

FOREST AND WILDLIFE ECOLOGY NEWS

A Newsletter for Dept. of Forest and Wildlife Ecology Staff, Students and Alumni

Vol. 14, No. 2 Fall 2011

News from the Chair

Greetings to everyone and a special welcome to our new undergradu-



Bill Karasov

ate and graduate students. Our new graduate students, many of whom are profiled on pages 5-7, join our graduate student community that now totals 70 members.

The graduate students

routinely distinguish themselves by receiving awards, research grants, and special recognition (page 4). Some of our high achieving undergraduates are also singled out for recognition (pages 4 and 5).

Another welcome goes to our newest faculty members, Drs. Jonathan Pauli and Benjamin Zuckerberg. Jon Pauli (page 1), who joined us in January 2011, advises three new graduate students and is beginning his undergraduate instruction. Jon is also leading a new "seminars" committee that will bring in weekly lecturers on forest and wildlife ecology through the academic year. This renewed ability to bring in speakers is possible thanks to support from our Forest and Wildlife Ecology Fund, for which we have our alumni and friends of the department to thank (page 7).

Ben Zuckerberg, who joined us this fall, will introduce a new course and

FWE welcomes two new faculty members

The Department of Forest and Wildlife Ecology is pleased to welcome two new faculty members. **Assistant Professor Jonathan Pauli** joined the department in January 2011 and **Assistant Professor Benjamin Zuckerberg** in September 2011.



Jonathan Pauli

Jonathan Pauli received his PhD in Ecology from the University of Wyoming in 2010. His dissertation focused on the population genetics of American and Pacific marten and small-bodied carnivores in fragmented and unfragmented temperate rainforests of southeast Alaska and northern British Columbia. He is interested in the response of mammal populations and communities to human disturbance, particularly as it relates to developing effective conservation strategies. Professor Pauli works in different ecosystems and employs a variety of research techniques, from traditional ones like live capture, radiotelemetry, and observation to more advanced techniques involving molecular markers, stable isotopes, and mathematical modeling to answer questions relating to mammalian ecology and conservation. Professor Pauli and his students currently have projects on the foraging

ecology of black bears in Colorado and Wisconsin, the population dynamics of porcupines in northern Wisconsin in relation to climate change and an expanding population of fisher, and the population genetics and habitat use of sloths in Costa Rica. This fall he is teaching Wildlife Techniques with Professor Scott Lutz. In his spare

New Faculty continues on page 2

research on campus about climate change and natural resources (page 2). His new position is funded through an exciting new collaboration with WDNR, which will help strengthen "citizen science" in Wisconsin. Jon and Ben bring the number of faculty to 21 – two less than last year due to four faculty retirements this past summer. We thank you for your support that helps us continue rebuilding and renewing. Alumni, do share with us your news to include in our Alumni Update column!

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Alumni Update

Matt Loyas (BS Recreation Resources Mgmt. 2007) is the Water Monitoring Coordinator for Capitol Region Watershed District in St. Paul, MN. In 2010 Matt served as a manager on the city of Cottage Grove Environmental Commission and in April 2010 spoke at the National Water Quality Monitoring Conference in Denver, Colorado (mjloyas@uwalumni.com)

Chadwick Rittenhouse (BS Wildlife Ecology 2000; Post-doc 2007-2011), Tracy Rittenhouse (BS Wildlife Ecology 2000; Post-doc 2010-2011), and their daughter Aubrey welcomed Leland Michael Rittenhouse on August 27, 2011. They recently moved to Storrs, CT, where Tracy is Assistant Professor of Wildlife Ecology and Chad is Assistant Research Professor of Landscape Ecology at the University of Connecticut. (chad.rittenhouse@uconn.edu and

tracy.ritttenhouse@uconn.edu)

New Faculty continued from page 1 time he enjoys kayaking, baseball, and spending time with his wife and two-and-a half-year-old daughter. Originally from Madison, Professor Pauli says he is delighted to be back.

