

Idaho Wildfire Smoke Event Response Protocol

July 1, 2016

1. Purpose

This protocol is intended to coordinate the response actions of state, tribal, and federal agencies in Idaho who respond to smoke events 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 events. 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 and air quality impacts, not the safety risk posed by the fire itself. This protocol is not intended to replace, interfere with, or limit any response action taken by a public agency in the course of performing its official duties.

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 five Indian Reservation boundaries.

Table 1. Agencies and organizations involved in response to wildfire smoke events.

Agency or Organization	General area of expertise/assistance							
Federal								
Federal Land Managers • U.S. Department of Agriculture (USDA) Forest Service (FS) Regions 1 and 4 • U.S. Department of Interior (DOI) Bureau of Land Management (BLM)	<ul style="list-style-type: none"> • Implement the Montana-Idaho Interagency Smoke Management Coordination Strategy for the Mitigation of Public Health and Welfare Impacts Caused by Smoke from Wildfires (http://www.fs.fed.us/r1/fire/nrcg/Agreements&OperationsPlans.htm). • Provide wildfire status updates to air quality agencies; • Assist in public outreach/coordination by issuing consistent messaging with IDEQ, IDHW, Health Districts, and individual Tribes. • Provide emergency air quality monitors • When Forest Service Air Resource Advisor is assigned to a fire: <ul style="list-style-type: none"> ○ Provide air quality support for fire fighter smoke exposure ○ Support Idaho Transportation Department for roadway safety due to smoke 							
U.S. Environmental Protection Agency (EPA)	<ul style="list-style-type: none"> • Support interstate coordination • Support Tribes and tribal air quality programs • EPA Region 10 issues air quality burn bans for Kootenai Tribe of Idaho and Shoshone-Bannock Tribes 							
National Weather Service (NWS)	<ul style="list-style-type: none"> • Provide assistance in meteorological forecasting • Post air quality advisories (AQA) issued by IDEQ and Tribes/EPA on NWS websites 							
National								
Red Cross	<ul style="list-style-type: none"> • Provide assistances to the public impacted by the wildfire, such as providing shelters for evacuated public, and basic provisions like food, water, and cots. 							
Tribal Governments								
	Monitor ambient air quality	Conduct air quality forecasts	Determine if health standards are being or will be exceeded	Issue AQA and/or identify areas at greatest risk of health impact	Issue air quality burn bans	Provide emergency response services	Maintain the Tribal Emergency Response Plan	Provide health services through Tribal Clinics
Coeur d’Alene Tribe	•	•	•	•	•	•		•
Kootenai Tribe of Idaho	•	•	•	•	EPA Issues	•	•	•
Nez Perce Tribe	•	•	•	•	•	•	•	•
Shoshone-Bannock Tribes	•		•	•	EPA Issues	•	•	•
Shoshone-Paiute Tribes						•	•	•

Table 1. Agencies and organizations involved in response to wildfire smoke events.

Agency or Organization	General area of expertise/assistance
State	
Idaho Department of Environmental Quality (IDEQ)	<ul style="list-style-type: none"> • Monitor ambient air quality, • Provide an air quality forecast to public and coordinating agencies, • Determine if health standards are being or will be exceeded, • Issue AQA and identify areas at greatest risk of health impact
Idaho Department of Health and Welfare (IDHW)	Division of Public Health <ul style="list-style-type: none"> • Bureau of Community and Environmental Health <ul style="list-style-type: none"> ○ Advise the state, federal, and local authorities on the health risk from smoke and recommend ways the public can reduce their exposure. • Bureau of Emergency Medical Services and Preparedness <ul style="list-style-type: none"> ○ Act as ESF 8 Coordinator for State Emergency Response Plan
Idaho Office of Emergency Management	<ul style="list-style-type: none"> • Maintain the State Emergency Response Plan • Coordinate resource needs for counties during emergency
Local	
Idaho Public Health Districts	<ul style="list-style-type: none"> • Notify the public and media of health risk from smoke and recommendations for the public to reduce their exposure.
County Emergency Managers	<ul style="list-style-type: none"> • Identify resource needs and relay request to Idaho Office of Emergency Management
School Districts	<ul style="list-style-type: none"> • Determine if student(s) health is at risk, need to cancel school events or school closures. • Identify if indoor air quality, due to smoke, is causing health impacts.
City and local governments	<ul style="list-style-type: none"> • Notify the public and media of health risk of smoke and recommendations for the public to reduce their exposure. • Determine need to cancel outdoor events.

