



MINNESOTA

Forest Scene



Fall 2008 — Issue 1

Leading the way with education, research and outreach

Welcome to the first edition newsletter by the Department of Forest Resources!



Changes often come in spurts in society, and that goes for the University as well. As we have continued to evolve, the need became clear for expanded communications to help keep you updated and to provide an effective connection to the department's people and programs.

You are an essential part of our continuing history.

The department's history began in the late 19th century with the arrival of Professor Samuel B. Green. Professor Green led the development of the forestry curriculum and propelled the program from department to college status in 1911. Since then, many transitions have occurred. In 2006, the new College of Food, Agricultural, and Natural Resource Sciences (CFANS) was formed through a merger of the College of Natural Resources with the College of Agricultural, Food and Environmental Sciences. Forest Resources is now one of four CFANS departments in the Division of Environmental Sciences, Policy and Management.

What does this change mean? If you explore the department's website at www.forestry.umn.edu you will still see great breadth and depth in teaching, research and public engagement. We have maintained dedication to these goals while gaining strength in student services, information technology, research, development, and more.

This first year of the merger required extra effort on the part of many, but I believe we are increasingly well positioned to be effective in the 21st century! In fact, with your interest and support, the future has much promise. We look forward to hearing from you!

Alan Ek
Professor & Head, Forest Resources

Modeling Forests to Meet New Demands

Life used to be simpler for those managing Minnesota's forests. Planning revolved around a cycle of timber growth and harvest. Today, forest lands are being challenged to produce wood and fiber while also providing for recreational opportunities, habitat for nongame animals and rare plants, pleasing scenery, and other ecological and social interests. This means that forestry must achieve economic development while also juggling these new demands.

"The forest has many facets and they're all important,"

says Howard Hoganson, a professor in the Department of Forest Resources. Hoganson, who works out of the North Central Research and Outreach Center in Grand Rapids, Minnesota, is what you might call a juggler's helper. For more than two decades, he's been creating computer models that help forest managers decide what management strategy will best meet their overall goals.



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UNIVERSITY OF MINNESOTA

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This work has historically focused on maximizing income and timber production, but Hoganson has taken a lead nationally to develop far more complex planning tools that accommodate the various nontimber goods and services .

Chunks of Forest

Before the advent of personal computers, forest management was based largely on field surveys, math, and professional judgement. Then, computer models began to gain favor. Until recently those models have been based on an approach known as linear programming (LP). LP involves breaking the forest into homogeneous portions called management units, lumping the units into categories according to traits they share, then assessing what kind of income and regrowth could be expected under various conditions.



LP models are certainly helpful, but they can't do everything. Hoganson uses the analogy of trying to cover a map of the forest with M&Ms, one on each management unit. If your aim is simply to set out as many red and green M&Ms as possible, a five-year-old can handle the task. However, the problem suddenly soars to one of incredible complexity if you also have to use at least eight of each color, red cannot be adjacent to blue, green M&Ms are grouped together, and brown is next to yellow.

Comparatively, if you want to maximize returns and sustain harvest levels over time, LP can help you. If you also want to achieve goals related to how units of forest are arranged relative to each other — for example, to maintain a certain minimum area of adjacent uncut forest — you're going to need a more powerful tool.

Up a Creek

The limitations of LP would be modest, but the increasing demands for multiple-use forestry have left managers up a creek without an adequate modeling tool. Fortunately, Professor Hoganson has been working on some alternatives. These alternatives approach the challenge of solving large, complex problems by breaking them into a series of smaller,

- linked ones. They make it possible for planners to improve the
- output of various goods and services while also considering the
- trade-offs among them.
- Hoganson quickly saw that with some modification these
- modeling approaches would be just the thing to meet timber as
- well as nontimber needs. Working with recent graduate student
- Eric Henderson, Hoganson has been fine-tuning the approach.
- The result is powerful enough to bring spatial concerns into the
- decision-making process and allow the balancing of profit and
- yield considerations with ecosystem based goals.

