

# Idaho Wildfire Smoke Event Response Protocol

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*July 10, 2014*

## **1. Purpose**

This protocol is intended to coordinate the actions of state, Tribal, and federal agencies in Idaho who respond to smoke episodes caused by wildfires in order to mitigate impacts on public health. Mitigation, as used in this protocol, refers to notifying the public of potential smoke impacts as well as actions the public can take to reduce their smoke exposure. Mitigation does not include management strategies used by the fire managers. The protocol also identifies other organizations, partners, and other governmental entities (city and county) that play important roles in the overall response to these episodes. For all parties, this document highlights general duties and responsibilities, provides examples of agency actions and assistance needed, and recommended public health actions based on level and duration of smoke exposure. This protocol is focused specifically on smoke impacts on air quality, not the safety risk posed by the fire itself. It should be noted this protocol is intended to coordinate response with regard to air quality impacts of wildfires and does not replace, interfere with, or limit any action taken by a public agency in the course of performing its official duty.

## **2. Agency Areas of Expertise and Involvement**

Table 1 identifies the state, Tribal, and federal agencies, as well as other organizations, partners, and governmental entities that respond during a wildfire smoke event. The table also identifies the general area of expertise of the agency as well as the type of assistance they may provide during a wildfire smoke event. While the level of involvement is relative to the severity of the wildfire smoke and the effect on air quality, some agencies would be expected to play more of a lead role, requiring more frequent daily communication and coordination, while other agencies would be required to do less and on more of an “as needed basis”.

Idaho Department of Environmental Quality (IDEQ) is responsible for protecting air quality statewide for all lands outside the five Indian Reservation boundaries in Idaho. Each individual Tribe is responsible for protecting air quality within their respective reservation boundaries. The U.S. Environmental Protection Agency (EPA) may also have certain responsibilities for air quality protection on reservations. Throughout this document, all references to responsibilities and actions for IDEQ are assumed to apply only to lands outside the 5 Indian Reservation boundaries.

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<b>Table 1. Agencies and organizations involved in response to wildfire smoke events.</b>	
<b>Agency or Organization</b>	<b>General area of expertise/assistance</b>
<b>Federal</b>	
Federal Land Managers (U.S. Department of Agriculture (USDA), Department of Interior (DOI))	<ul style="list-style-type: none"> <li>• Implement the Montana-Idaho Interagency Smoke Management Coordination Strategy for the Mitigation of Public Health and Welfare Impacts Caused by Smoke from Wildfires</li> <li>• Provide wildfire status updates to air quality agencies;</li> <li>• Assist in public outreach/coordination by issuing consistent messaging with IDEQ, IDHW, Health Districts, and individual Tribes.</li> <li>• Provide emergency air quality monitors</li> <li>• When Air Resource Advisor is assigned to a fire:               <ul style="list-style-type: none"> <li>○ Provide air quality support for fire fighter smoke exposure</li> <li>○ Support Idaho Transportation Department for roadway safety due to smoke</li> </ul> </li> </ul>
U.S. Environmental Protection Agency (EPA)	<ul style="list-style-type: none"> <li>• Support interstate coordination</li> <li>• Support Tribes and tribal air quality programs</li> <li>• EPA Region 10 issues air quality burn bans for Kootenai Tribe of Idaho and Shoshone-Bannock Tribes</li> </ul>
National Weather Service (NWS)	<ul style="list-style-type: none"> <li>• Provide assistance in meteorological forecasting</li> <li>• Post air quality advisories issued by IDEQ and Tribes/EPA on NWS websites</li> </ul>
<b>National</b>	
Red Cross	<ul style="list-style-type: none"> <li>• Provide assistances to the public impacted by the wildfire, such as providing shelters for evacuated public, and basic provisions like food, water, and cots.</li> </ul>
<b>Tribal Governments</b>	
<ul style="list-style-type: none"> <li>• Coeur d'Alene Tribe</li> <li>• Kootenai Tribe of Idaho</li> <li>• Nez Perce Tribe</li> <li>• Shoshone-Bannock Tribes</li> <li>• Shoshone Paiute Tribes</li> </ul>	<p>[Note: Individual Tribal Government activities may vary. EPA may conduct some of these activities, depending on the Tribe.]</p> <ul style="list-style-type: none"> <li>• Monitor ambient air quality</li> <li>• Conduct air quality forecasts</li> <li>• Determine if health standards are being or will be exceeded</li> <li>• Issue air quality advisories and/or identify areas at greatest risk of health impact</li> <li>• Issue air quality burn bans</li> <li>• Provide emergency response services</li> <li>• Maintain the Tribal Emergency Response Plan</li> </ul>
<b>State</b>	
Idaho Department of Environmental Quality (IDEQ)	<ul style="list-style-type: none"> <li>• Monitor ambient air quality,</li> <li>• Provide an air quality forecast to public and coordinating agencies,</li> <li>• Determine if health standards are being or will be exceeded,</li> <li>• Issue air quality advisories and identify areas at greatest risk of health impact</li> </ul>
Idaho Department of Health and Welfare (IDHW)	<p>Division of Public Health</p> <ul style="list-style-type: none"> <li>• Bureau of Community and Environmental Health               <ul style="list-style-type: none"> <li>○ Advise the state, federal, and local authorities on the health risk from smoke and recommend ways the public can reduce</li> </ul> </li> </ul>

