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Partnering to Address Health Risks and Expand Communication Before and During Prescribed Fires

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Partnering to Address Health Risks and Expand Communication Before and During Prescribed Fires

The terms ‘prescribed fire’ and ‘prescribed burn’ are used interchangeably in this document.

Introduction

Prescribed fires are a land management tool used to help maintain forest health by not only returning nutrients to the soil and reducing buildup of unwanted fuels, but also potentially [reducing the risk of catastrophic wildfires](#) and the resulting large volume of smoke emitted. USDA and the Forest Service have a [10-year plan](#) to increase the pace and scale of prescribed fire across the country to reduce the risk of catastrophic wildfire. This means that some areas of the country may experience an increase in prescribed fire, and the subsequent smoke, that they have not historically experienced. While smoke can negatively impact public health, the planned nature of prescribed burning presents an opportunity to prepare individuals and communities for reducing smoke exposure — especially those at-risk of experiencing health effects.

To better understand the connected partners involved in responding to wildland fire (i.e., wildfire and prescribed fire), ASTHO held a focus group in March 2025 targeting state and territorial environment and health agency (STHA) staff, as well as others involved in wildland fire response at the state level. Over forty people participated in the call representing seventeen jurisdictions. The goals of the meeting were to better understand:

- Ongoing engagements (between public health agencies and those coordinating prescribed fire) on prescribed fire smoke and what may be needed in the future to address areas that may experience more total smoke from both wildfire and prescribed fire.
- Promising practices for connecting public health, environmental protection, and land management agencies to prepare for prescribed fire smoke.
- Strategies designed to protect community health by minimizing prescribed fire smoke exposure.
- Gaps in resources needed to alert the public to potential smoke from prescribed fire and allowing potentially affected populations to plan ahead to reduce their exposure.
- To inform a best-practices document for state and local health and environmental agencies, that can be used to help improve connections between agencies conducting prescribed burns and relevant community partners.

Strategies for Connecting Partners to Address Prescribed Fire Smoke

Environmental agencies are often the prime agency working with local air quality or burn districts on prescribed fire smoke, but STHAs can also provide support in these efforts. This can occur through:

- Participation in regular meetings with the lead agency(s).
- Collaboration on activities to support education and outreach to impacted communities and populations more vulnerable to wildland fire smoke.
- Developing materials about health risks of smoke.

STHAs may also engage non-governmental partners like parks and recreation, schools, senior centers, libraries, and athletic leagues ahead of a burn event through targeted communication. STHAs or local health departments may conduct outreach with these partners when preparing for an event by disseminating guidance (e.g., education on possible health effects community members may experience from short-term prescribed fire smoke exposure) or messaging during an event (e.g., guidelines for outdoor activities during a burn).

All call participants noted that they engage their state and local partners working on prescribed fire even outside of an event, but the formality of their engagement and mechanism varies. Specific examples of how they coordinate around prescribed fire smoke are described below.

The Oregon Department of Environmental Quality (DEQ), Oregon Department of Forestry, and Oregon Health Authority (OHA) collaboratively developed and implemented the state's comprehensive [Smoke Management Program for Prescribed Burning of Forestlands](#). The program regulates prescribed fires, establishes a [best practices communications framework](#) for those carrying out burn events to share information with local community officials about planned burns, and facilitates the development of community response plans for prescribed fire smoke.

The communications framework gets updated every year as part of their state smoke management rules. This framework includes where to find information about current and upcoming prescribed fires, anticipated smoke impacts in Specific Smoke Sensitive Receptor Areas, health impacts from smoke, and recommendations for exposure reduction. Burners must get permission to do a burn, and if particulates are already high, then they cannot do it. Some regions of the state that experience smoke the most have set up collaboratives that issue text and email alerts announcing imminent burn events and updates about smoke impacts, such as [Central Oregon Fire Info](#).

As part of the state's public health modernization efforts, OHA is funding local county and Tribal health departments to hire staff or consultants to increase environmental health capacity, with most opting to focus on smoke and heat. This capacity allowed Deschutes County Public Health in Central Oregon to collaborate closely with the local national forest district on a pilot effort to substantially expand the pace and scale of prescribed fire in the West Bend area. Ahead of the spring prescribed fire seasons in 2024 and 2025, public health and National Forest staff jointly issued press releases and media appearances, and conducted focused outreach to senior centers, adult foster care, homeless shelters, schools, and other sensitive populations, as well as engaging tourism, health care facility, and other interests.

