

# NC NEWS

NORTH CENTRAL FOREST EXPERIMENT STATION

August/September 2000

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## New Unit Takes Root in Houghton

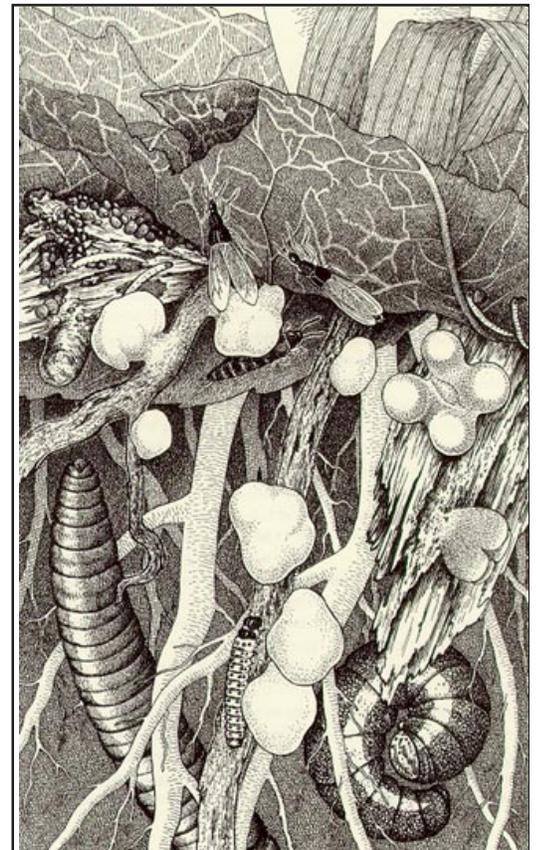
In a brand-new research unit, the first of its kind in the Region, the North Central Station is going underground to tackle some of the toughest problems of increasing forest productivity. Questions about productivity are important because Lake States forests are large producers of fiber for the paper industry, yet projected supplies may not meet expected demands. These forests are also rich in biodiversity and in carbon stocks. "Increasing Forest Productivity" is one of the Station's three integrated research programs.

One of the barriers to increasing forest productivity is a lack of knowledge about what is happening below the ground. How minerals and other nutrients move through the soil, and how carbon cycles from the atmosphere, through the trees, through the soil, and back to the atmosphere again are important questions—and our clients want the answers.

How will northern forests respond to global change? Predictions depend on fundamental knowledge of ecosystem processes. Many of these processes occur belowground. Roots, fungi, invertebrates, water supply, nutrient uptake by trees and plants, and other interactions between soils and plants control forest growth.

Building this new research unit at our Houghton, Michigan, field office meant finding a Project Leader proficient in specialized areas of research. We found that person in Kurt Pregitzer, a world-class scientist in ecosystem processes who will give us a jump-start in this new area. He comes to the Station from Michigan Technological University on an Intergovernmental Personnel Act assignment, effective October 1. Building this new unit will also help us build our relationship with MTU, an important cooperator.

Belowground ecosystem processes and their relation to processes occurring above the ground



*Belowground ecosystem processes are one of the most important and least understood areas of forest science. (Illustration courtesy of Abigail Rorer from The Work of Nature: How the Diversity of Life Sustains Us by Yvonne Baskin, 1997, Island Press.)*

are one of the most important and least understood areas of forest science. With Kurt Pregitzer's leadership, we can begin to understand the complex ecological interactions that transform carbon, that cycle nutrients, and that form stable organic matter—research for sustainable forest management.

*(Be sure to read Interview With Kurt Pregitzer on page 2 of this issue for further information.)*



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# Interview With Kurt Pregitzer

Kurt Pregitzer, a renowned international scholar in the field of ecosystem science and an award-winning Professor, is taking on a new role as the Project Leader of a brand-new work unit at the Houghton Lab. But Pregitzer's really not all that new to the North Central Station; in fact, he's been just a stone's throw away from the Lab for 6 years. Meet him here, and turn to page 1 to learn more about the new Unit.

