



IN COMMON

FALL 2004

A NEWSLETTER FOR ALUMNI & FRIENDS OF THE GAYLORD NELSON INSTITUTE FOR ENVIRONMENTAL STUDIES, UW-MADISON

Tradition and Technology Joined in Learning Project

High-tech geospatial tools will be paired with traditional Native knowledge of the land to create learning opportunities for Alaskan students, teachers and community members in a new project led by researchers at the University of Wisconsin-Madison.

The National Science Foundation has awarded \$869,000 to the university's Environmental Remote Sensing Center (ERSC) and two partners, the University of Alaska-Fairbanks and the Alaska Division of Geological & Geophysical Surveys (DGGs), to develop the program "Mapping Technology Experiences with Alaska's Cultural Heritage," or MapTEACH, a system of after-school and summer learning activities that will include annual field camps in rural Alaska.

The goals of the three-year project are to educate students, teachers and others in geospatial information technology that applies to their local conditions; relate modern science and technology to traditional knowledge; and help develop a growing and sustainable rural economy.

Honoring Tradition

"The idea is to try to find new ways to tell old stories about the landscape," says project director **Timothy Olsen**, a staff member at ERSC, part of the Gaylord Nelson Institute for Environmental Studies.

In rural Alaskan communities, many people have a deep and extensive knowledge of the landscape and of the natural resources that exist out there. So there's real expertise, and



De Anne Stevens sets up GPS equipment near Council, Alaska.

this project gives us a chance to try to build on that using geospatial information technology."

The project has targeted three localities in Alaska, including some of its most economically challenged rural areas.

"Some of these communities are extremely rural, lacking most of the modern amenities that we take for granted in other parts of the country," says **De Anne Stevens**, a DGGs geologist who

completed a professional master's degree in the Nelson Institute's Environmental Monitoring Program last year. "The communities are frequently very small, with very few teachers."

Stevens and Olsen developed the idea for the project through discussions about educational needs in rural Alaska, where Stevens frequently works in the field. She's been interested in finding ways to make geologic maps and other DGGs products more accessible to local people, and Olsen has long had a keen interest in technological education for young people. They sought funding under a special NSF program to promote just that.

MapTEACH will introduce participants to technologies such as satellite and aerial photographs and analysis, global positioning system (GPS) satellites and transmitters, and computer mapping and modeling. Olsen says these tools will allow local people to build on long-practiced methods of characterizing the landscape, particularly among Native Alaskans.

continued on page 4

Reflections on a 34-Year Relationship

By Erhard Joeres, Nelson Institute
Interim Director

During my first winter in Madison, 1970–71, Lake Mendota was frozen for 110 days. Last winter it froze for only 80 days, after hitting a record low of 21 days the winter of 2001–02. As evidence of a changing environment has penetrated the popular consciousness, so has the importance of the Nelson Institute grown for the UW–Madison campus and the world beyond.

I've enjoyed serving as interim director for the last two years. I guess I've had the "IES bug" from day one. My association with the institute started with my arrival on campus, indirectly at first. That was the semester the Institute for Environmental Studies was created to provide a home for faculty and students doing interdisciplinary research on environmental problems.

I immediately joined the faculty program committee of the Water Resources Management (WRM) master's program. Even then its office was next door to IES in Science Hall. WRM operated as a free-standing committee degree program directly out of the office of the dean of the

graduate school. My then-department chair in Civil and Environmental Engineering, **Arno Lenz**, had been one of WRM's founders in 1965. His request to have me represent the department on the program committee was most welcome, as I had earned a similar degree as part of my graduate training.

One of the triggers for IES to become the home for interdisciplinary environmental degree programs on campus was — surprise — the Vietnam War. President Lyndon Johnson had assured the nation that our economy

"The classical Greeks had defined the world as being made up of land, water, energy, and air... We had finally caught up with them."

could easily absorb the cost of the war ("we can have guns and butter"). This proved to be false. The economic downturn during the subsequent Nixon administration brought an end to many federal grants, including the one that funded WRM. The program needed an administrative home to survive. IES had become the locus for graduate students with interdisciplinary environmental interests that could then only be met by a cumbersome committee degree process. It welcomed WRM, which thus in 1972 became IES's first graduate degree program.

Soon after that, a group of faculty proposed the master's and doctoral Land Resources (LR) Program in IES. That program's individually tailored degrees derive their inspiration from Aldo Leopold's land ethic: everything in the environment connects with the land.