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<b>Table 1. Agencies and organizations involved in response to wildfire smoke events.</b>	
<b>Agency or Organization</b>	<b>General area of expertise/assistance</b>
	their exposure. <ul style="list-style-type: none"> <li>• Bureau of Emergency Medical Services and Preparedness                             <ul style="list-style-type: none"> <li>○ Act as ESF 8 Coordinator for State Emergency Response Plan</li> </ul> </li> </ul>
Idaho Bureau of Homeland Security	<ul style="list-style-type: none"> <li>• Maintain the State Emergency Response Plan</li> <li>• Coordinate resource needs for counties during emergency</li> </ul>
<b>Local</b>	
Idaho Public Health Districts	<ul style="list-style-type: none"> <li>• Notify the public and media of health risk from smoke and recommendations for the public to reduce their exposure.</li> </ul>
County Emergency Managers	<ul style="list-style-type: none"> <li>• Identify resource needs and relay request to Idaho Bureau of Homeland Security</li> </ul>
School Districts	<ul style="list-style-type: none"> <li>• Determine if student(s) health is at risk, need to cancel school events or school closures.</li> <li>• Identify if indoor air quality, due to smoke, is causing health impacts.</li> </ul>
City and local governments	<ul style="list-style-type: none"> <li>• Notify the public and media of health risk of smoke and recommendations for the public to reduce their exposure.</li> <li>• Determine need to cancel outdoor events.</li> </ul>

### 3. Key Actions during a Wildfire Smoke Event

Table 2 identifies the key actions that are needed during a wildfire smoke event and which agency(s) is the lead.

<b>Table 2. Key actions during wildfire smoke event</b>	
<b>Action Needed</b>	<b>Lead Agency</b>
<b>Air Monitoring</b>	
Measure ambient air quality with existing network	<ul style="list-style-type: none"> <li>• IDEQ</li> <li>• Tribes</li> </ul>
Deploy portable emergency PM <sub>2.5</sub> monitors – supplement existing network to track air quality in communities receiving the heaviest impacts	<ul style="list-style-type: none"> <li>• IDEQ</li> <li>• Federal Land Managers</li> <li>• Tribes and/or EPA</li> </ul>
<b>Air Quality (smoke) Forecasting and Modeling</b>	
Air quality forecast (smoke forecast), in terms of air quality index (AQI) – provides advance notice of possible smoke movement and impact; improves public notification, lower risk of public exposure to high smoke levels.	<ul style="list-style-type: none"> <li>• IDEQ</li> <li>• Tribes and/or EPA</li> </ul>
Smoke modeling - Supports air quality forecasts (e.g., Bluesky modeling)	<ul style="list-style-type: none"> <li>• Federal Land Managers</li> </ul>
Fire activity information - Supports air quality forecasts	<ul style="list-style-type: none"> <li>• Federal Land Managers</li> </ul>
<b>Issuing health warnings and recommendations</b>	
Determine health effects and recommendations for public actions – Provides a consistent message to the public for potential health effects and recommendations	<ul style="list-style-type: none"> <li>• IDHW, Division of Public Health</li> <li>• Tribes and/or EPA</li> </ul>
Communicate health warnings and recommendations to public	<ul style="list-style-type: none"> <li>• Lead agencies                             <ul style="list-style-type: none"> <li>○ IDEQ</li> <li>○ Tribes and/or EPA</li> <li>○ IDHW</li> <li>○ Public Health Districts</li> </ul> </li> <li>• Cooperating agencies – communicate consistent message                             <ul style="list-style-type: none"> <li>○ Federal Land Managers</li> <li>○ City and county governments</li> <li>○ Red Cross</li> </ul> </li> </ul>
<b>Website management</b>	
Update the Idaho Smoke Information Blog to provide the public with a comprehensive “one-stop” website for wildfire smoke information	<ul style="list-style-type: none"> <li>• Each agency posts their information to blog</li> <li>• IDEQ and IDHW manage blog</li> </ul>
Individual agency website – complements the Idaho Smoke Information Blog	<ul style="list-style-type: none"> <li>• Each agency</li> </ul>

