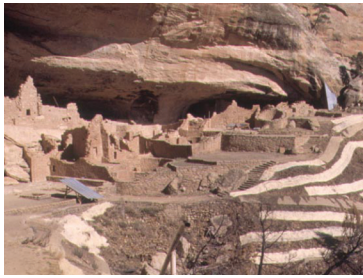




# Burned Area Restoration

## *Learning from and about Fire*

*Planned or not, fires affect human, plant, and animal communities in and near them. Park scientists work in partnership with other professionals and agencies to study these effects and continuously improve fire management.*



The areas burned by wildland fire at Mesa Verde National Park in Colorado were rehabilitated by using matting (above top) to hold soils and seeding (above) to return native species.



Specialists test for water repellent soil after a wildfire at Zion National Park.

### Smoke Impacts

The National Park Service works closely with state and local air-quality agencies to reduce the impact of smoke on visitors, neighbors, and employees.

While large, unplanned fires can produce tremendous amounts of smoke, prescribed fires are carefully executed to minimize the impact of smoke on the public. We have learned that prescribed fires can minimize the spread of larger fires that would produce significantly more smoke.

### Rehabilitation of Burned Areas

Wildland fires and fighting them sometimes cause damage requiring rehabilitation. Steep areas may need to be mulched for erosion control. Monitoring, removal of exotic species, and selective planting could be necessary to encourage the return of native species. Archeological sites and features may require mapping, stabilization, or additional preservation work.

### Monitoring and Research

Scientists and technicians have studied the effects of fire in national parks since the early 1950s. They carefully compare plants growing before and after prescribed fires in study plots, where subtle ecological changes can be measured.

Their discoveries help park managers better accomplish their mission of protecting park resources. Researchers at Everglades National Park in Florida found that 33 native plant species in the Everglades depend on fire for long-term survival. Restoration research at Dinosaur National Monument in Utah and Colorado has increased native grasslands with the prescribed burning of unnatural concentrations of sagebrush at critical growth stages.

At Yosemite National Park in California, research showed that white fir trees act as ladders that fire can use to climb into the crowns of giant sequoia trees. Prescribed fire is now used to replicate the once naturally occurring ground fires to kill white fir trees and help protect the giant sequoia groves.



Monitors measure and record fire behavior and fire effects information to assess subtle ecological change.