



# IN COMMON

SPRING/  
SUMMER  
2006

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

## Cross-Border Partnership Yields Science and Service

It began decades ago with the discovery of a rare and enormously valuable plant.

It has grown into a partnership that helps restore a vital river, provides multicultural opportunities for students, and improves the quality of life for thousands of people in rural Mexico.

Ties between the University of Wisconsin-Madison and Mexico's University of Guadalajara have strengthened through the years and include a growing number of programs coordinated by the Nelson Institute. The latest and largest is the Training, Internships, Exchanges and Scholarships (TIES) Project, a cooperative program that combines conservation, education and community development in the Ayuquila River watershed in southwestern Mexico.

Funded by the U.S. Agency for International Development, TIES is a three-year project shared by the Nelson Institute and the Manantlán Institute of Ecology and the Conservation of Biodiversity at Guadalajara's University Center for the South Coast (CUCSur), a satellite campus at Autlán. The \$300,000 program, directed by environmental studies professor **Paul Zedler**, includes support for Mexican students from CUCSur to study at UW-Madison.

The Nelson Institute's involvement in cross-border cooperation began in 1994, when then-director **Tom Yuill** saw an opportunity to build on existing collaborations between scientists at both universities. A colleague at the Manantlán Institute, **Eduardo**



University of Guadalajara FIPSE exchange student David Escandon catalogues fish on the Kickapoo River.

**Santana**, who had earned a master's degree in wildlife ecology and Ph.D. in zoology at UW-Madison, welcomed the effort.

### Ancestral Corn

"The collaboration with Wisconsin goes much further back than 1994," says Santana. "Since 1979, we've worked with the Department of Botany, especially with **Hugh Iltis**, on conservation and research on the taxonomy of plants. All this started with the discovery of *Zea diploperennis* by a researcher from the University of Guadalajara, **Rafael Guzman**, and Iltis."

*Zea diploperennis* is one of a small group of wild grasses, called "teosinte"

in Mexico, thought to be ancestors of cultivated corn. The plant, a perennial species considered extinct until 1979, is found only in a narrow range on the mountains of the Sierra de Manantlán. The discovery was big news, making the front page of the *New York Times*, because of its potential as a source of genetic material to improve one of the world's most important crops.

It also helped create a protected area, the Sierra de Manantlán Biosphere Reserve, "which follows the UNESCO model of biosphere reserves, with conservation, research and education, and social development as the three main components, including the participation of the local

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## NSF Grants Boost Graduate Study in Nelson Institute, CALS

Twin grants from the National Science Foundation (NSF), coupled with matching institutional funds, will give a \$6.8 million boost to innovative graduate study and research in global sustainability, development, and the environment at the University of Wisconsin–Madison.

The two \$3 million grants—one to the Nelson Institute, another to the College of Agricultural and Life Sciences (CALS)—come from the NSF’s Integrative Graduate Education and Research Traineeships (IGERT) program. Several campus units, including the Division of International Studies and the Graduate School, will provide the \$800,000 balance.

Fewer than 20 of the highly prized IGERT grants will be awarded nationally this year.

“Each award in itself is fantastic for the university, but to receive two at the same time is a rare event,” says **Jonathan Patz**, one of the principal investigators and an associate professor of environmental studies and population health sciences.

“These awards demonstrate UW–Madison’s leadership in innovative, interdisciplinary approaches to some of today’s most important, complex global issues,” says **Kenneth Shapiro**, associate dean for international programs in CALS.

“They will make it possible to create interdisciplinary and international teams of students able to cross physical and intellectual borders with new insights and skills,” says **Gilles Bousquet**, dean of international studies.

Together, the NSF grants will support the training and research of more than 40 doctoral students over five years. The university’s matching funds will supplement each grant so that every student receives a full fellowship for two years.

“This will help us attract the very best students,” says Patz. “And the potential for synergy between the two projects will likely make the whole even greater than the sum of the parts. It’s an incredible opportunity to advance environmental and sustainability science.”

**Frances Westley**, director of the Nelson Institute, agreed. “This is truly exciting,” she says. “We are pioneering new directions in graduate education that will set us apart from other institutions and serve as models in the future on these critical topics.”

The CALS project will target biodiversity conservation and sustainable development in the eastern Himalayas of southwest China, site of a long-term collaboration between UW–Madison and the Chinese Academy of Sciences.

“Most of the major challenges of biodiversity conservation occur in tropical and subtropical regions of developing countries, where researchers must confront the interactions of biological, physical, social, economic, and governance conditions that often are very different from those in North America,” says **Joshua Posner**, principal investigator for the China IGERT program and a professor of agronomy

and environmental studies. “The research at the core of our program is aimed at understanding these conditions and their interactions.”

IGERT fellows will travel to southwest China for summer training, language study and fieldwork. Back in Madison, they will tackle actual biodiversity and development issues in interdisciplinary seminars focused on the region. The Chinese Academy of Sciences will send students and scientists to Madison to participate, and it will use the results to enhance conservation and improve economic conditions for people who live in the region.

The Nelson Institute’s IGERT program involves 10 faculty members in diverse departments ranging from atmospheric and oceanic sciences to sociology. It seeks to interweave natural and social sciences to better understand the vulnerabilities and resilience of human communities facing complex environmental hazards such as global climate change.