Benjamin Zuckerberg comes to the department after serving as a research



Benjamin Zuckerberg

associate in citizen science at the Cornell Lab of Ornithology. He received a PhD from the Department of Environmental and Forest Biology at the SUNY College of Environmental Science and Forestry in 2008, a MS in

Wildlife and Fisheries Conservation from the University of Massachusetts -Amherst in 2002, and a BA in Zoology from Connecticut College in 1998. His PhD research focused on analyzing New York State's Breeding Bird Atlases to document shifts in bird ranges in relation to climate change and forest fragmentation. His master's research involved studying the responses of early-successional birds to grassland restoration practices on Nantucket Island, MA. His main area of research focuses on how modern forces of climate change and habitat loss influence avian behavior and species distributions. He is a strong proponent for the use of citizen science (monitoring projects dependent on networks of volunteer participants) to test ecological hypotheses at multiple scales ranging from local studies to national analyses. Much of his work is applied and focuses on management and conservation. Professor Zuckerberg will be teaching a course on climate change and natural resources. During his free time he enjoys playing basketball,

spending time with his family, jogging, and bird watching. Having spent most of his life in the Northeast, Professor Zuckerberg says he is excited to experience all that Wisconsin has to offer!

Faculty News

Rickenbach named to WI Council on Forestry

Wisconsin Governor Scott Walker has appointed Professor Mark Rickenbach to the Wisconsin Council on Forestry effective June 2011. The Council was created in 2001 to advise the governor, legislature, Department of Natural Resources, Department of Commerce, and other state agencies on a variety of topics as they affect forests in Wisconsin. Says Rickenbach, "The Wisconsin Council on Forestry is a diverse group of leaders in the forestry community who direct Wisconsin's efforts to achieve sustainable forestry." Professor Rickenbach was also accepted to the 2011 UW Teaching Academy Summer Institute, a four-day workshop held in June. He used the experience and a \$500 grant to revise his course titled Communicating Science to Policymakers.

Temple tours country screening "Green Fire" documentary

Emeritus Professor Stan Temple has been busy visiting campuses and agencies around the country screening "Green Fire: Aldo Leopold and a Land Ethic for Our Time," the new documentary film about Aldo Leopold that premiered last spring. Find out more about the film at aldoleopold.org, and contact Stan (satemple@wisc.edu) if you'd like to arrange for him to do a screening.





Forest Landscape Ecology Lab shares knowledge at workshop in China

The Forest Landscape Ecology Lab has gained international recognition at the 8th International Association for Landscape Ecology (IALE) Congress August 18-23 in Beijing, China. A one-day LANDIS-II model training workshop, organized by Drs. David Mladenoff, Robert Scheller (PhD Forestry 2004) and Weimin Xi (FWE Research Associate), was held at Peking

University for 36 participants from six countries. Dr. Xi led the workshop and served as the instructor. The workshop introduced LANDIS-II as an example of the forest landscape model, encouraged its applications in different forest ecosystems, and explored potential collaborations among researchers around the world. The participants learned basic features and current applications of LANDIS-II, how to install the program and extensions, run multiple scenarios, generate basic input files and parameters, and how to use LANDISVIEW to visualize output maps.



Photo by Gene Summers

New research helps calculate value of irrigation on carbon uptake

ssistant Professor Mutlu Ozdogan's research was featured on the UW-Madison's Aweb home page in August. The new research quantified irrigation's contribution to global agricultural productivity from 1998-2002, estimating the amount of carbon uptake enabled by cropland irrigation. "If you add up all the annual productivity that comes solely due to irrigation, it adds up to about 0.4 petagrams of carbon, nearly equivalent to the total agricultural productivity of the United States," says Ozdogan. The study takes an important step toward quantifying how management decisions can impact global carbon balance and assessing the economic worth of water and carbon in irrigated landscapes. "Now that we have spatially-explicit maps of how much irrigation is increasing carbon accumulation, we have good information about the value of the water going into those areas. We might be able to come up with a value of carbon in those areas as well," he says. "Of course the flip side of this is that, in many places around the world, if we keep irrigating we are either going to run out of water or degrade soils because of salinity issues." The current study does not factor in any impacts in areas from which irrigation water is drawn. However, Ozdogan says a better understanding of the links between irrigation, productivity, and carbon will help researchers look at downstream effects of factors that influence each of those elements — for example, how water shortages in agricultural regions may affect regional cardon cycles and climate. The results of Ozdogan's research were published August 25 in Global Biogeochemical Cycles, a publication of the American Geophysical Union.

