



# Post-Fire BAER Assessment

## Burned Area Emergency Response (BAER)

### Information Brief

[CentralWashingtonFireRecovery.info](http://CentralWashingtonFireRecovery.info)



## Burned Area Emergency Response Limitations

While many wildfires cause minimal damage to the land and pose few threats to the land or people downstream, some fires result in damage that requires special efforts to reduce impacts afterwards. Loss of vegetation exposes soil to erosion; water run-off may increase and cause flooding, soil and rocks may move downstream and damage property or fill reservoirs putting community water supplies and endangered species at-risk.

The Burned Area Emergency Response (BAER) program is designed to identify potential risks to resources and to reduce these threats through appropriate treatments through its goals of protecting life, property, water quality, and ecosystems. BAER is an emergency program for stabilization work that involves time-critical activities to be completed before the first damaging event to meet program objectives.

### BAER Objectives

Determine whether imminent post-wildfire threats to human life and safety, property, and critical natural or cultural resources on National Forest System lands exist and take immediate actions, as appropriate, to manage unacceptable risks.

If emergency conditions are identified, mitigate significant threats to health, safety, life, property and downstream values-at-risk.

Implement emergency response actions to help stabilize soil; control water, sediment and debris movement and potentially reduce impairment of ecosystems when an analysis shows that planned actions are likely to reduce risks substantially within the first year following containment of the fire.

Monitor the implementation and effectiveness of emergency treatments that were applied on National Forest System lands.

### BAER Interagency Coordination

Multiple agencies work with the BAER team and look at the full scope and scale of the situation to reduce the potential threats to life and property; however, BAER treatments cannot prevent all of the potential flooding or soil erosion impacts, especially after a wildfire changes the landscape. It is important for the public to be and stay informed and prepared for potential dramatic increases in number and magnitude of run-off events.

One of the most effective BAER strategies is interagency coordination with local cooperators who assist affected businesses, homes, and landowners prepare for rain events. The Forest Service and the Natural Resources Conservation Service (NRCS) work together and coordinate with local agencies and counties that assist landowners in preparing for potential run-off. It is important that landowners work directly with NRCS and other agencies to determine actions needed to protect structures and other assets.

BAER assessment plans and implementation of the BAER emergency treatments are a cooperating and coordinated effort between many federal agencies such as the Forest Service, NRCS, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, Bureau of Indian Affairs, U.S. Geological Survey, and National Weather Service, also including state, tribal governments, local agencies, and emergency management departments. It is important that BAER coordinates its assessment and treatment implementation with all affected and interested cooperating agencies and organizations regarding other post-fire recovery and restoration efforts.

### BAER Process

BAER assessment teams are staffed by specially trained professionals that may include: hydrologists, soil scientists, engineers, biologists, botanists, archeologists, and others who evaluate the burned area and prescribe temporary emergency stabilization treatments to protect the land quickly and effectively. BAER assessments usually begin before a wildfire has been fully contained.

A BAER assessment team conducts field surveys and uses science-based models to rapidly evaluate and assess the burned area and prescribe emergency stabilization treatments. The team generates a "Soil Burn Severity" map by using satellite imagery which is then validated and adjusted by BAER team field surveys to assess watershed conditions and watershed response to the fire. The map identifies areas of soil burn severity by categories of low/unburned, moderate, and high. The higher the burn severity, the less soil will be able to absorb water when it rains. Without absorption, there will be increased run-off with the potential of flooding.

A BAER team presents these findings in an assessment report that identifies immediate and emergency actions needed to address post-fire risks to life and safety, property, cultural and critical natural resources. This

includes maintaining native plant communities to prevent the invasion of noxious weeds. The BAER report describes watershed pre- and post-fire response information, areas of concern for life and property, and recommended short-term emergency stabilization treatments for Forest Service lands that burned.

In most cases, only a portion of the burned area is actually treated. Severely burned areas, steep slopes, and places where water run-off will be excessive and may impact important resources are focus areas and described in the BAER assessment report if they effect values-at-risk. Time is critical if the emergency stabilization treatments are to be effective.

There are a variety of emergency stabilization treatments that the BAER team can recommend for Forest Service land. Stabilization treatment examples are: mulching with agricultural straw or chipped wood and digging of below-grade pits to catch run-off and store soil sediment to keep roads and bridges from washing out during floods. A team also assesses if there is a need to modify drainage structures by installing debris traps, allowing drainage to flow if culverts become plugged, adding additional culverts, installing rolling dips, and constructing emergency spillways. BAER treatments cannot prevent all damage, especially debris torrents in areas that are prone to sliding and have lost critical root structure from plants.

## BAER Funding

Special Emergency Wildfire Suppression funds are authorized for BAER activities and the amount of these expenses varies with the severity of the fire season. Some years see little BAER activity while other years are extremely busy.

Because of the emergency nature of BAER, initial requests for funding of proposed BAER treatments are supposed to be submitted by the Forest Supervisor to the Regional Office within 7 days of total containment of the fire.



## The Cans and CANNOTs of BAER

What BAER Can Do	What BAER Cannot Do
Install water or erosion control devices.	
Plant for erosion control or stability reasons.	Replant commercial forests or grass for forage.
Install erosion control measures at critical cultural sites.	Excavate and interpret cultural sites.
Install temporary barriers to protect treated or recovering areas.	Replace burned pasture fences.
Install warning signs.	Install interpretive signs.
Replace minor safety related facilities.	Replace burned buildings, bridges, corrals, etc.
Install appropriate-sized drainage features on roads, trails.	Repair roads damaged by floods after fire.
Remove critical safety hazards.	
Prevent permanent loss of T&E habitat.	Replace burned habitat.
Monitor BAER treatments.	Monitor fire effects.
Monitor for new populations of noxious weeds & treat as needed.	Treat pre-existing noxious weeds.