“Today’s global environmental problems are caused by highly interrelated factors, and solving them requires coordinated efforts from the natural and social sciences,” says Patz, who will direct the program. “With this significant support to train students across the disciplines, we can begin turning out a new generation of young scientists prepared to grapple with the complexity of these problems.”

Among other things, the IGERT initiative will lead to a new graduate-level certificate program in sustainability and the global environment, offer international field research experiences, and provide leadership training.

“Most important, we will impart to a cadre of future scholars and leaders the skills to integrate natural and social science research and to forge strong links to decision-making and public policy, business and non-governmental organizations, and civil society,” says Patz. ■

### IN COMMON

*In Common* is published twice a year by the Nelson Institute for Environmental Studies at the University of Wisconsin–Madison. Articles, story ideas, photos and letters to the editor are always welcome.

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*Funding for the publication of In Common is provided through the generosity of our alumni and friends.*

## Foley Named First Gaylord Nelson Professor

A University of Wisconsin–Madison scientist who studies the behavior of complex global environmental systems and their interactions with human societies has been named the university's first Gaylord Nelson Distinguished Professor.

**Jonathan Foley**, director of the Nelson Institute's Center for Sustainability and the Global Environment, will hold the honorary title for the next four years. He also will receive approximately \$19,000 annually in flexible research support.

The new professorship is awarded by the Nelson Institute to outstanding members of its faculty for research achievement, significant contributions to the institute, interdisciplinary excellence and career momentum.

"I'm honored to be the first in this important position, and I'll do my best to live up to it," said Foley, whose

research group uses computer models and satellite measurements to analyze changes in land use, ecosystems, climate and freshwater resources across local, regional and global scales.

**Gaylord Nelson**, a Wisconsin native, died in July at age 89. The former governor, three-term U.S. senator and counselor for the nonprofit Wilderness Society was an unwavering advocate for the environment. Perhaps best known as the founder of Earth Day in 1970, Nelson left a rich legacy of achievements in conservation and environmental protection.

A fund-raising campaign begun before Nelson's death raised the money to endow a professorship in his name. A coinciding campaign raised funds for a Nelson Distinguished Fellowship, awarded each year to a graduate student interested in environmental policy.



Jonathan Foley

Established the same year as Earth Day, the Institute for Environmental Studies was renamed four years ago in honor of Nelson. The Nelson Institute, as it is now known, conducts a variety of interdisciplinary academic, research, and outreach programs. ■

## Eagan Appointed DNR Regional Director

**Lloyd Eagan**, a 1977 alumna of the Nelson Institute's Water Resources Management Program, was appointed to head the South Central Region of the Wisconsin Department of Natural Resources last November.

Eagan, previously the director of the agency's Air Management Program, will administer environmental, natural resources and conservation enforcement programs in the 11-county area of south central and southwest Wisconsin.

"Lloyd is a very accomplished manager with extensive experience in water, toxics and air issues in both state and Dane County government," said DNR secretary **Scott Hassett**. "She has met state air quality issues head on, brought permitting backlogs up to date, and developed impressive cooperative programs to meet federal air mandates so we can grow Wisconsin's economy—and she's done

it in an environment of shrinking resources. She will be a tremendous leader for natural resources management in southern Wisconsin."

Eagan began her career with the DNR in 1982 as an assistant to the southeast regional director. In 1985, she moved to Madison to become a water resources planner at what is now the South Central Region.

From 1988 to 1990, Eagan served as Dane County's first director of lakes and watershed management. She returned to the DNR in 1990 to serve as special assistant to the air management director, and in 1992 was promoted to chief of the Toxics and Special Studies Unit. She was promoted to director of the state's Air Management Program in 1997.

On Eagan's watch, Wisconsin has adopted numerous ozone protection rules, revised the state's hazardous air pollutant program, and established a



Lloyd Eagan

voluntary emissions reductions registry. Eagan lives in Madison with her husband, **Patrick Eagan**, a UW–Madison associate professor of engineering professional development and environmental studies; he earned a Ph.D. in land resources in 1995. They have two sons who live and work in Madison. ■

## Nelson Faculty, Staff, Students Gather Awards

A number of Nelson Institute faculty and staff members and students have recently been honored with a broad array of prestigious awards.

**John Kutzbach**, former director of the Nelson Institute's Center for Climatic Research, has been elected to the National Academy of Sciences.

Kutzbach, professor emeritus of atmospheric and oceanic sciences, uses computer models to study past and future climate. His work has been instrumental to validating the computer models scientists use to predict future climate change.

Kutzbach became a UW–Madison faculty member in 1966.

Election to NAS is considered one of the highest honors that can be accorded to an American scientist. Forty-six UW–Madison faculty members have been elected to membership, the most of any public university outside of California.

Kutzbach has also been selected to receive the American Geophysical Union's Roger Revelle Medal for "outstanding contributions in atmospheric sciences, atmosphere-ocean coupling, atmosphere-land coupling, biogeochemical cycles, climate, or related aspects of the Earth system." The award will be given at the AGU's annual meeting in San Francisco next December.

**Stephen Carpenter**, the Stephen Alfred Forbes Professor of Zoology at UW–Madison's Center for Limnology, and **William Cronon**, the Frederick Jackson Turner and Vilas Research Professor of History, Geography and Environmental Studies, have been elected fellows by the American Academy of Arts and Sciences.

