Fire Management

Fire Management Practices in the Saguaro Wilderness Area and the Gila-Aldo Leopold Wilderness Complex

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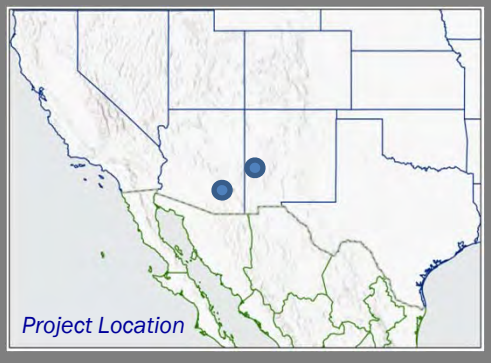
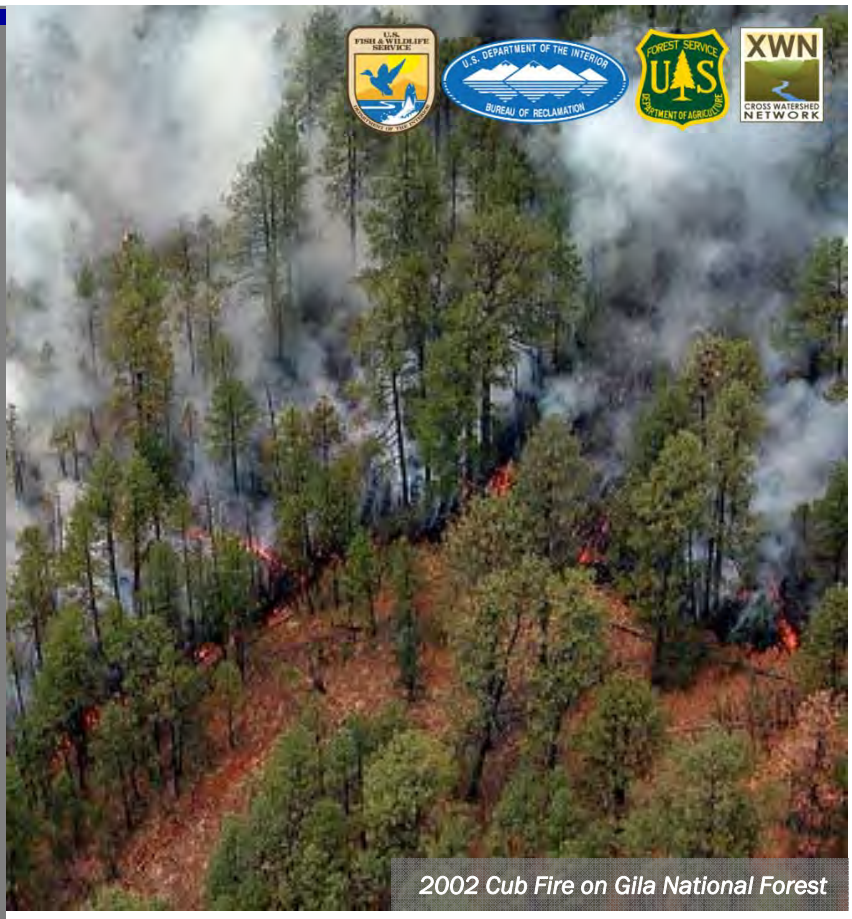
Managers of the Gila and Aldo Leopold Wilderness Complex (GALWC) in New Mexico and the Saguaro Wilderness Area (SWA) in Arizona have allowed fire to play a natural role for decades. Researchers with Northern Arizona University, the U.S. Forest Service, and the National Park Service used a combination of approaches to document and synthesize the historical role of fire and the effects of contemporary fire programs on critical resources in the GALWC and SWA. The resulting report also outlines common challenges in implementing fire management practices and lessons for how to address them.





2002 Cub Fire on Gila National Forest

KEY ISSUES ADDRESSED

Fire suppression has been the dominant fire management strategy in the West over the last century. In forests adapted to frequent fire, this practice has contributed to declining ecological conditions, large build-up of fuels, and increased potential for large, high-intensity wildfires that result in irreversible changes to vegetation composition. In effort to restore historic forest structure, managers are increasingly relying on fire as a relatively affordable, landscape-scale restoration tool. Systematically summarizing information and lessons learned from decades of fire management in the two study areas will help inform management practices in other areas where the use of fire as a restoration tool at landscape scales is in its infancy. Information from these decades of fire management needed to be summarized in a product that will be usable for other managers.

PROJECT GOALS

- Use literature, fire occurrence data, and discussions with managers to summarize the effects and lessons learned resulting from several decades of fire management in the two study areas
- Synthesize this information into a comprehensive report that can be used to inform fire management programs throughout the region

SPREAD LIKE WILDFIRE

Many forest management units throughout the Southwest are increasing their use of wildfires to meet resource management objectives in ways similar to those documented in the two study areas.

Burned Ponderosa Pine Forest in Saguaro National Park

PROJECT HIGHLIGHTS

Literature Review: Peer-reviewed and grey literature on fire ecology and management practices were reviewed for both study areas. The information was used to outline fire regime and management history divided into eras according to major human-caused interventions in fire regimes.

Land-Manager Interviews: The authors interviewed several managers (both current and retired) from a variety of disciplines in each study area. Those interviewed represent over 200 years of cumulative fire management experience in these study areas; they provided invaluable insight into the challenges and processes of implementing innovative fire management strategies.

Updating Historical Fire Atlases: To document the landscape scale patterns of fire occurrence over time resulting from changing management strategies, fire history atlases published previously were updated using data obtained from the National Park Service, The U.S. Forest Service, and the Monitoring Trends in Burn Severity database.

Collaborators and Funding Partners

- See online for full list of collaborators and funding partners

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Photos courtesy of Molly Hunter, University of Arizona.

LESSONS LEARNED

Wildfire and prescribed fire have been effective restoration tools in the SWA and GALWC to reduce fuels, restore forest and landscape structure, and reduce the potential for intense wildfire.

The majority of each study area has experienced prescribed and/or wildfires at least once since the end of the fire suppression programs in the mid 1970s. The resulting mosaic of burn intervals supports additional use of fire on the landscape and flexibility in managing prescribed and wildfires.

Managers in both study areas have invested a great deal in public outreach, which ultimately has increased public acceptance of prescribed fire and wildfire programs.

The history of frequent fire makes both of these study areas ideal for using fire as a restoration tool. Challenges for broader use of fire include proximity to private property and urban areas; potential harm to threatened and endangered species; risk of escape into neighboring jurisdictions; and potential spread of invasive species following fire.

NEXT STEPS

- Use information compiled in the report to promote the use of fire as a restoration tool to create more resilient and resistant forest ecosystems
- Develop similar reports that synthesize fire regime and management histories, as well as lessons learned from similar fire management programs

PROJECT RESOURCES

For more information on this project, contact Molly Hunter: mollyhunter@email.arizona.edu

For additional project resources and case studies, visit the Collaborative Conservation and Adaptation Strategy Toolbox: WWW.DESERTLCC.ORG/RESOURCE/CCAST

Gila National Forest