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.

Table 2. Key actions during wildfire smoke event	
Action Needed	Lead Agency
Air Monitoring	
Measure ambient air quality with existing network	<ul style="list-style-type: none"> • IDEQ • Tribes
Deploy portable emergency PM _{2.5} monitors – supplement existing network to track air quality in communities receiving the heaviest impacts	<ul style="list-style-type: none"> • IDEQ • Federal Land Managers • Tribes and/or EPA
Air Quality (smoke) Forecasting and Modeling	
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"> • IDEQ • Tribes and/or EPA
Smoke modeling - supports air quality forecasts (e.g., Bluesky, Hysplit)	<ul style="list-style-type: none"> • Federal Land Managers
Fire activity information - supports air quality forecasts	<ul style="list-style-type: none"> • Federal Land Managers
Issuing health warnings and recommendations	
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"> • IDHW, Division of Public Health • Tribes and/or EPA
Communicate health warnings and recommendations to public	<ul style="list-style-type: none"> • Lead agencies <ul style="list-style-type: none"> ○ IDEQ ○ Tribes and/or EPA ○ IDHW ○ Public Health Districts • Cooperating agencies – communicate consistent message <ul style="list-style-type: none"> ○ Federal Land Managers ○ City and county governments ○ Red Cross
Website management	
Update the Idaho Smoke Information Blog to provide the public with a comprehensive website for wildfire smoke information	<ul style="list-style-type: none"> • Each agency posts their information to Smoke Info blog • IDEQ and IDHW manage Smoke Info blog

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

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 three questions to ask when deciding when to take certain actions are:

- **What is the expected duration of the smoke impact?** – The longer the expected duration of smoke impacts, the more important it is for the agencies to respond.
- **What is the severity of the smoke impact** – If the air quality is expected to be in the Very Unhealthy or Hazardous category, the more important it is for agencies to respond quickly, regardless of the short duration.
- **Are smoke impacts 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.

Table 3. Air quality triggers and recommended agency actions.				
AQI Category	IDEQ	FLMs	Division of Health/Public Health Districts	Tribes and/or EPA
GOOD (AQI 0-50), ignitions have occurred	<ul style="list-style-type: none"> • Initiate Idaho Smoke Blog and post info on smoke impacts 	<ul style="list-style-type: none"> • Notify IDEQ, Tribes, and EPA of wildfires that are expected to be of long duration or under a management strategy other than full suppression (i.e., Resource Benefit or Multiple Objectives). 		<ul style="list-style-type: none"> • Track ignitions and potential for smoke impacts
MODERATE (AQI 51-100) and is forecasted to remain at or deteriorate for the next 24-72 hours	<ul style="list-style-type: none"> • Same as above • Initiate daily wildfire smoke forecast (agency and public) • Identify wildfires of concern • Determine if Air Pollution Forecast and Caution is needed 	<ul style="list-style-type: none"> • Same as above • For wildfires identified by IDEQ, Tribes, or EPA provide updates on fire growth, behavior, and any planned management actions that could intensify smoke production and further compound health and safety. (e.g., large-scale burn outs) 	<ul style="list-style-type: none"> • Issue news release for public health warnings/recommendations if IDEQ issues an Air Pollution Forecast and Caution and/or AQA 	<ul style="list-style-type: none"> • Same as above • Issue AQA • If 24-hour average PM_{2.5} has reached or is expected to reach 26 µg/m³ (AQI 80), issue air quality burn ban • Post AQA and burn ban information to Idaho Smoke Information Blog

Table 3. Air quality triggers and recommended agency actions.				
AQI Category	IDEQ	FLMs	Division of Health/Public Health Districts	Tribes and/or EPA
UNHEALTHY FOR SENSITIVE GROUPS (AQI 101 – 150) or air quality is in the 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"> • Same as above • Initiate daily conference calls with agencies • Evaluate need for emergency monitors • Issue Air Pollution Forecast and Caution 	<ul style="list-style-type: none"> • Same as above • Evaluate whether an Air Resource Advisor (ARA) is needed (independently, or with input from/at request of other agencies) 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above • Determine if emergency monitors need to be deployed • Participate in daily conference calls with agencies
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"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Issue news releases for public health warnings/recommendations • Evaluate whether other actions are needed to protect public health (e.g., clean air shelters) 	<ul style="list-style-type: none"> • Same as above
VERY UNHEALTHY (AQI 201 – 300)	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above
HAZARDOUS (AQI 301+)	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above