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Table 2. Key actions during wildfire smoke event	
Action Needed	Lead Agency
<b>Public Actions</b>	
Assist communities in identifying and solving potentially unhealthy conditions. Examples: <ul style="list-style-type: none"> <li>• Set up clean air shelters</li> <li>• Assist schools with indoor air quality issues</li> </ul>	<ul style="list-style-type: none"> <li>• Determination of potentially unhealthy conditions                             <ul style="list-style-type: none"> <li>○ IDHW</li> <li>○ Public Health Districts</li> <li>○ IDEQ</li> <li>○ Tribes and/or EPA</li> </ul> </li> <li>• Request assistance from Idaho Bureau of Homeland Security                             <ul style="list-style-type: none"> <li>○ County Emergency Managers</li> <li>○ Tribes</li> </ul> </li> <li>• Coordinate response                             <ul style="list-style-type: none"> <li>○ Idaho Bureau of Homeland Security</li> </ul> </li> </ul>
Cancel or modify public events, outdoor and business activities. Consult with schools on limited hours or closure.	<ul style="list-style-type: none"> <li>• Decision made at the local level, by government or school authorities.</li> </ul>

**4. Air quality triggers for recommended agency actions**

Table 3 identifies the recommended agency actions to be taken, based on the intensity and duration of smoke exposure. The AQI category is determined based on the information in Table 4 Air Quality Guide for Wildfire smoke. The main 3 questions to ask when deciding when to take certain actions are:

- **What is the expected duration of the smoke?** – The longer the expected duration of smoke impacts, the more important it is for the agency to respond, especially when the air quality is in the unhealthy to hazardous range.
- **How severe is the impact?** – if the air quality is expected to be in the Very Unhealthy or Hazardous category, then agencies will likely respond quickly regardless of the short duration.
- **Is it forecasted to get better or worse?** – The forecasted air quality will also drive agency action. An agency may take different actions if the air quality is forecasted to improve rather than deteriorate.

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**Table 3. Air quality triggers and recommended agency actions.**

AQI Category	Recommended Agency Actions			
	DEQ	FLMS	Division of Health/Public Health Districts	Tribes and/or EPA
GOOD (AQI 0-50), ignitions have occurred or are forecasted to occur	<ul style="list-style-type: none"> <li>• Notify agencies of ignitions and possible smoke impacts</li> <li>• Initiate Idaho Smoke Blog</li> </ul>	<ul style="list-style-type: none"> <li>• Notify DEQ of ignitions that are expected to be long duration fires or will be under a management strategy other than full suppression or point protection.</li> </ul>		<ul style="list-style-type: none"> <li>• Track ignitions and potential for smoke impacts</li> </ul>
MODERATE (AQI 51-100) and is forecasted to remain at or deteriorate for the next 24-72 hours	<ul style="list-style-type: none"> <li>• Same as above</li> <li>• Initiate daily wildfire smoke forecast (agency and public)</li> <li>• Identify wildfires of concern</li> <li>• Determine if Air Pollution Forecast and Caution is needed</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> <li>• For wildfires identified by IDEQ, provide updates on fire growth, behavior, and any planned management actions that could impact smoke production (e.g., burn outs)</li> </ul>	<ul style="list-style-type: none"> <li>• Issue news release for public health warnings/recommendations if IDEQ issues an Air Pollution Forecast and Caution</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> <li>• Issue air quality advisory (AQA)</li> <li>• If 24-hour average PM<sub>2.5</sub> has reached or is expected to reach 26 µg/m<sup>3</sup> (AQI 80), issue air quality burn ban</li> <li>• Post AQA and burn ban information to Idaho Smoke Information Blog</li> </ul>
UNHEALTHY FOR SENSITIVE GROUPS (AQI 101 – 150) or air quality is in the unhealthy category for part of the day and is forecasted to	<ul style="list-style-type: none"> <li>• Same as above</li> <li>• Initiate daily conference calls with agencies</li> <li>• Evaluate need for emergency monitors</li> <li>• Issue Air Pollution Forecast and Caution</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> <li>• Evaluate whether an ARA is needed</li> </ul>	<ul style="list-style-type: none"> <li>• Issue news releases for public health warnings/recommendations</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> <li>• Determine if emergency monitors need to be deployed</li> <li>• Participate in daily conference calls with agencies</li> </ul>

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remain or deteriorate for the next 24-72 hours				
UNHEALTHY (AQI 151 – 200) Air Quality has reached the unhealthy (24-hour) or the very unhealthy category for part of the day and is forecasted to remain or deteriorate for the next 24-72 hours	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Issue news releases for public health warnings/recommendations</li> <li>• Evaluate whether other actions are needed to protect public health (e.g., clean air shelters)</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
VERY UNHEALTHY (AQI 201 – 300)	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
HAZARDOUSE (AQI 301+)	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>

Air Quality Index (AQI) Category	AQI	PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> ) <sup>1</sup>			Visibility <sup>2</sup> (miles)
		1-3-hr average	8-hr average	24-hr average	
Good	0 – 50	0-38	0-22	0-12	11+
Moderate	51 – 100	39-88	23-50	12.1-35.4	6-10
Unhealthy for Sensitive Groups	101-150	89-138	51-79	35.5-55.4	3-5
Unhealthy	151-200	139-351	80-200	55.5-150.4	1.5-2.75
Very Unhealthy	201-300	352-526	201-300	150.5-250.4	1-1.25
Hazardous	300+	526+	300+	250.5+	Less than 1

