



Why Use Prescribed Fire?

Prescribed fire, also known as controlled burning, offers several important benefits to both ecosystems and human communities when conducted under carefully planned conditions. **Key benefits include:**

Wildfire Risk Reduction: prescribed fire reduces the buildup of flammable vegetation (fuel) in forests, grasslands, and brushlands. By burning off accumulated dead vegetation and understory growth in a controlled manner, prescribed fire decreases the likelihood of intense wildfires that can threaten lives, property, and natural habitats. It creates firebreaks and reduces the overall fuel load, making it easier for firefighters to manage wildfires.



Photo: Jared Childress, CCPBA

Ecosystem Health and Habitat Improvement: Many ecosystems, such as Oak savannas and Coastal prairies, have evolved with fire as a part of their ecology. Prescribed fire restores these fire regimes, promoting the health and biodiversity of these ecosystems, while stimulating the germination of certain plant species, clearing out invasive plants, and promoting the growth of native vegetation that is adapted to fire.



Photo: Alex Michel, CCPBA

Cultural and Historical Significance: Fire has been used for thousands of years by indigenous peoples around the world as a tool for land stewardship. Prescribed fire continues to be an important cultural practice for many Tribes, preserving traditional ecological knowledge and fostering cultural continuity.

In summary, prescribed fire offers a range of benefits for ecosystems, wildlife, communities, and cultural practices when implemented thoughtfully and with appropriate planning and management. It is a valuable tool for maintaining healthy landscapes and reducing the risk of catastrophic wildfires.



Photo: Shmuel Thaler, Santa Cruz Sentinel

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Why is Prescribed Fire Safe?

Here are several reasons why prescribed fire can be conducted safely:

Detailed Planning: Before conducting a prescribed fire, experts carefully assess factors such as weather conditions, fuel moisture content, topography, and potential smoke dispersion. A detailed plan is developed to ensure the fire can be safely managed, and that clear objectives are set.



Photo: Spencer Klinefelter, CCPBA

Trained Personnel: Prescribed fires are typically managed by trained and experienced practitioners who understand fire behavior, safety protocols, and how to manage fire effects. They use specialized equipment and follow established procedures to ensure safety.

Environmental Conditions: Prescribed fires are only conducted under favorable environmental conditions, such as appropriate humidity levels, wind speeds, and temperature ranges. These conditions help prevent the fire from spreading uncontrollably and reduce the risk of unintended consequences.

| Prescription Parameters | | | |
|-----------------------------|----------------|---------|---------------|
| Element | Minimum (cool) | Desired | Maximum (hot) |
| Temperature (F) | 50 | 70 | 90 |
| Relative Humidity (%) | 65 | 30 | 20 |
| Mid-Flame Wind Speed | 0 | 3 | 5* |
| Fine Dead Fuel Moisture (%) | 12 | 7 | 5 |
| Probability of Ignition (%) | 20 | 50 | 60 |

Prescription from a burn plan

Control Lines and Safety Measures: Prescribed fires, being planned, always have control lines around their edges. These can range from roads to existing trails to creeks, and often have personnel and water resources on them in order to help hold the fire within the unit.



Photo: Jared Childress, CCPBA

Post-Fire Monitoring and Evaluation: After the fire is extinguished, monitoring continues to assess its effectiveness in achieving management objectives and to ensure there are no lingering safety concerns.



Photo: Alex Michel, CCPBA