Table 4. Air quality guide for wildfire smoke

AQI Category	AQI	PM _{2.5} Concentration (µg/m ³) ¹			Visibility ² (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-hour and 8- hour PM_{2.5} levels are estimated using the 24-hour breakpoints of the PM_{2.5} [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.
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 that point at which even high contrast objects totally disappear.
 - d. 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 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 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. When wildfire ignitions have occurred, this blog will 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 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_{2.5} 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

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

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

9. Appendices

Appendix A – 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

Appendix A

Agency Contact List

Agency	Staff Name and Position	Contact Information
Federal		
U.S. Forest Service (USFS)	(Vacant) – Air Quality and Smoke Management	(406) 329-3672
	Erin Law – Smoke Management Program Coordinator	(406) 329-4952 elaw@fs.fed.us
Bureau of Land Management (BLM)	Glen Burkhardt and/or Greg Mann	(208) 373-4047 gburkhardt@blm.gov gmann@blm.gov
U.S. Environmental Protection Agency (EPA)	Mike McGown	(208) 378-5764 mcgown.michael@epamail.epa.gov
	Gary Olson	(206) 553-0985 olson.gary@epa.gov
	Steve Scott	(206) 553-0692 scott.steve@epa.gov
State and Local		
Idaho Department of Environmental Quality (IDEQ) (See Figure 1 for locations)	Tami Aslett – State Office Boise – Primary	(208) 373-0443 – office tami.aslett@deq.idaho.gov
	Jacob Wolf – State Office – Back-up	(208) 373-0480 jacob.wolf@deq.idaho.gov
	Michael Toole – Boise Regional Office	(208) 373-0104 michael.toole@deq.idaho.gov
	Vacant – Twin Falls Regional Office	(208) 736-2190
	Melissa Gibbs – Pocatello Regional Office	(208) 239-5022 melissa.gibbs@deq.idaho.gov
	Ryan Rossi – Idaho Falls Regional Office	(208) 528-2678 ryan.rossi@deq.idaho.gov
	Ralph Paul – Coeur d’Alene Regional Office	(208) 666-4609 ralph.paul@deq.idaho.gov
	Dennis Behler – Lewiston Regional Office	(208) 799-4882 dennis.behler@deq.idaho.gov

Agency	Staff Name and Position	Contact Information
Idaho Department of Health and Welfare (IDHW) media (208) 334-0668	Jim Vannoy – Division of Public Health	(208)334-4964 vannoyj@dhw.idaho.gov
	James LaMarche – Division of Public Health	(208)334-5929 lamarchj@dhw.idaho.gov
	Barb Blakesley – Public Health Emergency Preparedness/State ESF8 Coordinator	(208) 334-5876 – office (208) 571-3452 – cell blakeslb@dhw.idaho.gov
	Niki Forbing-Orr – Public Information Officer	(208) 334-0693 – office (208) 514-5848 – cell (208) 334-0668 – media forbingn@dhw.idaho.gov
	Tom Shanahan – Public Information Manager	(208) 334-0618 – office (208) 890-0161 – cell (208) 334-0668 – media shanahat@dhw.idaho.gov
Idaho Public Health Districts (See Figure 2 for locations)	District 1 – Panhandle Erik Ketner	(208) 415-5224 eketner@phd1.idaho.gov
	District 2 – North Central Ed Marugg	(208) 799-3100 emarugg@phd2.idaho.gov
	District 3 – Southwest Brian Crawford	(208) 455-5401 brian.crawford@phd3.idaho.gov
	District 4 – Central Rob Howarth	(208) 327-8520 rhowarth@cdhd.idaho.gov
	District 5 – South Central Melody Bowyer	(208) 737-5909 – office (208) 358-6499 – cell mbowyer@phd5.idaho.gov
	District 6 – Southeastern Steve Pew	(208) 239-5272 spew@siph.idaho.gov
	District 7 – Eastern Kellye Eager	(208) 533-3127 keager@eiph.idaho.gov