Visit www.news.wisc.edu/19674 to read the UW-Madison web article by Jill Sakai.

In Memoriam

Henry Webster passed away on June 25, 2011, at age 81. His career included work as a research scientist with the US Forest Service, department chair at UW-Madison and Iowa State University; State Forester of Michigan; and Project Director for a multi-state forest resource assessment based at the University of Minnesota. Dr. Webster is survived by his wife, Jan Hacker, a daughter, and two grandsons. Memorials may be made to the University of Minnesota, Department of Forest Resources, 1530 Cleveland Ave. N., St. Paul, MN 55708.

Nina Leopold Bradley passed away at her home on the Leopold Reserve near



Baraboo WI on May 25, 2011, at age 93. She was born in Albuquerque NM, the third child of famed conservationist Aldo Leopold and Estella Bergere Leopold. After

growing up in New Mexico and Madison WI, she attended the University of Wisconsin, graduating in the 1930s with a major in geography. She has received numerous awards, including the distinguished service award of the Society of Conservation Biology and honorary doctorates from Northland College and the University of Wisconsin. Beginning in 1935, Nina spent many happy weekends with her family at the Leopold shack near Baraboo, participating in one of the world's first wildland restoration projects. Nina will be remembered as a scientist, conservationist, philosopher, and humanitarian by an international community of colleagues. A public memorial was held in August. Memorial donations may be made to the Aldo Leopold Foundation, Box 77, Baraboo WI 53913.





Student News

FWE Undergrads selected as CALS Ambassadors

Erika Cardenas and Kathleen Keene, both Wildlife Ecology majors, were selected to serve as 2011-12 CALS Ambassadors. They will work with the Undergraduate Programs and Services Office to provide prospective students and their families a student's perspective on CALS at various events on campus and with visits to high schools.

Two PhD students awarded Terry Amundson Memorial Scholarship

Congratulations to Brendan Reid and Stacie Robinson, 2011 recipients of the Terry Amundson Memorial Scholarship presented by the John M. Keener (Madison) Chapter of the Ruffed Grouse Society. Brendan is relatively new to the Midwest, having grown up on the New Jersey shore and received his Bachelor's degree in 2002 from Williams College in northwest MA. He lived and worked in New York for seven vears and obtained his Master's in Conservation Biology from Columbia University in 2009. During this period he worked on a number of research projects, ranging from the development of a genetic "barcode" for identifying endangered turtle species to radiotracking ovenbirds during migratory stopovers in an urban park. Brendan relocated to Wisconsin in 2010 to begin work on his PhD with Dr. Zach Peery at UW-Madison. His work here has focused on elucidating demographic patterns, dispersal processes, and statewide genetic structure in several native marsh turtle species, including the state-threatened Blanding's Turtle.

Stacie Robinson grew up in Arkansas and first got excited about the outdoors in the lakes and hills of the Ozarks. She received her BS in Wildlife Biology from Louisiana State University. After college she worked

with community-centered wildlife conservation as a Peace Corps volunteer in West Africa. Then after a taste of work in wildlife research, she decided to go back to school, first earning an MS in Environmental Science studying black bear population genetics at the University of Idaho and now working toward a PhD in Wildlife Ecology at UW-Madison with Dr. Mike Samuel. Stacie currently studies white-tailed deer and chronic wasting disease, researching the role that wildlife genetics play in disease ecology. Moving toward her career, Stacie hopes to combine wildlife research and public outreach to contribute to the management and conservation of healthy wildlife populations.

The Terry Amundson Memorial Scholarship is awarded annually to graduate students enrolled in the UW-Madison Department of Forest and Wildlife Ecology or Veterinary Science. Additionally, the graduate students must be conducting their research in the area of wildlife disease or wildlife ecology and be an outstanding scholar in the department.