The University of Oregon prepared a [West Bend Prescribed Fire Pilot after action review](#) which summarized efforts and identified areas for improvement. Another collaborative group in the state is the [Oregon Prescribed Fire Council](#) which works to promote and facilitate communication and information about prescribed fire and smoke management. OHA refers local communities to the Council's website, which includes a [toolkit and example community response plans for prescribed fire smoke](#).

Idaho's DEQ prepares for the wildland fire season by hosting a preseason coordination call with all their agency partners to go over how they will respond to wildland fire smoke. This includes the Idaho Department of Health and Welfare, public health districts, the state emergency medical services communications center, emergency fire dispatch in the state, numerous federal partners, Tribal agencies, and other state agencies. During the season, the state's response is reactionary and based on smoke around the state and/or coming from other states, with coordination calls occurring as needed. DEQ follows their Wildfire Smoke Event Response Protocol. Once the air quality thresholds are triggered (i.e., areas affected by wildfire smoke and high particulates concentration), DEQ then sends out daily smoke forecasts (on weekdays) that include an air quality and meteorological forecast, yesterday's air quality, wildfire updates for fires impacting Idaho, and an update on their active Air Quality Advisories. DEQ also hosts a publicly-available [Air Quality Advisory and Outdoor Open Burning Restrictions and Recommendations website](#) that shows a map containing information and burn restrictions based on air quality standards and impacts. This is broken down by region of the state and provides suggested modifications to open burning to reduce smoke impacts. It can be used to communicate what areas have current burn bans. In addition, DEQ shares basic smoke management practices with associated benefits, as well as when to apply them for a prescribed fire.

Communication Plans and Strategies for Prescribed Fire

States often utilize multiple platforms to communicate with partners and the public on wildfire and prescribed fire. Some jurisdictions have formal communication plans in place, such as interactive maps of active fires updated daily, while others are still working to develop theirs. Several states noted that while they used to be more reactionary in response to prescribed fires, they are moving to be more proactive by establishing new partnerships with burn bosses, developing communication plans specific to burns, and adding new prescribed burn resources (e.g., materials developed in multiple languages). Communications platforms include agency websites to share resources and real-time GIS mapping of active fires, social media, text alerts, email chains to stakeholders, as well as working with local media outlets to share updates or new information. By broadening the amount of communication channels available to the public, states are working to share messages with a wider network of people and earlier in the season.

The Montana Department of Environmental Quality (MTDEQ) partners with local counties to determine when air quality conditions can support a prescribed fire in Montana. Montanans can sign up for prescribed fire email notifications through Montana Department of Natural Resources (DNRC). In addition, prescribed fires are recorded on the [Montana Fire and Smoke Map](#). The Department of Public Health and Human Services (DPHHS) works closely with meteorologists at MTDEQ on prescribed burns. The meteorologist at MTDEQ reviews burn proposals at least a day before the proposed burn and decides which ones can go forward based on information about the burn and forecasted weather conditions. DPHHS's role is to provide smoke and health information to local health departments.

DPHHS also has a new position in the state that focuses on health impacts and vulnerable populations, whose recent efforts have focused on sharing resources available on prescribed burns. This includes information on communicating the health risks of smoke and steps you can take to keep safe.

The California EPA and California Air Resources Board work with local air management districts and whoever is managing the burn on their [burn plan](#). Most of this is done at the local level. The plan will usually include information on who is impacted, pollutant emissions, and how the plan will be implemented, including health notification procedures. Epidemiologists from the California Department of Public Health also go to communities to provide hands-on education on wildland smoke risks and how to stay safe during an event. Their resource, [Wildfire Smoke- Considerations for California's Public Health Officials](#), outlines many of their plans, partnerships, and strategies to reduce smoke exposure.

Idaho DEQ makes daily [prescribed burn](#) decisions during the spring and fall burn seasons (Mar. 1-May 31; Sept. 1-Nov. 30). These burn decisions are for members of the Montana/Idaho Airshed Group, which includes state and federal land managers, as well as some of the industrial timberland owners in Idaho. They work with the Airshed Coordinator on getting the burn decision out based on air quality and meteorology and post it to their [website](#). They have a prescribed fire social media campaign to bring awareness to the prescribed burns that is posted in early October. Each spring, the airshed group and DEQ host an annual recap meeting to discuss the burning from the previous year and share updates to the programs, as well as discuss smoke management practices.

