



# FOREST ECOLOGY AND MANAGEMENT NEWS

*A Newsletter for Department of Forest Ecology and Management Staff, Students, and Alumni*

Vol. 3, No. 1

February 2000

## News from the Chair

We recently recruited a young man by the name of Mark Rickenbach to fill the forest management extension specialist position that Jeff Martin formerly occupied. He will arrive in a few months and we will profile him in our next newsletter. Mark will be a welcome addition to the faculty and to the state forestry extension effort. We are also currently recruiting for a forest products extension specialist and hope to have someone aboard by next fall.

It is interesting what one can learn from interviewing the candidates during a search process. Most of them try to learn as much about their prospective employer as they can and ours did too by visiting our web site. What we learned during the interviews is that our web site is not very good! Actually, we pretty much knew that – our graduate students had been telling us the same thing – but hadn't placed the priority on improving it that we should have. We are slowly adding more features and information so you should notice changes if you visit it sporadically. The address is: <http://forest.wisc.edu>.

I am learning what is meant by that old Chinese curse, "May you live in interesting times!" Wisconsin is on a July-June fiscal year, but the state legislature did not get around to passing a budget until very late in October. The pay package was approved in late January. One consequence of all this is that all of the department's state budget accounts started at zero and have gone steadily downhill from there. I haven't gotten used to all the negative balances!

Almost every day the newspaper contains one or more articles that focus

on an issue in natural resource management in Wisconsin or the nation, and often the articles relate to forests. The public's interest in and concern about natural resources continues to increase and people want to be more involved in resource management decisions. This offers some challenges for you who work out in the "real world," challenges that make dealing with negative budget balances seem simple by comparison. I salute those of you who every day work to apply what you have learned through your education and your work experience to resolve the complex issues involved in managing forests and related natural resources. - *Jeff Stier*

## Alumni Update

**Steve Seybold** (B.S. 1983) is now Assistant Professor of Forest Entomology in the Departments of Entomology and Forest Resources at the University of Minnesota. In his new position he teaches Forest and Shade Tree Entomology and conducts research on pine bark beetle pheromones, the life history of insect vectors of oak wilt, and silvicultural management of the spruce budworm in white spruce. After leaving Madison, Steve did an internship in Sweden, obtained his Ph.D. in entomology at the University of California-Berkeley, and did postdoctoral work with the USDA Forest Service Pacific SW Research Station and at the University of Nevada, Reno.

**Joe Kresse** (B.S. 1973) is project manager for Weyerhaeuser Timberlands Information Services and Western Log System project manager in Federal Way,

WA. He reports that they are building new hand held data collection applications to go with their new resource management system and GIS. Following his undergraduate degree at the UW-Madison, Joe went to the University of Oregon for an MBA in Forest Industries Management under Dr. Stuart Rich. Joe's e-mail address is: [joe.kresse@weyerhaeuser.com](mailto:joe.kresse@weyerhaeuser.com)

## Student News

### Recognition

**Volker C. Radeloff** (Ph.D.-1998 with David Mladenoff) has been selected by the International Union of Forestry Research Organizations (IUFRO) to receive an Outstanding Doctoral Research Award. The award will be presented during the opening ceremony of the XXI IUFRO World Congress in Kuala Lumpur, Malaysia, in September. Volker works in the area of landscape ecology. His doctoral dissertation is titled "Patterns of Disturbance in the Northwest Wisconsin Pine Barrens: A Frame of Reference for Ecosystem Management."