Vote of Confidence

- Hoganson's dynamic programming model received a major
- vote of confidence when the supervisors of Minnesota's two
- national forests, the Chippewa and the Superior, decided to
- use it in formulating the plan to guide the forests over a 10 to
- 15 year period. Additionally, elements of this modeling effort
- have been invaluable for environmental review of several large
- forest industry project proposals in the state.
- According to Dave Zumeta, Executive Director of the
- Minnesota Forest Resources Council, who served on the
- steering committee for the national forest plan revision,
- Hoganson's model is the best bet for balancing the various
- goals of forest management. "[This model] is significantly better
- than what the Forest Service has used historically," he says.
- "It has the capacity to look at impacts from the stand level
- and aggregate impacts up to the whole national forest. That's
- extremely valuable."

A Long Way to Go

- Hoganson's new approach is an encouraging advance in times
- where managers must consider the broad range of goods and
- services we'd like forests to provide. Even so, there is still a long
- way to go. Not only can the models be improved, but equally
- important is furthering the ecological and managerial sciences
- these models are based on.
- "I think we're taking a step forward," Hoganson says. "The
- danger is saying we have it all figured out. We don't."



Q&A with Professor Dorothy Anderson

Professor Dorothy Anderson has been at the University of Minnesota campus since she was 20 years old; whether as a student, working, or a Professor. After 18 years as faculty for Forest Resources, Anderson is moving on to new challenges. In October, she will assume the position of Department Head of Parks, Recreation and Tourism Management in the College of Natural Resources at North Carolina State University.



Q: What did you enjoy most about your time in Forest Resources?

A: It's the students. I've loved working with the students. I love watching kids 'get it'. When I say 'watching them get it', it's watching them not just get it in the classroom but translating that into success. They are out there doing it.

It's like watching your kids grow up. You are so proud of them, and

"I always feel very fortunate to have been a part of their lives."

Especially when they tell me that made a difference. That's very special.

I already know that the thing I will miss the most is that contact in the classroom — and outside — with undergrads. The other thing I will miss the most, and I would be remiss in not saying this... I've worked for federal agencies and internationally with state dept agencies, but this department is the best place I've ever worked. It's the best place because of the tone that's set by the department office and the staff. They are wonderful. The students have been key, but the faculty and department leadership have also been critical.

Q: What is one of the most important things you have learned while with FR?

A: I am far more patient than I was before I started this job. We always want students to view us (faculty) as people — that we have real lives — but the same is true of students. Patience comes from realizing they are more than just a body in the classroom. They have a life. So, it's learning how to teach so that it fits into their life schedule at the same time, so they are interested in the class.

Every single assignment is not due at a particular time. That's where patience comes, because ideally I want it all right now.

As long as they get me the final product, I figure the trade-off is worth it. If it gets there late, but it's good, isn't that what we are trying to do? Help students learn? You can't expect 50 kids to all synthesize things at the same moment at the same time. People don't work that way.

Q: What advice would you give to your successor?

A: You have to be yourself. You have to find a way to make it fit you. I think what's made this department work — and work well — is that you have a lot of faculty that really care about the students. Our students have said that's one of the things they've enjoyed in their stay here — people know who they are! That's huge at a University this size!

You want to get the best person whenever you hire new faculty, but the best person is not just the smartest in terms of research. It's a three way deal: It's research, teaching and outreach. So you want to get the best person in all three of those. And if you do, that person doesn't need any of my advice. That person is going to come in knowing who they are, they are going to fit in this program, and they are going to be great.

Q: What are you looking forward to in your new position?

A: New challenges. Faculty positions are faculty positions. It's teaching, research, and outreach, and I've done that for a lot of years. It's not that I want to leave, but I want new challenges. I've taught courses a lot. I've had 51 graduate students. I've gotten lots of grants. While all that's good, I want to do something different. The opportunity to be a department head is like getting that opportunity to play on a different stage. You get that opportunity to bring all this experience you've had and see what else you can do with it.

Student Spotlight



Stella Collier, a Recreation Resource Management (RRM) major, is one of the many students that the Department of Forest Resources is proud to support. She sets a great example by reaching beyond the classroom to participate in clubs, the CFANS student board, research projects, and a recent study abroad program.

Life as a student

When looking at college programs, Collier took the advice that she was often told to “find something you are passionate about.” After a search on Google, she found the University’s RRM program and decided it was the fit for her.

With RRM in mind, Collier started her education with two years at Normandale Community College and then made the transfer to the University. While she was worried about getting lost in the shuffle of such a large University, Collier has found the Department to be very accessible.

“I feel like the faculty and staff really care,”

she said. “It’s a big enough department but also small enough where you feel close knit.”

