and cultural environment.

State and Private Forests:

1. Create incentives for increasing prescribed burning and other forest management on state and private forests and grasslands by formally addressing the challenges to using this tool. Use the Farm Bill and other legislation to prioritize projects that use prescribed burning and other forest management activities through Conservation Title programs.

2. Provide adequate Federal resources to encourage states, tribes, and counties to implement the Cohesive Strategy.

3. Find new funding mechanisms, such as Forest and Water Funds, that support enhanced forest restoration projects. These projects can reduce the impacts of harmful, extreme wildfires through the use of established funding sources that would be leveraged with non-federal funding sources.

Public, including National Forests:

1. Invest in reducing wildfire risk by restoring healthy forests.

2. Create an Accelerated Landscape Scale Restoration authority

3. Extend the Collaborative Forest Landscape Restoration Program to 2024,

4. Improve existing U.S. Forest Service authorities: 1) Good Neighbor Authority, by allowing road access; and 2) Stewardship Contracting,

5. Any fire suppression funding solution must be comprehensive by including the following three criteria: 1) address the continued erosion of agency budgets that results from the increasing ten-year fire spending average, and stabilize the level of funding for suppression within the agencies; 2) access disaster funding for extraordinarily costly fires, including those that may be calculated as part of the ten-year average; and 3) significantly reduce the need to transfer from non-suppression accounts and programs.

Conclusion

In a recent (September 15, 2017) *Washington Post* perspective, Sarah Coefield, air quality specialist with the Missoula City-County Health Department, helps us frame this discussion by her statement: "We live in a fire-adapted ecosystem, and, out of necessity, we're becoming a smoke-adapted community. The valley rain and mountain snow are coming. We will stop and breathe the clean air. And then we will get ready for next year."

It is time for concerted action by the Congress and others. I thank the Committee for the opportunity to appear today to discuss the need to improve our investments and

procedures regarding wildfires and their impacts on air quality. The Nature Conservancy is ready to join with you around the nation to push for and implement solutions at both the federal and local levels.

One-page Summary for 10.4.17 hearing of House Energy & Commerce Committee

Air quality and other negative impacts of extreme wildfires can be reduced if we increase forest restoration and bring back healthy fires that reduce the risk of dangerous fires that produce massive smoke emissions.

All levels of government, need to work with and support local communities to prepare for fire and to learn to live with fire (and smoke): we can reduce the harmful impacts of smoke if we increase and improve the use of safe fire.

We need to alter the situation that has been so clearly displayed during this terrible wildfire season- by accepting that preparation and risk reduction works and reduces the multiple, negative of uncontrolled fires.

We need to invest in up-front appropriate management, largely determined at the local level, to change our current emergency based culture of fire with a better, integrated use of good fire to reduce loss of property and harmful smoke impacts.

We need to fix the broken federal emergency fire suppression funding situation.

Science and evidence based analysis of communities and landscapes is essential to guide our activities, and to do so at a much larger scale and pace. If we take too many shortcuts we can make large mistakes that can have harmful impacts on forests and communities that will last for years.

Proven programs exist that need to be emulated and expanded. Prime examples are the Fire Learning Network and the Fire Adapted Communities Learning Network. Other key, though much too small, programs include the Joint Chiefs' Landscape Restoration Partnership (NRCS plus Forest Service) and the Collaborative Forest Landscape Restoration program at the Forest Service.