

REGAINING LOST GROUND

ECOLOGICAL RESTORATION

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NEWS

Hogans Built From a Dream and Small Trees

Many people involved in projects associated with restoring the ponderosa pine forest recently celebrated with the Navajo Nation in unveiling the first completed modular hogan built from small-diameter logs.

Indigenous Community Enterprises of Northern Arizona University displayed its first model hogan in Cameron August 31 to a crowd of several hundred people.

"The Navajo Hogan Project is just a really incredibly exciting program in the sense that it brings together two problems—an issue of what to do with all the restoration thinning from the forests around Flagstaff, and how to create economic development opportunities in this community [Cameron]," said ICE Executive Director Brett KenCairn.

Two years ago KenCairn dreamed up the idea with members of the Navajo Nation and has worked to bring together engineers, foresters and Navajo leaders, along with the funding, to make the vision a reality.

The hogan is styled after traditional hogans with a bathroom addition and a self-contained composting toilet. A wood stove in the center of the octagonal structure heats the home. Each modular hogan is estimated to cost between \$30,000 and \$40,000.



This hogan prototype in Cameron is open for potential modular hogan homeowners to explore.

see "Hogans"



Student Draws on Roots to Understand Traditional Cherokee Land Uses



Nikki Cooley

After a childhood of herding sheep, riding horses and tending fields of squash, corn and sunflowers with her grandfather in Shonto, Arizona, 21-year-old Nikki Cooley says she quickly learned that the indoors work of a psychology major wasn't for her.

"I did not enjoy sitting and attempting to analyze people's problems and personalities."

Longing to spend her time outdoors, Cooley turned to NAU's School of Forestry. As an undergraduate student, she is working on a fire history project for the Ecological Restoration Institute. Her work takes her to the Smokey Mountains of North Carolina where she is researching how the Cherokee Indians traditionally used fire.

"The Cherokees would use fire to take care of their land by clearing out chestnut blight, other threatening insects, accumulating fuel loads and unhealthy or unwanted plant species in the southeastern forests. But the Forest Service put a stop to that because fire was considered a threat to homes, to people and aesthetic view of the landscape," she says.

By drawing on her own Navajo heritage, Cooley says she can relate to the Cherokee people. "I can identify with the Cherokee Tribe because both our tribes have gone through hardship and are now trying to hold on to our culture and traditions. That is very difficult in modern society where the culture is constantly changing."

That connection has helped open doors as she has sought people to interview. "The first person I reached found out that I was Navajo and asked me how well I knew my culture and my own traditions. She was very impressed by how much I knew and became more open and willing to answer my questions and meet with me."

see "Roots"



National Forest Policy Leaders Take a Field Trip to Flagstaff

Using the Gus Pearson Natural Area, just north of Flagstaff, as an example of where science is being used to heal ponderosa pine forest ecosystems in poor forest health, Sen. Jon Kyl invited U.S. Interior Secretary Gayle Norton and a number of other dignitaries to Arizona in August.

Norton told a gathering that included more than 75 media representatives that she was impressed with the work being done and fascinated by the scientific understanding of the overcrowded forests of the West.

She also acknowledged concerns from groups such as Southwest Forest Alliance regarding a one-size-fits-all approach to forest restoration, saying that restoration efforts are and will be designed for each individual site.

ERI Executive Director Wally Covington led the group on a tour through the restoration project, pointing out acres that have been treated with varying prescriptions.

Norton said that the wood from the small diameter trees removed from treated areas is a form of energy that requires more study.

Others in the group included Forest Service Chief Dale Bosworth and Congressman Jeff Flake, R-Mesa.

U.S. Sen. Jon Kyl and U.S. Interior Secretary Gayle Norton discuss the need for restoration in our southwestern forests while visiting the Gus Pearson Natural Area



Forestry Professor Continues the Legacy

Saying that we owe it to the early scientists to continue their legacy, School of Forestry Professor Margaret Moore's work takes her to historical plots where researchers such as T. S. Woolsey, Jr., and Gus Pearson gathered data to determine how forest conditions change over time.

The Woolsey Plots were established between 1910 and 1915 in the ponderosa pine, mixed conifer and spruce forests of the Southwest.

Moore says she enjoys "digging up" the historical data by finding old maps and recovering original plots. Ecological Restoration Institute Research Technicians David Huffman and Joe Crouse, along with research crews, have been working with Moore gathering and analyzing data.

"These historical permanent plots are extremely valuable as reference sites," she says.

