

REGAINING LOST GROUND

ECOLOGICAL RESTORATION

SPRING 2001

NEWS

Senator Kyl Praises Ponderosa Pine Ecological Restoration Efforts

Before an audience of scientists, researchers, foresters, students, and community leaders, U.S. Sen. Jon Kyl (R-Ariz.) said he feels like an instrument being used to help restore and preserve the environment, particularly the ponderosa pine forest. "You are the ones who bring to me the needs and the specific solutions to those needs, and we then work together to find the means to achieve the goals," he said.



ERI Program Liaison Doc Smith gave a tour of the historic Gus Pearson Natural Area to those gathered to hear U.S. Sen. Jon Kyl. Pictured (L-R) are interim dean for the College of Ecosystem Science and Management Don Arganbright, Smith, Grand Canyon Trust President Geoff Barnard, Michael Macauley of the Coconino Natural Resource Conservation District, and Kyl.

The group gathered in late November at the Gus Pearson Natural Area, a historic forest research station just north of Flagstaff. They were celebrating ongoing restoration efforts and the opportunity to move forward with more on-the-ground treatments that will be funded by the nearly \$8.8 million Congress has allocated to the Ecological Restoration Institute.

The funding will support research, thinning projects, and prescribed burns conducted by such agencies and organizations as the Forest Service, the Bureau of Land Management, the Grand Canyon Forests Partnership, the City of Flagstaff, and the Arizona State Land Department.

see "Senator Kyl"



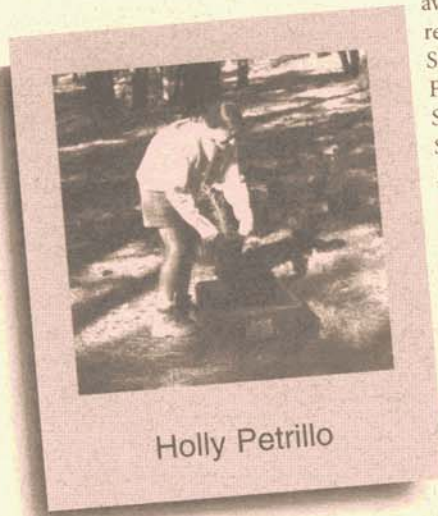
Aphid Invasion

When Holly Petrillo traveled from Philadelphia to Flagstaff, her love for the outdoors followed her. In fact, it is what brought her to NAU. But then, aphids took over.

For her senior project, Petrillo conducted a study of the effects of aphids on senecio, a plant in the sunflower family. The study took place on Mount Trumbull during summer 1999 where she was already helping ERI Research Specialist Amy Waltz with a butterfly study. Petrillo noticed a large amount of aphids covering only certain plants and became very interested in their interaction.

After researching the aphids throughout the summer, she found that the aphids keep bees from getting near plants and spreading pollen. Her research also showed a decrease in flower opening. Petrillo presented her work at the Ecological Society of America conference in Snowbird, Utah last August.

Petrillo has been working for the Ecological Restoration Institute for more than two years, working in the lab as well as in the field. Strongly supported by the School of Forestry, she has earned the most scholarships the school has ever