**Welcome to North Central, but then, you're not a stranger here.** *No, my contact with the Station goes way back. In my student days at the University of Michigan, I did field work on the McCormick Experimental Forest in the Upper Peninsula of Michigan. After one particularly frustrating day, I came out of the woods and happened to talk with NC scientist Tom Crow, who was then based at the Station's former Lab in Marquette, Michigan. Tom told me to "keep the faith" and that "it was better than selling used cars."*

*Over the years, I've worked with many other NC people. Jud Isebrands, Dave Karnosky, and I, along with other cooperators, wrote the original proposal for the FACE (Free Air Carbon dioxide Enrichment) research facility in Rhinelander. I've also worked with Brian Palik on the Station's integrated riparian research and with John Zasada and student Mary Collins on black ash. Collaborating with these and other scientists has been an important part of my ongoing research program, and I hope to continue these relationships and build others by creating an open and collaborative environment in the new Houghton unit.*

**You've had a special relationship with the Houghton Lab too.** *The Lab is right next door to the Forestry Building on the Michigan Technological University campus, where I've been*

*doing research and teaching classes in biology and forest ecology as a Professor in the School of Forestry and Wood Products. (I wasn't joking about being a stone's throw away.) Perhaps that's why I'm so excited about this new partnership between the Station and Michigan Tech. I think the new Houghton unit will provide great opportunities for MTU students to work with Forest Service people in tackling some of the important research questions that impact the well-being of the people of this region. It should strengthen the ability of both organizations to meet their respective goals. And while I work on developing this new research program, I'm going to keep my hand in the classroom—maintaining my faculty status at MTU and teaching one dendrology class a year.*



**What's life like away from your busy career?** *Busy! My wife and I have three children—a daughter who just began her first year at the University of New Hampshire on a Nordic skiing scholarship, another daughter who's a junior in high school and into basketball, an 11-year-old son who likes to read and play the guitar, and a 10-year-old Lab named Ginger, who's very much a part of our family. My wife and I like to garden, and the whole family loves to ski.*

**Skiing sounds like a good way to make friends with Houghton winters.** *We love it here. Houghton's a great place in all four seasons.*

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## People on the Move...



### *Welcome...*

**Cassandra Asliem and Douglas Hansen, St. Paul; Donald Clark, Manistique; Joseph DeModica and Jason Severe, Mount Pleasant; Tamar Manikko, L'Anse; and Thad Rhodes, Salem, Forest Survey.**

### *Congratulations!*

**James Blehm, Brownstown,** received a promotion.

### *Moving on!*

**Robert Radcliffe, Houghton,** retired.

**Brian Bergman, Manistique,** from Salem to Manistique.



## New Career Flowers for Retiree Cecich

If you're ever in the mood for some great bluegrass, pop, or swing music, look no further than the talents of NC retiree Robert Cecich. For nearly 45 years, Cecich has been playing guitar, specializing in the 8-string Dobro. Not only has he appeared in numerous music festivals and televised jam sessions, he's also played steel guitar for the off-Broadway musical "Pump Boys and Dinettes."

For almost as long, Cecich used his other skills and knowledge in a completely different role—Research Plant Physiologist. The multi-talented Cecich began his North Central career in January 1965 as a technician with the Genetics of Northern Forest Trees project in Rhinelander, WI, and stayed there for 20 years, earning his Ph.D. in botany/plant morphology along the way. He spent the last 15 years of his career at the Culture, Genetics, and Protection of Fine Hardwoods project in Carbondale, IL, and the Central Hardwood Silviculture and Ecology unit in Columbia, MO. He retired in early May.

Cecich's early research involved the cellular chemistry and ultrastructure of shoot apical meristems in pine, which led to his strong interest in flower development and flower initiation. His later research centered on problems associated with acorn production, including flower development, pollination, fertilization, and the effects of weather on these processes.