Wildlife Disease Association picks Robinson for award

PhD student Stacie Robinson received the Graduate Student Research Recognition Award from the Wildlife Disease Association. Part of the award was a scholarship to attend the association's annual international conference in Quebec City this past August. Stacie gave a featured presentation of her research titled, "The power of good genes: disease-driven selection in white-tailed deer."

Malcolm article featured

An article written by PhD student Karl Malcolm is featured in the September issue of *Natural History Magazine*. The article, "Ghost of the Roosevelt Panda," describes an expedition to southwest China in 1929 led by two of Teddy Roosevelt's sons, Theodore Jr. and Kermit. They traveled through one of the field sites where Karl studied Asiatic black bears from 2008-2010. In his article Karl describes some of the changes in the forests and rural Chinese culture that have occurred in the past 80 years.

Study explores impact of deer on vegetation

Mildlife Ecology PhD student Autumn Sabo (Eric Kruger, advisor) and Botany Master's student Katie Frerker (Don Waller, advisor) received a grant from Friends of Peninsula State Park to study deer exclosures erected in the early 1990s at the park located in Door County, WI. Sabo and Frerker sampled vegetation and environmental variables at 17 exclosures throughout Wisconsin and the Upper Peninsula of Michigan this summer. Autumn presented their research at the Friends of Peninsula State Park annual meeting August 27. Preliminary results indicate that shrub and sapling abundance and diversity were greater within exclosures compared to outside controls, which are accessible by deer. Native herb diversity, plant height, and reproduction was greater inside exclosures. Grasses were more abundant and reproductive in outside control areas.

Autumn Sabo (left) and Katie Frerker check for evidence of deer browse.





Buntrock awarded Connor Forestry Internship

Senior Forest Science major Collin Buntrock received the 2011 David N. Connor Forestry Internship. This summer, he interned with Nicolet Hardwoods Corporation in Laona, WI. During his internship he helped sustainably manage timber resources on over 30,000 acres of the company's land. His internship duties included timber marking and cruising and training in log scaling, daily mill operations, logging procedures, and the economics of the forest industry. Collin says the staff at Nicolet Hardwoods includes many talented and successful individuals. "I feel very privileged and honored to have been trained by

so many wonderful people, and I sincerely thank them for their patience and willingness to make me a better steward of our forest resources," says Collin.

Collin also thanks Mary Pierce and the Connor family for graciously providing this opportunity. "Along with my education at UW-Madison, the skills I have acquired though the internship will provide a framework for success in the field of forestry. I hope that other students will be offered this invaluable experience for many years to come, and that students and staff maintain a commitment to the forest industry."

Combining art and science, Collin Buntrock (right) prepares to mark timber in a stand of northern hardwoods.



Meet our 15 new graduate students

The Department of Forest and Wildlife Ecology is pleased to introduced this year's new graduate students. We welcome each student to the department and to Madison. Following is a bio sketch of each new graduate student.



Dunbar Carpenter, Forestry MS

I grew up in Portland OR before attending Harvard University where I studied Organismic and Evolutionary Biology, graduating in 2008. Since then I have spent time working on a family farm in Oregon, working as a research assistant in Massachusetts (Harvard Forest), Virginia (Smithsonian Conservation Biology Institute),

and California (Teakettle Experimental Forest), and having outdoor adventures in New England and the West. I am interested in applied forest landscape ecology and will be working on my MS in David Mladenoff's lab.



Joshua Courlas, Wildlife Ecology MS

I received a BS degree in Biology from Wittenberg University in Springfield, OH. I spent the first two summers of my undergraduate career working for the USFS in Mio, MI as a timber cruiser and wildlife technician. I dedicated the next two years of my time at Wittenberg conducting and presenting research on Bergman's rule

and Allen's rule in deer mice and white-footed mice. At UW-Madison I will conduct research on wild turkey distribution in North Dakota with Dr. Scott Lutz. I was born and raised in Springfield, OH.



