



Burned Area Learning Network

The goal of the Burned Area Learning Network (BALN) is to improve scientific understanding, policy and management practices for burned areas to enhance long-term resilience of ecological systems and provide for human safety.

POST-FIRE ISSUES

- The expansion of severe fires results in significant impacts to ecosystem composition, structure and function.
- Post-fire watershed damage profoundly impacts federal forest landscapes and communities off federal lands.
- Multiple agencies and organizations are responding with their own mandates, so communication and collaboration are ad hoc and not always effective.

In the U.S. over 12 million acres of former forestland are now treeless because of wildfire. Post-fire processes—erosion, flooding, invasive species incursion and loss of watershed function—can last for decades, and have profound impacts on species reliant on intact forests and on communities far outside the original fire boundary. Post-fire rain events on denuded slopes can cause flooding 100 times greater than in pre-fire conditions. These impacts can continue a decade after the fire. While federal interagency BAER programs are helpful, their expertise and projects are available for a short period of time (1-3 years post-fire).

Post-fire response and funding coordination are weak. Multiple agencies—USFS, U.S. Army Corps, NRCS, FEMA, SWCDs, NOAA, USGS and other local and federal emergency management agencies—all play important roles, but communities can feel overwhelmed and are typically ill-prepared to engage with these entities.

THE TRUE COSTS OF WILDFIRE

The full cost of wildfire includes direct fire-related casualties and natural resource and property losses, as well as longer term costs that emerge later. These losses—due to flooding, erosion impacts on air and water quality, healthcare costs, business disruption and water and transportation infrastructure damage—are anywhere from two to thirty times greater than the cost of suppression alone. A recent Headwaters Economics study found the cost of suppressing a wildfire was only nine percent of the full economic impact.

- California's 2013 Rim Fire destroyed 11 homes and cost \$127 million to suppress; it also caused private property losses that could be as large as \$265 million, and a loss of environmental benefits that could be as large as \$736 million.
- New Mexico's 2011 Las Conchas Fire destroyed 63 homes and cost \$48 million to suppress; massive post-fire flooding damaged archaeological sites, forced the shutdown of Albuquerque's drinking water intake and devastated the traditional homelands of Santa Clara Pueblo.
- Initial reports suggest California's 2015 Valley Fire, which killed four people and destroyed 1,958 structures, caused over \$1.5 billion in economic losses, and more than \$925 million in insured losses.

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“What we’re doing is connecting people, ideas and organizations to improve our response to post-fire impacts.”

POST-FIRE RESPONSE AND RESPONSIBILITY

Homeowners, businesses, and local government agencies pay almost half of the costs of wildfire and post wildfire flooding—including death or injury to community members, property loss, impaired health, and damage to businesses and vital infrastructure.

Federal interagency BAER response is critical, but is limited to assessing and addressing threats on federal lands and resources, mostly within the burned area. Following a wildfire, however, the most significant threats occur downstream or downslope from the incident. The handoff of responsibility from federal agencies to local communities needs improvement to manage for this.

PROMOTING ECOSYSTEM RESILIENCE AND FIRE ADAPTED COMMUNITIES TOGETHER

For 16 years, partners in the PERFECT cooperative agreement—The Nature Conservancy, USDA Forest Service and Department of the Interior Agencies—have led the way in making progress on the three interconnected goals now embodied in the Cohesive Strategy. Under PERFECT, people work together to increase the capacity and social capital needed to make ecosystems and communities more resilient. We propose building on this successful partnership and incorporating post-fire needs into the existing network framework.

The Fire Learning Network (FLN) supports a pilot BALN operated by the New Mexico business unit of The Nature Conservancy. Three years of engagement with members of the FLN and Fire Adapted Communities Learning Network has led BALN partners to conclude that collaborative work before wildfire occurs is the most effective means to improve restoration outcomes on burned lands.

Burned Area Learning Network Strategies to Improve Post-Fire Preparedness and Response

- 1 Improve the efficiency and accuracy of short- and long-term post-fire risk assessment.
- 2 Improve inter- and intra-agency relationships and develop more cohesive interagency strategies for post-fire response during cross-jurisdictional fires.
- 3 Expand the range of both immediate post-fire rehabilitation and longer-term restoration tools, and improve their execution.
- 4 Integrate short- and long-term objectives for burned land management.
- 5 Advance engagement of the public through pre-fire planning for post-fire actions.
- 6 Create an adaptive feedback mechanism to effectively integrate new information into pre-fire planning and post-fire actions.

LIVING WITH FIRE



During a 2018 field tour hosted by the BALN (top), scientists and land managers discuss fire damage and recovery techniques being tested by the Santa Clara Pueblo. Other discussions focused on strategies to mitigate reburns. Meanwhile, partners at New Mexico State University are conducting research (bottom) to develop stock for revegetating large burned areas in the Southwest that are subject to severe drought.

“Without a comprehensive, long-term recovery plan, ad hoc efforts in the aftermath of a significant disaster will delay the return of community stability. Creating a process to make smart post-disaster decisions and prepare for long-term recovery requirements enables a community to do more than react.”

*Post Disaster Redevelopment Planning:
A Guide for Florida Communities*
Florida Department of Community Affairs &
Florida Division of Emergency Management

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The Burned Area Learning Network is an initiative of the Fire Learning Network, a part of *Promoting Ecosystem Resilience and Fire Adapted Communities Together*, a cooperative agreement between The Nature Conservancy, USDA Forest Service and agencies of the Department of the Interior.

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