



FOREST AND WILDLIFE ECOLOGY NEWS



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

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Fall 2012

News from the Chair



Bill Karasov

This fall we have had gorgeous tree and forest colors and good weather to go out and enjoy it. We hope that you are well and finding ways to enjoy nature's beauties. There is a lot going on for us. In our College of Agricultural and Life Sciences (CAL S)

there is a major strategic planning exercise underway, and thanks go to Associate Chair Mark Rickenbach for agreeing to serve on this important college committee (pg. 2) where he can share our natural resource perspectives. Within our department, we are undertaking a self-assessment of activities over the past decade, and reviewers outside our department will scrutinize the document we prepare. To those alumni that were surveyed by the assessment team and responded, we thank you. Once the CAL S strategic plan and our departmental review are completed, we likely will do some strategic planning of our own regarding our needs in relation to campus' and CAL S' future directions. In the meanwhile, our teaching, research and extension continue as vigorously as always, and you can read about some of the work and some of our successes in the newsletter. This edition includes several items about the research programs of faculty members on ecological forestry in Wisconsin in relation to

The secret life of deer

by Camille Warbington

As part of the Wisconsin DNR study on white-tailed deer population parameters, Professor Tim Van Deelen and M.S. student Camille Warbington are conducting research on survival of neonatal white-tailed deer. In late May and early June, newborn fawns are captured and fitted with expandable radio collars to track the fawns and determine fate and habitat selection. In 2012, a film crew followed field capture efforts for footage to include in an upcoming episode of PBS Nature. The episode, entitled *The Secret Life of Deer*, is scheduled to air nationally in the Winter/Spring 2013 season.

In the photo below M.S student Camille Warbington checks a fawn's sex and umbilicus condition during capture processing.



forest production (pg. 6), the "secret life" of deer (pg. 1), and behavior and ecology of sloths in Central American forests fragmented by agriculture (pg. 3). A new feature that might become regular is a short "research capsule" (pg. 2), (and we thank colleagues over at the Nelson Institute for the idea!). Please check out the article on graduate students attending professional meetings, benefitting from support that friends and alumni like you provide. Thanks always, and best wishes
— Bill Karasov, Chair

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Alumni Update

Brian Sharp (M.S. Wildlife Ecology 1969) owns a consulting business called Ecological Perspectives in Fossil, Oregon. He recalls that Bob McCabe was chair of the department at the time he obtained his M.S. Joe Hickey advised him on his masters research on the endangered Dusky Seaside Sparrow in Florida. For more information about Brian and his business visit his website: <http://www.ecologicalperspectives.com> or drop him an email: ecoperspectives@yahoo.com

In Memoriam

David Redell (B.S. Wildlife Ecology 1999 and M.S. Wildlife Ecology 2005) passed away on September 18 at his home. Dave was the WI DNR's first bat ecologist in its Bureau of Endangered Resources. He made significant contributions to bat conservation in Wisconsin: identified major hibernacula, developed monitoring techniques and advanced our knowledge of basic bat ecology. Dave was recently presented the U.S. Fish and Wildlife Service's Silver Eagle Award, the agency's highest honor reserved for people who have made an impressive contribution to wildlife conservation and management. Before his death, Dave established the Wisconsin Bat Conservation Endowment fund, which will be used to fund future research projects and long-term bat conservation efforts in Wisconsin. Contributions can be made through the Natural Resources Foundation of Wisconsin, Attn: Wisconsin Bat Conservation Endowment Fund, PO Box 2317, Madison WI 53701.

Faculty and Staff News

Rickenbach appointed to Strategic Planning Committee

Kate VandenBosch, Dean of the College of Agricultural and Life Sciences (CAL S) has selected Professor Mark Rickenbach to serve on a 15-member committee that will lead an effort to develop a strategic plan for CAL S. The group will gather input from inside and outside of the CAL S community. Committee recommendations are scheduled for release in the spring of 2013. The committee consists of CAL S faculty, staff, students and members of the Board of Visitors.

Special USDA assignment. Rickenbach was also selected for a one-year special assignment with the USDA National Institute of Food and Agriculture (NIFA). NIFA partners with land grant colleges, such as UW-Madison, to provide a mix of

formula and competitive programs related to research, extension, and teaching. Rickenbach will help review and evaluate existing programs and assist in revising and prioritizing competitive programs that integrate research, extension, and teaching related to the environment.

