

# Smoke Communication Strategy

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# A - Smoke Communication Strategy

The purpose of this communication strategy is to provide factual talking points about smoke that can be used during prescribed fires, response to wildland fires, and fires occurring outside the park. These points will be incorporated into various communication methods employed by the parks in reference to fire and fuels management (i.e. news releases, public meetings, interpretive programs, etc.). For more information on communication methods, please refer to the Public Information and Education section of Chapter 3 in this document and also the *Standard Operating Procedure for Fire and Fuels Information*.

The key to a successful strategy is targeting the right people (audiences) in the right ways (methods) with the right messages (talking points). During a fire incident, there are specific smoke messages that can be integrated into the general fire information effort.

## AUDIENCES

- Superintendent and Division Chiefs
- All employees and their families (including NPS, SNHA, USGS, concessions, and volunteers)
- Park visitors (including in-park visitors, internet visitors, and special groups)
- In-park communities – Wilsonia, Silver City, Mineral King cabins, Oriole Lake
- Neighboring communities – Three Rivers, Badger, Pinehurst, Miramonte, and east side communities including Bishop, Lone Pine, Independence and Mammoth Lakes
- San Joaquin Unified Air Pollution Control District. While the SJVUAPCD maintains regulatory authority over the parks for the Clean Air Act, the Great Basin Air Pollution Control District is also a target audience when smoke from wildfires impacts that basin.

## METHODS

### During a Fire Incident

Clearly outline the authority given to park supervisors to minimize smoke impacts to their employees. Employees can notify supervisors if they are having adverse impacts from smoke. Alternative work schedules and locations will be arranged where appropriate.

- Hold Open House/Town Meeting for employees and residents in smoke affected areas.
- Operate particulate monitors in affected areas. Be prepared to move or add monitors. Start monitoring early in the incident.
- Provide daily air quality information, which interprets the particulate monitor data.
- Set up a smoke hotline (phone) to handle smoke complaints.
- Leave flyers on employee doorsteps with tips to decrease exposure.
- Post on bulletin boards.
- Disperse information by email, voice-mail, and fax
- Use the park webpage as a vehicle for dispersing daily air quality information.
- Give air quality conditions during the daily weather report on park radio.

### Year-round Actions

- Incorporate air quality messages into year-round public outreach: interpretive programs, public meetings, press releases, etc.

- Offer special air quality seminars or trainings to help locals understand regional air issues.

## SMOKE TALKING POINTS

In addition to general fire messages/information, the following talking points on smoke should be included in public information. Each talking point includes an example of language that might be used in updates, news releases, articles, presentations, etc. The talking points are organized in groups according to when they will be used (i.e. specific times during the year or different types of incidents): Year-round, Early Fire Season, Announcing a Planned Smoke Event, Responding to an Unplanned Smoke Event, and During Long-Duration Smoke Event. These talking points can be seen “at-a-glance” in a chart at the end of this section.

### Year-round

Wildland fire smoke fits into a larger regional air quality situation.

*Example:* “The scenic vistas in the parks, especially in the summer, are highly obscured by regional haze. Haze is caused when sunlight encounters tiny particles in the air. These particles may be the result of either natural events or human activities. According to the local Air District, over 95% of the particulate pollution in our area originates from Central Valley sources (i.e. motor vehicles, industrial fuel burning, manufacturing, and agriculture). Less than 5% comes from wildland fire in the Sierra Nevada” (From SEKI’s “*Fire & Fuels Management*” newspaper).

Smoke, like fire, is a natural ecosystem component.

*Example:* “Is there a bright side to all this talk about smoke? While it is a health concern for humans, plants have adapted to live with smoke just as they have many other natural elements of the environment. Scientists are discovering that some plants might even depend on smoke for their survival. A scientific study looked specifically at the low elevation chaparral plant communities. In the laboratory, scientists exposed various seeds to heat and charring, as in a fire, and certain species remained dormant. When the same seeds were exposed to smoke, germination occurred. While some plants, like the giant sequoia, use heat from fires for seed dispersal, it now appears that other plants rely on smoke for germination” (From SEKI’s “*Story of Fire*” newspaper, out of print).

Visitors, residents, and gateway communities should expect to see smoke in Sequoia & Kings Canyon National Parks at any time, but particularly in the late summer and early fall.

*Example:* “Regional haze and localized smoke from fire was historically part of the Sierra Nevada viewscape. Historically, lightning fires that spread naturally burned through the late summer and early fall months. These fires would slowly smolder with the cooler and shorter days and eventually be extinguished by rain or snow (known as a season-ending event).

*Example:* “Fire managers in Sequoia & Kings Canyon National Parks take advantage of natural lightning strike fires in an attempt to restore a natural fire cycle and regime in the parks. Smoke from these fires will likely be visible from certain locations in the park, particularly in the late summer and fall. Additionally, the fall months provide excellent prescription windows for fire managers to complete projects that meet the desired community protection and ecological goals of the park.”

