

REGAINING LOST GROUND

# ECOLOGICAL RESTORATION

SPRING 2002

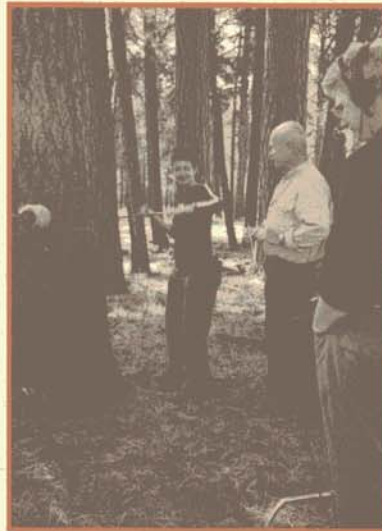
NEWS

## ERI To Be Featured in *The Sacred Balance*

**I**t's been said that the past half century has been a period of unprecedented change, in which the development of immense technological power has been matched by widespread environmental destruction as well as human suffering.

In his book *The Sacred Balance*, Dr. David Suzuki, eminent geneticist, environmentalist and broadcaster, presents a new vision of the human place in nature. He says we have been trapped in a set of dangerous false premises, believing that we humans are separate from nature, that reason is the only route to truth, that experimental science alone describes reality, and that spirituality is optional.

Inspired by the book, the Canadian Broadcasting Company (CBC) and the Public Broadcasting System (PBS) have collaborated on a four-hour television series called *The Sacred Balance*. Production crews have assembled all over the world to tell the story of the human connection with earth, air, water and fire.

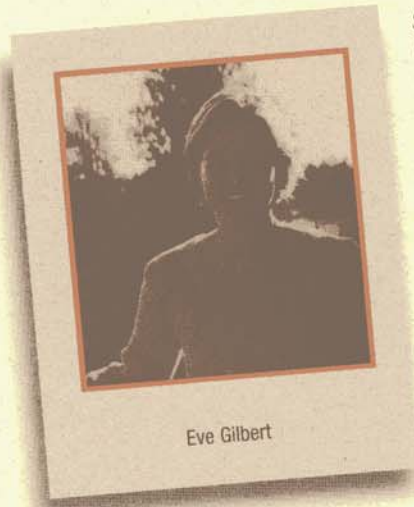


*Sacred Balance* film director Michelle Metivier learns to use an increment borer from ERI Program Liaison Doc Smith as production crew members look on at Fort Valley.

see "Sacred Balance"



## Gilbert is ERI's Biggest Beetles Fan



Eve Gilbert

Something in the way they move attracts her like no other researcher.

"I just love beetles," says ERI student worker Eve Gilbert. "They are so beautiful. There are so many different kinds and colors, and they live in just about every ecological niche on the planet. They are just fascinating to me."

When she's not checking her pitfall traps at research sites

on Mount Trumbull, north of the Grand Canyon, Gilbert can often be found at a microscope in NAU's ecology lab.

"I'm looking to see the tarsi formula, the last segment of a beetle's leg, or where the legs are positioned, or how the antenna is shaped so I can identify the beetle."

Gilbert pays special attention to bark and ground beetles as bioindicators of forest health. She says the data tells her what kind and how many beetles are inhabiting research plots in both restoration and control sites. "By looking at their population sizes, you can determine what the forest is like, how healthy it is. Beetles can be serious pests, and when trees aren't strong enough to defend themselves against beetle infestation, a bark beetle attack can do serious damage and kill trees."

And because they are at the lower levels of the food chain, Gilbert says the volume and diversity of the insects can reveal what the birds and small mammals are eating.

Discovering clues and examining evidence is not a new interest of Gilbert's. As an undergrad, she was originally a criminal justice major who wanted to investigate crime scenes. That was before a forest entomology class served as the pit-fall trap that captured her interest in forestry.

"Working for the ERI and getting paid for going camping in the forest is a job I never thought I'd have," Gilbert says. "It's been great fun from the beginning and an incredible learning experience for me."





Daniels measures up to an old growth ponderosa pine tree known as "Big Granddaddy" on Mount Trumbull.

## ERI Develops Arizona Mountain Plants Field Guide

Spurred by outdated and incomplete information about northern Arizona forest plants, ERI botanists and ecologists want to share their notes from the field with tourists, land managers, gardeners, scientists and students.



ERI Research Specialist Mark Daniels identifies and records plants in a research plot on the San Francisco Peaks.

"Ever since I moved here I've been frustrated by the lack of a good field guide for the area, which is why it's so satisfying to be involved in this project," says research specialist Mark Daniels. Judy Springer, also an ERI research specialist who is heading up the project, agrees. "So much has changed in just 50 years. New species, subspecies and varieties are still occasionally discovered, new plants are moving into the area, and DNA testing is changing the way we classify and name plants."

The group, which also includes research specialist Kristin Huisinga and research technicians Greg Verkamp and Mike Stoddard, is talking with Lone Pine, a publishing company that specializes in field guides, and has applied for a grant from the U.S. Fish and Wildlife Foundation to cover costs for travel, photographs and detailed illustrations.

"We want to offer restoration information about how to successfully rebuild plant

see "Field Guide"



## The Politics of Restoring Forest Health Brings Cortner to the ERI

For Hanna Cortner, Ph.D., restoration is not just about applying science to the biophysical landscape. “We got into needing restoration through dysfunctional politics, so we can’t correct and restore the health of the forest with technical fixes alone. We also have to look at the institutional challenges and the policy fixes,” she says.