All of the current Nelson Institute graduate programs, and its undergraduate certificate, evolved from the inter-



Erhard Joeres

disciplinary foundations set by WRM and LR. I chaired the WRM program from 1980–88, except during a Fulbright hiatus in Munich during 1983–84, when **Steve Born** filled in as chair. After 1980 I also joined the program faculty of the Energy Analysis and Policy (EAP) Program. In 1990 I became chair of the Land Resources Program, a position I occupied for only two years because of a growing interest in air pollution. The classical Greeks had defined the world as being made up of land, water, energy, and air. I led the formation of a faculty group that became the program committee for a new Air Resources Management (ARM) master's degree program. We had finally caught up with the Greeks.

My ARM chairmanship ended in 1996 when I was elected chair of Nelson Institute Academic Programs. I also chaired my home department of Civil & Environmental Engineering in 1999, which gave me the opportunity to wear two hats for that academic year, until a successor took over the Nelson academic chair. Over the years, I have advised 43 environmental studies graduate students and served on the committees of about 100 more.

Given my strong connections to the Nelson Institute, I was honored when in December 2002 the provost and chancellor asked me to fill in as interim director to fill the capable shoes of Director **Tom Yuill** until a successor could be appointed. This was an offer I could not refuse. It again

continued on page 6

IN COMMON

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Exploring Free Market Environmentalism in Montana

by Eric Raffini (M.S., WRM 03)

It's a cool June evening, and after a seemingly endless sunset, darkness has settled in. I'm standing outside my one-room cabin at the Roosevelt Lodge in Yellowstone National Park with other fellows from the Kinship Conservation Institute, and we're talking with wildlife biologist Hank Fischer about how, in 1991, he managed to convince a diverse group of stakeholders — including ranchers, environmentalists and Washington bureaucrats — to allow the reintroduction of gray wolves into the Yellowstone ecosystem.

Fischer, who now works for the National Wildlife Federation, has devoted much of his life to wolf reintroduction. It was his idea to set up a compensation fund to reimburse ranchers for livestock losses due to wolf kills, which helped secure the deal.

Earlier in the afternoon, we spotted a mother grizzly bear and her two cubs, four black bears, a coyote, numerous elk, moose, buffalo, and a pair of sandhill cranes. We even caught a lucky glimpse of a few gray wolves from the Druid pack moving outside

their den. Not bad for having been inside the park less than four hours.

But I'm here not just to spot wildlife, but to learn first-hand how market techniques, such as those used by Fischer, can be used to solve environmental problems.

The Kinship Conservation Institute is a month-long fellowship that brings together early-career conservationists interested in applying market-based approaches to environmental problems. This summer, the class consisted of 17 fellows representing eight countries, including Russia, Italy, South Africa, Sweden, Switzerland, Canada, and Pakistan. Our interests and chosen professions are as diverse as our origins. Among our group were environmental consultants, designers, homebuilders, a medical doctor, and staffers from non-profit organizations and federal and state agencies.

I first heard about the fellowship from a co-worker who thought I would enjoy escaping the summer heat to spend a month studying in Bozeman, Montana. I'm an environmental scientist for the U.S. Environmental Protection Agency's Office of Water in Washington, D.C.

In February, I submitted a research proposal to KCI to examine water-quality trading programs and ways to better integrate non-point source projects, such as wetland restoration and creation, into these programs.

My month at KCI involved much more than research. The fellowship included lectures and presentations on many aspects of environmental policy. We heard from experts in risk assessment, land conservation, fisheries and forest management, collaboration, global warming, and green marketing. The core of the KCI curriculum covered the basic tenets of resource economics, including supply and demand, markets, property rights, and interest rates/discounting.

Through field trips around Montana, we saw how markets are being used to manage resources. These included visits to cattle ranches, Yellowstone and Glacier national parks, and a private fly-fishing ranch.

We also discussed how current resource conflicts, such as the water scarcity issue in Oregon's Klamath Basin and over-fishing in the Gulf of Mexico, could benefit from market approaches.

Funded by Kinship Foundation, KCI is closely affiliated with PERC (Property and Environmental Research Center), a conservative think-tank that promotes market solutions to environmental problems. Many of the KCI faculty are also PERC research fellows. PERC is run by Terry Anderson, co-author of *Free Market Environmentalism* and perhaps the movement's biggest advocate.

