SOUTHWEST FIRE SCIENCE CONSORTIUM

JFSP FIRE SCIENCE EXCHANGE NETWORK

Burned Area Emergency Response (BAER) logistics in the Southwestern US

Postfire flooding and erosion on the 2018 Spring Creek fire, Southern Colorado.

BAER outreach and coordination:

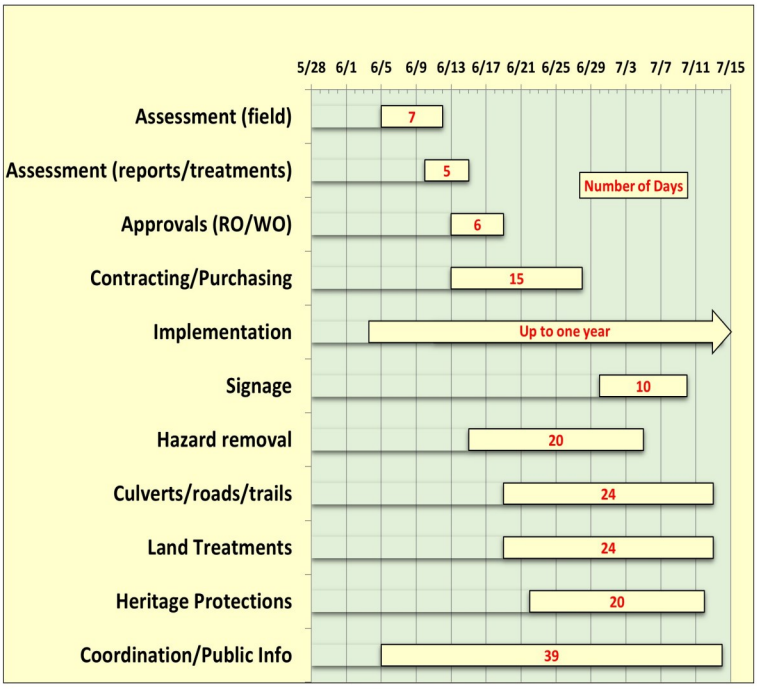
BAER teams often have 5% of the funding levels of fire suppression teams. Outreach responsibilities usually fall to team leads, assistant leads, or BAER coordinators. Inciweb and social media platforms are increasingly common public interfacing tools.

Teams coordinate with federal, state and local partners including:

- BAER app for teams to request satellite data.
- National Weather Service for precipitation predictions and flood watches and warnings.
- Natural Resources Conservation Service for Emergency Watershed Protection Program, which can fund treatments off federal land.
- US Geological Survey for debris flow hazard assessments.
- Army Corps of Engineers, Bureau of Reclamation if there is threatened infrastructure in their jurisdiction.
- State Historic Preservation Offices if historic or prehistoric resources could be affected (New Mexico, Arizona).
- State Geological Surveys and land departments if state land is involved.
- Local municipalities that could be affected by flooding and erosion downstream.

Pre-fire preparation:

- BAER regional coordinator provides training resources for team members prior to fire season. Federal agencies recommend each unit have a BAER team available, but resources can also be brought in. Additional training occurs at home unit level on smaller, less complex fires.
- Regional coordinator supplies a preseason package to remind units of BAER preparation steps. Supervisors should come up with a BAER strategy including: Identifying the BAER coordinator and team leaders for assessment and implementation. If a large fire occurs, bringing in resources allows separate assessment and implementation teams.
- Gather geospatial data to be accessed offsite if home unit is evacuated; such as BAER values at risk (within fire perimeter or downstream), cultural resource data, invasive species data, and sensitive habitat.
- Units work with regional offices to setup IDIQ contracts with seeding, mulching, road work, sign and gate, and engineering operations prior to fire season whenever possible.



Timeline for BAER assessment, approvals, and implementation. Used with permission from Anna Jaramillo, USFS SW coordinator.

This factsheet is available online at swfireconsortium.org

The postfire assessment process

- Postfire assessments are initiated by the wildfire decision support framework and unit BAER coordinators.
- A BAER team lead is selected and recruits members with technical expertise based on values at risk, including soil scientists, hydrologists, archeologists, botanists, and engineers. Generally teams will not begin to arrive on the fire until 40-60% containment.
- If the team is not from the local unit, gathering data on values at risk may begin earlier and usually involves contacting fire resource advisors and local specialists. Having a BAER team member present at WFDSS and wildfire briefings and an up to date GIS database of values at risk is helpful.
- Soil burn severity (SBS) mapping field measurements can begin when areas of the fire have burned out or are in monitoring status. Satellite data acquisition usually occurs when the fire is almost fully contained but cannot occur if clouds or smoke are obscuring the burned area.
- When values at risk have been outlined and SBS mapping is complete, modeling of hazards and a cost risk analysis of implementing treatments vs no treatment can begin.
- Setting a date when the first potentially damaging storm is expected to occur and planning for implementation to be complete can be useful during this phase and should be stated in a letter of intent by the unit supervisor or director.
- When BAER assessment is complete recommendations are passed to unit supervisors who request funds from regional or national office where coordinators make sure funds are being used appropriately.

Additional information about postfire management in the southwest:

- USDA Forest Service postfire website with links to: frequently asked questions, resources for managers and communities, scientific publications, and postfire recovery funding opportunities.
- New Mexico after a wildfire website with a range of information for individuals to municipalities
- Burned Area Learning Network website with information ranging from treatment effectiveness to community response and policy.
- After the Flames conference website with videos outlining research results and management needs.
- Southwest Fire Science Consortium website with links to factsheets, conference proceedings, and podcasts about postfire management.

Soil burn severity field data collection within the 2017 Boundary Fire. Photo credit Henry Grover

Treatment implementation and monitoring

- Implementation is the responsibility of the unit where the fire occurs.
- Because implementation involves many long days, personnel who just completed BAER assessments should not work on implementation unless appropriate work/rest guidelines are followed.
- Hillslope treatments are often implemented by private companies but unit personnel must set contract specifications and monitor that they have been met.
- The BAER objective is to implement treatments before the first damaging storm, no later than one year after fire containment. Coordination and public information can easily last up to one year.
- BAER provides funding for treatment effectiveness and recovery monitoring for three years postfire. In special cases, additional funding is available for more in depth monitoring if necessary.
- Programs such as the Burned Area Rehabilitation (BAR) and Rapid Assessment of Vegetation Condition after Wildfire (RAVG) are intended for longer term postfire management and recovery which is not included in the BAER framework.

Gaps in postfire management currently being addressed:

- Sharing postfire assessment information such as values at risk, SBS maps, or model outputs with nongovernment partners can be difficult. Work is underway to create a repository that can be easily accessed by anyone.
- Communication between wildfire incident management teams and BAER teams has increased dramatically but more can be done to increase information sharing and ease transitions to postfire management.

Factsheet prepared by Henry S Grover