

After the fire...

Extension and research programs offer help in managing homes, forests

By Susani McGinley



UA photo

Wildfires burned hundreds of square miles across the Southwest in the spring and summer of 2002, causing millions of dollars in property damage, threatening lives, and sparking debate about how forests and fires should be managed.

Whether or not people agree on forest management policies — suppressing fires or practicing controlled burns, or promoting or ceasing logging — there is still much that can be done. Fire awareness and management have become the responsibility of entire communities, not just forest rangers, fire fighters and government agencies. Home owners, developers, and civic leaders are learning that the decisions they make about what to plant, what to cut down, and what to build can make a difference in keeping forests healthy and preventing fire damage.

University research and extension faculty across the West have pooled their resources with each other and with government agencies to teach homeowners and other local audiences strategies for reducing their wildfire risk. These educational programs disseminate information through broadcasts, lectures, workshops, home inspections, web sites and printed literature. Arizona's fire awareness programs cover strategies for both lower and higher elevations, targeting the unique features that are fire-prone in forest, grassland and desert communities.

In northern Arizona's ponderosa pine forest, the continuous thick stand of pines posed a fire danger in spring 2002 equal to that of Yellowstone National Park before it exploded with massive fires, according to Stephen Campbell, agricultural and natural resources agent in Navajo County.

"The original forest was a pine/grassland savanna with 15 to 35 trees per acre," Campbell says, "but due to human intervention, the average density changed to 300 to 1,000 trees per acre."

Before the fires started in northern Arizona, Campbell and Tom DeGomez, then an extension agricultural and natural resources agent in Coconino County, had already begun working to protect against fire in the vast forest. They joined the partnership advisory boards in their respective counties, whose goal was to thin overly dense stands in the urban/forest interface to reduce fire risk. Similar defensive landscaping actually spared part of Los Alamos, New Mexico in 2001 when trees around a historic landmark were thinned to 40-60 per acre.

DeGomez, who in 2002 was appointed extension forest health specialist for Arizona, has been working with 150 landowners to thin their forest land and improve tree health. He and a large group of partners have also obtained grants to help smaller, unincorporated towns with thinning. Partners include the U.S. Forest Service, State Land Department, Coconino County, Northern Arizona University Ecological Restoration Institute, local fire departments, and homeowner organizations. Several small communities in northern Arizona have started a forest revitalization task force.

Insect and drought stress are of particular concern in northern Arizona forests, and keeping trees strong can make a difference, according to DeGomez. "Healthy trees, especially in transitional zones, can resist damage from bark beetles, which can have a catastrophic effect on ponderosa pines," he says. "Twelve different species of bark beetles attack pine trees in Arizona. Once started, bark beetle infestations can be harder to control than fire."

Although tree-ring data show that the 20th century was one of the wetter centuries in the last 1400 years, the last five years have been one of the driest periods ever recorded in Arizona, DeGomez says. Drought stress weakens trees, making them susceptible to insect and disease infestation.

"In the Flagstaff area alone, from June to August 2002, we lost more than 100,000 pinyon pines and tens of thousands of ponderosa pines," he says. "We had an explosive population buildup of the beetles; there are probably going to be trillions of them out there."

Forest health seminars and workshops have been held throughout Arizona since early 2002, to help protect, improve, and restore forested ecosystems from the adverse effects of insects, diseases, and wildfire.

Chris Jones, extension agricultural and natural resources agent in Gila County, is coordinating the Arizona FIREWISE

education group, helping landowners create defensible space around their homes. FIREWISE is a national program that has been tailored to the specific needs of each state. Through FIREWISE homeowners can learn whether their home is at risk for fire, how to protect it, how to survive a wildfire, how to cope emotionally in the aftermath of a fire, and how to deal with land and property that has been damaged by fire.

Jones conducted a train-the-trainer session in Payson in May 2002, where he used an actual home to demonstrate how to trim and clear brush to reduce fire risk. Fred Deneke, a scientist with the USDA Forest Service, and currently assigned to the UA School of Renewable Resources, has assembled numerous documents and resources available in hard copy or through the FIREWISE web site (see FIREWISE Resources, below right).

One of the dangers of fires passing through an area is the fear landowners have of keeping any vegetation at all around their homes. Jeff Schalau, Yavapai county extension director, dealt with this problem last summer, when he found homeowners stripping their yards of all plant life-creating a "moonscape look." Cutting everything down isn't necessarily in keeping with FIREWISE concepts, according to Schalau.

In Arizona, FIREWISE works in conjunction with extension's Forest Health Program (see Forest Health Program, right) coordinated by Doug Rautenkranz, who is also a graduate student in the School of Renewable Natural Resources. Rautenkranz did aerial surveys during summer 2002 to assess fire damage over state lands and transferred the data to the Forest Service, where it was combined with data on federally-owned lands. The resulting report on conditions of forests in Arizona will be given to land managers, extension agents and others, with recommendations for preventing problems.

"By putting all of the information into a GIS [Geographic Information Systems] database we'll hopefully be able to provide some trend information fairly quickly to give to extension agents about long-term conditions," Rautenkranz says.

Alix Rogstad joined the UA Pima County Extension Office and the CALS School of Renewable Natural Resources in November 2002 as an area assistant agent in natural resources. As the State Fire Education Coordinator, she is coordinating and developing an overall fire education strategy for Arizona in collaboration with the state forester and other agencies and organizations.

As part of the National Association of Professional Forestry Schools and Colleges (NAPFSC), the University of Arizona College of Agriculture and Life Sciences (CALS) works with state and local governments, tribal governments and private landowners to develop a national direction and strategy for advancing the sound stewardship and management of non-federal forests. Patrick Reid, director of the CALS School of Renewable Natural Resources, is president of NAPFSC and serves on the national Fire Research Coordination Council.

In Arizona, 647,000 acres burned in 2002, nearly six times the yearly average of 116,760 acres from 1992-2001. Those wildfires resulted in the loss of 473 homes and structures, firefighting costs of over \$50 million, private property losses of over \$20 million, and 8,000 acres of private land in need of recovery and mitigation at a cost of over \$1,000/acre. With another fire season underway in 2003, faculty and professionals involved in the forest health and FIREWISE programs want to make sure the people of Arizona have the tools and information they need to make the right choices for their homes, yards and families. ■

For ideas on how to protect your home, see back cover.



FIREWISE Resources

The FIREWISE program features a wide variety of information, workshops and seminars geared to helping homeowners make their homes and communities more fire resistant in an ecologically sound manner. To download bulletins and home checklists see cals.arizona.edu/firewise

Other Firewise publications can be purchased in hard copy through CALSmart Online, at cals.arizona.edu/calsmart, or call CALSmart toll-free at (877) 763-5315.

Forest Health Program

In cooperation with the USDA Forest Service the Arizona Forest Health Program provides assistance to protect, improve, and restore forested ecosystems from the adverse effects of insects and diseases in the State of Arizona with emphasis on private and state owned lands.

The Forest Health Program, with specialists in entomology, plant pathology and invasive species, provides a wide range of education and assistance programs to, and in coordination with, state forest land resource managers, county extension offices, private landowners, and the general public (youth and adults) including:

- Aerial and ground detection surveys
- On-site evaluation of forest pest problems and impact assessments
- Strategies for managing forest insect and disease outbreaks
- Training programs tailored to specific needs of resource managers
- Pesticide use and management information, including development of technologies for management of noxious and native invasive plants
- Technology transfer through demonstration projects, publications, and workshops

For more information contact Tom DeGomez, Extension Forest Health Specialist, at (928)523-8385, or degomez@cals.arizona.edu.