U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE

September 11, 2018

TO: Members, Subcommittee on Environment

FROM: Committee Majority Staff

RE: Hearing entitled "Air Quality Impacts of Wildfires: Mitigation and Management Strategies"

I. INTRODUCTION

On Thursday, September 13, 2018, at 1:00 p.m. in 2123 Rayburn House Office Building, the Subcommittee on Environment will hold a hearing entitled "Air Quality Impacts of Wildfires: Mitigation and Management Strategies." The hearing will explore the available tools and best practices to reduce and manage the air quality impacts of wildfires.

II. WITNESSES

- **Sonya Germann**, State Forester, Montana Department of Natural Resources and Conservation, Forestry Division;
- **Mary Anderson**, Mobile and Area Source Program Manager, Air Quality Division, Idaho Department of Environmental Quality;
- **Herman Baertschiger Jr.**, Senator, Oregon State Senate;
- **Tom Boggus**, State Forester, Director of Texas A&M Forest Service; and
- **Collin O'Mara**, President, National Wildlife Federation.

III. BACKGROUND

On October 4, 2017, the Subcommittee on Environment held a hearing entitled "Air Quality Impacts of Wildfires: Perspectives of Key Stakeholders." This hearing's background memo and witness testimony and additional information related to the topic of wildfires and air quality is available on the Committee's website.[1]

Wildfire Statistics

In 2017, 10.0 million acres were burned in the United States by wildfires, making it the second worst fire season since 1960, second only to the 2015 wildfire season where 10.1 million

[1] *See* Oct. 4, 2017 Environment Subcommittee hearing record

acres were burned.[2] Over the past 10 years, the average number of acres burned on an annual basis has been 6.6 million acres. As of Sept. 7, the number of acres burned during this year's wildfire season is over 7 million acres and that number continues to grow as active wildfires fires burn across the country.[3]

Historically, more wildfires are started on nonfederal lands than on federal lands, however, federal lands comprise the majority of acres burned by wildfires. For example, in 2017, only 21 percent of all U.S. fires started were on federal lands, and 63 percent of all land consumed by wildfires were federally owned.[4] In most cases, the management of federal forests and the suppression of fires on federal land is led by the U.S. Forest Service and the U.S. Department of Interior, whereas forests and wildfires on non-federal lands are generally managed by states and private land owners. However, through the use of the "Good Neighbor Authority" the Forest Service may enter into cooperative agreements with states to allow the states to perform forest management services on National Forest System lands. [5]

Public Health and Community Impacts of Wildfire Smoke

Wildfires are a significant source of emissions, especially particulate matter, and often cause the worst air quality days of the year in smoke impacted communities. Researchers have found that wildfires can cause air quality to be 5 to 15 times worse than the air quality on an average day.[6] Moreover, severe wildfire seasons can result in communities experiencing continuous unhealthy air quality conditions for weeks at a time.

The health effects of wildfire smoke are of great concern to public health officials and wildfire affected communities. Exposure to wildfire smoke exacerbates asthma, chronic obstructive pulmonary disease (COPD), bronchitis, and pneumonia. Furthermore, growing evidence suggests that exposure to wildfire smoke may be associated with all-cause mortality, cardiovascular morbidity, and adverse birth outcomes.[7] The effects of smoke exposure are particularly pronounced in sensitive populations such as children, the elderly, and those with chronic disease.

To minimize the health impacts caused by wildfire smoke, public health officials encourage individuals to stay indoors, reduce outdoor physical activity, use suitable respirators, and convert homes to clean air shelters.[8] If necessary, public health officials can also advise that certain public events be curtailed or closed to reduce smoke exposure.[9]

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[2] *See* "Wildfire Statistics" Congressional Research Service (2018)"
[3] *See* National Interagency Fire Center Statistics
[4] *See* "Wildfire Statistics" Congressional Research Service (2018)
[5] *See* U.S. Forest Service Good Neighbor Authority
[6] *See* "Wildfires and Air Pollution: The Hidden Health Hazards of Climate Change" Climate Central (2013), p. 11
[7] *See* "Critical Review of Health Impacts of Wildfire Smoke Exposure" Reid CE, Brauer M, Johnston FH, Jerrett M, Balmes JR, Elliott CT (2016)
[8] A home can become a clean air shelter by closing windows, sealing cracks around openings, setting air conditioning to recirculate indoor air, and utilizing high efficiency particulate air filters.
[9] *See* "Wildfire Smoke: A Guide for Public Health Officials" U.S. Environmental Protection Agency, U.S. Forest Service, U.S. Centers for Disease Control and Prevention, California Air Resources Board (2016)

In addition to public health impacts, smoke from wildfires can also harm a community's local economy due to the negative impacts on agricultural output, forest industry production, tourism activity, transportation, real estate markets, and many other facets of the economy. For example, an analysis of the 2017 Oregon wildfire season estimates that 600 jobs were cut from the leisure and hospitality businesses in central Oregon and southern Oregon due to the decline in tourism caused by active wildfires.[10]

National Ambient Air Quality Standards

Under the Clean Air Act, the Environmental Protection Agency (EPA) establishes national ambient air quality standards (NAAQS) for certain criteria pollutants such as particulate matter. States and localities must meet these standards in order to be designated in "attainment" by the EPA. Emissions from wildfires and prescribed burns have the potential to create air quality impacts that exceed the NAAQS standards and result in an area being classified as "non-attainment." However, under the EPA's exceptional events rule, state air regulators can request for air quality data affected by wildfire smoke to be excluded from the EPA's analysis when determining an area's NAAQS attainment classification.[11]