1. These 1- and 8- hour PM 2.5 levels are estimated using the 24- hour breakpoints of the PM 2.5 Air Quality Index <http://www.airnow.gov/index.cfm?action=aqibasics.aqi> and were taken from the Wildfire Smoke: A Guide for Public Health Officials, revised July 2008 posted by the California Environmental Protection Agency’s Air Resource Board (accessed at <http://www.arb.ca.gov/smp/progdev/pubeduc/wfgv8.pdf> ).

2. How to estimate air quality based on visibility for areas without an air quality monitor or airport visibility estimate:

- Face away from the sun.
- Determine the limit of your visible range by looking for targets at known distances (miles).
- Visible range is that point at which even high contrast objects totally disappear.
- Use the values above to determine the local forest fire smoke category

## 5. Idaho “Smoke Information Blog”

As noted in Table 1 under website management, a major tool for providing the public with current air quality and health information on wildfires is the Idaho Smoke Blog. This blog site can provide timely “one-stop information” by including links to various agency websites, and providing critical information on wildfire status, air quality conditions and forecasts, school and activity closures, burn bans, location of clean air shelters, and travel restrictions due to visibility. This blog would be activated by IDEQ, and managed by a team of state, federal, tribal, and local agencies. The link to this blog site is: <http://idsmoke.blogspot.com/> .

## 6. Coordination during smoke event

### a. IDEQ daily air quality/smoke forecast

As indicated in Table 3, when air quality had degraded to the Unhealthy for Sensitive Groups category, and is forecasted to remain or degrade further for the next 24-72 hours, IDEQ will initiate the daily air quality/smoke forecasts. IDEQ will issue a more detailed report for coordinating agencies as well as a

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more general forecast for the public. The agency smoke forecast will be available coordinating agencies via email. The public smoke forecast will be available on IDEQ's website as well as the Idaho Smoke Blog.

### **b. Interagency conference calls**

One key tool for coordination during the wildfire season is a daily interagency coordination call. The purpose of the call is to ensure all agencies have the same information with regards to expected fire activity and severity and extent of potential smoke impacts, as well as coordinating agency response. This will help ensure the public is receiving a consistent message regarding possible smoke impacts, health impacts, and recommendations. As indicated in Table 3, this conference call is generally initiated when air quality has reached the Unhealthy for Sensitive Groups. However, any agency can request this call to be initiated at any time. IDEQ will take the lead on the call. Once started, the calls will continue throughout the wildfire season. The frequency of the call can be changed as needed throughout the wildfire season.

## **7. Annual Pre and Post-Wildfire Season conference calls**

Each year prior to and after the summer wildfire season, representatives from the agencies, organizations, or offices listed in this protocol will hold conference calls. The pre-season call will be in preparation for the up-coming season. The purpose of this call would be to review the information in this protocol, discuss any specific preparation needs for the upcoming wildfire season, and update the contact list (Appendix A) of staff expected to be using this protocol. The post-season call will be to review the wildfire season and identify areas for improvement.

## **8. Other references, resources, and links**

### **a. Wildfire Smoke: A Guide for Public Health Officials**

The 2008 guidance document Wildfire Smoke: A Guide for Public Health Officials (updated with the 2012 PM<sub>2.5</sub> AQI breakpoints) is useful as a reference guide for how public agencies can best protect public health during wildfire events. In addition to providing background information on the composition of smoke, potential health effects, and recommended actions, it contains specific strategies on how to reduce smoke exposure, such as indoor air filters and cleaners, use of masks and respirators, setting up clean air shelters, and examples of public service announcements for wildfire. This document is referenced here as general guidance to provide additional information, and like this protocol, is not intended to replace, interfere with, or limit any action taken by a public agency in the course of performing its official duties, nor does it represent a legally binding document. The document can be found at: [http://www.oehha.ca.gov/air/risk\\_assess/wildfirev8.pdf](http://www.oehha.ca.gov/air/risk_assess/wildfirev8.pdf)

### **b. Montana-Idaho Interagency Smoke Management Coordination Strategy**

The Montana-Idaho Interagency Smoke Management Coordination Strategy for the Mitigation of Public Health and Welfare Impacts Caused by Smoke from Wildfires establishes a protocol for coordination between participating federal and state wildfire management agencies (FMAs), the Montana

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Department of Environmental Quality, and the Idaho Department of Environmental Quality. This Strategy is intended to:

- Clarify roles and responsibilities;
- Address public health and welfare considerations;
- Promote public education regarding the natural role of wildfire;
- Identify conditions which trigger coordination activities;
- Provide examples of potential management actions which mitigate smoke impacts;
- Provide for interagency information exchange for smoke management and air quality planning purposes; and
- Provide for evaluation and revision as necessary.

