

## Primer on managing fire and air quality in wilderness

Fire management and air quality management create immediate potential for conflict. For many wilderness areas, the natural quality of wilderness character is degraded without naturally occurring fire. Under many circumstances, agencies may need to use prescribed fire to preserve the natural quality of wilderness character where: 1) to restore conditions where past fire management practices have led to heavy fuel loading, and prescribed fire is necessary before naturally occurring fire can allowed, and, 2) where land use or management issues exist in the region that would not allow for naturally occurring fire to occur at natural frequency or intensity and so must be replaced or augmented by prescribed fire. Yet burning and creating smoke may conflict with the responsibility to protect air quality, not just of the wilderness, but the surrounding area, especially where population centers exist and smoke may impact sensitive groups. Controlling fire is in conflict with the responsibility to manage wilderness as untrammelled. However, wildfires burn at times and under conditions that may create greater amounts of smoke than a management timed prescribed fire. These are just some of the complexities managers face with fire management in wilderness.

The EPA acknowledges that the carefully planned use of prescribed fire may help reduce the occurrence of wildfires and the risk of wildfires having greater impacts on air quality.

Many fires may be classified as Exceptional Events. An Exceptional Event is a human or natural caused event which results in emissions that exceed the National Ambient Air Quality Standards (NAAQS), is not reasonably controllable or preventable, and is unlikely to recur at a particular location. Exceedance of the NAAQS is not considered in air quality management decisions if it is from an Exceptional Event.

### Wildfire

If exceedance of NAAQS is proven to be from a wildfire, it can be classified as an Exceptional Event.

### Prescribed fire

If smoke from a prescribed fire results in exceedance of a NAAQS, the prescribed fire could be considered an exceptional event if it meets all of the criteria identified in the Exceptional Events Rule. To comply:

- The prescribed fire must advance progress towards restoring and/or maintaining a sustainable and resilient wildland ecosystem
- The prescribed fire cannot be reasonably preventable
  - a multi-year land or resource management plan must state an objective to establish, restore and/or maintain a sustainable and resilient wildland ecosystem and/or to preserve endangered or threatened species through the use of prescribed fire
- The prescribed fire must be unlikely to recur at the particular location
  - the frequency that burns must be conducted consistent with the natural fire return interval needed to establish, restore and/or maintain a sustainable and resilient wildland ecosystem
- The State must have either adopted and implemented a smoke management program or the burn manager must employ Basic Smoke Management Practices (BSMPs)
  - If utilizing BSMPs, land managers, fire managers, and air agencies must collaborate to select and apply appropriate BSMPs

The application of a prescribed fire must be consistent with a multi-year land or resource management plan and a prescribed fire burn plan. The Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide provides guidance for preparing burn plans.

It may be necessary to operate emergency episode air quality monitoring stations to assess smoke impacts from prescribed fire, wildland fire use, or wildfire. The agency should work with air quality regulatory agencies in operating such monitoring stations when needed. PM<sub>2.5</sub> is the most significant of the regulated pollutants and it may also be important to monitor PM<sub>10</sub>, carbon monoxide, and ozone in some circumstances.

Special considerations must be taken to address smoke when the project is in a non-attainment or maintenance area for National Ambient Air Quality Standards. The General Conformity Rule requires federal agencies conform to the State Implementation Plan (SIP).

- Prescribed fires conducted in accordance with a State Smoke Management Program are presumed to conform.
- Prescribed fires conducted by a federal agency is the application of Basic Smoke Management Practices (BSMPs) as long as public notice and comment is allowed for before the action is taken are presumed to conform.
- Demonstrate the emissions from prescribed fires will not exceed NAAQS.

In general, it is in the best interests of land managers who rely on the use of prescribed fire in or near a non-attainment area to assist with state efforts because planning a prescribed fire can face greater restrictions, documentation requirements, and analysis.

- Coordination and discussions with smoke management regulatory agencies before, during, and after prescribed fires is essential. These discussions are anchored by mutual understandings of long-term prescribed fire program goals, the role and external pressures influencing regulator actions, and the relationships and trust by all involved.
- Smoke can often create enormous problems when projections are absent or inaccurate and when actual conditions change but are not communicated to affected and interested parties. Public health and safety issues caused by smoke, when cities, airports, and highways become “unexpectedly” smoked in, can be a major concern.
- The longer the duration of the prescribed fire, the greater the likelihood of significant smoke impacts or long-range impacts.
- For long-duration prescribed fires, daily smoke management forecasts may not be adequate. Forecasts that address the long-term stability of the air mass and what changes can be expected over time should be obtained.
- Long-term smoke impacts need to be accounted for and management coordinated with air or smoke regulators (or both), as it is significantly more complex than a single, one-day pulse of smoke.