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### Scholarship Recipients

Name	Major	Scholarship
Donald Behnke	Recreation Resources Management	Vicky Lee Hirsch Academic Merit Award
Anne Hussa (Sr.)	Forest Science	Vicky Lee Hirsch Academic Merit Award
Brooke Ivener (Sr.)	Forest Science	David N. Connor Scholarship
Alan Kirschbaum (Sr.)	Forest Science	W.G. Bleyer Conservation Scholarship
Jason Ludden (Jr.)	Forest Science	Earle D. Lyon Memorial Scholarship
Aaron Mielke (Soph.)	Forest Science	Vicky Lee Hirsch Academic Merit Award
Etsuko Nonaka (Sr.)	Forest Science	Albert J. and Adelaide E. Riker Scholarship
Jedd Ungrodt (Sr.)	Forest Science	David N. Connor Scholarship and Vicky Lee Hirsch Academic Merit Award
Shushuai Zhu (Ph.D.)	Forestry	John N. McGovern Scholarship

### Department News

#### Forest Service Holds National Leadership Conference on Madison Campus

On October 26-28, 1999, the Forest Service held its National Leadership Conference at the University of Wisconsin-Madison. The department was delighted to work with the Forest Products Laboratory to host the meeting. Several of those attending have previously worked on Wisconsin's national forests or are alumni of the department, and for them it was a chance to get reacquainted with Madison and the UW. At the end of the meeting, Chair Jeff Stier introduced Forest Service Chief Mike Dombeck to undergraduate students Jedd Ungrodt, Eric Weiss and Kevin Zei. The three, who are the SAF Student Chapter officers, presented Chief Dombeck with a memento of his visit to the campus. Knowing that the Chief is an alumnus of a not-to-be-named sister campus in the UW System, the students were careful to select a neutral green and

red "Wisconsin Foresters" hat that he can also wear when visiting his alma mater!

### Faculty Bulletin

**Associate Professor Glen Stanosz** (Plant Pathology/Forest Ecology and Management/Environmental Studies) has been appointed the William C. III and Eugene P. Van Arsdel Professorship in Tree Pathology.

**Professor Raymond A. Young** has received the annual award of the Japan Photopolymer Society for his work related to Plasma Modification of Materials. This work involves upgrading of forest products, such as paper and lignin, by treatment with activated plasma gases. The award will be presented to Dr. Young and two of his colleagues, Dr. Frank Denes and Dr. Sorin Monalache, in a ceremony at Chiba University in Japan on June 29, 2000.

### Meet Peter Bloch



I will be teaching the FEM course on Communities and Forests every other year, and the Agroforestry course (jointly with Ray Guries)

in alternate years, and will participate in the Social Forestry group. I expect to have an active research program on the management of common-property resources in the context of the transition to a market economy and government decentralization. However, during the first six months of my FEM appointment I have also been investigating the prospects for work in the U.S. as well, focusing on socioeconomic questions concerning private forest owners (somewhat from self-interest, since I am a quarter-owner of 35 acres of unmanaged forest in Vermont).

I was born in New York, but moved to Chicago soon thereafter, remaining there until age ten when my family moved to the Boston area. I suppose that it was the Midwestern interlude that spared me a pronounced regional accent. Even though I have been a city boy all my life, I became familiar with rural life through long summer stays in Vermont and Maine with my family and at camp.

I studied a bit of everything during my undergraduate years at Harvard, finally settling on a major in French Language and Literature because I loved to read 17<sup>th</sup>, 18<sup>th</sup> and 20<sup>th</sup> (but not most 19<sup>th</sup>) century literature. I worked as a biology lab technician at MIT. I passed the State Department exam for entry into the diplomatic service, and did a master's in international relations at the Johns Hopkins School of Advanced International Studies. Because of the Viet Nam war, however, I didn't feel that it was an appropriate time to represent the U.S. abroad. The economic aspects of international relations interested me



most, so I decided to study Economics and went to the University of California, Berkeley for a Ph.D. There I did research on Brazilian employment and incomes under a USAID-funded grant to my major professor, and wrote my dissertation on the explanation of differences in non-agricultural earnings.