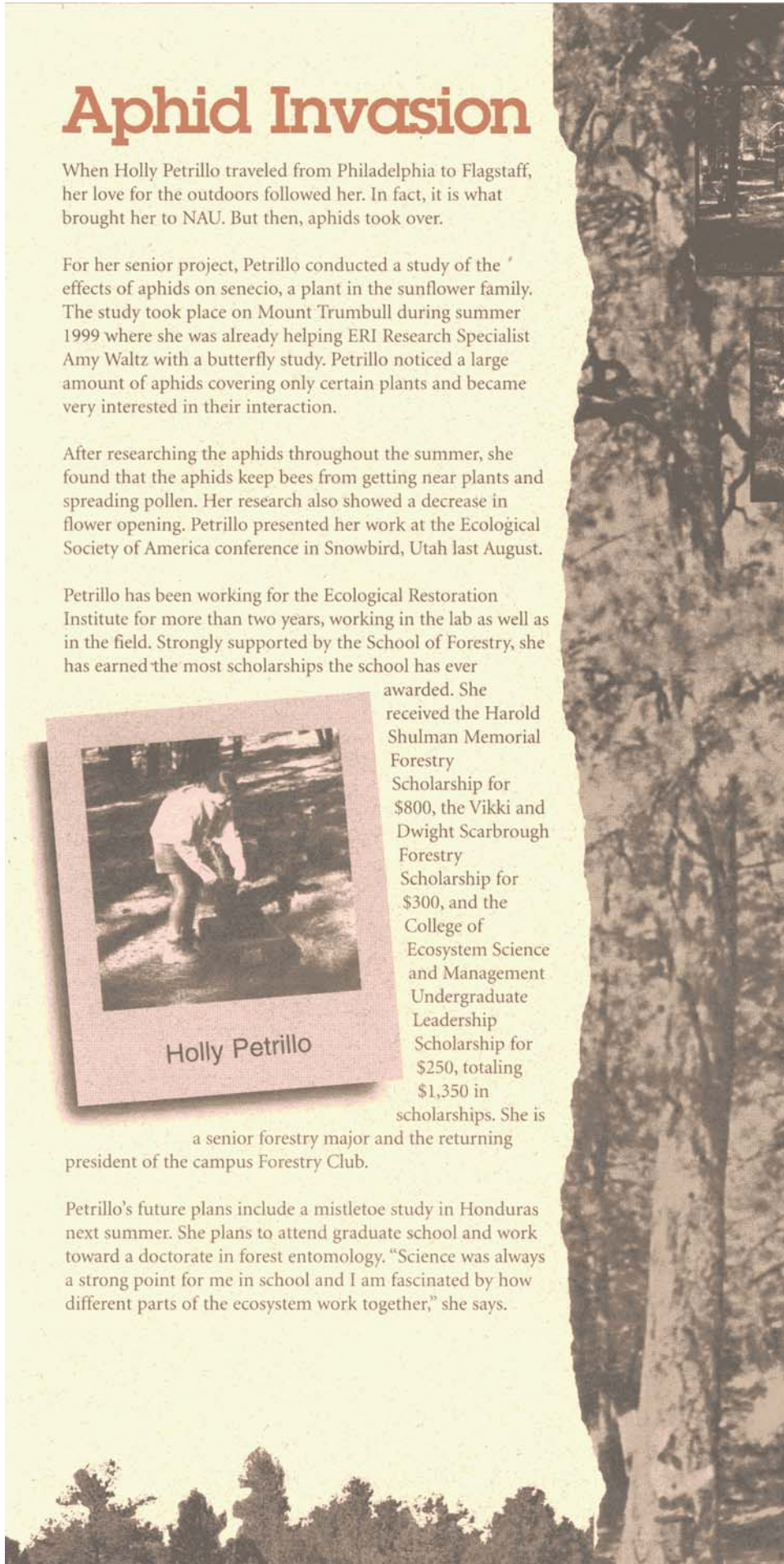


Holly Petrillo

awarded. She received the Harold Shulman Memorial Forestry Scholarship for \$800, the Vikki and Dwight Scarbrough Forestry Scholarship for \$300, and the College of Ecosystem Science and Management Undergraduate Leadership Scholarship for \$250, totaling \$1,350 in scholarships. She is

a senior forestry major and the returning president of the campus Forestry Club.

Petrillo's future plans include a mistletoe study in Honduras next summer. She plans to attend graduate school and work toward a doctorate in forest entomology. "Science was always a strong point for me in school and I am fascinated by how different parts of the ecosystem work together," she says.





Into the Forest

Believing in learning by doing, NAU professor and Ecological Restoration Institute Staff Director Pete Fulé has taken his students out of the classroom and into the forest for some hands-on lessons in restoration. With twenty-five acres of undeveloped land on campus, Fulé has seized the opportunity to put restoration ideas into practice.

This is the second year of a ten-year program, which will allow students in ecological restoration applications to learn interactively about forest restoration. The students meet at the Lone Tree Site on the far end of South Campus and put their textbook lessons into action. "The goal of this class is to provide an outdoor learning environment where students can see the phases of restoration and implement their own ideas through individual projects," says research assistant Julie Korb, who is helping to teach the course.

Each year the class chooses two or three acres of the land to restore. The class project includes thinning trees, reintroducing fire with the help of the Flagstaff Fire Department, and seeding with native plants. Given the assignment of trying to improve last year's treatment, this year's students have prescribed a clumping method of thinning. The clumping treatment calls for leaving three trees that are next to each other where there is evidence of one presettlement tree.

Various disciplines are represented in the class and a science background is not required. Chris Flynn, a student working on her master's degree in liberal studies, says she has learned a lot from this class even though she has never taken any other forestry classes. "I notice myself thinking differently now, compared to the beginning of class. I have realized that I think less subjectively and more scientifically. I never used to be able to think in terms of graphs and statistics." Meantime, Korb says the forestry students are learning from the nonforestry majors. "They ask different questions and they provide interesting perspectives, making class discussions a better learning experience for everyone."

This class also is a mix of graduate and undergraduate students. Graduate students are required to create their own research projects. These students act as mentors showing the undergrads the different steps in the research process. Undergrad students help the grad students with their research projects and add insight. "There is such a good mix of ideas and views. Everyone is learning from everyone. The forestry majors, the nonforestry majors, the graduate students, and the undergraduate students all bring something unique to this class," says Korb.