Cronon, a Bancroft Prize-winning historian, studies American environmental history, and in particular, the history of human interactions with the natural world. Carpenter is known for his innovative large-scale experiments in the field of freshwater ecology and his interdisciplinary approach to understanding ecosystems.

**Mary Anderson**, a professor of geology and geophysics and environmental studies, was one of 76 new members and nine foreign associates to be inducted into the National Association of Engineering in February.

Anderson, a hydrogeologist, is an expert in the design and application of groundwater models, mathematical simulations that help researchers predict how groundwater is moving underground.

"My work interfaces with engineering because engineers are concerned with developing water supplies and cleaning up contaminated groundwater systems," says Anderson. "The science of hydrogeology interfaces closely with water resources engineering."

She is currently exploring groundwater flow into lakes and wetlands, focusing specifically on a wetland system in northern Wisconsin. "We expect that understanding the way in which groundwater

contributes to a healthy wetland will lead to better management strategies to protect wetlands," she says.

**Karl Zimmerer**, a professor of geography and environmental studies, is one of seven UW–Madison faculty members recently chosen to receive Kellett Mid-Career Awards that promote the continued scholarly efforts of established faculty.

Sponsored by the Wisconsin Alumni Research Foundation, honorees receive a \$60,000 flexible research fund. They are chosen by a committee from the Graduate School.

Zimmerer is the author of numerous articles and has authored and edited four books, including "Changing Fortunes: Biodiversity and Peasant Livelihoods" and "Globalization and New Geographies of Conservation."

**Gregg Mitman**, a professor of medical history and bioethics, history of science and environmental studies, has won a Vilas Associates Award, a highly competitive and prestigious prize that includes \$25,000 in flexible research funds over two years.

Mitman specializes in the history of ecology, environment and health; science and film; and social studies of science, technology and medicine. He's the author of *Reel Nature: America's Romance With Wildlife on Film*, and co-author of *Thinking with Animals: New Perspectives on Anthropomorphism*, published last year.

**James Knox** has been chosen to receive the 2006 Don J. Easterbrook Distinguished Scientist Award of the Geological Society of America's Quaternary Geology and Geomorphology Division.

Knox, a professor of geography and environmental studies, specializes

### Moving?

Please keep us in mind when you fill out those postal change-of-address forms. Better yet, you can email us about recent or upcoming changes in your location. Send information to [Incommon@mail.ies.wisc.edu](mailto:Incommon@mail.ies.wisc.edu). Thanks!

in studies of the effects of climate variation, land use, and other human influences on floods and sediment yields; the physical characteristics of river channels; sediment mobility and storage; and post-glacial paleohydrology and historical and geomorphic changes of the Upper Mississippi River.

Knox has also recently been elected chair of the Geology and Geography Division of the American Association for the Advancement of Science.

**Eileen Hanneman**, assistant director of the Nelson Institute, has been chosen to receive UW–Madison’s first Martha Casey Award for Dedication to Excellence, designed to recognize a sustained level of academic staff excellence over a long period of time.

Hanneman has been with the institute for 32 years, as a typist, departmental secretary, administrative program specialist and, since 1993, assistant director, responsible for fiscal matters, grant administration and personnel.

“No academic staff member that I have had the pleasure to work with in the past 30 years more richly deserves an award of this nature,” writes Nelson Institute director **Frances Westley**. “She embodies the ethos of the place, setting a high standard of moral integrity, collaborative spirit, and reasoned, conscientious decision making, which has helped make the institute what it is.”

### Student Honors

In addition, several Nelson Institute students recently earned recognition and awards.

**Julie Curti**, a double-major undergraduate who’s also earning a certificate in environmental studies, has received a prestigious Harry S. Truman Scholarship to pursue graduate work related to public service.

The scholarship provides a total of \$30,000 plus significant networking and career support. Curti also won a Morris K. Udall Scholarship, worth up to \$5,000, for the second consecutive year.

**Kaitlyn Flick**, also an undergraduate in the Nelson Institute Environmental Studies Certificate Program, has been awarded a Holstrom Environmental Scholarship to conduct a sociological case study of Native Americans, corporations, and the environment in Crandon, Wisconsin. The scholarship provides \$4,000 to Flick and \$1,000 to her faculty adviser, **Samar Alatout**, to help defray the costs of her research.

**Lea Shanley**, a Ph.D. student in environmental monitoring, will attend the Vespucci Summer Institute on Geographic Information Science based on a competitive proposal, through the National Center for Geographic Information and Analysis.

**Scott Bernstein**, who earned his master’s degree in land resources this spring, was one of four student authors of a paper that won the 2006 State Bar of Wisconsin Award for best environmental law essay. Written for an administrative law class last fall, the paper is on “New Governance and the Green Tier Charters: Benchmarks for Evaluating the Process.” Bernstein will study environmental law beginning this fall at Pace Law School in White Plains, New York.

**Daniel Jaffee**, who completed his Ph.D. in land resources this spring, won the university’s 2006 Genevieve Gorst Herfurth Award for outstanding research in social studies. His dissertation, *Brewing Justice: Fair Trade Coffee, Sustainability and Survival*, will be published by the University of California Press. Jaffee has accepted a position as assistant professor in the

Department of Sociology at Michigan State University.

