Lincoln County RESPONSE PLAN TO SMOKE

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# Lincoln County Community Wildfire Smoke Preparedness & Response Plan

**Demographics:**

Lincoln County is located on the western border of Wyoming. As of the 2020 Census, the population was 19,830. This county is bordered to the East by the Wyoming Range and the West by the state of Idaho and Utah. Lincoln County is 4,069 square miles, being over 110 miles long and at its widest part is more than 50 miles wide.

## Summary

This Community Wildfire Smoke Preparedness and Response Plan,

* Will assess smoke and its effects on its citizenry and visitors, with emphasis on the Access and Functional Needs (AFN) population.
* This plan is to discuss the various ways Lincoln County will communicate and notify the public about fire, smoke impacts and air quality
* Considers additional options to address the needs of the smoke-AFN/vulnerable populations
* provides guidance to individuals, organizations, schools and businesses on how to prepare for and respond to unhealthy air days
* Includes a plan and standard operations guide for communication among entities that conduct prescribed fires and/or have a role in wildfire response, local public authority, state and local air quality agencies, the local public health authority, and citizens affected by smoke.
* And creates a framework for creating smoke ready communities across Lincoln County through recommended projects and activities.

## Introduction

Why is this important

The Lincoln County Wildfire Smoke Preparedness and Response Plan will focus on increasing public awareness and engagement related to wildfire or prescribed fire smoke and poor air quality health risks. We want to understand the extent that exposure to wildland fire smoke affects health and productivity, discover what steps people are willing to take to reduce their exposure, and develop health risk communication strategies that improve public health when there is wildland fire smoke in the area.

Each year, Lincoln County, especially in the Star Valley Region, is impacted by smoke from local, national and international wildfires. When prescribed fires are conducted, smoke impacts are taken into consideration to reduce potential public health risks.

In Lincoln County there are ten (10) Air Quality Monitors, showing different air quality measurements. These monitors are located at each of the six (6) fire districts in La Barge, Kemmerer, Cokeville, Afton, Thayne, and Alpine, at the PH office in Kemmerer and in Afton and in Etna and Nordic Ranches (Etna and Nordic Ranches are privately owned)

Air quality is a measure of how clean or polluted the air is. Monitoring air quality is important because polluted air can be bad for our health- and the health of the environment. We measure air quality using two different types of air sensors or monitors. The U.S. Environmental Protection Agency (EPA) maintains a network of expensive “regulatory grade” monitors which are frequently calibrated and maintained by state and local agencies. The closest of these monitors to Lincoln County are in Rock Springs, Pinedale, Preston, ID and Idaho Falls, ID. The other types of air sensors such as those sold by Purple Air are less expensive, less accurate and readily available to the public. There are a number of Purple Air sensors deployed in Lincoln County primarily in the Alpine area. Expanding this crowd sourced network in Lincoln County is one of the goals of this plan. When used together, the EPA’s regulatory network of sensors and the crowd sourced networks such as Purple Air, can provide information needed to adapt your activities when air quality is poor.

## Smoke Impacts

According to the EPA, Evidence indicates that the risk of fine particle (smoke)-related health effects varies throughout a lifetime. Risk is generally higher during childhood, lower in young adulthood, and greater in middle age through old age. Therefore, certain life stages (e.g., children, older adults) and populations (e.g., people with preexisting respiratory and cardiovascular disease) should be particularly diligent about limiting exposure to wildfire smoke.