Idaho DEQ also makes daily burn decisions year-round for their crop residue burning program (for agricultural burning only). This burn decision is based on air quality, meteorology, and proximity of the burn to institutions with sensitive populations (schools, hospitals, and assisted livings) within three miles of the field. It is a comprehensive [program](#) that DEQ coordinates with their tribal partners and Washington Ecology in north Idaho on daily [burn decisions](#) to ensure they are not overloading the airshed. They do social media campaigns in early August to bring awareness to crop residue burning.

In Michigan, the [Department of Natural Resources \(DNR\)](#) Forest Resources Division is in charge of prescribed burns, but the Department of Environment, Great Lakes, and Energy (EGLE) has worked with DNR for a number of years on wildfire smoke and prescribed burns, as well as supports outreach to other state and local agencies. The state maintains an [open burning webpage](#), a [webpage on prescribed burns](#), a [wildfire smoke page](#), and a page related to the [health impacts of wildfire smoke](#). Prescribed burn management from DNR contact EGLE, part of their routine contact list, when initiating a prescribed fire to discuss any issues that may arise. EGLE meteorologists provide air quality forecasts to interested parties, including those doing prescribed burns in the state. DNR monitors air quality forecasts and initiates burns when appropriate; air quality is one reason a burn might be delayed or modified in scope. One communication strategy that has been effective is utilizing an email chain of stakeholders. The meteorologists house the list and let others know if it is a bad day to do a burn based on current weather. Burners have been responsive to this input from the meteorologists. DNR has created a prescribed burns [story map](#) that includes stories, photos, and videos that allows users to take a detailed look at how prescribed burns work.

Engaging Communities More Vulnerable to Wildland Fire Smoke

Participants all agreed on the importance of engaging community members that represent or are in communities that may be more vulnerable to wildland fire smoke. Several states mentioned that engagement with Tribal communities is very important because they have more open land and cultural burns that take place on them. (Cultural burns were not discussed in-depth but were acknowledged as an area that may benefit from additional education and outreach). This collaboration can be a challenge if partnerships do not exist yet, so adding Tribe-specific contacts to communication plans for prescribed fires — when relevant — and utilizing the Tribal liaison is important. Several states also noted that they have resources translated into multiple languages that focus on protecting yourself from wildfire fire smoke and messages specific to prescribed burns, which are distributed during community events such as farmers markets, job fairs, etc.

Over the past year, Montana's wildfire management and wildfire smoke organizations have formed strong partnerships with partners serving seniors and children. This includes participating in joint webinars and community meetings, as well as providing resources (like HEPA air cleaners, box fan filters, and educational resources) to senior centers and daycare providers. Many DNRC Fire Adapted Learning Networks and both government and non-government climate action groups provide information on fire mitigation around homes and private property with wildfire smoke information and resources. In addition, DNRC is adding a three-hour curriculum on the harmful effects of wildfire smoke and ways to mitigate those effects to wildland firefighters during their training exercises.

Michigan also noted their past engagement with firefighters. Firefighters are vulnerable to smoke impacts given their duties and are already very aware of the hazards of smoke and fire. This makes them good allies and messengers to help with risk communication for wildland fire smoke. Since firefighters routinely host emergency planning meetings, there is potential to leverage these platforms for future collaboration.

Challenges

Participants noted several challenges during the listening session. Some jurisdictions have had less experience with large-scale prescribed fire and wildfire in general, so are working to build up partnerships and networks in this space, as well as develop response and communication plans. About a third of responding participants acknowledged plans to increase the frequency of prescribed fire in their jurisdiction. Most respondents said they have responded to prescribed fire less than five times over the past two years, with only one jurisdiction stating their agency has been involved in over five prescribed fire events.

Call participants also discussed the need to be proactive to anticipate all impacts of prescribed fires, especially if they coincide with poor air quality days from other sources and high rates of respiratory illness. At least one state mentioned that they consider respiratory illness rates prior to approving a prescribed fire. States with more experience with prescribed fires said that they are continuing to learn from past responses and communication efforts. For example, a few states are now doing a hotwash of how prior seasons went and adapting their new messaging strategies to account for challenges or holes in communication found in the previous year. This includes acknowledging the importance of having preseason calls with all partners involved in messaging well in advance of the season, as well as doing preseason social media campaigns to kick off community engagement.