To me and many of my colleagues, the very notion of "free market environmentalism" represented an oxymoron. Is it wise to allow markets determine natural resource allocation and use? Who would support the selling off of national parks such as Yellowstone to be run by Disney or

continued on page 5



Eric Raffini

Tradition and Technology

continued from page 1

“In the arctic tundra and subarctic areas of Alaska, people have traditionally gone out into the bush without maps. They’ve used oral stories to guide their way,” says Olsen. “The descriptions that people have heard from elders, and the experiences they have hunting, fishing and berry gathering, are the things that make them experts. What we want to do is help make a connection between that traditional expertise and this new information technology.”

Some of the technology has already found its way into rural Alaska, where people sometimes use GPS transmitters and other gear. Olsen says this project will give more community members opportunities for hands-on education in a range of high-tech tools.

Hands-On Instruction

MapTEACH will be implemented in two separate but content-equivalent formats to meet the unique requirements of reaching students in rural Alaska. Students serviced by centralized school districts will take part in a nine-week after-school program. Other more geographically dispersed students will be brought together in intensive studies institutes at established living and learning facilities for two weeks of full-time instruction.

“This is informal science education; it won’t actually take place in the classroom. It will take place after school and during the summer,” Olsen explains. “Participants will have an intensive two-week introduction to a number of topics, including cartography, topographic maps, geology, and glacial morphology, all connected to and building upon local knowledge of the landscape.”



Timothy Olsen

Participants will then take a week-long camping trip in the bush, where they’ll combine traditional knowledge with high-tech tools to measure and document the landscape.

“That will be the real test of how we can connect these two different ways of knowing,” says Olsen. “We’re looking for the interests and goals of local people to guide us in how we use the technology, so we’re going to listen to what they want to do and how they want to do it.”

Stevens says the curriculum is evolving based on local input in each of the three sites.

“Each group of materials will be tailored to speak to what’s going on in the landscape there,” she explains. “Students will be able to look out their own windows and see the things that we’re talking about and relate it not only to the science and technological imagery, but also to their own culture and history.”

Stevens says the project will help strengthen technical expertise in rural communities that often face growing issues of land ownership and land-use planning, and it will help students develop employable skills.

“We hope that young people will gain proficiencies that are marketable,” Olsen explains. “The U.S. Department of Labor recently identified geospatial

technology as one of the hottest trends in new technology; it’s going to be an area of tremendous growth in the economy.”

Marketable Skills

Olsen also says one of the driving forces behind the project is the need for sustainable development in many parts of rural Alaska.

“We’re trying to help people develop activities that bring a cash economy into very remote areas of rural Alaska, where at times there’s very little cash economy of any

kind,” he says. “So a very challenging and idealistic goal is not only to assist in the education of students and teachers, but to do it in such a way that they can have viable, meaningful work in rural areas of Alaska using high technology.”

The project could help develop and broaden business opportunities based on hunting and fishing, camping and hiking, gold prospecting, and other outdoor activities.

MapTEACH is funded under NSF’s Information Technology Experiences for Students and Teachers (ITEST) program, which is designed to increase opportunities for students and teachers to learn about and use information technologies (IT) within the context of science, technology, engineering, and mathematics, and aims to foster IT workforce development.

“We’ll measure our results according to the products that students and teachers create using the technology, and according to how they perceive how useful it is,” says Olsen. “We’re also going to look at general trends in academic performance. Alaska has a set of standards, and we hope to see improvements in those as well. But our primary goal is to improve geospatial information technology proficiencies in a marketable way.”

Land Tenure Center Finds New Home in Nelson Institute

UW–Madison’s Land Tenure Center (LTC), widely known for its path-breaking research and outreach on social issues related to land ownership and management, officially became part of the Nelson Institute in July.

LTC nearly succumbed in June to budget cuts in the university’s College of Agricultural and Life Sciences, where it had been housed. But faculty and staff members, led by interim center director **Tim Moermond**, spearheaded an effort to find LTC a new home and new support. The Nelson Institute subsequently agreed to host the center for at least three years, subject to review by the university’s Academic Planning Council after one year and the environmental studies faculty six months later.

“Many people on campus see this

as a wonderful story, where energy and commitment succeeded in turning things around for a good cause,” says Moermond, who retired in June as a professor of zoology and environmental studies.

While facing possible closure, LTC continued its high-profile work. In May, the center hosted the fourth in its series of “Who Owns America?” conferences, examining property-ownership trends among minority groups. Nearly 180 participants, including academics, community activists, and students, gathered in Madison to explore innovative ways to achieve equity in land policy and ownership in the United States.