Graduate student Jan Busco is hoping to use the Lone Tree Site to share information about the benefits of the forest restoration treatments. She says she will use web sites, surveys, and articles in her public information plan. Says Fulé: "This class gives students the opportunity to participate in a collaborative project with instructors, students, and hands-on application to textbook lessons."

Enhancing Ethnoecology

When the first snow came, Laurie Monti described herself as a desert rat away from her comfortable warm surroundings. Recently here after years in Tucson, she may feel out of place in the snow but she says she feels like a perfect fit at the Ecological Restoration Institute. Her unique background in ethnoecology has added insight to studies here and she hopes to continue to integrate her area of specialty, Native American perspectives and uses of the forests.

Monti has conducted many research studies concerning human interactions with the environment. She currently is working with the Seri Indian tribe in Sonora, Mexico studying the ecology of the ironwood, a tree in the Sonoran desert. This tree is sacred to the Seri tribe and is considered both a cultural and ecological keystone. Her work has already resulted in the establishment of the Ironwood National Monument. She is also coordinating a project in traditional western ecology knowledge where she monitors birds, reptiles, and plants on the Seri tribe land.

In addition, Monti has a strong interest in medicinal plant ecology. Her observations of native people's use of medicinal plants concentrate on the effectiveness of the plants and tribal harvesting practices. She says the tradition of using medicinal plants is an important aspect of indigenous studies. She is looking at the effect harvesting the plants has on the ecosystems, as well as the effect that restoration treatments have on the availability of the medicinal plants to the native peoples.

Monti says she is delighted to be a part of a team that is so interdisciplinary. "I am very impressed with the ERI because of the leadership of the researchers and the students in the lab. It is a great place to be and a lot of fun."

The ERI is equally impressed with her knowledge and ability. "Laurie Monti is a vital part of the efforts of the ERI to expand restoration and ecology studies to different areas of specialty," says ERI Staff Director Pete Fulé. "Her background and experience will help the Institute in its goal to understand all areas of the forest and its many uses."

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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.



Senator Kyl continued

Kyl spoke of the urgency to take on large-scale projects. "The General Accounting Office has put out a study demonstrating that we have less than twenty-five years to get more than thirty million acres of land treated...if we don't do it within the period of time prescribed, either through disease or through wildfire, we are going to lose a lot of these forests."

NAU President Clara M. Lovett said the university is proud of the nationally recognized leadership role the ERI plays in developing the scientific understanding required to restore degraded western forests. "Every year we did more research, we realized how important our work is, not only for our local community, but for the whole state

"...we have less than twenty-five years to get more than thirty million acres of land treated..."

U.S. Sen. Jon Kyl

of Arizona, for the western region of the United States, and indeed for the nation. Senator Kyl clearly understood this from his early days in the U.S. Senate and the

combination of his work with our faculty and staff, the partnerships we have established with the Grand Canyon Trust, with the Forest Service and other entities."

Lovett also announced that the new institute, housed in the College of Ecosystem Science and Management, is operating at the university level drawing from campuswide strength in such diverse fields as philosophy, biology, education, communications, and sociology.



U.S. Sen Jon Kyl told a crowd north of Flagstaff that he feels like an instrument being used to help restore and preserve the environment, particularly the ponderosa forest.

Lovett also congratulated the fifteen organizations, agencies, and businesses that comprise the Grand Canyon Forests Partnership for their great strides in collaborative, science-based restoration solutions.

City of Flagstaff Mayor Joe Donaldson applauded the support and cooperation from the Flagstaff community in recognizing the need for forest restoration. "Many of the values that define our community, and by that I mean economic, social, cultural, and spiritual values, are closely associated with the fact that Flagstaff sits in the middle of the largest continuous stand of ponderosa pine in the world. The Partnership and the city stand ready to remain committed to protect these values at risk."



Restoration Conference Brings Practitioners Together

National leaders in ecology will be featured at NAU's conference:

Putting the Pieces Together: Practicing Forest Ecosystem Restoration, April 25-28.

Guest speakers will include Forest Service Deputy Chief for National Forest Systems Jim Furnish, Ecological Restoration Institute Director W. Wallace Covington, and NAU's Center for Sustainable Environments Director Gary Nabhan.

The conference will address the challenges of restoring the ponderosa pine forests such as the development of solid science and adaptive treatments, and the coordination of community action.

The conference will be part of the Grand Canyon Forests Festival 2001, a week of activities in Flagstaff to reconnect people with the forests and encourage community discussions about forest health. Events include a concert by slide guitarist Kelly Joe Phelps, Earth Day and Arbor Day celebrations, an environmental education conference for youth, hikes, field trips, a hogan construction project, and more.

For information about *Putting the Pieces Together* or the festival, visit the ERI website at www.eri.nau.edu.

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