Jimmy Doyle, Wildlife Ecology MS

I graduated from New Mexico State University in 2010 with a BS in wildlife science. I am working on my MS with Prof. Tim Van Deelen studying the ecology of American badgers in Wisconsin. Throughout my undergraduate degree, I worked with several taxa but have always found mesocarnivores to strike my interest the most. I have

lived in New Mexico my entire life, so I am looking forward to exploring the Midwest and learning to ice fish!



Matthew Garcia, Forestry PhD

I earned my B.S. in Physics and Geosciences (1996) at Montclair State University (NJ) and two MS degrees--Atmospheric Science (1999) and Civil Engineering-Hydrology (2003) at Colorado State University. I worked four years in the Hydrological Sciences Branch at NASA Goddard Space Flight Center, have testified as an expert

witness, and was Project Manager for the Arizona Hydrologic Information System (AHIS) at the University of Arizona. I am working with Mutlu Ozdogan toward my PhD on forest hydrology and climate change. My interests include problems in hydrology and water resource sciences, hydrometeorology, geography and climate patterns, government water policy, and science in popular media.

New students continues on page 6







Max Henschell, Wildlife Ecology PhD

I received my BS and MS from Michigan Technological University in Houghton, MI. During my MS work I evaluated the potential biomass production of grasslands in southern Wisconsin and the avian community associated with these grasslands. This fall I began my Wildlife Ecology PhD program with Prof. Anna

Pidgeon investigating the response of avian communities to human recreational activities. Originally from Benzonia, MI, I have lived the past six years in Michigan's UP. Between degrees I worked seasonal bird survey positions at Whitefish Point Bird Observatory, Seney National Wildlife Refuge and Brockway Mt., all in the UP.



Christopher Johnson, Forestry PhD

In 2008 I received a BS degree from the UW-Stevens Point with a major in Water Resource Management, a minor in Soil Science, and a certificate in Wetland Science. In 2011 I received two MS degrees, one from Michigan Technological University and the second from the University of Helsinki, Finland. My Masters

work focused on peatlands and the efficacy of two different warming methods and the subsequent changes in gas flux. This fall I began work on my PhD in the Landscape Ecology Lab with Dr. David Mladenoff. I will be investigating the ecological impacts of forest bioenergy plantations in the northern Lake States.



Becky Kirby, Wildlife Ecology PhD

I am a PhD student in Dr. Jon Pauli's lab, researching black bear foraging ecology and aging techniques. I did my undergraduate degree in biology at Washington University in St. Louis, followed by a couple fieldwork stints abroad. In 2010, I finished my Master's through UW-Madison's Nelson Institute for Environmental

Studies, during which I worked with Mark Berres on the conservation genetics of a rare hummingbird on Tobago. The past year I was a lab manager for Dr. Zach Peery, and am excited to continue to be a part of this department now as a student. I was raised primarily in Wisconsin. When not in the lab or office, I enjoy hiking, traveling, teaching myself guitar, and anything outdoors.



Bethany Laursen, Environment and Resources MS

I grew up in California's Central Valley and graduated from Biola University in 2006 with a BS in Biological Sciences, a minor in Chemistry, and functional minors in classics, Bible, and environmental studies through the Torrey Honors and Au Sable Institutes. Since then, I have been

an outdoor and science educator, wilderness trip leader, and research intern for various seasons in Maine and New Hampshire. Now, Dr. Mark Rickenbach is advising me as we study the social networks of

biofuel producers in the Driftless Area of Wisconsin. My other interests include education for human flourishing using experiential and classical pedagogy, systems analysis, playing guitar and singing, canoeing, swing dancing, and coiling messy ropes.



Jorge Mendoza, Wildlife Ecology MS

I am from Garden City, Kansas, and received a BS degree from Kansas State University in 2010. I participated in a Post-baccalaureate Research Education Program at the University of Rochester in New York. My project was in the field of Microbiology and focused on the opportunistic pathogen *Enterococus faecalis* investi-

gating the role of Spx global regulator in stress tolerance and virulence of this organism. I am currently working on a project that consists of computing the niche space and dietary overlap of the two-toed (Choloepus hoffmanni) and three-toed (Bradypus variegatus) sloths in three different habitats in Costa Rica via isotopic analyses. In addition, I will map the study sites to compare resource use with availability. The project will be conducted under mentorship of Dr. Jonathan Pauli and Dr. Zach Peery.