Bird sampling research published in *The Auk*

Adjunct Associate Professor Eduardo Santana-Castellon and colleagues have published an article in the July 2012 issue of *The Auk* based on their long-term bird-banding work. The article is "Survival of resident Neotropical birds: Considerations for sampling and analysis based on 20 years of bird-banding efforts in Mexico." Their research results suggest that the Barker model might be the most adequate to analyze data sets with certain sampling limitations and that protocols like those suggested for banding programs in the Neotropics may need to be modified to determine age and sex dependent survival under various habitat and seasonal conditions.

New feature!

Research Capsule

Tawnya Cary
William Karasov

Question

Can frogs fight back?

Project

With support from WI SeaGrant, we are investigating whether the immune systems of young frogs are altered by exposure to environmental contaminants such as flame retardants and PCBs.

Findings

Antibody responses are lowered in contaminant-exposed young frogs. This may make them more susceptible to pathogens in their environment, and less able to 'fight off' infections.





Bloch earns JD degree

Congratulations to Emeritus Faculty Associate and Senior Scientist Peter Bloch, who retired from the department in 2009 with a goal in mind. In March Bloch achieved that goal by earning his JD degree from Concord Law School and has passed the Wisconsin and California bar exams. He is now licensed to practice law in those two states. Bloch says he hopes to focus his work on political and environmental cases.

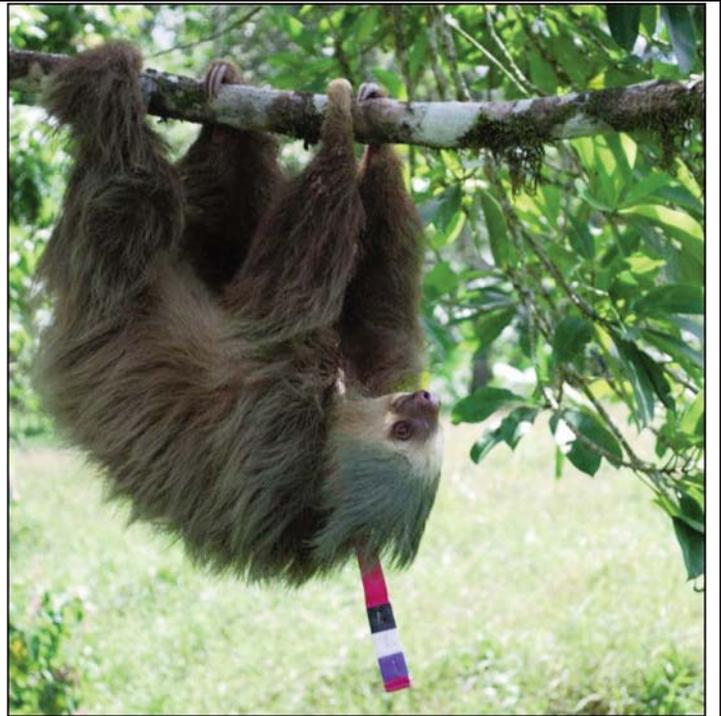
Rissman shares expertise via webinar

Assistant Professor Adena Rissman conducted a webinar titled “When Permanence Requires Adaptation: A Webinar About Conservation Easements in Changing Landscapes and Climates.” Eighty people participated in the webinar, held in September, in which Rissman discussed applying an adaptive management framework to conservation easements using findings from her research in Wisconsin. Participants could join a forum to discuss the need for easement adaptation.

La Puma presents at ornithology conference

David La Puma, Visiting Scientist in the SILVIS lab, attended the North American Ornithologists Conference in Vancouver, British Columbia in August. He presented his work (co-authored with Jeff Buler, Deanna Dawson and Tim Jones) titled “Mapping Bird Density Across the Southeastern U.S. Using Doppler Radar.” La Puma is completing postdoctoral work for the University of Delaware. His research involves the study of the relationships between migratory birds and stopover habitat at the landscape scale. He says the SILVIS lab provides an excellent opportunity for exchanging information and expertise. La Puma’s residence in Madison may also have something to do with that fact that his wife, Inga, is a post-doc in Professor David Mladenoff’s lab.