## 9. Appendices

**Appendix A – Current Agency Contact List**

**Appendix B – Community Guide for Staying Healthy During Wildfire Smoke Events**

**Appendix C – Air Quality Guidelines for Wildfire Smoke Events – Recommendations for Schools and Others Responsible for Children during a Wildfire Smoke Event**

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Appendix A

Current Agency Contact List

Agency	Staff Name and Position	Contact Information
Federal Land Managers U.S. Department of Agriculture (USDA); Department of Interior (DOI)	<b>Thomas Dzomba</b> – U.S. Forest Service (USFS)	(406) 329-3672 <a href="mailto:tdzomba@fs.fed.us">tdzomba@fs.fed.us</a>
	<b>Glen Burkhardt</b> – Bureau of Land Management (BLM)	(208) 373-4047 <a href="mailto:Glen_Burkhardt@blm.gov">Glen_Burkhardt@blm.gov</a>
Idaho Department of Environmental Quality (IDEQ) (See Figure 1 for locations of regional offices)	<b>Jacob Wolf</b> – State Office Boise - Primary	(208) 373-0480 <a href="mailto:Jacob.wolf@deq.idaho.gov">Jacob.wolf@deq.idaho.gov</a>
	<b>Michael Miller</b> – State Office	(208) 373-0257 <a href="mailto:Michael.Miller@deq.idaho.gov">Michael.Miller@deq.idaho.gov</a>
	<b>Mary Anderson</b> – State Office – Back-up	(208-373-0202 – office (208) 559-4596 – cell <a href="mailto:Mary.Anderson@deq.idaho.gov">Mary.Anderson@deq.idaho.gov</a>
	<b>Michael Toole</b> – Boise Regional Office	(208) 373-0104 <a href="mailto:Michael.Toole@deq.idaho.gov">Michael.Toole@deq.idaho.gov</a>
	<b>Tami Aslett</b> – Twin Falls Regional Office	(208) 736-2190 – office (208) 421-4905 – cell <a href="mailto:Tami.Aslett@deq.idaho.gov">Tami.Aslett@deq.idaho.gov</a>
	<b>Melissa Gibbs</b> – Pocatello Regional Office	(208) 239-5022 <a href="mailto:Melissa.Gibbs@deq.idaho.gov">Melissa.Gibbs@deq.idaho.gov</a>
	<b>Ryan Rossi</b> – Idaho Falls Regional Office	(208) 528-2678 <a href="mailto:ryan.rossi@deq.idaho.gov">ryan.rossi@deq.idaho.gov</a>
	<b>Ralph Paul</b> – Coeur d’Alene Regional Office	(208) 666-4609 <a href="mailto:Ralph.Paul@deq.idaho.gov">Ralph.Paul@deq.idaho.gov</a>
Idaho Department of Health and Welfare (IDHW)	<b>Jim Vannoy</b> – Division of Public Health	(208)334-4964 <a href="mailto:VannoyJ@dhw.idaho.gov">VannoyJ@dhw.idaho.gov</a>
	<b>Megan Keating</b> – Division of Public Health	(208)334-5929 <a href="mailto:KeatingM@dhw.idaho.gov">KeatingM@dhw.idaho.gov</a>
	<b>Barb Blakesley</b> – Public Health Emergency Preparedness/State ESF8 Coordinator	(208) 334-5876 – office (208) 571-3452 – cell <a href="mailto:blakeslb@dhw.idaho.gov">blakeslb@dhw.idaho.gov</a>
Idaho Public Health Districts (See Figure 2 for locations of Health Districts)	District 1 – Panhandle <b>Dale Peck</b>	(208) 415-5210 <a href="mailto:dpeck@phd1.idaho.gov">dpeck@phd1.idaho.gov</a>
	District 2 – North Central <b>Ed Marugg</b>	(208) 799-3100 <a href="mailto:emarugg@phd2.idaho.gov">emarugg@phd2.idaho.gov</a>
	District 3 – Southwest <b>David Loper</b>	(208) 455-5401 <a href="mailto:david.loper@phd3.idaho.gov">david.loper@phd3.idaho.gov</a>
	District 4 – Central <b>Rob Howarth</b>	(208) 327-8520 <a href="mailto:rhowarth@cdhd.idaho.gov">rhowarth@cdhd.idaho.gov</a>
	District 5 – South Central <b>Melody Bowyer</b>	(208) 737-5909 – office (208) 358-6499 – cell