My postdoctoral career has focused almost entirely on economic development in the Third World, increasingly concentrating on rural issues because I recognized their fundamental importance. I taught econometrics, labor economics and economic development for three years at the University of Dakar in Senegal (lecturing in French), for three years at the Fletcher School of Law and Diplomacy at Tufts, and for three years at Grinnell College in Iowa, before coming to UW-Madison where my wife received a faculty position in the Department of Curriculum & Instruction, School of Education. After 2 years as a visiting professor in the UW Department of Economics, I joined the Land Tenure Center (LTC) in 1984 as a research scientist. I am still there, but now half time.

I began as LTC's designated specialist in French-speaking West Africa, doing work in Senegal, Mali, Niger, and elsewhere on issues related to the confrontation of national governments' land and natural resource laws and administration on one hand and the customary practices of rural people on the other. In the last ten years or so my regional scope has widened, with work on socioeconomic aspects of natural resource management – including forests – in many countries including Sri Lanka, Guinea, Madagascar and Haiti, and on agrarian reform issues in several countries of the former Soviet Union. Forest and pasture management issues have been central to much of my work, although most of my publications have dealt primarily with crop agriculture. In 1998 I was awarded Permanent Principal Investigator status, a rare honor for a member of the UW academic staff.

## Research Briefs

### **Forest productivity and land ownership in the U. S. Lake States**

— Jeff Stier, Dave Marcouiller (Department of Urban and Regional Planning) and Kwang-Koo Kim (graduate student in Urban and Regional Planning) used Forest Service FIA inventory data to test whether potential timber productivity varies by ownership in 101 counties in the U.S. Lake States of Minnesota, Wisconsin, and Michigan. They also examined the relationship between land ownership and the level of growing stock and net annual growth. They expected to find that industrial lands had the highest productivity, which is the situation in the rest of the U.S. However, in the Lake States the most productive sites are in the national forests, which also carry average levels of growing stock that are higher than those of other landowners. Industry-owned forestlands are generally of inferior quality relative to other forest owners. Results of this study will appear in a forthcoming issue of the *Canadian Journal of Forest Research*.

### **Utilization of pine cones –**

Raymond A. Young, Thomas Eberhardt and Catherine Celimene. For the past several years the Grainger Foundation has funded a project in the Department of Forest Ecology and Management on utilization of pine cone extractives. This work was initiated from Mr. Grainger's interest in finding better uses for the renewable pine cones found in abundance

in forest and recreation areas. The project has been carried out under the direction of Professor Raymond A. Young and two post-doctoral fellows, Dr. Thomas Eberhardt and recently Dr. Catherine Celimene. Initial investigations on conversion of pine cones to composite boards and papermaking fibers demonstrated the intractable nature of these structures. Indeed the cones are very resistant to degradation even on the forest floor. The approach taken was to extract the cones with organic solvents to evaluate the utility of the myriad of chemicals contained in the "extractives." This was the first detailed chemical analysis ever performed on pine cones and valuable insights on how nature preserves woody tissue has been gained from the results. Preservation of pine cones, and heartwood of trees alike, is achieved through a multiplicity of mechanisms involving a wide variety of toxic chemicals which are fungi specific, along with protection based on chemical hydrophobicity.

The use of the pine cone extractives for medicinal and pharmaceutical purposes has also been explored. Indeed, Japanese folklore medicine describes a cure for throat cancer by drinking the water from boiled pine cones. Several of the isolated chemicals were found to exhibit moderate levels of both anti-carcinogenic and anti-HIV behavior, as evaluated by the National Institute of Health; and further chemical derivatization of one of these compounds showed even further enhanced anti-carcinogenic properties. Although the efficacy of the compounds was not sufficient to warrant additional testing, further evaluation of the extractives and further manipulation through chemical modification could lead to new approaches for medicinal uses. Recent publications from the project include:

C. Celimene, J. Micales, L. Ferge and R.





A. Young, "Efficacy of Pinosylvins against White-Rot and Brown-Rot Fungi", *Holzforschung* 53 (1999) 491-497.

C. Celimene, D. Smith, G. Stanosz and R. A. Young, "In Vitro Inhibition of *Sphaeropsis sapinea* by Natural Stilbenes", submitted to *Phytochemistry*.