* **People with asthma and other respiratory diseases.**
  + More than 25 million people in the United States experience chronic lung disease such as asthma, with another 16 million experiencing chronic obstructive pulmonary disease (COPD).
  + Air pollution, such as wildfire smoke, can lead to breathing difficulties and trigger a worsening of their disease. Studies well document that this group is at increased risk of emergency room visits and hospitalization following and unhealthy air event.
* **People with cardiovascular disease**
  + Cardiovascular diseases are the leading cause of death in the United States. Diseases of the circulatory system (e.g., high blood pressure, heart failure, vascular diseases such as coronary artery disease, and cerebrovascular conditions) can put individuals at increased risk of cardiovascular-related events triggered by air pollutants.
  + Following exposure to particle pollution, people with chronic heart disease may experience one or more of the following symptoms:
    - Palpitations, unusual fatigue,
    - Lightheadedness,
    - Shortness of breath
    - Chest tightness
    - Pain in the chest, neck or shoulder.
* **Children (<18 years of age).**
  + All children, even those with no pre-existing illness or chronic conditions, are considered sensitive to air pollution, including wildfire smoke. Compared to adults, children spend more time outdoors, tend to engage in more vigorous activity, and inhale more air (and therefore more smoke) per pound of body weight—all of which can affect the developing lungs. For these reasons, it is important to try to limit children’s vigorous outdoor activities during wildfire events.
  + Symptoms of wildfire smoke inhalation in children include: coughing, wheezing, difficulty breathing, and chest tightness.
  + Air pollution from wildfires can exacerbate asthma symptoms and trigger asthma attacks.
  + Children may also experience significant emotional distress resulting from anxiety and grief following a wildfire. It is important to consider not only the potential physical health implications of wildfire smoke on children, but also the potential longer-term psychological implications.
  + **Pregnant women**
    - During pregnancy, physiologic changes, such as higher respiratory rates and increases in blood and plasma volumes, increases a person’s vulnerability to environmental exposures
    - During critical windows of human development, exposure to wildfire smoke may harm the developing fetus.
    - A few studies have examined potential health effects of wildfire smoke exposure during pregnancy, providing some evidence if impacts on birth outcomes (e.g., reduced birth weight), and that psychosocial stress from the wildfire event itself could affect the developing fetus ( Kumagi et al. 2004; Holstius et al. 2012).
  + **Older Adults**
    - Older adults are at increased risk of health effects from short-term exposures to wildfire smoke because of their higher prevalence of pre-existing lung and heart diseases, and because important physiologic processes, including defense mechanisms, decline with age.
    - Epidemiologic studies have reported greater risks of emergency department visits, hospital admissions and mortality associated with short-term exposures to fine particle pollution in older adults (U.S. EPA, 2009).
  + **Outdoor Workers**
    - Working outdoors during periods of wildfire smoke could result in a range of health effects depending on the underlying health status of the worker. Effects of exposure to wildfire smoke range from eye and respiratory tract irritation to the triggering of and asthma exacerbation or cardiovascular event.

## Means of Communication and Notification to the Public about Fire, Smoke and Air Quality

The primary Agency in Lincoln County focusing on vulnerable and economically challenged populations is Lincoln County Public Health.

Lincoln County Dispatch keeps an updated Controlled burn log used when the public initiates and burns within the county. This log is used to notify the Fire districts and the Lincoln County Sheriff’s Office of these burning activities and also those larger Rx burns done by our federal partners.

Lincoln County Emergency Management and Lincoln County Public Health will share information from jurisdictions having authority when prescribed burning is initiated; utilizing the county web page and social media, local papers, and the local radio station for communications as necessary

## Overview of CodeRed Public Notification System

Lincoln County uses CodeRed to notify you when Air Quality Index reaches the unhealthy stage at or over 151. The CodeRed system requires that you sign up using the following link: <https://www.lincolncountywy.gov/government/emergency_management/emergency_notifications.php>. By signing up you can be automatically notified of an air quality event, you will get emergency notifications for your address, including any specific weather or other emergency alerts that you choose during signup. If there are any questions call Lincoln County Emergency Management for assistance (307)877- 9835.

## Options to Protect Health During a Smoke Event

Lincoln County Emergency Management and partners will work directly to educate the citizens and visitors of Lincoln County to the hazards of smoke. To include but not limited to: useful website links and apps for smartphones, and a smoke brochure in various languages. Our partners will present smoke education through in-person presentations as requested, for our most smoke vulnerable populations at local Senior Centers, schools, and with civic organizations. During these presentations, topics discussed will include indoor air quality, how to read the air quality index and actions to take to reduce smoke exposure.

Lincoln County Emergency Management and Lincoln County Public Health will survey or contact organizations that represent various populations, seeking input on how to enhance outreach to these groups. The results provide direction on how to further mitigate smoke exposure for various residents and methods of communication to reach the various communities

### All-Hazard Section on County Website

Lincoln County would provide a centralized information hub for various hazards, including wildfire smoke. There is already a section dedicated to Emergency Management and preparing for a Wildfire on the County website, we would just enhance it to include the impacts of wildfire smoke. Information on the following would be added to the website:

* Air Quality
* Smoke and your health
* Wildfire information
* How to wear a respirator
* Creating Healthy indoor air
* Preventing Wildfire
* Business preparedness
* Evacuation
* Community Alerts- Code RED

Lincoln County Emergency Management and Public Health will populate the section of the webpage with general information, safety tips and resources for different types of hazards, including wildfire smoke

### Facilities and Clean Air Spaces

To assist those in need, we will coordinate with community partners with facilities and locations that might be used as clean air spaces.