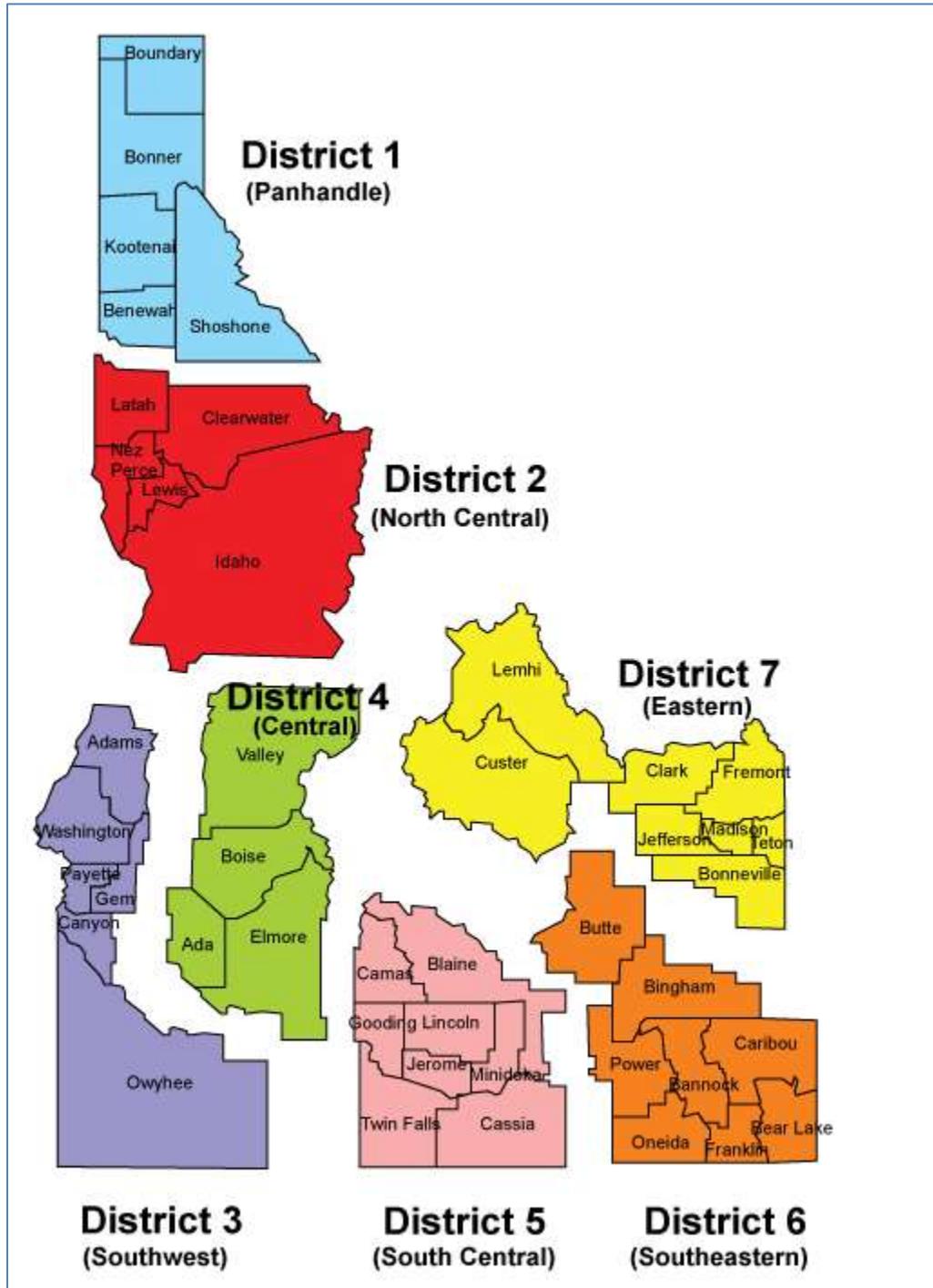
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Agency	Staff Name and Position	Contact Information
		<a href="mailto:mbowyer@phd5.idaho.gov">mbowyer@phd5.idaho.gov</a>
	District 6 – Southeastern <b>Steve Pew</b>	(208) 239-5272 <a href="mailto:spew@siph.idaho.gov">spew@siph.idaho.gov</a>
	District 7 – Eastern <b>Kellye Eager</b>	(208) 533-3127 <a href="mailto:keager@phd7.idaho.gov">keager@phd7.idaho.gov</a>
Nez Perce Tribe General email <a href="mailto:airquality@nezperce.org">airquality@nezperce.org</a>	<b>Julie Simpson</b> , Air Quality Program Coordinator	(208) 621-3818 <a href="mailto:julies@nezperce.org">julies@nezperce.org</a>
	<b>Andrea Boyer</b> , Environmental Specialist	(208) 621-3820 <a href="mailto:andreab@nezperce.org">andreab@nezperce.org</a>
	<b>Mary Fauci</b> , Environmental Specialist	(208) 621-3822 <a href="mailto:Maryf@nezperce.org">Maryf@nezperce.org</a>
	<b>Johna Boulafentis</b> , Environmental Outreach Specialist	(208) 621-3821 <a href="mailto:johnab@nezperce.org">johnab@nezperce.org</a>
Coeur d’Alene Tribe	<b>Les Higgins</b>	(208) 686-8101 <a href="mailto:lhiggins@cdatribe-nsn.gov">lhiggins@cdatribe-nsn.gov</a>
	<b>Alieene (Boom) George</b>	(208) 686-5818 <a href="mailto:argeorge@cdatribe-nsn.gov">argeorge@cdatribe-nsn.gov</a>
Kootenai Tribe of Idaho	<b>Kevin Greenleaf</b>	(208) 267-3519 x 514 <a href="mailto:Greenleaf@kootenai.org">Greenleaf@kootenai.org</a>
Shoshone-Bannock Tribe	<b>Penny Weymiller</b>	(208) 478-3853 <a href="mailto:pweymiller@sbtribes.com">pweymiller@sbtribes.com</a>
U.S. Environmental Protection Agency (EPA)	<b>Mike McGown</b>	(208) 378-5764 <a href="mailto:McGown.Michael@epamail.epa.gov">McGown.Michael@epamail.epa.gov</a>
Oregon Department of Environmental Quality (ODEQ)	<b>Brian Finneran</b>	(503) 229-6278 <a href="mailto:Finneran.brian@deq.state.or.us">Finneran.brian@deq.state.or.us</a>
Washington Department of Ecology (ECY)	<b>Sean Hopkins</b>	(509) 575-2804 <a href="mailto:Seho461@ecy.wa.gov">Seho461@ecy.wa.gov</a>
Montana Department of Environmental Quality (MTDEQ)	<b>Kristen Martin</b>	(406) 444-0283 <a href="mailto:KMartin@mt.gov">KMartin@mt.gov</a>