### Global effects of accelerated tariff liberalization in the forest products sector to 2010

— Joseph Buongiorno, Shushuai Zhu and David Brooks (USDA Forest Service, Washington D.C.). This study was done on behalf of the Office of U.S. Representative Charlene Barshefsky and the White House Council on Environmental Quality. The objective was to project the effects of the elimination of import tariffs on the world forest sector from 2000 to 2004, as proposed by the Accelerated Tariff Liberalization (ATL) agreement. The projections were done for two scenarios: 1) progressive tariff reduction according to the current GATT schedule, 2) complete elimination of all tariffs within the Asia-Pacific Economic Cooperation (APEC) countries. The projections were obtained with the global forest products model (GFPM). The model gives market equilibrium projections of quantities produced, consumed, imported and exported by each country (total of 180 countries), for 14 commodity groups, covering roundwood, sawnwood, wood-based panels, pulp and recycled fibers, and paper and paperboard. The model also projects world equilibrium prices up to 2010. The results show that by eliminating tariffs in APEC countries, the world production and consumption for all products would change little, less than 0.5 percent. The tariff reduction effects would be much more significant for trade, and the commodity composition of world trade would shift from raw materials to more processed products. The timber harvest would change in a number of countries, but the net effect at the world scale would

be small. U.S. consumption and production of forest products would change little, but the trade composition would change significantly. The U.S. would reduce its exports of logs and increase its exports of some processed products. The U.S. timber harvest is expected to be indistinguishable compared to what would be the case in the absence of the ATL.



### Wisconsin's Kickapoo River Watershed

— Tracy Kuczenski, Don Field, Paul Voss (Department of Rural Sociology),

Volker Radeloff, and Alice Hagen (Department of Rural Sociology, Applied Population Lab). Forthcoming in the *Journal of the American Water Resources Association*. Recurrent calls for integrated resource management urge that an understanding of human activities and populations be incorporated into natural resource research, management and protection efforts. In this paper, we hypothesize that watersheds can be a valuable geography for organizing an inquiry into the relationship between humans and the environment, and we present a framework for conducting such efforts. The framework is grounded in the emerging field of landscape ecology and incorporates demographic theory and data. Employing Geographic Information System (GIS) tools, we couple Landsat Thematic Mapper™ land cover data with 1990 decennial census-derived housing density data to demonstrate the operation of our framework and its utility for better understanding human-landscape interactions. In our investigation of the Kickapoo Watershed and two sub-watersheds, located in southwestern Wisconsin, we identify relationships between landscape composition and the distribution and social structure of human populations.

**"Four Decades of *Forest Science*"** — Jeffrey C. Stier, Andrew Orlemann, and Thomas W. Steele (November 1999, issue of *Journal of Forestry*).

In 1955, the Society of American Foresters' (SAF), the University of Michigan, and the USDA Forest Service joined forces to create a scientific journal "devoted to presentation and discussion of the results of original research." The result was *Forest Science*.

In this article, the authors conduct an in-depth analysis of the four-decade-old scientific journal. The journal has published papers on a wide range of subjects in order to reflect the variety of disciplines involved in the field of forestry. The authors acknowledge this, and examine the publication patterns of the journal during the years 1955 to 1998, Volumes 1 through 44. They also compare *Forest Science* to other similar journals.

The article examines authorship patterns, including the countries of origin of contributing authors, how many authors contribute to articles, and how often certain authors contribute to the journal. The trends in the kinds of articles published and in the number of pages and articles that have appeared in the journal are discussed.