Six land resources graduate students have been awarded Doris Duke Conservation Fellowships for 2006–07. The next group of Duke Fellows will be **Peter Boger, Leif Brottem, Ariana Hauck, Erin Heidtke LaFaive, Andrew Stuhl,** and **Katy Warner**. Each will receive an assistantship for the academic year, a stipend for a summer internship at a nonprofit conservation organization or government agency, and funds to participate in an annual fall fellowship retreat.

Two other land resources graduate students, **Dawn Burgardt** and **Maggie Grabow**, received Zieve Awards this semester. The awards, named for land resources alumna Charlotte Zieve whose support makes them possible, cover their tuition for the spring term.

## New Alumni Listserver

A new listserver specifically for Nelson Institute alumni has been up and running for a few months. Initially conceived as a vehicle for distributing environmental job information, the online resource could fill several communication needs among institute alumni.

“Over time, this listserver probably will develop a personality of its own, depending on alumni input,” says senior student services coordinator **Mary Mercier**. “We’d like to invite all Nelson Institute alumni to subscribe to our new listserver, aptly named `nelson_alumni`.”

More information and subscription instructions can be found at [www.nelson.wisc.edu/alumni/alumni\\_listserver.htm](http://www.nelson.wisc.edu/alumni/alumni_listserver.htm).

## Nelson Alum Edits New Book on Leopold

**Curt Meine**, whose biography *Aldo Leopold: His Life and Work* garnered critical praise, has produced another book on the legacy of the pioneering Wisconsin ecologist.

*The Essential Aldo Leopold: Quotations and Commentaries*, co-edited by Meine and **Richard L. Knight**, was released in paperback last April by the University of Wisconsin Press.

The book is a comprehensive collection of quotations from Leopold's extensive and diverse writings, organized to capture the depth of the North American conservation movement. The book includes contributions from several leading nature writers and conservationists, including Nelson Institute faculty members **Stan Temple** and **Joy Zedler**, who describe Leopold's contributions and reflect upon the significance of his work today.

Meine, who earned a doctorate in land resources in 1988, is also the author of *Correction Lines: Essays on Land, Leopold, and Conservation*. He's a senior fellow with the Aldo Leopold Foundation and a research associate with the International Crane Foundation. ■

### 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.

## Nelson Alumna Receives Honorary Degree



Florence Chenowith

**Florence Chenowith**, who earned a Ph.D. in the Nelson Institute's Land Resources Program in 1986, was awarded a UW–Madison honorary degree during commencement ceremonies in May.

Chenowith, who was named an outstanding alumna by the Wisconsin Alumni Association last year, has long worked to alleviate hunger in Africa. After earning a master's degree in agricultural

economics at UW–Madison in 1970, she returned to her native Liberia to become its first female minister of agriculture at the age of 32.

A decade later, she fled the country, walking out of Liberia to escape a violent coup. The ensuing unrest plunged Liberia into civil war and anarchy, and claimed the lives of many prominent citizens there. Chenowith and her children barely escaped.

After returning to UW–Madison to complete her doctorate, Chenowith's commitment to helping the poor took her to Zambia. Her work there brought liberalization of Zambia's food markets. She went on to use her skills to assist the poor of Gambia and South Africa before being tapped for global responsibilities by the United Nations in 2001. Her subsequent work led to her appointment as U.N. Food and Agriculture Organization (FAO) representative to the U.N. and executive director of the FAO Liaison Office in New York. ■

## Russell Peterson Cited as Distinguished Alumnus

**Russell Peterson**, a UW–Madison graduate and original member of the Nelson Institute's Board of Visitors, received a Distinguished Alumni Award from the Wisconsin Alumni Association in May.

A native of Reedsburg, Wisconsin, Peterson earned his Ph.D. in chemistry at UW–Madison en route to a colorful career during which he served as a research chemist at DuPont, governor of Delaware from 1969 to 1973, founding chair of the President's Council on Environmental Quality, and executive director of the National Audubon Society, among other things.

A well-known champion of conservation and environmental protection, Peterson, as Delaware's governor, worked to protect that state's unspoiled coastline. As head of the Council on Environmental Quality, he led the effort to outlaw the use of ozone-depleting chlorofluorocarbons. ■

## Gerhard Lee 1917–2006

**Gerhard Lee**, an emeritus professor of soil science and environmental studies, died last February in Madison.

Lee was born in 1917 on the family dairy farm near Deerfield, Wis. He served in the Civilian Conservation Corps in 1937 and the U.S. Army from 1942 to 1946.

After the war, Lee earned a B.S. degree in agriculture and a master's in soil science at UW–Madison. He worked for the Wisconsin Geological and Natural History Survey and the Soil Conservation Service of the U.S. Department of Agriculture. He completed his Ph.D. in soil science in

1955 and was appointed assistant professor in the department the next year.

Lee was promoted to professor of soil science and environmental studies in 1974. He helped create and was the first chair of the Land Resources Program and served in that position for six years. He was appointed a fellow of the American Association for the Advancement of Science and won awards for teaching and advising. He was a member of and held leadership positions in a variety of professional associations, including the American Registry of Certified Professionals in Agronomy, Crops and Soils, the Soil

Conservation Society of America, and the Wisconsin Society of Professional Soil Scientists. He retired in 1988 with emeritus status.

In retirement, Lee managed and improved his farm near Cambridge. He planted several acres of trees and restored a wetland. He became a certified master gardener and volunteered as a docent at Olbrich Gardens. He also wrote a memoir about growing up on a farm.