Agency	Staff Name and Position	Contact Information
Tribal Governments		
Nez Perce Tribe airquality@nezperce.org	Julie Simpson Air Quality Program Coordinator	(208) 621-3818 julies@nezperce.org
	Andrea Boyer Environmental Specialist	(208) 621-3820 andreab@nezperce.org
	Mary Fauci Environmental Specialist	(208) 621-3822 maryf@nezperce.org
	Johna Boulafentis Environmental Outreach Specialist	(208) 621-3821 johnab@nezperce.org
Coeur d'Alene Tribe	Les Higgins	(208) 686-8101 lhiggins@cdatribe-nsn.gov
	Alieene (Boom) George	(208) 686-5818 argeorge@cdatribe-nsn.gov
Kootenai Tribe of Idaho	Kevin Greenleaf	(208) 267-3519 x 514 greenleaf@kootenai.org
Shoshone-Bannock Tribes		(208) 221-2066 airquality@sbtribes.com
Shoshone-Paiute Tribes	Heather Lawrence Environmental Director	(208) 759-3100 ex.1229 lawrence.heather@shopai.org
	Brent Hunter Fire Management Officer/ Emergency Management Officer	(775) 757-2473 hunter.brent@shopai.org
States		
Oregon Department of Environmental Quality (ODEQ)	Kimberlee Van-Patten	(503) 229-5256 van-patten.kimberlee@deq.state.or.us
Washington Department of Ecology (ECY)	Sean Hopkins	(509) 575-2804 seho461@ecy.wa.gov
Montana Department of Environmental Quality (MTDEQ)	Kristen Martin	(406) 444-0283 kmartin@mt.gov