## Communication Plan

Communication provides education to protect the AFN population from negative smoke impacts. This will be a collaborative effort between smoke regulators at Wyoming Department of Environmental Quality Air Quality Division (Wyoming DEQ AQD) to develop protocols of public notifications. Improved communication will enable more residents, especially vulnerable populations to take protective measures and precautions.

It is the intent of this plan to create a direct link to public health entities; Lincoln County Public Health, Star Valley health, South Lincoln Hospital, Kemmerer Senior Center, Cokeville Senior Citizens Center, Salt River Senior Center, Thayne Senior Center, and both School Districts in the county; LCSD #1 and LCSD #2, for burn day communications.

During burn season; decreased air quality and smoke events, the following notifications can be shared from the Jurisdiction having Authority, through multiple formats:

Through the CodeRED system Text and email alerts to subscribers

Seasonal burn and smoke message broadcast to citizens directly.

Through advertising via local media and social media outlets.

Facebook and x (Twitter)

Lincoln County Sheriff’s office

Lincoln County Emergency Management

Lincoln County Public Health

## Partners

We strive to keep a high state of situational awareness amongst all our partners when smoke could affect the population of Lincoln County.

* Agencies conducting Rx burns should attempt to provide Lincoln County Emergency Management Agency (LCEMA) and dispatch current updated location of the planned burn and estimated time of ignition nearer to the days of action. This enables LCEMA to share the agency having jurisdiction’s information to the public with the most current burn information.
* Ideally agencies implementing moderate or high complexity burns will have a best management practice to coordinate notifications with Lincoln County Emergency management to enact this plan.

Partners:

Lincoln County Emergency Management Lincoln County School Districts #1 and #2

Lincoln County Sheriff’s office 5 Senior Centers throughout the county

Lincoln County Public Health 6 Fire districts throughout the county

USFS BTNF, PIO, Fire and Resource State of Wyoming

Advisor Divisions Game and Fish

BLM, KFO, PIO, Fire and Resource Wyo Div of Forestry

advisor divisions

## Places for Medical Information

**Lincoln County Public Health**

421 Jefferson, Suite #401

Afton, WY 83110

520 Topaz, Suite 109

Kemmerer, WY 83101

**Star Valley health**

110 Hospital Ln

Afton, WY 83110

**South Lincoln Hospital District**

711 Onyx St

Kemmerer, WY 83101

## BROCHURE

[Smoke Ready Brochure 2022.pdf - Google Drive](https://drive.google.com/file/d/1znBiiRmNRdVHJCBwQIc0p7ZNQ7pQqwgR/view)

[Protect Your Health During Wildfires (lung.org)](https://www.lung.org/getmedia/695663e2-bdb8-4a61-9322-02657f530b99/protect-your-health-during-wildfires-5-29-2020-%281%29.pdf)

## LINKS

Websites links about smoke and fire in the area.

AirNow.gov EPA and USFS Fire and Smoke Map <https://fire.airnow.gov>

Smoke Sense App <https://play.google.com/store/apps/details?id=sti.com.ewhsa&hl=en_US&gl=US&pli=1>

Smoke Sense web page <https://www.epa.gov/air-research/smoke-sense-study-citizen-science-project-using-mobileapp>

American Lung Association

Protect Your Health During Wildfires (lung.org)

Teton Inter-Agency Dispatch Center

https://gacc.nifc.gov/gbcc/dispatch/wy-tdc/home/

Living with Smoke <https://extension.unr.edu/publication.aspx?PubID=4626>

MTBS: Monitoring Trends in Burn Severity, is an interagency program whose goal is to consistently map the burn severity and extent of large fires across all lands of the United States from 1984 to present. This includes all fires 1000 acres or greater in the western United States and 500 acres or greater in the eastern Unites States. The extent of coverage includes the continental U.S., Alaska, Hawaii and Puerto Rico.

