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Reducing the risks of wildfires

Anyone who has lived in New Mexico for at least a year realizes that the Land of Enchantment has six seasons. In addition to the four seasons everyone else has, we have a wildfire season, which typically comes during late spring and early summer. Wildfires sometimes even last through the monsoon season, when thunderstorms are lighter than usual.

Wildfires, it seems, are inevitable in Los Alamos and the surrounding communities that make up part of northern New Mexico. In recent history, the 2000 Cerro Grande Fire destroyed 150,000 acres (including 7,500 acres of Laboratory property) and 235 Los Alamos homes. In 2011, the Las Conchas Fire burned more than 156,000 acres and threatened Los Alamos and the Lab.

To minimize the chances of wildfires and to strengthen defenses against wildfires, the Laboratory every year carries out various fire-mitigation strategies throughout its 42 square miles.

“There’s a lot that goes into fire mitigation,” says Jim Jones, Project Manager for Fire Mitigation under the Associate Laboratory Directorate for Environment, Safety, Health, Quality, Safeguards, and Security. “It all starts with annual field assessments, where personnel go out to ascertain and rank the risks associated with potential wildfires around the Laboratory. These assessments then prioritize project work, which consists of everything from trimming trees near power lines to clearing roadsides of brush and undergrowth to the right-of-way fences. Ensuring roads are relatively free from growth gives the Los Alamos County Fire Department fire breaks, defensible places for firefighters to work from, should a wildfire ever break out.”

Pull Quote: “The safety and protection of the Laboratory and the local community are always uppermost on my mind. Wildfires have caused significant damage to Los Alamos in years past, and any steps we can take and investments we can make to keep our community safer in the future are worthwhile.”
– Michael Hazen, Associate Laboratory Director for Environment, Safety, Health, Quality, Safeguards, and Security

Bridging the gaps

The finger-like mesas that make up Los Alamos mean deep, difficult-to-access canyons. The bulk of these steep canyons are lined with a mixed-conifer forest and dense brush. Within this foliage are dirt roads, which sometimes are cut through by arroyos or other uneven terrain. Such obstacles make it difficult for vehicles to get through, so Laboratory personnel have installed minimally invasive bridges in such places to ensure vehicles, particularly emergency vehicles, can navigate through these canyons.

“The original bridges were put in back in 2008, and they were put in because of fires like Cerro Grande and Las Conchas,” explains Jones. “The damage caused by these fires meant there were

fewer trees and brush to handle the rainfalls, and the flooding that resulted cut into the land, making it more uneven than before."

These bridges could handle firefighting engines carrying full loads of water with a maximum weight of 20 tons.

"Last summer, there were a couple of wildfires in Omega Canyon," says Jones. "In response, the fire department ran their new big tanker trucks into the canyon to put out those fires. Well, it turns out the new trucks, fully loaded, weighed more than the old bridges were rated for."

Despite the bridges holding, the Laboratory declared them compromised, so this spring Jones and his team replaced the old bridges with new ones. These new bridges can support a maximum weight of 30 tons. The old bridges were salvaged.

Pull Quote: "My greatest satisfaction is helping ensure the safety of the firefighters who defend us against these wildfires. By extension, it's really gratifying that what we do contributes to the safety of Los Alamos, White Rock and surrounding communities."
– Jim Jones, Project Manager for Fire Mitigation

Nature gives; humanity gains

Last summer, torrential rains were followed by an intense wind event that took down many green trees in Los Alamos. Many of these trees were 40 to 50 feet tall and 18 to 22 inches in diameter. Although typically sturdy, these trees were easily blown over because the ground was so saturated with moisture. The bulk of fallen trees were found along West Jemez Road, from the Department of Energy Building all the way out to the edge of New Mexico State Road 4.

"About 2,500 trees were knocked down on Laboratory property," says Jones. "We decided to use Institutional Program dollars to take about 1,500 trees out of there. I had a contract with the Jemez Pueblo's Department of Natural Resources, and they had personnel come in and cut up the timber and haul it out. The Pueblo was then able to use the timber in its sawmill for construction and other lumber."

The remaining trees, deemed as not usable for lumber, were taken to TA-16. "That's where Michael Hazen and Communication and Public Affairs Division Leader Patrick Worhrle come into the picture," notes Jones.

"With in-house craft support and internal Laboratory resources, we provided 150 cords of much-needed wood to local pueblos," Hazen picks up the story. "Anytime we can benefit our neighbors and protect the environment, it's a big win for all."

"We're planning to do the same thing this year," says Jones. "I received funding from the weapons program to clear out fallen trees in some areas behind the fence. I reached out to

Patrick Worhrle, who agreed to help out—looks like we may have even more firewood available than we did last year for our neighboring Pueblo communities”

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Photos and Captions

Photo Caption: One of various bridges the Laboratory installed to help vehicles traverse the uneven terrain found in Los Alamos canyons. Note the sign that announces a new, improved weight limit for these bridges.

Photo Caption: These bridges and roads enable vehicles, particularly emergency tanker trucks, to navigate through the harsh land found at the bottom of Los Alamos canyons.

Photo Caption: This photo presents a side view of new, stronger bridges designed to handle 28-ton firefighting tankers with loads full of water.