In looking back over his 35-year career, he recalled two special highlights. "I am most proud of my association with Hyun Kang, my colleague at Rhinelander and Madison, WI, who lost his life to cancer. He was my brother and I miss him," Cecich said. "Secondly, I am proud of my attitude and how it impacted the people I worked with. My philosophy, which I learned from my wife Judy, was that if you started the day as 'great,' after a bad day, you ended up as 'OK.' However, if you began the day as 'OK' and had a bad day, the result was sort of depressing."



*Bob Cecich uses a caliper to measure oak acorns.*

Cecich's skills will be sorely missed in the forestry community. "Bob has a unique expertise in oak flowering and I'm not sure the field of forestry realizes what we lost with his retirement," says Project Leader Frank Thompson. "We'll also miss Bob's positive attitude and the volunteer contributions his wife Judy made."

After playing at a music festival in Iowa this summer, Cecich was invited by the promoter of the South Texas Festival to perform this winter in Texas. He was also involved in a recording session with Chordwood, a band organized by Professor Ray Hicks of West Virginia and made up of members of the Society of American Foresters. Their session produced a CD they hope will be ready for the November SAF Convention in Washington, DC (the profits will be going to the SAF education fund). Producer Louisa Branscombe—who wrote "Steel Rails" for Alison Krauss—was so impressed by Chordwood that she sat right down and wrote a song, "In Tall Timber," which will be included on the CD. In addition to a busy music schedule, Bob and Judy look forward to doing some traveling—Alaska is on the calendar for next year—and doting on their first grandchild, Lilly.



*Bob Cecich and former NC employee Andrea Jenkins at the Sinkin Experimental Forest.*



Ed Loewenstein

Paul Johnson

Maybe the hole left at the Columbia Lab and the North Central Station by the retirement of one of the few remaining masters of silviculture wouldn't seem so huge if we could collect all that expert's knowledge and experience into a book. Fortunately, newly retired (in early May anyway) Paul Johnson is doing that himself by putting the finishing touches on a career-encompassing book on the ecology and silviculture of North American oak forests, co-authored by Steve Shifley from NC and Bob Rogers from the University of Wisconsin-Stevens Point. But unfortunately, many of the things that made Johnson so special to his colleagues, grad students, and cooperators can't be captured in print—things like his historical perspective on silviculture, forestry research, and the Columbia Lab; his support for

## Johnson Leaves Silvicultural Legacy

the people he worked with; and his willingness to go the extra mile.

In his 31 years at the Lab, Paul Johnson focused in particular on the difficult, persistent problem of how to regenerate oaks in eastern forests. The list of his technical and scientific contributions—the models and guides he developed, the information he synthesized, the discoveries he made—covers several pages. In 1997, Johnson received one of the Station's most prestigious honors, the Distinguished Science Award, for his major contributions in the field of oak silviculture. But perhaps

better than winning any award for Paul Johnson is having won the respect of the people he worked with. "I found his ideas on research, science, and conservation stimulating and helpful both as a young scientist when I first came to North Central and later as a Project Leader," said Steve Shifley. Dale Weigel, Forester in Bedford, IN, said, "Paul was my supervisor and always gave me excellent guidance, support, and advice. He was always open and willing to talk about research ideas and concerns. I feel very fortunate to have worked with him."

"It's been a great career," Paul Johnson said, thinking back over the years. "I've been lucky to have worked with project leaders who allowed me the freedom, within boundaries, to follow

my interests and curiosity." He does regret that the field of silviculture has never received much recognition. "Some people think it's a pretty wishy-washy science, and the world at large doesn't even know how to spell silviculture," he laughed ruefully.

As he seeks a publisher for his life's opus on oak silviculture, Johnson already has his next book in mind: a photo essay on the Chequamegon Bay region, an area about as far north as you can get in Wisconsin. He's excited about combining his interest in photography and his skill as a writer to explore the landscape of the region where he grew up. "I'm looking forward to the process as much as the final product," he said.

The Johnsons are even thinking about moving to Wisconsin, but the State will first have to pass their cold-weather test. Paul and his wife Sonja will do a trial stay there in January before they decide whether to leave Missouri for good.