Cortner, ERI’s new associate director, comes to northern Arizona from the University of Arizona in Tucson. There she had been a professor in the School of Renewable Natural Resources and was director of the Water Resources Research Center.

“Having someone of Hanna Cortner’s national reputation at the ERI greatly expands our capabilities,” says ERI Director Wally

Covington, Ph.D. “As associate director, she will be able to rely on her academic expertise in ecosystem management policy and her leadership experience as the director of an important research center to help guide the Institute through its challenges. We are indeed fortunate to have her on board.”

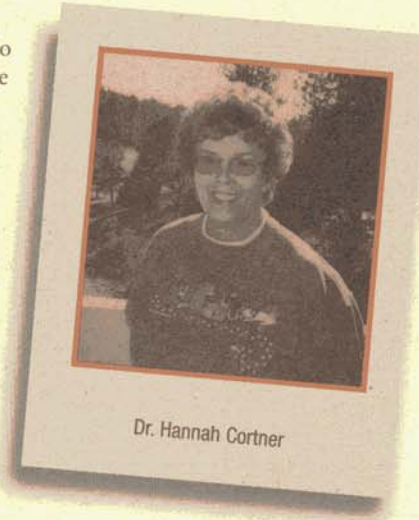
Cortner says she was drawn to the ERI because of the exciting opportunities to help expand a program that was doing meaningful applied research and outreach.

“I see my role as working to develop the law and policy component in an institute that mostly was focused on the biophysical science. The biggest challenge the ERI currently faces is accommodating the rapid organizational growth. We have gone through the strategic planning exercise, which has helped us to create our vision, and now we can expand upon those areas we’ve identified,” she says.

Cortner’s interest in political science was influenced by her high school American government teacher and through the books *The Ugly American* and *Advise and Consent*.

Since those impressionable high school years, Cortner has written two books of her own, a textbook of readings and commentary on American environmental history called *State and Nature*, and *The Politics of Ecosystem Management*, which she co-authored with ERI Senior Research Specialist Ann Moote.

see “Cortner”



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### **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.



## Sacred Balance continued

And it is that element, fire, that brought a crew directed by Michelle Metivier to Flagstaff to visit with the Ecological Restoration Institute. "Fire is perceived as destructive, when in fact it is constructive and needed to maintain a balanced ecosystem," she says.

Armed with fire scars and an increment borer, ERI Program Liaison Doc Smith led the crew through the woods at Fort Valley for a crash course in fire ecology.

"The CBC was most interested in the concepts of ecosystem restoration and the conflict between the environmental community and what we do. They couldn't understand how the environmental community couldn't accept the science that reveals the forest health benefits of thinning and burning, and the critical need to restore the ponderosa pine forest to a near presettlement condition," Smith says.

Dr. Suzuki will serve as the guide in the series as he interviews philosophers, scholars, priests, shamans and artists. Scientists such as E.O. Wilson, Ary Goldberger, Brian Goodwin, Daniel Hillel, Stephan Lansing and Lynn

Margulis will be featured as well.

*The Sacred Balance* sets out to explore the belief that once we reclaim our ancient understanding of the intimate, indissoluble connection between ourselves and the planet, we will change the way we act toward it.

The series is expected to air in 2003.



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## Congress Identifies Millions for Forest Restoration

In a move that demonstrates a continued commitment to the job of restoring health to our nation's southwestern forests, Congress has appropriated \$2.38 million to the ERI for research and restorative treatments.

ERI Director Wally Covington credits Arizona Sen. Jon Kyl's leadership and dedication to conservation for keeping lawmakers' attention focused on the dire conditions in the ponderosa pine forests.

Projects that will receive funding include those at Mount Trumbull on the North Rim of the Grand Canyon where the land was heavily grazed in the late 1800s; fire regime research in the mixed conifer on the San Francisco Peaks; urban wildland interface treatments near mountain communities such as Springerville; and presettlement forest structure research on historic plots in northern New Mexico and Arizona.



## Cortner continued

"What's really rewarding to me is when I work with government policy-making bodies, scientific advisory boards, non-profit groups, or professional organizations on projects that will help change policy," she says.

Cortner's other interests include cross-stitch embroidery and traveling with her husband of 31 years, Richard.



## Field Guide continued

communities within the forest, including information about propagation, seed dispersal, rate of colonization, and whether or not specific species are good candidates for carrying fire or preventing soil erosion," Springer says.

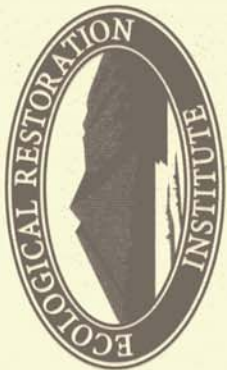
The field guide will also include information on human and wildlife uses and offer descriptions, photos and line drawings for each species.

The group has gathered and compiled information on some 200 species of trees, shrubs, grasses and wildflowers thus far, and has about 400 more to go.

Springer says a target date of spring 2003 has been set for the researchers to submit their information to the publisher. They hope to have the field guide completed and available in bookstores by 2004.

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Ecological Restoration Institute  
PO Box 15017  
Flagstaff AZ 86011-5017

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