A female two-toed sloth hangs loose at a the site of a new UW-Madison study of sloth ecology and behavior. The study depends on a complex mix of intact Costa Rican forest, pasture, plantation and shade-grown cacao as a laboratory. The colored necklace, with distinct color combinations, is used to identify female sloths in the field. Males get radio collars.
Photo: Zach Peery



Sloth study highlighted on UW home page

Collaborative research by Assistant Professors Jonathan Pauli and Zach Peery was featured on the UW-Madison’s web home page this fall. Pauli and Peery are studying the ecology and behavior of two species of sloths found in Costa Rica. The animals under study are the brown-throated three-toed sloth and Hoffmann’s two-toed sloth. The sloths’ sedentary lifestyle combined with their requirement for forest habitat make them vulnerable to deforestation. Pauli and Peery have found that when agricultural crops are planted on cleared tropical forestland, the sloths do not move through the crops to seek out new forest habitats. However, when shade-grown cacao trees are planted, the trees provide excellent habitat for the sloths. Their research that helps find ways to protect sloths could also apply to other tropical animals who live in habitats similar to that of the sloths. If you are interested in reading more about the project, visit <http://www.news.wisc.edu/20865>. Or check out their article in *Animal Behaviour*: The mating system of a “lazy” mammal, Hoffmann’s two-toed sloth. *Animal Behaviour* 84:555-562.

Aldo Leopold soundscape recreated

Using Aldo Leopold’s careful field notes, researchers have reconstructed a “soundscape” of what the chorus of birds must have sounded like at Leopold’s shack in Sauk County, Wisconsin, in the 1940s. Professor Emeritus Stan Temple (also a senior fellow of the Aldo Leopold Foundation) and UW-Madison Nelson

Institute graduate student Christopher Bocast, have produced a compressed version of the chorus described by Leopold, taking 30 minutes of notes and compressing them into 5 minutes of recording. The bird songs and calls were obtained from the collection at the Cornell Lab of Ornithology’s Macaulay Library. To learn more as well as access a link to the recreated soundscape visit: <http://www.news.wisc.edu/21058>.



Pauli featured in Nelson Institute article



Jonathan Pauli

Assistant Professor Jonathan Pauli was one of several UW-Madison ecologists featured recently in an article prepared by the Nelson Institute for Environmental Studies. Highlighted was his research on

terrestrial vertebrates of which there are more than 64,000 species. More specifically, his lab has focused on pumas, black bears, fishers, sloths, porcupines and snowshoe hares. Current research includes the study of sloths in Costa Rica (see related article on page 3). Their population has declined with a growing agriculture industry. In Argentina, Pauli and his student researchers are examining the link between pumas and Andean condors. They hope an improved understanding of the condors' foraging ecology will lead to better restoration strategies for the birds, which are threatened by habitat loss and declining food availability. Two other projects involve work with mountain lions and porcupines. Porcupines are facing increased threats from the fisher, whose range is expanding as the climate changes. To view the entire Nelson Institute article, visit Embracing complexity: Jonathan Pauli <http://nelson.wisc.edu/news/news-details.php?e=1585>.

Student News

Forestry Club Happenings

By Hillary Grabner

The UW-Madison Forestry Club consists of 25-30 students who share a common interest in forestry and the outdoors. The majority of the group members are undergraduates in forest science here at the UW-Madison, but students of all backgrounds are welcome to join. The Forestry Club meets the first Thursday of every month in Russell Labs. We often discuss current forestry issues, plan community outreach events, and listen to presentations by guest speakers. The club also gives its members the opportunity to improve their resumes and make connections with future employers by providing partial funding for forestry-related expenses such as student Society of American Foresters (SAF) membership fees, certification courses, and educational field trips.

The Forestry Club funds are primarily generated through its annual Christmas Tree Sale. The sale is organized by Forestry Club volunteers and is held in

the UW Stock Pavilion. We offer fresh, high quality trees to local residents at the beginning of the holiday season. Customers may reserve a particular tree for a later pick-up time, and club members are on hand to assist with loading and securing trees in vehicles. This year's Christmas Tree Sale will take place from November 30 through December 2. If you are interested in purchasing a tree, we encourage you to arrive early, since the trees tend to sell out quickly. This event is vital to the UW-Madison Forestry Club's ability to continue offering benefits to its members and to stay involved in the local and national forestry community. We hope to see you there!