Figure 1 Map of DEQ Regional Offices



Figure 2 Map of Idaho Public Health Districts



**Appendix B**

**Community Guide for Staying Healthy During Wildfire Smoke Events**

## Community Guide for Staying Healthy During Wildfire Smoke Events<sup>1</sup>

Air Quality Index (AQI)	Visibility <sup>2</sup> (miles)	Possible Health Effects	Cautionary Statement
Good	11+	None Expected	None
Moderate	6 -10	Possible worsening of heart or lung disease.	Unusually sensitive people should consider reducing prolonged or heavy exertion: <ul style="list-style-type: none"> <li>• People with heart or lung disease should pay attention to symptoms.</li> <li>• If you have symptoms of lung or heart disease, including repeated coughing, shortness of breath or difficulty breathing, wheezing, chest tightness or pain, palpitations, nausea, unusual fatigue or lightheadedness, contact your health care provider.</li> </ul>
Unhealthy for Sensitive Groups	3 - 5	Increased likelihood of lung or heart symptoms in sensitive individuals.  Worsening of heart or lung disease.  Increased risk of early death in people with lung and heart disease and the elderly.	Sensitive Groups: <b>Children, pregnant women, people with heart or lung disease, and the elderly</b> should: <ul style="list-style-type: none"> <li>• Limit prolonged or heavy exertion.</li> <li>• Limit time spent outdoors.</li> <li>• Avoid physical exertion.</li> <li>• People with asthma should follow asthma management plan.</li> <li>• If you have symptoms of lung or heart disease that may be related to excess smoke exposure, including repeated coughing, shortness of breath or difficulty breathing, wheezing, chest tightness or pain, heart palpitations, nausea, unusual fatigue or lightheadedness, contact your health care provider.</li> </ul>
Unhealthy	1.5 - 2.75	Worsening of heart or lung disease with: <ul style="list-style-type: none"> <li>• Increased risk of early death in people with heart and lung disease and the elderly.</li> <li>• Increased lung problems in general population.</li> </ul>	Sensitive Groups: <b>Children, pregnant women, people with heart or lung disease, and the elderly</b> should: <ul style="list-style-type: none"> <li>• Avoid prolonged or heavy exertion.</li> <li>• Stay indoors; avoid exertion.</li> </ul> General Population: <ul style="list-style-type: none"> <li>• Limit prolonged or heavy exertion.</li> <li>• Limit time spent outdoors.</li> <li>• If you have symptoms of lung or heart disease that may be related to excess smoke exposure, including repeated coughing, shortness of breath or difficulty breathing, wheezing, chest tightness or pain, palpitations, nausea or unusual fatigue or lightheadedness, contact your health care provider.</li> </ul>