A discussion of the impact of the journal on the field of forestry leads to the conclusion that its impact increased throughout its first 35 years, but has since been declining. In the past, *Forest Science's* broad-base approach to subjects attracted a large audience in the field of forestry. But now that a greater number of papers from forest scientists are going to more narrowly focused scientific journals, the future of *Forest Science* and other broadly based journals is uncertain. — *Summarized by Tobie Black*

### Forestland ownership in Oneida and Vilas counties, Wisconsin, 1975-1994

— William Klase and Raymond Guries





(UW's Land Tenure Center Working Paper No. 26). Privately owned forests in the United States are being divided, roaded, and developed by increasing numbers of second-home buyers, retirees, and recreation enthusiasts. Forested parcels adjacent to or embedded in public land are considered especially desirable and a premium is being paid for the aesthetic or recreational amenities associated with such properties. Several trends suggest that the drive to acquire forestland for the construction of second homes in Vilas and Oneida counties is strong and that the Northern Highland American Legion State Forest (NHLSF) continues to impact forestland prices. Forestland in Vilas and Oneida counties was shown to react to macroeconomic forces as if it were a luxury good (that is, declining sales during a recession, increasing sales during an economic upturn) and not simply a timber resource. Positive relationships were identified between the per-acre price of forestland, the presence of highway frontage and parcel size for the years 1975, 1980 and 1990. Forested parcels adjacent to the NHLSF were shown to have higher per-acre prices than parcels without frontage on the NHLSF. The reduced supply of available parcels in and near the NHLSF, as well as the highly desirable nature of owning forestland with

frontage on public land, has caused the price of the remaining privately owned forestland in Vilas and Oneida counties to increase faster than similar forestland in other northern counties of Wisconsin.

### 1999 Tree Sale Nets Record Profit

The Forestry Club hosted its 23<sup>rd</sup> annual Christmas tree sale Dec. 3-5. About 20 undergraduate forestry majors pitched in to move 600 balsam fir, Fraser fir, white pine, and Scotch pine from the loading dock into the Stock Pavilion, then out the front doors with eager customers.

By Sunday afternoon only 15 trees remained, and this year the club decided not to let them go homeless. The following week the club officers delivered the extra trees to the Salvation Army Community Center on Madison's east side, where they were picked up by families who could not otherwise afford this often taken-for-granted holiday luxury. These trees might have been the most appreciated of this year's sale, and



*Another satisfied customer loads up his Christmas tree.*

donating them is a tradition the club hopes to continue in the future.

For the third straight year, the sale yielded a record income. The club will use the majority to subsidize club members' costs for this year's spring field trip (657) and summer camp (655) classes. After setting aside funds for the down payment on next year's trees, the remainder of the budget will be used to support club projects.

On that note, the Forestry Club is looking to use its financial independence to become a more vocal member of the Department of Forest Ecology and Management community in coming semesters. Ideas include sponsoring field trips, guest speakers, training sessions, and supporting the development of a more active Society of American

*Despite the best of intentions, things do not always go as planned!*



The picture to the left shows an event at one of our summer camps when a confident young man set out to fell a tree and was somewhat embarrassed by the result. The haze you see curling up from the tree is smoke caused by the electrical wires that he felled along with the tree! Does anyone remember who the culprit was? Drop us a line or e-mail ([forecol@calshp.cals.wisc.edu](mailto:forecol@calshp.cals.wisc.edu)) and give us your guess. Hint: It is not a recent picture. We will tally the results and report them in the next newsletter.



Foresters (SAF) chapter. While becoming a stronger voice for the undergraduates, the club also hopes to build a sense of community among the faculty, staff, graduate and undergraduate students. Anyone interested in becoming involved in the club or helping organize an educational or community-building event can contact club chair Jedd Ungrodt at: [jungrodt@students.wisc.edu](mailto:jungrodt@students.wisc.edu)

Thanks to everyone who helped make this yet another fun and profitable sale! -  
*Jedd Ungrodt*



*Think spring!*

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Production/Design: Mary Miron

FEM News is published by the Department of Forest Ecology and Management  
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