Frank Thompson congratulates Paul Johnson on his retirement.

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# Riemenschneider Persists with Hybrid Poplar Program

Don Riemenschneider, Project Leader of the Intensive Forestry unit in Rhineland, takes persistence to a whole new level. Many people would have given up when vandals destroyed 17 years of patient cultivation and careful research by cutting or girdling 900 trees at the Hugo Sauer Nursery on July 19. But Riemenschneider is confident that farmers and forests will still benefit from his faster growing poplars; it may just take longer than planned.

It took Riemenschneider nearly two decades to collect and screen 220 varieties of western black cottonwood for desirable characteristics. Using traditional plant breeding techniques, he selected 30 varieties that grow rapidly and resist common diseases. After 10 years of testing, these trees were just reaching maturity as breeding stock.



*Don Riemenschneider checks the progress of a fast-growing hybrid poplar.*

“One population was just beginning to flower and would have been the basis for a major breeding effort,” Riemenschneider said. “What we have really lost is time.”

Bill Bergeson, chair of the Minnesota Hybrid Poplar Research Cooperative, estimates the time loss at 6 years. “Don’s collection was extremely unique,” he said. “It was the only collection of western cottonwoods that are adapted for cold, Midwest winters.”

But Riemenschneider sees this summer as a temporary setback in progress toward the long-term goal of improved forest productivity. “These trees grow five to ten times faster than a natural forest,” he said. “Such systems will help meet growing demands for wood fiber in the face of competing uses for forest land.”

The most likely home for these new tree varieties is marginal agricultural land. Grown as an alternative agricultural crop for highly erodible soils, the hybrids can increase rural income and can even improve water quality by stabilizing streambanks. “Trees grown in such plantations can decrease the pressure on native forests,” Riemenschneider said.

The fast-growing poplars also remove more carbon dioxide from the atmosphere than slower growing trees. That can help offset the global warming trends, he noted.

The advantages of fast-growing hybrids are attracting strong interest by forest industry. Commercial operations are already underway on 9,000 acres, according to Bergeson. “The reason for the excitement is productivity. We expect to see a 30 percent increase in yield from hybrid poplar plantations over the next 10 years.”

Professional pride and potential benefits to society and to forests fuel Riemenschneider’s commitment to continue his research. But community and personal support have also helped. Editorials condemning the vandalism appeared in the Milwaukee Journal-Sentinel, the (Madison) Wisconsin State Journal, the Wausau Daily Herald, and the Lakeland Times newspapers. “I appreciate all the expressions of support I’ve received,” Riemenschneider said.

He is already retooling his research program. Plans include nurturing the existing hybrids back to maturity and looking at alternative pollen sources for new breeding experiments. He reflected, “People see the value of this work for their lives and the environment. I’m going to continue until we achieve results that demonstrate the full potential of hybrid poplar here in the Midwest.”

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## Security in an Insecure World

For years, National Forests and Regional Offices have dealt with arson, bombings, and protesters in trees and on building ledges. But that sort of stuff happens to other people, not the North Central Research Station. We’re scientists; we solve problems; we’re the good guys. Vandalism at two North Central locations this summer taught us that we are not immune.

As part of the USDA Forest Service, we are a target of protest and we need to be prepared, according to Forest Service law enforcement staff. Ann Melle, Forest Service Assistant Director for Enforcement and Liaison, had the following recommendations for any natural resource research organization.

### Be Aware

- Know what issues are currently hot in the arena of public debate.
- Follow media coverage of protest activity elsewhere in the country.
- Surf the web sites of protest and activist groups to learn about their issues and current and planned events.
- Educate yourself about the risks.

### Be Prepared

- Implement basic building and vehicle security measures. If your office has a security plan, follow it diligently. Your local police or sheriff’s department can offer recommendations.

- Assess how protest groups may view your programs or activities.
- Decide which key projects are vulnerable and how you will protect data and experiments.
- Have a notification process and flexible response system ready in the event of an incident. Be prepared to deal with a criminal investigation and the emotional aftermath of an incident.

