

Burned Area Emergency Response – The Next Chapter in the Fire’s Story

It starts with a flame. A flame soon becomes a fire. A fire with walls of intense heat moving up a mountain, consuming vegetation and leaving soil bare as it runs over rocks of various shapes and sizes along the way. The fire ignores all the things put into place to tell people where to go, such as trails and roads. The fire has indifference for cultural assets. The fire swiftly crosses streams and watersheds impacting wildlife both in-water and on-land. A wildfire lives up to its name. On the afternoon of July 8, 2017, the Whittier Fire began its story.

This unfortunately was not the first time this area has seen a wildfire. Local resources called in additional firefighters to join them in battle. Fire crews, engines, helicopters, and support personnel began to come in from near and far. For some, they have never seen these peaks, valleys, or streams. They are just beginning to experience firsthand what makes this place so special. For other firefighters, this is their backyard, their home.

The Santa Ynez Mountains, a transverse range home to federal, state, and private land, climbs thousands of feet above Santa Ynez and Lake Cachuma communities on the north and the Santa Barbara area on the south. The terrain is steep and rugged. Water carved its canyons over millions of years. Plants and animals drink from and live in its creeks and streams. Humans have explored and lived here for countless generations.

An area impacted by a wildfire is an overwhelming experience on the senses. Well beyond the visual clues of darkened soil and charred plants, there is the smell of burnt wood. The wind even seems to feel different; calm but quick at the same time. It’s at this point, that an ironic new threat is now upon the forest – water.

Not long after the firefight is over, and in some cases while it’s still going on, there is still much work to be done. This is where an elite team of specially trained professionals arrive on scene. Armed with scientific data, tools of their trade, and years of experience in the -ologies, they create a BAER (pronounced bear) Team. The Burned Area Emergency Response (BAER) program looks at areas impacted by wildfires through its key goals of protecting life, property, and critical natural resources and cultural assets.

The Whittier Fire BAER team is made up of a soil scientist, hydrologist, geologist, botanist, road engineer, archeologist, tribal liaison, ecologists for wildlife and fisheries, technicians for recreation and mapping, a BAER team coordinator, and of course, a team leader. Their roles are like the ecosystem, intertwined and symbiotic in nature.

It takes a village to collect data, make assessments, and to plan ahead for the upcoming rainy season. This includes coordination by many different government agencies and organizations; including private landowners. There is not just one voice but a collation of members that continuously communicate about tactics and strategies. This is the next chapter in the story.

A forest is a complex place made up of various timelines and cycles. Some of these timelines are long and slow spanning geological time. Other are cycles short as the sun rising and setting. It is in between this time the BEAR Team is most concerned with – the changing of the seasons.

The BAER Team knows that rain is the wildcard. Summer will turn to fall and fall into winter. The Santa Ynez Mountains are in a Mediterranean ecosystem; known for its hot dry summers and its cool wet winters. Rain will come down at some point over the fire area. The biggest question is how much and when.

Fires like the Whittier Fire can create issues that require the need of this special team to prevent further destruction. Lack of plants holding soil exposes it to erosion, therefore increasing the risk flooding and mudslides. Debris flows made up of burned wood, rocks, and soil can destroy downstream riparian areas home to threatened and endangered species, impact reservoirs that provide water to the community, and end up in neighborhoods damaging homes.

With any effort, it's important to understand the past. It's having an understanding of what has happened before that better informs the team on how to look at the future. The BAER Team is using a gamut of data and knowledge from myriad sources to learn about what happened after previous fires in this area, such as the Sherpa Fire, to forecast what could happen this time.

The BAER Team studies and gathers data impacts to streams, trails, and roads - from the big to the small and everything in-between. Soils are analyzed for water absorption and burn severity. Wildlife and fish ecologists focus on the changes of habitat, especially federally threatened and endangered species. Roads and trails are measured for changes due to loss of stabilizing vegetation. Cultural assets are identified and confirmed. Mapping ensures data is intertwined in an understandable format.

Each of these inputs informs the team on mitigation actions they can take to lessen the impacts the forest takes from wildfires. It is the objective of the BAER Team to make determinations and carry out actions to implement any emergency treatments on federal lands to reduce threats to life and property due to the fire. This may include stabilization of soil and prevention of undesirable degradation to natural resources and cultural assets. Potential treatments include: adding water bars to minimize erosion along trails, improving drains and culverts along roads and setting up early warning systems for flooding during rainstorms.

Unfortunately, there is not always a treatment that will fix everything. There is no doubt there will be changes to the landscape following the Whittier Fire and winter rains. New growth of plants and a re-birth of life will come next spring. Trails and roads will re-open. However the winter rains will first test the strength of the soil and the slopes of the land.

The public can do their part when visiting an area recovering from a fire by staying on designated trails and roads, preventing the spread of invasive species by ensuring seeds aren't be transported by boots or tires, and continuing to support and enjoy your national forests.

Sources:

<https://www.fs.fed.us/biology/watershed/burnareas/background.html>

<https://www.fs.fed.us/biology/watershed/burnareas/>