Lee is survived by **Mildred Lee**, his wife of 57 years; four daughters; and six grandchildren. ■

### Land Resources Name Change Survey

The Land Resources Program Faculty Committee has recently voted to change the name of the Land Resources Program to “Environment and Resources.”

For years, many people have expressed dissatisfaction with the name of the Land Resources Program. It built upon Aldo Leopold's notion of “land,” which could be interpreted to mean the whole environment—land, air, water, and biota. However, this led to confusion among prospective students, potential employers, and our colleagues across campus.

And the name was problematic for many Nelson Institute students. As one of only two doctoral programs in the Nelson Institute—and being our largest and more diverse program by far—the Land Resources Program has been called upon to serve a wide range of students, including people studying water resources, biodiversity, climate change, wetland restoration, disease ecology, oceanography, transportation systems, atmospheric chemistry, and many other topics. The name simply got in the way of many of our students who did not feel a connection to the term “land.”

So a few months ago, a committee of faculty, staff and students was charged to come up with new names for the program. “Environment and Resources” was the most popular by far. It's simple. It's closest to the original name. And it means what it says. So now we're moving forward with the renaming process.

As part of this process, the UW Graduate School has asked us to survey alumni, current students, faculty and staff affiliated with the program to gain their perspective on the proposal to change the new name to “Environment and Resources.”

Please take two minutes to complete the survey, which you'll find online at [www.nelson.wisc.edu/surveys/land\\_resources](http://www.nelson.wisc.edu/surveys/land_resources).

If you have any questions about the survey, please contact **Sara Lorence** at [smlorence@wisc.edu](mailto:smlorence@wisc.edu) or (608) 262–9206. And thanks for giving us your feedback.

### New PowerPoint Profiles Institute's Grad Programs

Want to help us spread the word about graduate study at the Nelson Institute?

If so, ask us to send you a PowerPoint program about Madison, the university, and the Nelson Institute. Titled “Imagine the Possibilities” and enhanced with eye-catching photos, it's tailored for prospective graduate students, briefly describing each of our graduate degree and certificate programs, estimated costs of graduate school, sources of financial support, and how to apply.

Detailed notes provide ample background information, and with sufficient lead time, we can supply accompanying paper handouts.

If you're willing to be an ambassador for the Nelson Institute and able to give a presentation (or several) on our behalf to prospective graduate students in your area, contact **Tom Sinclair**, (608) 263–5599, [tsincla@wisc.edu](mailto:tsincla@wisc.edu). ■

## Three Geospatial Faculty Pillars Retire

A trio of professors who anchored the Nelson Institute's graduate and research programs in geospatial science for more than two decades retired this spring.

Colleagues, alumni, and friends honored the three—**Tom Lillesand**, **Frank Scarpace**, and **Al Vonderohe**—for their more than 90 years of combined service to the university and contributions to their field at a symposium and banquet on May 20 at UW–Madison's Pyle Center.

in its fourth edition, and served frequently as a scientific adviser, expert witness, and leader in professional organizations.

Among other career honors, Lillesand received the Alan Gordon Memorial Award from American Society of Photogrammetry for significant achievements in remote sensing and photographic interpretation and the Earle J. Fennell Award from the American Congress on Surveying and Mapping.

30 courses ranging from spatial reference frameworks to analysis and design of spatial measurement systems, engineering applications of GIS, analytical and digital photogrammetry, cadastral systems, and legal aspects of land surveying.

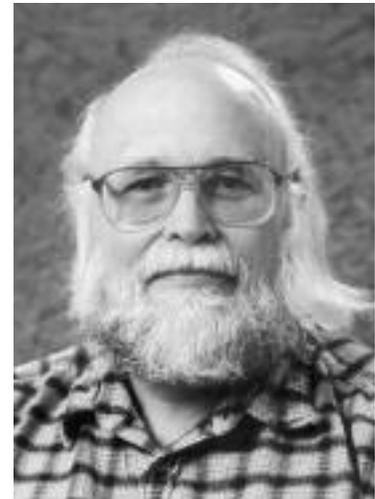
He facilitated the first demonstration of, and experiments with, the Global Positioning System in Wisconsin and, for a number of years, led national research efforts in theory, principles, and applications of



Tom Lillesand



Frank Scarpace



Al Vonderohe

Lillesand joined the faculty of the Nelson Institute, the Department of Forest Ecology and Management, and the Department of Civil and Environmental Engineering in 1982. He concurrently directed the Nelson Institute's Environmental Remote Sensing Center (ERSC) and chaired its Environmental Monitoring Graduate Program for many years.

He taught courses in remote sensing, photogrammetry, image interpretation, digital image processing, and graduate research methods. He also coauthored, with Nelson Institute emeritus professor **Ralph Kiefer**, the award-winning textbook, *Remote Sensing and Image Interpretation*, now

Scarpace, a professor of environmental studies and civil and environmental engineering, taught and conducted research in the areas of remote sensing, image processing, and digital photogrammetry at UW–Madison since 1972. His research includes use of neural networks and fuzzy logic for image classification and IMAGE data for improved DEM production. He has written a variety of image processing and digital photogrammetry software programs.

Vonderohe was a member of the Department of Civil and Environmental Engineering since 1979 and a longtime Nelson Institute faculty affiliate. He taught more than

geographic information technologies to transportation problems.