## Early Fire Season

Park managers are sensitive to smoke impacts for visitors and employees.

*Example:* “The Sequoia and Kings Canyon fire and fuels management program is committed to balancing the needs of park resources and people. While fire has always been a natural part of this ecosystem, our current society presents unique conditions. Today, there are more people than ever living near or visiting Sequoia and Kings Canyon. Every fire management action considers this fact when determining incident objectives.”

The parks work closely with the San Joaquin Valley Unified Air Pollution Control District to balance the fire and fuels management program with health and visibility issues.

*Example:* “The Air District is currently classified as “Serious Non-Attainment” for both ozone and PM-10. To help the district achieve the National Ambient Air Quality Standards, Sequoia and Kings Canyon burns during optimal weather conditions, utilizes optimal ignition techniques, estimates project emissions, projects the anticipated smoke plume path, provides extensive public education/awareness, and coordinates with neighboring land management agencies and air districts.”

There are ways for park residents and neighbors to reduce their exposure to smoke.

*Example:* “Smoke concentrations can be avoided by following a few simple rules. Close windows, doors, and outside vents when it is smoky to prevent accumulations indoors. Run your air conditioner, if you have one. Keep the fresh air intake closed and keep the filter clean. Ventilate your home and work place during periods of little smoke. Avoid physical activities while smoke is dense.

*Example:* “Residents of communities affected by smoke from wildland fires and prescribed fires are encouraged to practice good health habits. A healthy immune system is the best protection against the effects of smoke. Immune function is enhanced with regular moderate physical activity, good nutrition, hydration, and adequate rest” (From USDA Forest Service publication *Health Hazards of Smoke: Spring 2001*).

Breathing smoke is not healthy for anyone, but some people are at greater risk.

*Example:* “People with heart or lung disease, such as congestive heart disease, chronic obstructive pulmonary disease, emphysema or asthma are at greater risk. Children and the elderly are also more susceptible to smoke. These people are advised to use caution and avoid physical activity while heavy smoke is present.”

*Example:* “The risks of occasional exposure to fine particulate and other components of vegetative smoke are minimal for healthy individuals. However, elevated levels of smoke that persist for months or years increase the risk of heart and respiratory disease, especially among the elderly and individuals with pre-existing respiratory or cardiovascular illness” (From USDA Forest Service publication *Health Hazards of Smoke: Spring 2001*).

The *Air Quality Index* (AQI) is one tool that helps managers, employees, and visitors quantify daily air quality conditions.

*Example:* “Established by the Environmental Protection Agency and adopted by the states, the Air Quality Index (AQI) is a tool for reporting daily air quality conditions (based upon a 24-hours average). Using numeric information from sensors like particulate monitors, the AQI tells you how clean or polluted your air is, and what associated health concerns you should be aware of. The AQI focuses on health effects that can happen within a few hours or days after breathing polluted air. You can think of the AQI as a yardstick that runs from 0 to 500. The higher the AQI value, the greater the level of air pollution and the greater the health danger. The Index identifies six conditions: good (0 to 15), moderate (15 to 40), unhealthy for sensitive groups (40 to 65), unhealthy (65-150), very unhealthy (150-250), and hazardous (over 250).” (Park Visitor Centers have wooden exhibits that display this information daily.)

### Announcing a Planned Smoke Event

During prescribed burns, fire managers utilize smoke management techniques.

*Example:* “The entire burn segment is 925 acres, but is split into two sections for smoke management reasons. A fire line has been constructed inside the segment where the fire can be held if smoke production is a problem. The burn boss plans to ignite 30-40 acres per day to minimize smoke output. This will increase the duration of the smoke event but will decrease the ambient level of smoke at any one time.”

Due to the deliberate nature of prescribed fire, audiences can be notified prior to the smoke event about what to expect.

*Example:* “During the week of ignition, visitors traveling through the area will smell and possibly see smoke. Smoke will likely be visible from [specific location]. The smoke will most likely settle in lower elevations during the early morning.”

The park has the ability to monitor particulate levels in Sequoia and Kings Canyon National Parks during smoke events.

*Example:* “As soon as the park anticipates a smoke event that may affect people, air quality technicians begin operating a Smoke and Weather Monitoring Module. This mobile unit measures particulate levels in the air. Particulates are solid particles produced by things like vehicle emissions, agricultural activities, and fires. The module records levels every hour and then computes a 24-hour average which correlates to the National Ambient Air Quality Standards (NAAQS) established by the Environmental Protection Agency (EPA). This data is retrieved hourly.

Some characteristics of smoke accumulation are predictable because they are based on daytime and nighttime winds.

*Example:* “Up-slope or up-canyon breezes occur during the day which will often take smoke into higher elevations. At night, these winds change direction and bring smoke down-slope to the lower elevations.”

Some characteristics of smoke accumulation are not predictable since they are dependent on atmospheric conditions.