## Community Guide for Staying Healthy During Wildfire Smoke Events<sup>1</sup>

Air Quality Index (AQI)	Visibility <sup>2</sup> (miles)	Possible Health Effects	Cautionary Statement
Very Unhealthy	1 - 1.25	Worsening of heart or lung disease with: <ul style="list-style-type: none"> <li>• Significant risk of early death in persons with heart and lung disease and the elderly.</li> <li>• Significant increase in lung problems in general population.</li> </ul>	Sensitive Groups: <b>Children, pregnant women, people with heart or lung disease, and the elderly</b> should: <ul style="list-style-type: none"> <li>• Avoid all physical activity outdoors.</li> <li>• Stay indoors, avoid exertion.</li> </ul> General Population: <ul style="list-style-type: none"> <li>• Avoid prolonged or heavy exertion.</li> <li>• Stay indoors, avoid exertion.</li> </ul>
Hazardous	Less than 1	Worsening of heart or lung disease with: <ul style="list-style-type: none"> <li>• Significant risk of early death in persons with heart and lung disease and the elderly.</li> <li>• Serious risk of lung problems in general population.</li> </ul>	Everyone should avoid all physical activity outdoors. <ul style="list-style-type: none"> <li>• Stay indoors, avoid exertion.</li> </ul>

1. This table was adapted from the Wildfire Smoke: A Guide for Public Health Officials (Revised June 2013). Available at:

[http://oehha.ca.gov/air/risk\\_assess/wildfirev8.pdf](http://oehha.ca.gov/air/risk_assess/wildfirev8.pdf)

For more information about the Air Quality Index visit Air Now:

<http://www.airnow.gov/?action=aqibasics.aqi>

2. How to estimate air quality based on visibility for areas without an air quality monitor or airport visibility estimate:

- a. Face away from the sun.
- b. Determine the limit of your visible range by looking for targets at known distances (miles).
- c. Visible range is when an object you can easily see in the distance disappears.
- d. Use the visibility values above to determine the local wildfire smoke category.

**Appendix C**

**Air Quality Guidelines for Wildfire Smoke Events – Recommendations for Schools and Others Responsible for Children during a Wildfire Smoke Event**

# Activity Guidelines for Wildfire Smoke Events

## Recommendations for Schools and Others Responsible for Children during a Wildfire Smoke Event

Activity	0 – 50 AQI (10+ miles visibility) <b>GOOD</b>	51 – 100 AQI (6 – 10 miles visibility) <b>MODERATE</b>	101 – 150 AQI (3 – 6 miles visibility) <b>UNHEALTHY FOR Sensitive Groups *</b>	151 – 200 AQI (1.5 – 3 miles visibility) <b>UNHEALTHY</b>	201 – 300 AQI (<1.5 miles visibility) <b>VERY UNHEALTHY/HAZARDOUS</b>
<b>Recess (15 minutes)</b>	No restrictions	No restrictions	Keep children with asthma or other respiratory problems indoors. Make indoor space available for all children.	Keep all children indoors.	Keep all children indoors.
<b>P.E. (1 hour)</b>	No restrictions	Monitor kids with asthma or other respiratory problems and limit their vigorous activities.	Keep children with asthma or other respiratory problems indoors. Make indoor space available for all children. If outdoors, limit vigorous activities. Individuals with asthma or other respiratory illness should be medically managing their condition.	Conduct P.E. indoors. If outdoors, only allow light activities for all participants. Individuals with asthma or other respiratory illness should be medically managing their condition.	Keep all children indoors.
<b>Scheduled Sporting Events</b>	No restrictions	Monitor kids with asthma or other respiratory problems and limit their vigorous activities.	Individuals with asthma or other respiratory illness should be medically managing their condition. Increase rest periods and substitutions for all participants to lower breathing rates.	Consider rescheduling or relocating event.	Reschedule or relocate event.
<b>Athletic Practice, Training &amp; Games (2-4 hours)</b>	No restrictions	Monitor kids with asthma or other respiratory problems and limit their vigorous activities.	Individuals with asthma or other respiratory illness should be medically managing their condition. Increase rest periods and substitutions for all participants to lower breathing rates.	Conduct practice and games indoors. If outdoors, allow only light activities for all participants. Add rest breaks or substitutions to lower breathing rates. Individuals with asthma or other respiratory illness should be medically managing their condition.	Conduct practice and games indoors only.
<b>Examples of light activities:</b>		<b>Examples of moderate activities:</b>		<b>Examples of vigorous activities:</b>	
<ul style="list-style-type: none"> <li>Walking slowly on level ground</li> <li>Carrying school books</li> <li>Hanging out with friends</li> </ul>		<ul style="list-style-type: none"> <li>Skateboarding</li> <li>Slow pitch softball</li> <li>Shooting basketballs</li> </ul>		<ul style="list-style-type: none"> <li>Running, jogging</li> <li>Playing football, soccer, and basketball</li> </ul>	

\* If your child has lung or heart problems he or she may be more sensitive to air pollution and it is recommended that you talk with a doctor about his or her condition.

### How to estimate air quality based on visibility for areas without an air quality monitor or airport visibility estimate:

1. Face away from the sun.
2. Determine the limit of your visible range by looking for targets at known distances (miles).
3. Visible range is when an object you can easily see in the distance disappears.
4. Use the visibility values above to determine the local wildfire smoke category.



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