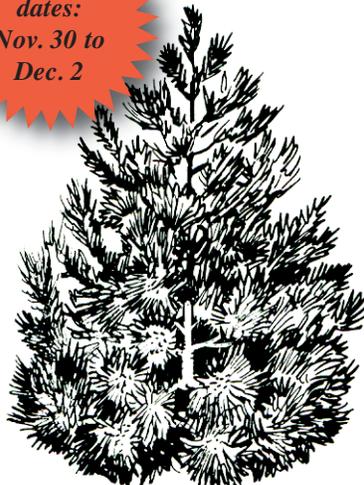
What's New in the Student Chapter of TWS

By Amy Whillock

The Student Chapter of The Wildlife Society at UW-Madison works to get students involved in wildlife related activities. Our meetings are every other Monday at 5:45 pm and we invite speakers to come and talk about their work with wildlife. This semester, our guest speakers include: Jackie Edmunds from Four Lakes Wildlife Center, Mark Martin from Goose Pond Sanctuaries and the WDNR, and Camille Warbington talking about her research with neonatal fawns. We will also have a Wildlife Society National Conference report given by the students that attended this year and an internship information session for students looking for summer work opportunities.

The Wildlife Society also has many events planned for the semester. Some events we have planned are Saw-Whet Owl banding at Linwood Raptor Research Center, deer trapping in northern Wisconsin, raccoon tracking around Madison, and prairie restorations. We will also be organizing a trip to Devil's

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Lake and the Urban Ecology Center in Milwaukee. Additionally, the club will help clean up the community by recycling after a football game and at our adopted highway.

In early December we will hold our annual game dinner. This is the main fundraising event for the club. The officers of the Wildlife Society will show off their cooking skills by preparing wild game meat donated to the club as well as other side dishes and entrées. There will be raffle prizes and a silent auction.

Grad students benefit from Travel Fund support

Graduate students in the Department of Forest and Wildlife Ecology who want to travel to professional meetings are fortunate to have departmental financial support available to them. Thanks to our generous donors, 21 graduate students have received financial support in amounts between \$250 and \$400 to attend meetings in the past year. M.S. candidate Carolyn Schmitz says her grant allowed her to travel to the 2011 Midwest Fish and Wildlife Conference in Des Moines, Iowa. "I gained valuable experience presenting my research on Henslow's Sparrow nesting ecology and was able to network with wildlife professionals," says Carolyn.

All but three of the students who received awards gave oral or poster presentations of their research at the meetings. Most students traveled to points within the U.S. However, one student attended a meeting in Slovakia and two traveled to Canada.

M.S. candidate Sarah Traver received support to travel to Edmonton, Alberta, Canada to attend the International Symposium on Society and Resource Management in June. She presented a paper titled, "Biomass as energy:

Evaluating logging sector capacity to deliver in Wisconsin."

Says Sarah: "I am incredibly appreciative of the opportunity afforded me to travel abroad and present my research this summer. Presenting my work to peers and professionals from across the globe, seeing their attention and hearing their interest in the topic legitimized, for me, the work I'd done. It's easy to get lost and feel isolated during the act of research and thesis composition, to forget that the work you're doing has implications beyond yourself, and is meant to be shared and applied. The ISSRM conference allowed me to see my own work and my own self as part of the larger social-ecological picture. It

Travel fund support helped 21 students attend professional meetings in the past year.

provided valuable opportunities to network – and explore new corners of the world – with colleagues of varying disciplines, cultures, and levels of professional development, opportunities I may not have been able to take advantage of without the existence of the funds provided through the Travel Fund."

Donations to the Graduate Student Travel Fund are always welcome. If you would like to contribute to the fund, complete the form on page 7 and check the Graduate Student Travel Fund box. Or you can donate on-line by clicking on the "Make a gift online" link from the Department's home page: <http://www.fwe.wisc.edu>

Locke awarded USDA fellowship

Ph.D. student Christina Locke was awarded a USDA National Institute of Food and Agriculture (NIFA) Fellowship. The fellowship provides two years of support for her work on the impacts of land-use policies and planning processes on development patterns and forest distribution in northern Wisconsin. Assistant Professor Adena Rissman is Christina's advisor.

