Nontraditional Wildfire Mitigation in Bastrop County, Texas

BASTROP, TX – On Sunday, September 4, 2011, a firestorm engulfed Bastrop County, Texas, destroying 1,688 homes, burning more than 34,000 acres, and claiming two lives. The Bastrop County Complex Fire was the most devastating wildfire in Texas' history and steps are being taken to protect residents and prevent history from repeating itself.

Mike Fisher, Bastrop County Office of Emergency Management Coordinator, says fuel reduction is one action the county is taking to minimize the threat. As dead, fallen vegetative, and tree material accumulates on the ground, it creates a continuous source of understory fuel. When ignited, the resulting fire burns hotter, spreads faster, lasts longer, and covers more ground. When fuel is reduced, fires are less intense.

After extensive research, spearheaded by Fisher, the county has decided to reduce understory fuel using non-traditional mechanical means as opposed to prescribed burning. According to Fisher, it's a unique approach that has never been used before as far as he can tell.

The county received a grant from the Federal Emergency Management Agency's Hazard Mitigation Grant Program (HMGP) to fund the hazardous fuels mitigation project.

"We targeted nearly 4,000 acres, which we are developing into a north project and a south project," says Fisher. "For each project, we conducted an in-depth study of the wildland urban interface to identify the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels."

He says the developed areas feature a mix of houses located on small, medium, and large lot sizes. While homes in those areas have varying degrees of fire resistivity and defensible space, the adjacent areas have a history of large destructive fires and a high-density concentration of understory fuel.

The north project cost is just over $1.6 million; FEMA contributed more than $1.2 million. The south project cost is $2.1 million; FEMA contributed almost $1.6 million. The HMGP grant has a two-year performance period so Fisher says the county is focusing on what it can do in that timespan.

With the funds, the county has designed a mechanical thinning process using skid steers, which are low-impact machines with a mulching head on the front with teeth. Operators grind up the understory and remove undesirable species growing under the tree canopy. In a wildfire outbreak, the fire stays on the ground and does not go into the trees.

After looking into outside help to work the equipment, Fisher found few skilled contractors were available, so county employees are now learning how to operate the skid steers.

The project has sparked excitement, curiosity, and some reservations among residents. Most of the acreage targeted for mitigation is private property. According to Fisher, the most challenging part of the project has been getting homeowner buy-in, but the county has succeeded in gaining right of entry from each property owner.

What could have been another potential hurdle has become a windfall for a resident amphibian and surrounding habitat.

It seems the project sites are home to the endangered Houston toad, protected under the Endangered Species Act. Both the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers had to be consulted before work could begin. Toads in the project area have been captured and given to a biologist for safekeeping until it is deemed safe to return them to their habitat.

"We are learning that thinning out the forest actually creates a better environment for the Houston toad," says Fisher. "In addition to mitigating wildfires in the neighborhoods, the project is also helping to create a healthy forest because it returns the ecosystem back to the way it was intended."

Fisher says he is excited about the initiative and believes what the county is doing is a good measure to take.

“We are happy to tell our story,” says Fisher. “If we don’t get it right, we’ll tell that story, too. Disasters are non-traditional. Sometimes it takes a non-traditional approach to do what needs to be done in terms of mitigation. You can’t be timid.”

For additional information, about Nontraditional Wildfire Mitigation visit:

- http://www.usfa.fema.gov/downloads/pdf/coffee-break/cr/cr_2014_3.pdf
- http://www.cityofbastrop.org/

One of four units purchased for the project. This truck was equipped with a 100 gallon diesel tank on its bed, a flatbed trailer and a skid steer tractor. (Photo by: Bonnie Hanchett)

A machine operator grinds up the understory
(Photo by: Bonnie Hanchett)

A close up look at the skid steer tractor with its mulching unit
(Photo by: Bonnie Hanchett)