With the simultaneous retirement of three core faculty members, the Environmental Monitoring Program has stopped admitting new students pending a possible redesign, and ERSC will close its doors in December. Three ERSC academic staff members will transfer to the university's Space Science and Engineering Center, and departmental administrator **Marcia Verhage** will move full time to the Nelson Institute's Center for Climatic Research. ■

## Cross-border partnership

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population in the management of natural resources and the conservation of biological diversity,” Santana explains.

That has been a key element in expanding conservation efforts in the region. The biosphere reserve includes tributaries of the Ayuquila River, which flows to the Pacific Coast. The Manantlán Institute, which helps manage the reserve, initially focused on terrestrial issues such as forest fires and cattle management.

“The local population, through this process, kept telling us, ‘Our priority is the river,’” Santana explains. “So we incorporated the river into our work in 1988.”

The Ayuquila had been an important source of fish and freshwater shrimp as well as water for irrigation. But the fish were dying, and people suspected a local sugar mill was the culprit. Sugar cane is a major crop in the area, and fish kills coincided with seasonal operations at the large mill in Autlán, which dumped its processing wastes into the river.

### A River of Molasses

Still, the community could not come to a consensus on the sugar mill’s culpability. Mill operators blamed local municipalities, which dumped untreated sewage into the Ayuquila. And as the major employer in the area, the mill had its defenders, and vocal opponents—including an environmental educator from the Manantlán Institute—faced harassment and even death threats.

“The sugar mill is the economic life of the whole region, and it creates thousands of direct and indirect jobs from the sugar manufacturing activities,” says Santana. “When we started, the sugar mill basically was saying that if they implemented pollution control technology, it was so expensive that they would go bankrupt and everyone would lose their jobs, so we had a lot of people against us.”

The turning point came in 1998, when the sugar mill spilled thousands of gallons of molasses into the Ayuquila, causing a massive fish die-off. Public opinion shifted, especially when a team of Cuban engineers proved that the mill was responsible for the seasonal fish mortality. The engineers came up with a simple solution: the mill could release its processing waste into irrigation canals rather than the river.

“We were able finally in the year 2000 to get the mill to stop polluting, and the river started to recuperate,” Santana explains.

The watershed management effort, which last year won a Local Government Award from the Ford Foundation and the Economic Research Center that was presented by Mexico’s President **Vicente Fox**, includes building community organizations and connections along the river, as well as an ongoing environmental education component. Zedler says those elements make the Ayuquila program an ideal case study for Wisconsin students, many of whom have visited the region through a Department of Wildlife Ecology field course or through another Nelson Institute undergraduate exchange program funded by the U.S. Department of Education’s Fund for the Improvement of Post-Secondary Education (FIPSE).

“These exchange programs offer opportunities for students to understand a situation in another part of the world that’s very species rich, where problems in land management can have big impacts on species, and where simply knowing what you’ve got is a major task,” says Zedler. “And they can lead to unexpected synergisms.”

Zedler points to **Suix Diaz**, a CUCSur student currently in Madison as a TIES fellow, as an example. In Mexico, Diaz worked with Santana on bird diversity projects. Because of that background, he was hired for a sum-

mer U.S. Department of Agriculture project working on biodiversity in agricultural systems in the potato-farming region of central Wisconsin. The project, led by Zedler, Nelson Institute wildlife ecologist **Nancy Mathews**, UW–Madison entomologist **Claudio Gratton**, and **Deana Sexson** of UW Extension, “will benefit from Suix’s expertise while also giving him valuable experience that will help him in future studies in Mexico,” according to Zedler.

The TIES program also enabled the Nelson Institute to host an entourage of Mexican local government officials to tour waste disposal and treatment facilities and restoration projects in Wisconsin, to see examples of what might be done in their communities along the Ayuquila River.

### Forensic Science

For students, the exchange programs provide opportunities for research on forest restoration, land use, the economics of water, land tenure and other topics. Some have even learned how to use aquatic vertebrate populations to piece together a timeline of pollution events — a kind of forensic environmental science.

Santana says most of the student research is applied and provides service to local communities. It even helps keep the sugar mill in line.

“A couple of weeks ago, the sugar mill, for the first time in six years, because of a conflict with local landowners, was not able to use its wastewater for irrigation, and it diverted the water into the river and caused a fish kill. And thanks to the constant monitoring of the river, we were able to detect it immediately, call the authorities, and call the press, and had a mobilization of local citizens to have the sugar mill stop within hours,” Santana explains. “So the fish mortality was minor, because the project was able to detect what was occurring immediately.” ■

## Alumni News

Let us know what's new in your careers and lives. Drop us a line at *In Common*, 10 Science Hall, 550 N. Park St., Madison, WI 53706-1491; fax us at 608/262-2273; or email [incommon@mailplus.wisc.edu](mailto:incommon@mailplus.wisc.edu).

**Pat Connolly** (M.S., LR '01) was recently named development coordinator for MetroPlains Development, a Twin Cities firm that specializes in historic rehabilitation, new construction, adaptive reuse and redevelopment for mixed income, rental and for-sale markets.

"In my new job, I am continuing to do multi-family real estate development, largely involving historic renovation and adaptive reuse of old buildings into apartments and condos using a variety of subsidized state and federal funding sources in Wisconsin, Minnesota, Iowa, North Dakota, and Kansas," Connolly writes.