Wildfire Mitigation Practices

Due to aggressive fire suppression and fire exclusion practices over the last century, many of the nation's forests contain high fuel loads, characterized by continuous brush, downed vegetation, and high tree density.[12] As a result, many forests are prone to high intensity fires which are difficult for firefighters to suppress. In order to reduce the frequency and intensity of future wildfires, forest managers can reduce forest fuel loads through fuel treatment practices such as mechanical treatments,[13] prescribed fires,[14] and timber sales. Different regions of the country have had varying levels of success with implementing these fuel treatment practices due to a variety of factors. For example, the large majority of acres being treated by prescribed fires in the United States are located in the southeastern states.[15]

The Forest Service recently released a forest and fire management strategy document titled "Toward Shared Stewardship Across Landscapes: An Outcome-Based Investment Strategy." In this document, the Forest Service outlines the need and plan to increase the use of

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[10] *See* "Impacts of Oregon's 2017 Wildfire Season" Oregon Forest Resources Institute (2018)
[11] *See* EPA Exceptional Events
[12] *See* "Wildfire Fuels and Fuel Reduction" Congressional Research Service (2013)
[13] Mechanical treatments involve the use of equipment and machinery to remove vegetation, typically by thinning overly dense forest strands
[14] Prescribed fires are set and managed by professional fire managers under carefully controlled conditions in specified areas to reduce biomass and smaller forest fuels. The smoke impacts from prescribed burns are significantly less than that of wildfires.
[15] In 2017, 6,429,229 acres were treated by prescribed fires in the United States and over half of these acres were located in the southeastern states, See National Interagency Fire Center Statistics

mechanical treatments, prescribed burning, and timber sales to reduce fuel loads and to better manage fire risk.[16]

Forest Management Barriers and Challenges

A number of barriers and challenges have historically limited the use of mechanical treatments, prescribed fires, and timber harvests. These challenges can include delays associated with environmental law approvals and lawsuits, local air quality requirements, poor coordination among stakeholders, misaligned institutional incentives, inadequate resources, and lack of trained personnel amongst other challenges as well.[17] These challenges vary on a state by state basis, requiring each state to develop unique forest management processes and partnerships to match their local circumstances.

With regard to prescribed fires, many states have created Smoke Management Plans to govern the processes for planning and authorizing prescribed fires. These plans are typically developed collaboratively between state foresters and state air quality offices with the goal of ensuring that prescribed fires are carried out under the right conditions to protect public health. Smoke Management Plans are typically included in State Implementation Plans (SIP), which are submitted to and approved by the EPA. Overall, many stakeholders believe that most states' Smoke Management Plans effectively balance the benefits of prescribed fires with the need to protect public health. However, some stakeholders are concerned that a few states' Smoke Management Plans contain overly stringent requirements, which limit greater use of prescribed fires.[18]

Wildfire Related Legislation

The House of Representatives recently passed provisions to address some of the barriers and challenges limiting the use of mechanical treatments, prescribed fires, and timber harvests. Some of these provisions were signed into law in the 2018 funding package while other provisions are contained in H.R. 2, Agriculture Improvement Act of 2018 ("Farm Bill") which is currently being negotiated between the House and Senate for final passage.[19]A few key provisions from this law and the Farm Bill are listed below.

- *2018 Funding Package (Enacted, P.L. 115-141)*: Provides a funding fix which begins in FY 2020 to limit federal funds being diverted from forest management and fire prevention programs to fire suppression activities; provides a categorical exclusion from the National Environmental Policy Act (NEPA) for certain wildfire resilience

[16] *See* "Toward Shared Stewardship Across Landscapes: An Outcome-Based Investment Strategy" U.S. Forest Service (2018)
[17] *See* "Perverse Incentives: The Case of Wildfire Smoke Regulation" Engel K (2013), "Prescribed Fire Policy Barriers and Opportunities: A Diversity of Challenges and Strategies Across the West" Schultz C, Huber-Stearns H, McCaffery S, Quirke D, Ricco G, Moseley C (2018), and "Prescribed fired in North American forests and woodlands: history, current practice, and challenges" Ryan K, Knapp E, Varner J (2013)
[18] *See "*Prescribed Fire Policy Barriers and Opportunities: A Diversity of Challenges and Strategies Across the West" Schultz C et al. (2018)
[19] *See* Public Law No: 115-141 and H.R. 2, Agriculture Improvement Act of 2018

projects smaller than 3000 acres; expands the "Good Neighbor Authority" so states can help with a greater range of activities on Forest Service land; and expands the Healthy Forest Restoration Act authority for fuel and fire break projects.

- *H.R. 2, the Agriculture Improvement Act of 2018 (Pending Legislation):* Reauthorizes multiple forestry assistance and research programs; establishes a Landscape Scale Restoration program to provide financial assistance for larger restoration projects that cross landownership boundaries; provides assistance for large hazardous fuel reduction projects that cross landownership boundaries; establishes 10 categorical exclusions from NEPA for certain types of forest management projects carried out by the Forest Service or the Bureau of Land Management; limits the environmental analysis requirements for specific projects; and provides for expedited Endangered Species Act consultations.

IV. ISSUES

The following issues may be examined at the hearing:

- The impact of wildfire smoke on public health and communities;
- The role of forest management practices in reducing catastrophic wildfires and resulting air quality impacts;
- The barriers and challenges limiting the use of forest management practices and how these challenges vary regionally across the country;
- The effectiveness of states' Smoke Management Plans in planning and authorizing prescribed burns; and
- Potential policy reforms to enhance the nation's forest management practices and mitigate wildfire smoke impacts.

V. STAFF CONTACTS

If you have any questions regarding this hearing, please contact Wyatt Ellertson, Peter Spencer, or Mary Martin of the Committee staff at (202) 225-2927.