Learning who your local law enforcement contacts are is another important step. For Forest Service employees, that contact is the Law Enforcement and Investigations staff. Working with LE&I and learning more about protest issues and tactics is a good start toward responding wisely to this emerging threat to research.

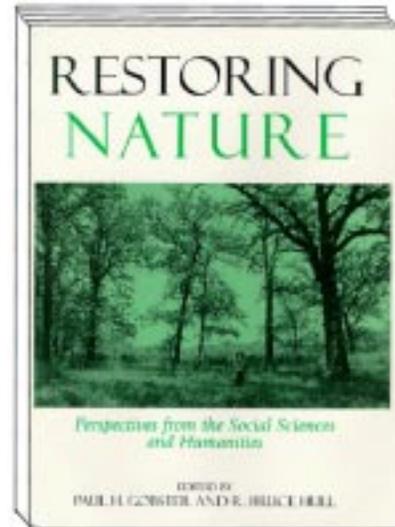
# New Book Examines Human Side of Ecological Restoration

Ecological restoration is becoming an increasingly important topic within the forestry profession, and scientists at North Central have been studying how restoration can contribute to the sustainability of oak, riparian, and other regionally significant ecosystems. A key part of this research includes the human dimensions of restoration. In 1996, social scientists with the Natural Environments for Urban Populations unit in Chicago began examining how people perceive and value restoration in a series of studies that has culminated in a book published in August 2000 by Island Press.

“Chicago has long been recognized as a center of excellence in the restoration of prairie and oak savanna communities,” explained Paul Gobster, Research Social Scientist in the Chicago unit and co-editor, along with Bruce Hull of Virginia Tech, of *Restoring Nature: Perspectives from the Social Sciences and Humanities*. “But in the spring of 1996 Chicago also became a center of restoration controversy as local groups and individuals spoke out against what they saw as a deforestation of the county forest preserves.”

This controversy led to moratoriums being placed on restoration activity in two counties in metropolitan Chicago and a lawsuit to halt a major restoration demonstration project. It also served as a catalyst for research and discussion leading to the book. “Research on the social aspects of restoration is a natural outgrowth of our work in urban forestry that launched our project here in 1978,” said John Dwyer, Chicago Project Leader. “As charter members of the Chicago Region Biodiversity Council, we felt that our research could contribute to a better understanding of the issues and values underlying the controversy, to help reduce conflict here and in similar cases elsewhere.”

With that goal in mind, scientists in Dwyer’s project, including Gobster, Herb Schroeder, and Susan Barro, began a series of research studies in-house and with the assistance of university cooperators. In 1998, Gobster and Hull teamed up to bring the fruits of this work together with related work and ideas from an international group of researchers and scholars in a series of sessions at the International Symposium on Society and Resource Management, held in Columbia, MO. “The Chicago controversy served as a touchstone for discussion,” said Gobster. “We began to see common threads among session



participants working in diverse environments, from urban areas like Chicago to remote wilderness areas in the East and West.” The book was a natural outgrowth of the conference sessions. As co-editor Bruce Hull explained, “it allowed Paul and me to pull together the key ideas and findings in a form that would be useful to managers, planners, and others who are increasingly finding that environmental management is as much a human issue as it is an ecological or technical one.”

*Restoring Nature* includes 14 chapters organized around four themes: Philosophy and Rationale of Restoration, Conflict over Which Nature to Restore, Making Restoration Happen: Process and Implementation, and Making and Maintaining Restored Environments. With a combination of concepts and theory and applied case studies, the editors worked hard with contributors to provide readers with a good mix of foundational knowledge and practical suggestions for dealing with the human dimensions of restoration. “We hope our book will receive wide readership from those who are interested in restoration and related aspects of environmental management, from those in the natural sciences as well as the social sciences and humanities,” said Gobster, “and that it might contribute to a healthier dialogue about relationships between people and nature.” More information about *Restoring Nature*, including how to purchase a copy, is available on Island Press’s website, <http://www.islandpress.org/books/bookdata/restore.html>



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