"I have started a wedding photography business, and I teach at the University of Minnesota in the urban studies department. I also have traveled to Papua New Guinea and Madagascar in the past two years while volunteering with Habitat for Humanity International. I got married in July to my wonderful friend Emma, and this year, together, we bought a huge fixer-upper in the St. Anthony Park neighborhood in St. Paul."

Connolly can be emailed at home, [pat@patconnollyphotography.com](mailto:pat@patconnollyphotography.com), or at his office, [pconnolly@metroplains.com](mailto:pconnolly@metroplains.com).

### **Orlene Marie Arceo Carlos**

**Gentile** (M.S., CBSD '98) is a circus artist based in San Francisco and St. Louis, where she and husband Carlo operate "Fool Time Circus," a non-profit project supported by the National Heritage Foundation.

Last year, the couple launched "888 Monkeys ASAP," a summer performing arts program in San José, Cal., for children ages six to 16. And they returned in May from an extended stay in China, where Gentile says

she worked on her foot-juggling skills, a video of which can be seen at [www.fooltimecircus.org](http://www.fooltimecircus.org).

Gentile was recently elected president of the American Youth Circus Organization after serving on the board since 1998. In that role, she says, "I use the facilitation skills learned in CBSD."

She can be reached at [orlene@fooltimecircus.org](mailto:orlene@fooltimecircus.org).

**Adam Ingwell** (B.S., Biological Aspects of Conservation/ Environmental Studies '94) manages the seed division and is a staff ecologist at Agrecol Corporation in Madison.

"Agrecol is a grower of native seed and plants of wetlands, prairies, savannas and woodlands," he writes. "We are also consultants, installers of native materials, and habitat managers. We carry a line of erosion control products as well."

Ingwell has been with the company for over eight years.

"I am in charge of around 200 species that we produce for seed on about 800 acres. I am responsible for product quality control after harvest through drying, cleaning (processing), testing, inventory and order fulfillment. I am responsible for source collection and third-party certification for the species we produce. I work with existing and potential clients in a variety of areas, from quoting on jobs and product to managing projects on all levels from the office to the field," Ingwell explains.

"I started in the business in March 1995 at CRM Ecosystems, Inc. in Mt. Horeb, Wis., so I have been in the nursery and restoration field for 11 years. In that time I have garnered a broad knowledge base of native species and their habitats in both

natural and restored situations. I hope and expect this career path I've chosen to be a lifelong journey of learning and enjoying the natural world, while at the same time restoring to health lands that have been ignored and degraded."

Ingwell lives in New Glarus, Wis., and can be reached at [akingwell@tds.net](mailto:akingwell@tds.net).

**Seema Kakade** (B.A., Economics/ International Relations/ Environmental Studies '98) is an attorney with the U.S. Department of Energy's Office of the Assistant General Counsel for Environment in Washington D.C. Her primary areas of practice are in the Clean Air Act and the National Environmental Policy Act.

After earning her bachelor's degree, Kakade attended law school at the George Washington University ("but first spent two months on a terrific backpacking trip in the Hawaiian Islands with San Francisco State University's WildLands Studies Program," she writes).

Kakade has worked as a litigator for a private law firm in Chicago and as a staff attorney with the Environmental Law Institute in Washington D.C. She lives with her husband, an internal medicine resident at Johns Hopkins, in Baltimore, Maryland. She can be contacted at [skakade@law.gwu.edu](mailto:skakade@law.gwu.edu).

**Mark Keating** (M.S., CBSD '95) recently became a lecturer at the University of Kentucky in the Horticulture Department with a quarter-time Cooperative Extension appointment. He lives in Finchburg, Kentucky, and can be emailed at [mkeat2@uky.edu](mailto:mkeat2@uky.edu).

**Ahmad Khan** (M.S., CBSD '04) has been appointed manager of regional programs with WWF-Pakistan for the Pakistan Wetlands Programme, an \$11.8 million project of the country's Ministry of Environment.

The program, which is being implemented by WWF-Pakistan, aims to promote the conservation of freshwater, wetlands and biodiversity. It will address issues on a national level, including field surveys of coastal and inland wetlands and refining the geographic information system database.

It will upgrade an existing wetlands action plan to the level of a national wetlands management strategy, launch a nationwide wetlands awareness and advocacy campaign aimed at all levels in Pakistani society, and "address the dire need for enhanced capacity for wetlands conservation both in terms of human knowledge and skill levels and the physical means to do the necessary conservation work," according to the program's Web site.

Its other objective is to deal with the management of four selected wetlands complexes, chosen to represent conditions in each of four wetlands eco-regions in the country.

Khan is based in Islamabad and can be reached at [snowleop@psh.paknet.com.pk](mailto:snowleop@psh.paknet.com.pk). For more information, visit the Pakistan Wetlands Programme site at [www.wfwpak.org/pwp\\_wetlands.php](http://www.wfwpak.org/pwp_wetlands.php).

**Chris Lenhart** (M.S., WRM '99) has been working part-time for the Kestrel Design Group in Minneapolis for the last two years.

"It's a really great place specializing in sustainable design, alternative stormwater management, and restoration of aquatic and upland ecosystems," he writes.

Since 2004, Lenhart has also been working toward a Ph.D. at the University of Minnesota in its Water Resources Science program.