*Example:* “With unstable atmospheric conditions, smoke from wildland fires is mostly lofted up to very high elevations where it disperses. When atmospheric conditions are stable, perhaps with an inversion layer, smoke can be trapped at lower elevations.

Small fires prevent larger fires. Therefore smaller smoke events prevent larger smoke events.

*Example:* Every acre that burns under favorable conditions helps prevent the larger, unwanted fire and its smoke event.”

#### Responding to an Unplanned Smoke Event

Small natural fires have the potential to become large fires.

*Example:* “Burning in heavy mixed conifer fuels, the newly discovered [Name] Fire has the potential to expand across hundreds of acres over the next several months. A “season-ending event” bringing more than ½-inch of rain over a 3-day period usually occurs in October.”

There are ways of minimizing smoke in a fire use project without fully suppressing the fire.

*Example:* “While the park hopes to maximize resource benefits by allowing this fire to spread naturally, managers have at least two ways of reducing smoke in special situations. When safe, crews can install fire line in strategic locations to contain certain areas of the fire. In extreme smoke situations, fire managers can drop water on hotspots. Unlike water drops in suppression actions, these drops are not meant to halt fire movement, but slow it down and reduce smoke.”

#### During Long-Duration Smoke Event

Use all of the talking points above and hold an open house/meeting to respond to community, public, and employee needs.

#### After the Incident

Sequoia & Kings Canyon National Parks appreciate the patience of visitors, residents, and gateway communities during the incident and its associated smoke event.

*Example:* The fire management program considers smoke management in every step of the program. We know that the mountain communities surrounding the park are affected by our management decisions. We attempt to find a balance in the program that addresses your concerns while also returning natural fire to the landscape to reduce the risk of larger, unwanted fires and to achieve the ecological benefits of natural fire. The parks appreciated your patience and understanding during this period.

Table I-1 – Smoke Talking Points At-A-Glance

Year-round	Early Fire Season	Announcing a Planned Smoke Event	Responding to an Unplanned Smoke Event	During Long Duration Smoke Event	End of Season or After a Smoke Event
1. Wildland fire smoke fits into a larger regional	4. Park managers are sensitive to	9. During prescribed burns, fire	15. Small natural fires have the potential to	Hold an open house or a public meeting	Sequoia & Kings Canyon National Parks appreciate

air quality situation.	smoke impacts for visitors and employees.	managers utilize smoke management techniques.	become large fires.		the patience of visitors, residents, and gateway communities during the incident and its associated smoke event.
2. Smoke, like fire, is a natural ecosystem component.	5. The parks work closely with the San Joaquin Valley Unified Air Pollution Control District to balance the fire and fuels management program with health and visibility.	10. Due to the deliberate nature of prescribed fire, audiences can be notified prior to the smoke event about what to expect.	16. There are ways of minimizing smoke in a fire use project without suppressing the fire.		
3. Visitors, residents, and gateway communities should expect to see smoke in the parks, particularly in the late summer and early fall.	6. There are ways for park residents and neighbors to reduce their exposure to smoke.	11. The park has the ability to monitor particulate levels in Sequoia & Kings Canyon National Parks during smoke events.			
	7. Breathing smoke is not healthy for anyone, but some people are at greater risk.	12. Some characteristics of smoke accumulation are predictable because they are based on daytime and nighttime winds.			
	8. The <i>Air Quality Index</i> (AQI) is one tool that helps managers, employees, and visitors quantify daily air quality conditions.	13. Some characteristics of smoke accumulation are not predictable since they are dependent on atmospheric conditions.			
		14. Small fires prevent larger fires. Therefore smaller smoke events prevent larger smoke events.			

## Other Sources of Information

- Local Air District
- Air Quality Specialist in the park
- California Air Resources Board Public Education Protocol  
[www.arb.ca.gov/smp/progdev/pubeduc/outreach\\_protocol.htm](http://www.arb.ca.gov/smp/progdev/pubeduc/outreach_protocol.htm)
- National Interagency Fire Center – [www.nifc.gov](http://www.nifc.gov)
- Environmental Protection Agency – [www.epa.gov/airlinks/](http://www.epa.gov/airlinks/)

## Example of Materials

The following list identifies some possible materials for public use. Since most of them predate this *Smoke Communication Strategy*, they serve only as examples and are not templates for this document.

- *Do You Smell Smoke? or Where there's fire there's smoke* – General description of where smoke is coming from and some simple steps for reducing exposure.
- *Smoke and Your Health* – Questions and answers about wildland fire smoke and health.
- *Smoke Generated by Wildland Fires* – Describes PM-10, the Air Quality Index, and the use of particulate monitors. (example from SEKI)
- *NPS Using Portable Module for Smoke/Weather Monitoring* – Describes the purpose and operation of mobile monitoring stations. (example from SEKI)
- *Smoke Complaint Log* – Sample sheet for cataloging smoke complaints during a fire event. (example from SEKI)