Topics of current interest in the center include land redistribution and resettlement in southern African coun-

tries, land retention among minority communities throughout North America, and the socioeconomic impacts of recognizing women’s rights to land and property. Results of LTC’s research have appeared recently in such prominent information outlets as *National Geographic* and the Online NewsHour.

The center recently relocated to offices in the Mosse Humanities Building and has begun to regroup and reorganize. A new, soon-to-be-named governance committee, composed of faculty and staff members from many colleges and departments at UW–Madison, will help focus and define LTC’s applied research, education and outreach in the future.

“Being within the Nelson Institute gives us a tremendous opportunity to expand on our past success in stimulating interdisciplinary exchange on global issues of poverty, land management, social justice, and environment in new and creative ways,” says **Matt Turner**, the center’s new director and an associate professor of geography and environmental studies.

Established in 1962 at UW–Madison, LTC has supported work in more than 80 countries and has long been recognized as the world’s leading university-based institution on land policy.

Montana

continued from page 3

other companies?

According to Anderson, free market environmentalism is meant to reduce conflict and get decision-makers to realize all costs and benefits. Anderson sums it up in two basic principles. First, that “wealthier is healthier,” meaning that markets generate the wealth that gives us the wherewithal to solve environmental problems. Second, incentives can turn the environment from liability to asset for a resource owner.

After being accepted to attend KCI, I did some research on PERC and free market environmentalism. I soon realized that Anderson was a member of President George W. Bush’s transition team, along with now Secretary of the Interior Gale Norton (also a PERC fellow). Although many of PERC’s publications are thought-provoking and well researched, others seemed simply to restate the party line for the libertarian and Wise Use movements. Prior to leaving

Washington, I was skeptical of PERC and worried about how I would be received as a representative of EPA, a traditional regulatory agency.

These fears were immediately forgotten once I arrived in Bozeman. From the opening barbeque to the graduation ceremony, I was impressed with the professionalism and caliber of the KCI faculty and staff. Although we often had differing views, they created an atmosphere open to discussion and debate. No opinion was discounted, and I appreciated the opportunity to defend my own views in an open forum. I was also not the sole “greenie;” many of the other fellows held similar views.

My month at KCI was definitely an intense experience and one that I found extremely valuable. Although I don’t believe we should replace environmental regulations with free markets, I do recognize that both tools can be used together to effectively allocate resources and solve environmental problems.

More information about and applications to KCI can be found at www.kinshipconservationinstitute.org.

In the News?

Have you been featured in a newspaper or magazine article?

Perhaps you’ve been profiled in a company or agency newsletter, or some other publication. Whatever its size or circulation, we’d like a copy for our files. Please send photocopied items about yourself, or any projects with which you’ve been associated, to *In Common*, 10 Science Hall, 550 N. Park St., Madison, WI 53706–1491.

Fellowship Recipients Named

Graduate student fellowships and awards, many made possible by contributions from Nelson Institute alumni and friends, have been announced for 2004–05.

Bunn Distinguished Graduate Fellowship: **Scot Spak**, Energy Analysis & Policy

Loucks Distinguished Graduate Fellowship: **Ellen Hamingson**, Conservation Biology and Sustainable Development (CBSD)

Diversity Enhancement Fellowships: **Leela Hazzah**, CBSD; **Glenda Roman**, Environmental Monitoring; **Crystal Najera**, Water Resources Management (WRM)

Doris Duke Conservation Fellowships: **Amy Martin**, Land Resources (LR); **Julia Solomon**, CBSD; **Kerrie Cunningham**, CBSD; **Jill Leary**, WRM

Nelson Distinguished Graduate Fellowship: **Paige Wilder**, LR

Weston Distinguished Graduate Fellowship in Environmental Studies: **Sarah Olson**, LR

Weston Distinguished Graduate Fellowship in Civil & Environmental Engineering: **Jennifer Williamson**, WRM/CEE

Andrew Muzi Yellow Jersey Award: **Jessica Bullen**, Transportation Management and Policy

Kaplan Family Award: **Chad Wilsey**, CBSD

Lawry Travel Awards: **Dan Hagaman**, LR; **April Sansom**, LR

Zieve Award: **Rebecca Kagle**, LR

Alumni News

Ken Conca (M.S., LR/EAP 85) is the editor of a new book, *Green Planet Blues: Environmental Politics from Stockholm to Johannesburg*, published by Westview Press. Conca is an associate professor of government and politics and director of the Harrison Program on the Future Global Agenda at the University of Maryland.