Ian Plummer, Wildlife Ecology MS

I earned a BS degree in Wildlife & Fisheries Science from The Pennsylvania State University in May, 2010. Prior to that I earned a BA in Communications from Goucher College in Towson, Maryland in 2001. Under Dr. Michael Samuel's guid-

ance, I am investigating the timing and rate of Chronic Wasting Disease (CWD) shedding and environmental factors contributing to the spread of CWD. I have experience in research through volunteering and receiving an REU in Peter Hudson's lab at The Center for Infectious Disease Dynamics. I also have two seasons of experience as a wildlife biologist and one season as a Youth Conservation Corps crew leader for the U.S. Forest Service.



John Pokallus, Wildlife Ecology MS

I received a BS degree from the University of Wyoming in Wildlife, Fisheries, Biology & Management concurrently with Environment & Natural Resources. Following graduation, I spent five months volunteering at the Goegap research center in South Africa studying the socioecology of the four-striped mouse (Rhabdomys pumilio).

Upon returning, I continued work as a laboratory technician at the University of Wyoming helping identify genetic markers in a population of American marten (*Martes americana*). I am beginning a MS program with Professor Jon Pauli studying the effects of juvenile survivorship on porcupine (*Erethizon dorsatum*) population dynamics at the Sandhill Wildlife Area.





Andrew Roe, Forestry PhD

I will be working with Dr. Adena Rissman to examine ways that science can be better incorporated into forest stewardship and conservation policy. Between a BS from the University of North Carolina at Chapel Hill and a MS from Cornell University, I worked with The Nature Conservancy and Land Trusts in western North

Carolina and New York, performed biological research in Olympic National Park and western Virginia, and spent a year in the Peruvian Amazon working with a conservation NGO. I am currently doing research in western Uganda but look forward to returning to Wisconsin in January!!



Naparat Suttidate, Wildlife Ecology PhD

Before coming to Madison, I received a Veterinary Medicine degree from Chulalongkorn University in Thailand and a Master's degree in Ecology and Evolution from Stony Brook University, NY where I studied theoretical ecology with emphasis on the causes of predatorprey cycles. I will be working with Prof. Volker

Radeloff on conservation biology this fall.

Ryan Sword, Forestry MS

I received a BS in Biology from Augustana College in Rock Island, Illinois in 2006. During this time I focused on Wildlife Ecology and also received minors in Environmental Studies and Geography. This Fall I began work on a Master's project in Forest Ecology working with Dr. Phil Townsend. Originally from Fort Meyers, Florida, I have lived much of my life in the Midwest in Rockford, Illinois. During my undergraduate work I was fortunate to complete an internship with the U.S. Fish and Wildlife Service which sparked my interest in Forest Ecology and Wildlife Conservation.

Ying-Tang (Cherry) Tsai, Wildlife Ecology MS

I received a BS degree from UW-Madison where I majored in Biology and Chemistry. This Fall, I will begin my graduate studies with Prof. Karasov on topics in Ecotoxicology. I am originally from Taiwan, but have spent part of my childhood in New Zealand and have volunteered in wetland and forest conservation projects in both countries.

Forest and Wildlife Ecology Fund

We invite you to join us in our efforts to provide support for important department priorities. Donations to the Forest and Wildlife Ecology Fund are used to support various activities such as student travel to professional meetings, help cover the costs of the summer field camp, host special lecturers, and to renovate work space in Russell Labs.
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We enjoy hearing from you!

We'd like to hear what's new with you, your career, family, etc. Drop us a note and include your name, degree and year, and any news you'd like to share with us. Please send your email to Mary Miron at:

mjmiron@wisc.edu or drop a hard copy in the mail to the return address above.

Check out this audio link:

http://news.cals.wisc.edu/departments/pocals/2011/07/29/david-drake-bats-and-white-nose-syndrome/Listen to Associate Professor David Drake discuss the importance of bats in Wisconsin and learn just what white nose syndrome is and how researchers think it spreads.

Inside this issue...