<https://www.mtbs.gov/>

Be Smoke Ready <https://www.airnow.gov/wildfires/be-smoke-ready/>

Interagency Wildland Fire Air Quality Response Program

IWFAQRP - Smoke Ready (wildlandfiresmoke.net)

♣ Reduce Your Smoke Exposure

♣ Protecting Children from Smoke and Ash

♣ Protect Your Pets

♣ Protect Large Animals and Livestock

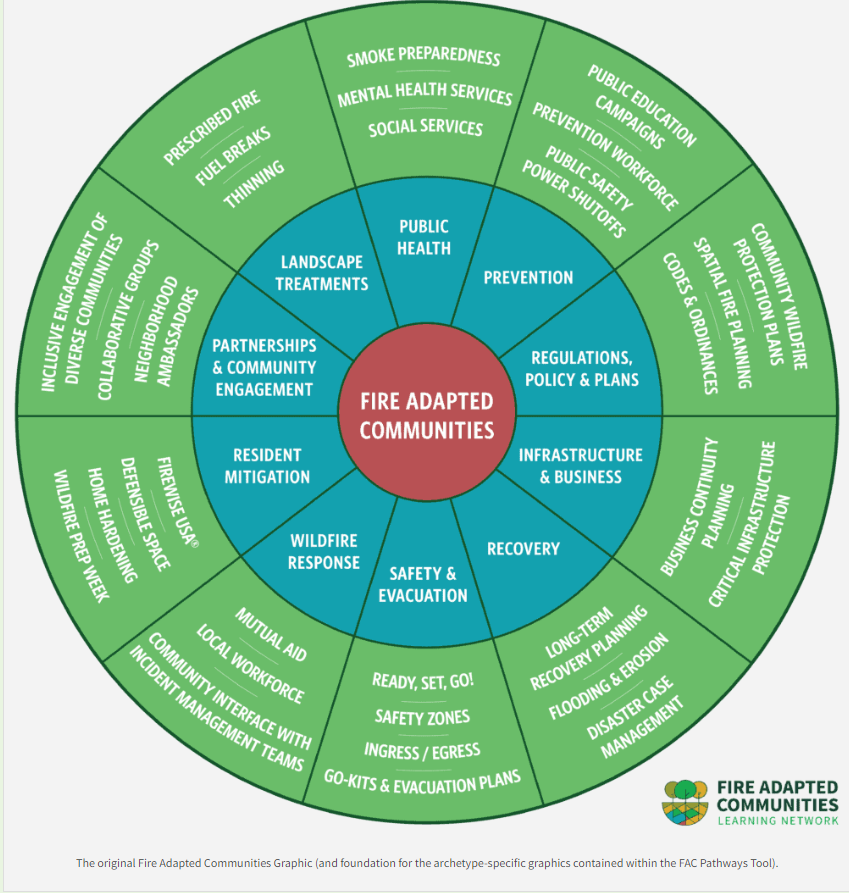
♣ Fire Mask / Respirator Use

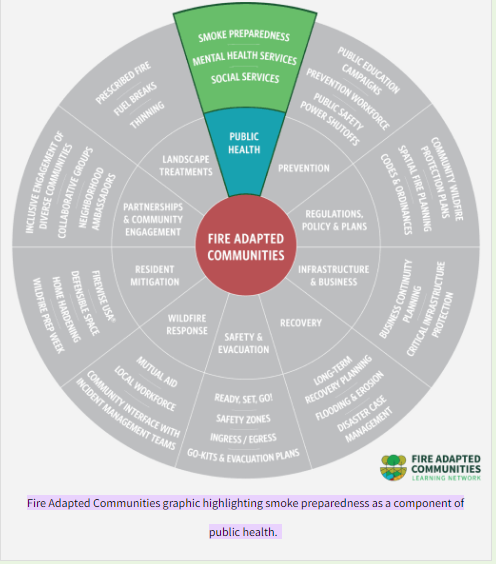
Fire Adapted Communities Learning Network

<https://fireadaptednetwork.org/smoke-adaptation-is-fire-adaptation/>

EPA Smoke-Ready Toolbox for wildfires

Smoke-Ready Toolbox for Wildfires | US EPA







A computer screen shot of a diagram

Description automatically generated with low confidence