For more information about his book, visit www.bsos.umd.edu/harrison.

John Francis (Ph.D., LR 91) has written a memoir about his walk across America to raise environmental awareness and promote world peace. *Planetwalker: How to Change Your World One Step at a Time*, published by Elephant Mountain Press, includes Francis's watercolor and pen-and-ink illustrations.

For more information, visit www.planetwalk.org.

Maura Kathleen Leahy (B.A., History/BAC/Environmental Studies 01) began a two-year master's degree program at the Yale School of Forestry and Environmental Studies this fall.

"I graduated from IES in December 2001 and spent a year and a half in diverse environmental internships, working (among other things) as an environmental writer and educator, bioremediation researcher, and sustainable agriculture advocate," she writes.

Leahy says she enrolled at Yale in order to "develop my skills as an ecologist and prepare for a leadership role in the environmental field. My work there focuses on urban restoration ecology, and this summer I'm studying just that at Prospect Park in Brooklyn. My fascination with the human-nature interface began at UW and continues today!"

Nadine Lynn (M.S., LR 91) helped the city of Reston, Virginia, win first place in an international "Communities in Bloom" competition. Lynn's front-yard wildflower garden, designed to attract pollinators, was included in the judges' tour of the city's natural areas last summer. Reston was chosen over six other communities in the U.S., Canada, Scotland and England.

Lynn, who lives in Reston with her daughter Anna, heads the public affairs office of the Ecological Society of America in Washington, D.C. Its Web site is www.esa.org.

Khahliso Mochেকেle Matsepe (M.S., LR 89) is the chief land use planner for the government of Lesotho.

Reflections

continued from page 2

meant that I had to wear two hats, since I continued to serve as chair of my home department. I hope I didn't cut too many corners running between two offices. On June 30, 2004, I retired from the regular faculty in Civil & Environmental Engineering and became an emeritus professor. For the current fall semester, until Professor **Frances Westley** assumes her duties as the new Nelson Institute director, I continue as interim director.

So what has kept me and others engaged in the institute? As many may not fully appreciate, of the roughly 165 institute-affiliated faculty members, all but 15 are volunteers whose professional tenure and employment is anchored in a traditional academic department elsewhere on campus. I suspect that many colleagues would answer that question the same way I do.

I have three primary reasons: (1) I care deeply about the environment and solving environmental problems, which are inherently interdisciplinary;

(2) the institute attracts some of the best students on campus, who are a joy to work with; and (3) if I stayed in my professional water resources engineering corner, I would never have had the opportunity to be part of the stimulating community of colleagues from all over the campus who intersect in the Nelson Institute.

My 34 years at the Nelson Institute have been wonderfully exciting. They are only a preview of the opportunities the institute will offer to address environmental issues in the future. I have seen a steady, ongoing redefinition and expansion of our understanding of environmental systems. How we define quality of life in a sustainable world changes as our knowledge improves. I know that the Nelson Institute will have an important role in helping to understand and define a sustainable future.

I look forward to continued association with its activities. And I hope, as my hair continues to thin, that this manifestation will not parallel yet more thinning of Lake Mendota's winter ice. I'm worried that it will not be so.

"For a long time, land use planning was widely misunderstood in Lesotho," she writes. "The strangest thing is that people are only beginning to grasp the concept now that the division has been transferred (from the Ministry of Agriculture) to the Ministry of Local Government, a move that we initially strongly opposed.

"Currently we are spearheading a national campaign to minimize the illegal conversion of agricultural land to settlements. This practice is especially problematic around the urban peripheries. Unfortunately, the illegal subdivision and sale of agricultural land and its conversion to residential sites is taking place at a time when Lesotho is one of the countries in the southern Africa region that has experienced prolonged drought and faces famine year after year."

Matsepe and her husband have three daughters, ages 14, 11, and six. Her email address is k.matsepe@lupd.gov.ls.

Betsy Otto (M.S., WRM 99) is the senior director of the Watersheds Program for the advocacy group American Rivers in Washington, D.C.