Stenglein receives AGLOW scholarship

The Association of Great Lakes Outdoor Writers (AGLOW) has awarded the Wendy O'Donnell-Schmidt Memorial Scholarship to Ph.D. student Jennifer Stenglein. The \$1,000 scholarship recognizes students in conservation-related fields who are working to communicate environmental issues to the public. Stenglein's research on survival and population dynamics in the Wisconsin wolf population is a timely topic with the upcoming wolf harvest in Wisconsin. She shared her research with the public through testimony to the Natural Resources Board during their July 2012 meeting. "Wildlife management is replete with opportunities to communicate to different segments of the public, and I enjoy these conversations," says Stenglein. "I enjoy the opportunities to help the public understand wildlife conservation and management issues, and am very fortunate that I work on a species that facilitates these conversations." AGLOW is a non-profit organization of outdoor communicators and one of its missions is to help the public understand wildlife management issues.



Study examines effects of ecological forestry on forest production

Ecological forestry practices—such as the purposeful retention of old living trees, snags, and fallen logs—are increasingly being incorporated into forest management plans to maintain biological diversity and ecosystem function. In the Chequamegon-Nicolet National Forest, for example, the 2004 master plan designates some zones of “interior northern hardwood forests” where 3-9 trees per acre are marked as legacy trees that will be allowed to live out their natural lifespans. A new UW study suggests that even forests managed to resemble old-growth forests can produce sufficient harvestable volume for viable timber sales, but these practices are not without significant costs in reduced timber yields. The simulation study, supervised by Professor Craig Lorimer and U.S. Forest Service scientist Brian Palik with graduate students Jacob Hanson (Ph.D. 2009) and Corey Halpin (M.S. 2009), was published in the April 2012 issue of *Forest Ecology and Management*. It was designed as a companion study to a long-term field experiment conducted jointly by the Wisconsin DNR, UW-Madison, and the U.S. Forest Service. “The hope was that simulation could provide us with some preliminary answers that would otherwise require decades to resolve in the field experiment,” says Lorimer. The paper was a key part of Hanson’s Ph.D. thesis.

To generate the predictions, the team spent several years overhauling and testing a UW forest computer model called CANOPY. “We made numerous tests of the model against field experiments and archival data on old-growth forests,” notes Lorimer. “We wanted to be confident in the predictions and we also didn’t want the study to be dismissed as ‘just a simulation study.’” A total of 22 different practices representing a wide range of alternatives were simulated over a span of 60-300 years.

For reserve-tree practices like those on the Chequamegon-Nicolet, expected yield reductions ranged from 9% with 3 reserve trees per acre to 25% for 9 trees per acre. Some ecological forestry designs, especially those that girdled or felled trees to provide fallen logs, were predicted to reduce yields by more than 55%. Yield reductions were caused both by



A new UW-Madison study examined the likely effects of ecological forestry practices on timber yield. Pictured here is a stand on the Nicolet National Forest following a single-tree selection harvest in which some larger trees are designated to live out their natural lifespans.

Using a computer model called CANOPY, 22 different practices were simulated over a span of 60-300 years.

the growing space taken out of production by the reserve trees as well as slower growth and higher mortality in adjacent trees caused by increased crowding. One of the more efficient strategies was to use single-tree selection with a maximum residual tree diameter of 30 inches, similar to practices at the Menominee

Reservation in Wisconsin. This provides more large trees and fallen logs than the reserve-tree approach without causing large reductions in yield—and also does not require separate marking practices.

The wide range of responses buys managers some leeway in designing treatments that give the best balance between ecological benefits and economic costs in different situations. And costs? Perhaps they simply need to be chalked up as the price of long-term sustainability. In Sweden, where intensive even-aged management has been practiced for more than a century, the list of

“red-listed” (threatened) species is distressingly long. (Swedish conservationists like to joke that “If a tree falls in the forest, some Swede is sure to pick it up.”) With ecological forestry, we are simply embracing Aldo Leopold’s admonition that the first rule of intelligent tinkering is saving all the pieces.



Learn more about us. . .

Below are some links to news articles and video clips featuring people and research in the Department of Forest and Wildlife Ecology. We hope you enjoy this closer look at department activities.

Video:

2012 Forestry Summer Camp by Sevie Kenyon and Nicole Miller.

<http://ecals.cals.wisc.edu/teaching-advising/2012/07/16/video-2012-forestry-summer-camp/>

Video:

Rodents as seed dispersers based on research by William Karasov and colleagues:

Current Biology: <http://www.cell.com/current-biology/abstract/S0960-9822%2812%2900471-X>

Article:

Down on the cacao farm: Sloths thrive at chocolate source by Jonathan Pauli and Zach Peery

<http://www.news.wisc.edu/20865>

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, and host special lecturers.

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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.

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