Figure 1 Map of DEQ Regional Offices

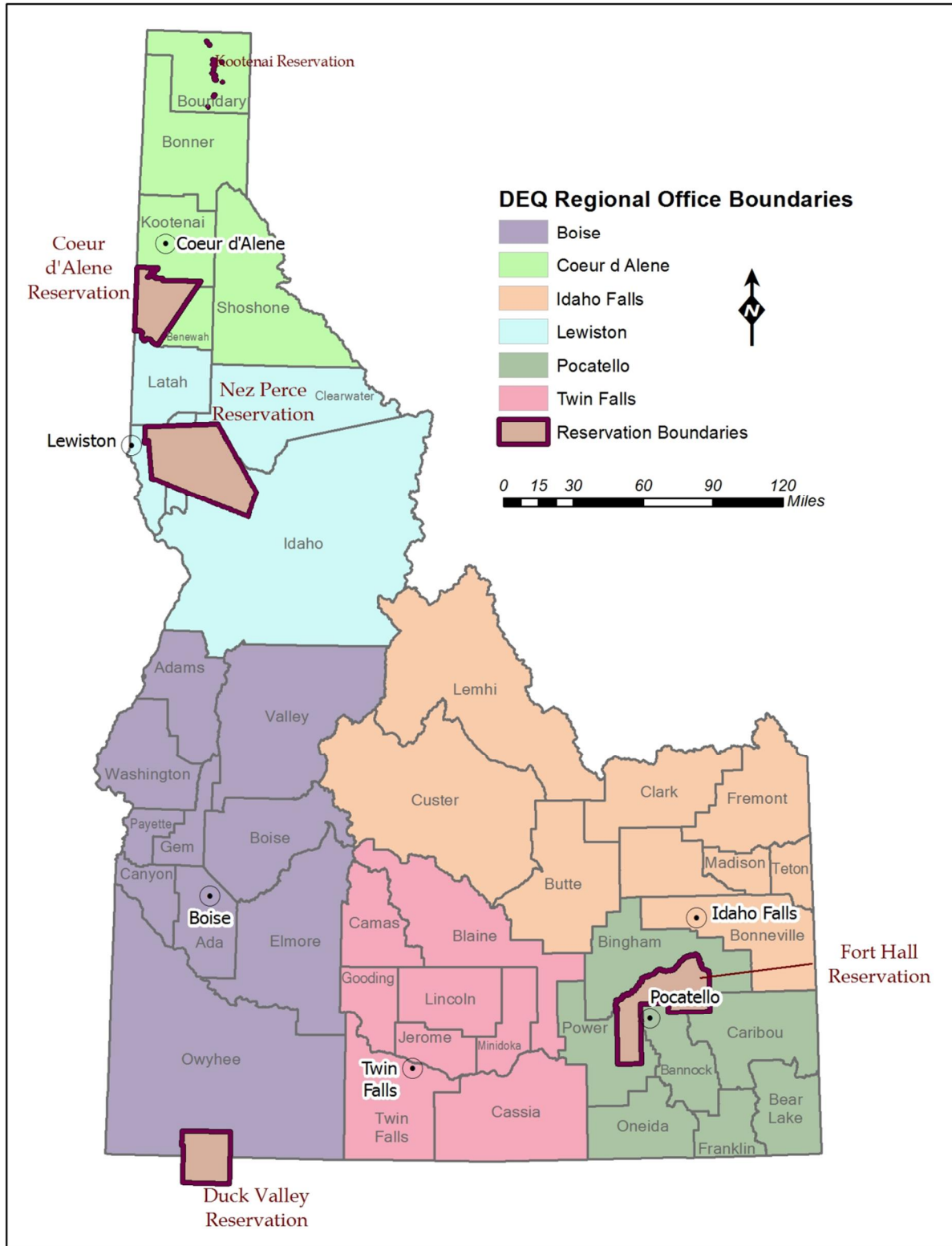
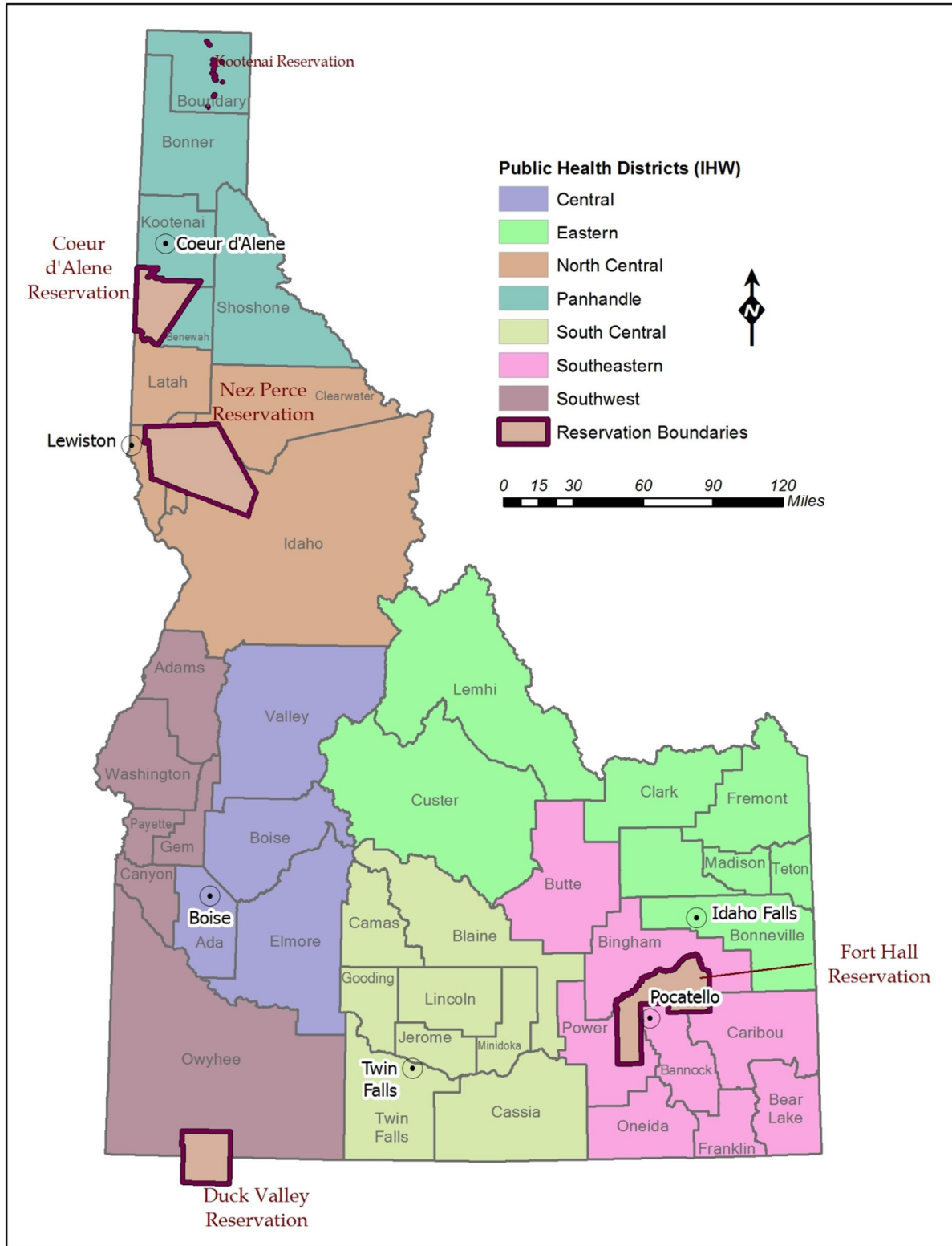


Figure 2 Map of Idaho Public Health Districts



Appendix B

Community Guide for Staying Healthy During Wildfire Smoke Events

Appendix C

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