"For the past couple years, I've been directing our Watersheds Program, focusing on impacts of development on rivers and promoting smarter stormwater management and water infrastructure investments. I've been doing some lobbying to increase federal water infrastructure funding and get more of it directed to 'soft path,' decentralized water management

approaches, and have been working to include first-ever funding for stormwater mitigation in the federal transportation bill. A provision with approximately \$1 billion over 6 years for all 50 states was included in the Senate bill, but highway interests hate it (it's taking money away from pavement!) and are doing their best to strip it out in conference," she reports.

Otto recently finished three years of work on a report, *Ecological Riverfront Design*, co-published with American Planning Association. American Rivers has also published *Where Rivers Are Born: The Scientific Imperative for Defending Small Streams and Wetlands*, a report written for lay people based on a technical paper by ten leading ecologists, including Nelson Institute professors **Joy Zedler** and **Paul Zedler** and alumni **Quentin Carpenter** (Ph.D., LR 95; M.S., 89) and **Richard Beilfuss** (M.S., WRM 90).

For more information, visit www.amrivers.org.

Marcus Renner (M.S., CBSD 00) is the author of an article in the May/June issue of *Orion Magazine*. It's about a community effort in California to shut down a segment of the Pasadena freeway, opening it to bikers and pedestrians.

Renner works for the Urban and Environmental Policy Institute at Occidental College in Los Angeles. His article can be found on the Web at www.oriononline.org.

Spring Event Planned to Honor Steve Born

Stephen M. Born, professor of Urban and Regional Planning and long-standing member of the Nelson Institute faculty, is retiring in 2005 after more than three decades of service to UW-Madison and the state of Wisconsin.

To honor his contributions and celebrate Born's legacy, the Nelson Institute and the Department of Urban and Regional Planning will hold a two-day colloquium on the evolution of environmental policy over the three decades that Steve was active in environmental education and policy development. The colloquium and a retirement banquet (and a "roast") will be held in Madison on April 15 and 16, 2005.

All individuals wanting more information about the colloquium or banquet or those interested in participating in a retirement gift should contact **Jack Huddleston** at jrhuddle@wisc.edu.

New Alumni

Undergraduate certificates: Marcus Anderson, Therese Aschkenase, Amber Ayres, Lucas Balzrina, Corrin Behm, Leif Bjornson, Joseph Cannistra, Jennifer Corroy, Michael Dobbert, Michael Dabling, Sandra Eklof, Michelle Ellenbecker, Kurt Ellison, Grant Engler, KarriAnn Erdmann, Meredith Fahey, Rachael Fishman, Aquene Freechild, Connie Fuehrer, Courtney Gallaher, Chris Gardino, Lauren Goldberg, Luke Gulbrand, Kristin Halverson, Amanda Holdorf, Jennifer Hutchens, Stephanie Hyer, Jaime Jelenchick, Sarah Johnson, Jessica King, Anne Kolan, Kaitlin Krause, Kimberly Laschinger, Rachel Licker, Katharine Mackendrick, Eric Maczka, Lane Milde, Thomas Mooney, Dana Moore, Bryan Munson, Gabriel Nelli,

Andrea Nesbit, Sarah Olson, Sarah Orlikowski, Christine Orth, Christina Pawlik, Emma Radomski, Margo Reeder, Jason Ricco, David Ristow, Amy Roanhaus, Erin Roberts, Paul Ruplinger, Andrew Schroeder, Matthew Skemp, Christopher Stahmer, Barry Standorf, Erin Stotz, Lisa Streit, Julie Tackett, Travis Tennesen, Stefanie Van Wychen, Erin Walsh, Adam Weisse, Erin Wilichowski, Kimberly Wirth.

Conservation Biology & Sustainable Development:

Anastasia Allen, Susan Harris, Ahmad Khan, Diane Pansky, Kristen Patterson, Kimberly Suffield, Ines Almenara and Carla Friedrich, master's degrees.

Environmental Monitoring: Nancy Podger, Ph.D; Mark Binder, Joshua Boll, Michael Medvecz, Michael Seidel, De Anne Stevens, Joseph Helkowski and Mark Nordheim, master's degrees.

Land Resources: Paul Denholm, Brack Hale, John Peck, Maria Powell, William Stout and Matthew Thomas, doctorates; Bridget Baker, Dana Jensen, Mark Purcell, Christina Reyes, Theodore Snyder, Heather Stouder, Andrew Swartz, Carmen Best, Margaret Buck, Rebecca Cors, Matthew Mariola and Emily Steel, master's degrees.

Water Resources Management: Joseph Grande, Abby McDermott, Lindsay Anderson, Juniper Garver-Hume and Lisa Young, master's degrees.

