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Special Report: Crews work to thin forests before next wildfire

By Paul Giblin
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MAKING ROOM: Trinity Walker measures a tree during a thinning operation in the Apache-Sitgreaves National Forests near Greer. By creating more space between trees, the U.S. Forest Service hopes to slow wildfires.

Ashley Lowery For the Tribune

GREER - Heavy equipment operator Trinity Walker worked the controls of a three-wheeled machine called a Hydro-Ax, jerking the giant crab-like device toward a 75-foot ponderosa pine in the Apache-Sitgreaves National Forests. View audio slide show

Mechanical arms grabbed the tree and a grinding circular blade severed it at ankle height in a second. While still holding the cut pine vertically, Walker jerked the machine to another tree a few feet away to repeat the process.

Within a few minutes, Walker and his machine cut and carried eight trees before stacking them in a pile for removal. As he worked, sunlight spilled onto the previously shrouded forest floor for the first time in decades.

"From my standpoint, from the district ranger's standpoint, it's beautiful," said Jeffrey Rivera, a U.S. Forest Service ranger.

The new gap between the trees will prevent a potential wildfire from racing treetop to treetop, a condition that makes wildfires practically unstoppable, he said.

Forest personnel are in a race against time to thin Arizona's overgrown woodlands before the next catastrophic wildfire ignites.

There's little doubt that massive wildfires will strike Arizona again. The only real question is how much damage they'll cause.

Thinning projects are under way in every national forest across the state; however, the Apache-Sitgreaves project is the largest and considered a national model for creating healthy forests, said forest supervisor Elaine Zieroth.

"Our goal here is to thin 150,000 acres of ponderosa pine forest right next to private land and communities here in the White Mountains, to protect the communities from large fires similar to the Rodeo-Chediski fire," she said.

Federal officials are 2½ years into a 10-year agreement with the firm Future Forests of Show Low to cut and remove primarily small trees, which feed wildfires.

So far, Walker and his co-workers have thinned more than 17,000 acres and hauled away more than 315,000 tons of flammable material.

White Mountain residents constantly are reminded of the threat posed by wildfires.

Just a few miles from Greer, hundreds of thousands of burned pine trees stand in tight clusters where the Rodeo-Chediski Complex fire burned in 2002. Arizona's largest wildfire blazed 468,000 acres of timberland across the White Mountains, destroying 400 houses. The barren landscape will linger for decades.

Closer to the East Valley, the Cave Creek Complex fire in 2005 torched 225,480 acres in the Tonto National Forest, starting just north of Scottsdale.

As it turned out, the Rodeo-Chediski fire was just the first in a series of wildfires measured on a previously unimaginable scale.

All of the state's top five wildfires have occurred since 2002. Combined, they have burned 955,610 acres, or 1,493 square miles - an area larger than Rhode Island. And that doesn't include the dozens of smaller fires that have burned every year.

By comparison, the Dude fire of 1990, remembered as Arizona's most fearsome fire before the Rodeo-Chediski fire, burned 24,000 acres.

"In 1990, we thought 10,000 acres was a really big fire in Arizona - and it was," said state forester Kirk Rowdabaugh.

"The idea that you could burn 400,000 acres in a single fire in Arizona would have been considered lunacy 15 years ago. The idea that you could burn 10,000 acres in a single day in Arizona - nobody ever would have contemplated that. You can do that in a bad afternoon now," Rowdabaugh said.

Every fire implies a threat. Over the weekend, it was the Ponderosa fire, a wind-driven fire that ignited near Payson at noon Saturday. By Sunday afternoon, the blaze had died after burning about 9.6 acres, said fire officials at the Southwest Coordination Center, a regional agency comprised of federal and state entities on the lookout for wildfires.

Rowdabaugh said many factors have created conditions for devastating wildfires across the state, but

cited these as the primary reasons:

• Years of drought have dried vegetation, turning everything from ponderosa pine to creosote into kindling.

• The state's ongoing population explosion has pushed housing further into Arizona's previously uninhabited wildlands. Dozens of multimillion-dollar houses threatened by the Cave Creek Complex fire didn't exist five years earlier.

• Generations of questionable forest management practices have produced an unnatural accumulation of trees, which firefighters now simply refer to as "fuel."

• For decades, the Forest Service carried out its Smokey Bear policy of trying to prevent all forest fires, snuffing out small fires as soon as they began.

Rowdabaugh said the problem with that strategy is that forests in Arizona and elsewhere need small fires every five to 10 years to clear out small trees.

"You start putting out those fires over an 80-year period and you've missed out on a lot of fires you might have had - and that's a lot of fuel buildup," he said.

When fuels built up, small wildfires were able to spread quickly and became catastrophic wildfires.

Forest officials recognized the danger around the 1990s and increased efforts to thin forests, but the results were spotty.

The usual approach to thinning overgrown forests was to sell rights to logging companies to harvest a portion of the most profitable trees - large old-growth ones. Then, the Forest Service used the proceeds to offset the costs of hiring loggers to clear the less profitable and more dangerous trees - the small, younger timber.

The effort was met with resistance. Environmental groups repeatedly sued the government to prevent the old-growth cuts, which stalled the entire process.

As forests grew dense, wildfires became intense.

The Forest Service changed its approach and local market conditions by offering the 10-year thinning contract in the Apache-Sitgreaves, under the title of the White Mountain Stewardship Project.

Forest Service officials said the effort began in 1997 when they assembled a group of community, business and conservation leaders to discuss thinning options.

The group came to a consensus quickly after the Rodeo-Chediski fire, which had led to the evacuation of Show Low and created a plume of smoke that wafted over New Mexico.

Zieroth said the concept has earned the support of former "frequent filers," such as the Center for Biological Diversity, an environmental group that backs policies to protect forests.

From an industry standpoint, the key to the contract with Future Forests is it guarantees contractors a minimum payment of $2.75 million to thin 5,000 acres every year, with the potential to pay $8.25 million to thin 15,000 acres annually.

Zieroth said this plan costs the government 30 percent to 50 percent less than the previous peracre thinning outlay. Future Forests was assembled expressly to handle the contract.

About three-quarters of the trees harvested under terms of the stewardship programs are too small to be used for lumber, said Dale Walker, partner and vice president of WB Contracting, the harvesting arm of Future Forests.

However, with a long-term guarantee in place, the company was able to invest in research and equipment to develop products using the small material.

Most of the small stuff is ground into sawdust, and then compressed into pellets sold as heating fuel. Other portions are used to make animal bedding and specialty building materials, such as paneling and railings.

Overall, the contract and spinoff business supported 450 Arizona jobs last year, according to a February study by University of Arizona economics professor Lay Gibson. The total economic impact was set at $22.6 million.

More important, the thinning project is reshaping the forest.

After Hydro-Ax operators cut and stack trees, other heavy equipment operators use machines called skidders to haul 12 logs at a time to a giant wood chipper, where the trees are ground into chips less than an inch long.

The operation generates two semitrailer loads of logs large enough to be cut into lumber, and 12 semitrailer loads of wood chips daily.

Future Forests trims the forest about 10 months a year, stopping only during the storms brought in by the monsoon, when the equipment would leave deep ruts in the muddy soil.

Untreated and unburned portions of the Apache-Sitgreaves currently support an average of 1,600 trees an acre. Forest officials are thinning it to what they believe is a more natural count - about 100 trees an acre.

That leaves one old-growth tree about every 30 feet or so, which suits Jake Stephens, a Greer Fire District captain. "We have a pretty severe urban interface situation here, so anytime we have a structure fire, we're always really concerned about it getting into the trees and turning into a wildland fire. This really reduces the risk," he said.