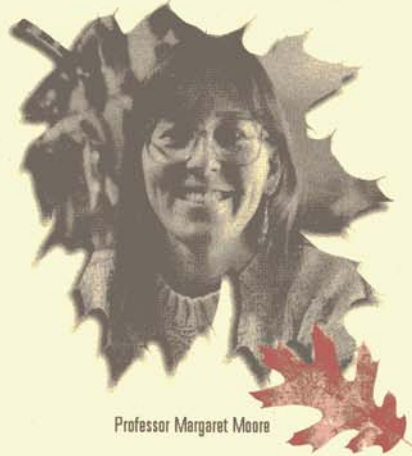
Some of the plots are in the Los Alamos, New Mexico, area. "In 1997, we set out to determine if these plots still existed. They did. Two of them were completely intact with most of the original tags, while the one on the edge of town was mostly engulfed by a residential area. Some of the trees on that one were in folks' yards and down a small drainage. We relocated, remapped and collected data on the two plots that were intact," she says.

The Cerro Grande fire that devastated the community of Los Alamos in May 2000 burned through two of the plots. "We went back to the plots this summer, one year later, and collected post-fire data."

Moore also is involved in projects that deal with modeling changes in vegetation, land use and fire behavior at the landscape level. Using remote sensing and GIS technologies, Moore, Crouse and ERI Assistant Professor Pete Fulé are analyzing and displaying information collected along an elevational gradient up the San Francisco Peaks and studying other land use changes in the Fort Valley area near Flagstaff.

Other graduate student projects Moore is working on include studying how plants like lupine, pine dropseed and ceanothus respond to various restoration treatments such as thinning, thinning and burning, and no treatment.

For a professor who started out in college as a pre-med student, nothing is more rewarding to Margaret Moore than delivering a lecture that students enjoy, and learning more about the basic ecology of the Colorado Plateau.



Professor Margaret Moore

ECOLOGICAL RESTORATION NEWS Regaining Lost Ground

is a newsletter from NAU's Ecological Restoration Institute. The intent of this publication is to share information, discoveries and successes in the work being done to restore the southwestern forests.



Hogans continued

"This will be an example of an affordable home for a Navajo family on the Navajo Nation," said Navajo Nation President Kelsey Begaye.

The hogan is also an example of how to bring down the cost of restoration thinning projects. "By using this type of wood, the cost of forest restoration would be reduced from \$800 per acre to an average of \$50 to \$100 per acre, so it's a cost saving measure for the Forest Service," said KenCairn.

One of the big problems with ecological restoration has been finding a use for the hundreds of thousands of acres of small diameter trees that have to be removed to restore natural conditions. "The Hogan Project gives us options besides burning and chipping the small trees or leaving the material on the ground," said Coconino National Forest Mormon Lake Ranger Bruce Greco.

Two more hogan prototypes using six- to nine-inch diameter logs are scheduled for construction this fall. One is being built on NAU's south campus outside the Southwest Forest Science Complex building. ICE expects to start hiring workers and delivering its first hogan homes before the end of the year.

"The Hogan Project is a great example of how innovative techniques can be used to not only restore the forest ecosystem but also restore an important cultural element for the Navajo people," said Ecological Restoration Institute Director Wally Covington.

The Hogan Project is one of the many research projects to receive Congressional funding through the ERI.

Roots continued

Not only has she learned a lot about the natural fire intervals of the lodgepole and shortleaf pine forests of North Carolina, Cooley's project also has taught her how to locate informational sources on her own and how to conduct interviews.

"Traditional knowledge is embedded in the oral histories, language, songs, stories and ceremonies of the people," says NAU Center for Excellence in Education Associate Professor Sally Oran, who is coaching Cooley on qualitative research skills. "Nikki has learned how to sensitively enter the Cherokee community, respect the Tribal Council research guidelines, follow established research methods, and listen as generous Cherokee elders and leaders share their knowledge about the land. The voices of native peoples are often omitted or distorted in forums where people are concerned about land use and sustainability. Nikki's research demonstrates the wealth of knowledge the Cherokee people have about their land."

Cooley's fire history research, funded jointly by the ERI and the Forest Service's Coweeta Hydrologic Laboratory in North Carolina, is expected to help complete the picture of how indigenous people used fire on their lands.

"This project illustrates many of the commonalities that exist among distant and diverse communities and explores practical applications for ecological restoration on Native American lands and resources," says NAU Associate Professor of Wildlife Restoration and Traditional Ecological Knowledge Thom Alcoze. "The fire management practices of Native peoples represent an important tool for landscape modification and sustainable harvest of natural resources."



Local students used magnifying glasses to study tree rings during the Flagstaff Festival of Science. Ecological Restoration Institute staff members shared tree facts and hands-on activities with hundreds of children who participated in the Festival's Science in the Park.



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