Another communication challenge is around burn bans. State agencies often struggle with communicating to private landowners on why the bans are in place. Short-term burn bans may be in place due to poor air quality from other burns impacting the area, and longer-term bans often arise when there is a drought or other dry conditions. States like Idaho provide a [map](#) available of current areas where there are bans on open burning alongside current air quality maps. Some state health and environmental agencies, in states such as Michigan and Montana, often have good communication with locals about planned burns and they will not hold a burn event during a time where there is already high air pollution. For example, the meteorologist at MTDEQ reviews burn proposals a day before the proposed burn and decides which ones can go forward based on information about the burn and forecasted weather conditions. In Michigan, EGLE meteorologists will provide air quality reports to locals interested in doing burns in the state. In these situations, there may be short-term burn bans, but there is no federal law requiring a delay in such a scenario. Having federal guidance on when to issue a burn ban that states could lean on would be beneficial.

One hundred years of wildfire suppression and hot, dry conditions have left Montana forest managers in a precarious position. Prescribed burns are necessary for long-term fire prevention, but Montana's weather does not provide many optimal days for prescribed burning. In some of their valleys, burn piles have been waiting for up to three years for permission to burn. This adds another layer of complexity to their messaging. Wildfire smoke messaging in general is gaining momentum in the state, and education about smoke impacts on health and activity guidelines for sports continues to be important. There is also guidance for outdoor workers regarding wildland fire smoke, but no formal labor laws that prevent them working outside during days with poor air quality due to wildfire or prescribed burns. The Montana Workers Compensation Management Bureau in their Department of Administration has provided some tips for staying safe during wildfire season, but ensuring this information is shared with impacted workers continues to be a challenge.

Recipients affirmed that messaging about an upcoming burn to populations that may not use social media, computers, or get text alerts is another hurdle. This could also include older populations and migrant workers. To address this, Michigan has a "protect yourself from wildfire smoke" [open burning card](#) that can be printed out and brought to community and public events. All of these can be translated to help with any language barriers in certain populations. California noted that in addition to translating materials, it is also helpful to do community outreach to teach people how to use and understand these pieces of guidance.

Finally, states agreed on the importance of working with schools on risk communication during a prescribed fire and/or wildfire event. In some areas, the public is very used to wildfire smoke and possibly desensitized to messaging about health implications from it, so it is a challenge to get people to comply with messaging on safe activities, including school activities and youth sports.

Conclusion and Future Opportunities

This document, informed by ASTHO's listening session and subsequent follow-up, can be used to help improve connections between agencies conducting prescribed fires and relevant community partners. ASTHO heard that hosting pre-meeting coordination calls with all partners involved in prescribed fires before the season starts can be very beneficial, as well as getting a head start on social media campaigns for the public. Utilizing multiple platforms for communication around prescribed fires may reach a wider audience than one method alone, such as creating phone trees of key stakeholders, handing out printed materials to partners and stakeholders at community events (e.g., farmers markets, job fairs), pushing out messages on social media, providing state website updates, and engaging local television channels. As prescribed fire stakeholders support each other's efforts and deliver a shared message of balancing the health impacts of smoke with the need for prescribed fires for long-term safety and the health of the forests, they hope to teach communities that although smoke from prescribed fire may sometimes be necessary and unavoidable, there are steps everyone can take to reduce smoke exposure and protect their health.



Appendix A: Polling Questions

1. Are you aware of plans to increase prescribed burning in your jurisdiction?
2. How are you planning to connect with other agencies (public health, land management, etc.) to deal with anticipated increases in prescribed fire smoke?
3. How often has your agency responded specifically to prescribed fire smoke in the past two years?
4. What partners do you work with in addressing prescribed fire smoke?
5. Do you meet or coordinate with these partners outside of a smoke event (e.g., planning meetings)?
6. Who would you like to connect with on prescribed fire smoke in the future (e.g., new partners)?

Appendix B: Discussion Questions

1. Does your agency have a smoke response and/or communication plan you follow to respond to prescribed fire smoke?
2. Who does your agency connect with to a) prepare for and b) address active prescribed fire smoke?
3. What strategies have been successful for connecting public health, environmental protection, and land management agencies to address prescribed fire smoke? What barriers impede this work?
4. Do you target any particularly vulnerable populations in your response efforts? Are there additional (community) partners needed in these response efforts?
5. What other needs do you have to better alert the public about prescribed fire smoke events to help reduce their exposure?

Appendix 3: Participating Jurisdictions

Arizona
California
District of Columbia
Hawaii
Idaho

Maryland
Michigan
Mississippi
Montana

New Jersey
New York
North Dakota
Oregon

Pennsylvania
Puerto Rico
Washington
West Virginia