"I'm working with Dr. Ken Brooks on stream channel adjustments to changes in runoff in the Blue Earth River Basin in Minnesota," he says. "I've been a bit busy, but the Twin Cities is a really good place to live."

Lenhart lives in Minneapolis and can be contacted at [lenh0010@umn.edu](mailto:lenh0010@umn.edu).

**Coreen Fallat (Ripp)** (B.S., Geography/Environmental Studies '99) recently returned to Madison after earning a master's degree last year in watershed stewardship at Penn State University.

"My thesis research was titled 'Use of Regulatory Authority for Natural Resource Protection by Pennsylvania Municipalities,'" she writes. "After graduating, I got a job back in Madison working for the Wisconsin Department of Agriculture, Trade and Consumer Protection as an agency liaison and training coordinator in the Bureau of Land and Water Resources. I also was recently married and my husband and I are happy to be back in Wisconsin."

Fallat can be contacted at [coreen.ripp@gmail.com](mailto:coreen.ripp@gmail.com).

**Margaret Westcott** (B.A., Biological Aspects of Conservation/Environmental Studies '03) recently became the plant production manager at Prairie Restorations, Inc., (PRI) where she has worked for more than two years.

"PRI is a for-profit company based out of Princeton, Minn., specializing in the growth and installation of prairie, woodland, and wetland plants and seed that are native to Minnesota," she writes. "PRI restoration projects include installation of native prairies, woodlands, wetlands and shorelines. We have a management department that manages restored areas by methods such as burning and exotic species removal.

Westcott says the company strives to help land owners be responsible stewards by restoring natural plant

communities that are the most ecologically and historically appropriate for a given site.

"The newly restored area will reward the steward with more efficient use of water and nutrients, cleaner outputs of water, reduced erosion, and, of course, beauty," she explains.

"As manager, I oversee the greenhouse production of native plants for the company. I also direct the seed-collecting efforts for our plant production, which includes more conventional field harvesting and also wild collection in natural areas by hand."

Westcott lives in Champlin, Minn., and can be reached at [greenhouse@prairieresto.com](mailto:greenhouse@prairieresto.com) or [mbwestcott@gmail.com](mailto:mbwestcott@gmail.com). Prairie Restorations, Inc., can be found on the Web at [www.prairieresto.com](http://www.prairieresto.com).

## New Alumni

### Undergraduate certificates:

Katherine Acklam, Christine Bengtson, Chelsea Booth, Lindsey Borgerson, Leah Boyer, Sabrina Bradshaw, Shaunna Chase, Skye Christensen, Bridget Holcomb, Gregory Jaeger, Brian Jordan, John Kastner, Amy Krosch, Carly Lapin, Katie Jo Laufenberg, Michelle Nault, Lauren Nelson, Mark Poelzer, Elizabeth Ruland, Shelby Stevenson, Jakob Tetzlaff and Allison Welch.

### Master's degrees:

Jacquelyn Freund and Kirsten Kapp (CBSD); Peter Heinzen and Amanda Schwoegler-Boos (EM); Bryn Scriver and Julie Vano (LR); Jennifer Koehler and Laura Lueders (WRM).

**Doctorates:** Perry Cabot and Kristine Kuhlman (LR).

## Letter from Paraguay

**Justin Mog** (Ph.D., LR '03; M.S. '99) and **Amanda Fuller** (M.S., LR '02) are serving with the Peace Corps in the village of Asuncion, Paraguay.

“We have spent much time out working in farmer’s fields, getting to know their crops and cultural practices,” Mog writes. “We have worked with the women’s group, showing them how to cook with soy and vegetables as an alternative to the extremely meat-based diet of rural Paraguay. We have built chicken coops with the farmers’ committee and discussed natural, homemade alternatives to the expensive and highly toxic pesticides they spray on their cotton to keep the bugs at bay. We have planted fruit trees to provide food, shade and wood for the future.”

Mog and Fuller, married in 2004, have rented a modest house surrounded by a crop of manioc and a cattle

pasture, but it does have indoor plumbing.

“We like to joke about how much we are ‘suffering’ as Peace Corps volunteers, but of course the biggest hurdles are those having to do with language, communication, and creating positive change in the community,” Mog writes. “Our Guarani continues to improve little-by-little . . . and we have been kept very busy by a myriad of smaller-scale projects (especially starting lots of gardens) and a few larger-scale ones.

“Most importantly, we have identified our biggest project for our two years in Paraguay: trying to encourage farmers to experiment with new (hopefully less environmentally taxing) cash crops and eventually get out of the business of growing cotton. Nearly everyone with any land to spare (beyond growing the basic

necessities of corn and manioc) grows cotton, and yet they are fully aware of the economic and environmental disaster that it brings each year.

“The cotton buyers often provide free seed and agrochemicals on credit, but each year the insects get more resistant, the soils get poorer, and the price of cotton continues to fall. In many years, the farmers barely break even at harvest time.”

Mog says the couple misses Madison and welcomes mail, email, or phone calls from colleagues and friends. Contact them via email at [justinmog@gmail.com](mailto:justinmog@gmail.com), or write to:

PCV Justin Mog  
Cuerpo de Paz (Box #154)  
162 Chaco Boreal c/Mcal. Lopez  
Asuncion 1580, Paraguay  
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