Beyond the classroom, Collier has participated in many of the extracurricular opportunities on campus. She is a member of Xi Sigma Pi (the National Forestry Honor Society) and participates in the Student Board as Vice President. She also restored the Recreation Resource Management Club, which was inactive when she transferred, and has been its president since. “I’m highly motivated by it,” Collier said of the club. “I think it’s really important to be involved outside the classroom.”

Research through UROP

In addition to extracurriculars, Collier developed her own research project through the Undergraduate Research Opportunities Program (UROP). This program allows students to work with a faculty mentor to design and implement a research project with financial support from the University. For her UROP project, Collier chose to research the North Country National Scenic Trail (NCNST).

The NCNST is a long distance trail that, when finished, will stretch from North Dakota to New York, including a large portion in northern Minnesota. Established in 1980, the trail has lacked the volunteer efforts that it relies upon to complete the planned 4,600 miles. When Collier found out about the trail, she wondered, “Why has this trail been established as long as it has, but it’s not done?” This question led to the development of her UROP project.

For her project, Collier will survey the awareness and perception of businesses, focusing on the section of mostly undeveloped trail in northwestern Minnesota. An online questionnaire will be sent to find out if the businesses have heard of the trail, realize the benefits the trail could have on tourism, recognize the impacts the trail could have on their business, and to find out what their perceptions are of the trail.

Collier hopes to not only provide a better understanding of area awareness and perception of the trail, but to also incite public participation.

Since the trail is volunteer built, awareness and perception are especially important for the NCNST. “How can people be involved in something they don’t even know about?” questioned Collier.

The Future

While enjoying her time at the University, Collier is looking forward to work in the field.

“I want to get out there, get my hands dirty, and get working,”

she said. “I have a feeling I will start in some kind of park management just to get my foot in the door and to get an idea of what it’s like. There are so many options out there. I just need to start looking at them all — public sector, private sector — to find which will best suit me.”

Funding for Key Forest Resources Data

This past spring, the Minnesota Legislature took recommendations from the 2007 Governor's Task Force on the Competitiveness of the Primary Forest Products Industry and approved \$197,000 in ongoing annual appropriations to the Interagency Information Cooperative (IIC).

The IIC was created through the Sustainable Forest Resources Act of 1995 and charged with coordinating the development and use of forest resources data in the state. This includes providing for data access and sharing as well as improved information systems, models and analysis tools for forest resources management.

Funding this first year will focus on six areas:

- A common forest inventory format for describing key attributes of Minnesota's public forest land base
- Growth models for managed forest stands
- A cooperative effort to assist county forest planning in its harvesting scheduling
- A forest wildlife habitat model format
- An information database on the state's family forest ownership
- Key information identified through a needs assessment by IIC members

The cooperative is housed in the Department of Forest Resources, and leadership for the cooperative is provided by Professor Alan Ek, who serves as the director of the IIC, and by Professor Tom Burk, who serves as technical director.

SAF Accreditation Renewed

- The Society of American Foresters' (SAF) Executive Vice-President President, Michael T. Goergen, Jr., announced earlier this year that accreditation of the University of Minnesota's undergraduate Forest Resources program would be continued through 2017. The SAF visits and reevaluates the nation's existing forestry programs every decade in its ongoing assessment of programs. The Forest Resources bachelor's degree program has been accredited continuously since it was first eligible for such status in 1935.
- It is the objective of SAF accreditation to improve the quality of forestry education, foster integrity and excellence through use of standards, and to give assurance that educational programs accredited by SAF are consistent with professional standards. There are six standards used to assess a program; forestry program mission, goals, and objectives; curriculum; forestry program organization and administration; faculty; students; and parent institution support.
- In making its report to the SAF, the team that assessed the Forest Resources program noted its special strength: a full complement of nationally recognized faculty, a welcoming campus environment, diverse field session opportunities at the Cloquet Forestry Center, broad and supportive student services, premier library resources, active student organizations, and close proximity to state government and federal agency offices.

Where Are They Now?

Dean Emeritus Richard Skok (class of '50, '54 and '60) and Ron Lindmark ('61, former Director of the USDA Forest Service, North Central Forest Experiment Station) can be found around noon Friday's at Lindy's Steak House in Arden Hills, MN. They continue to provide invaluable advice and wisdom to current faculty and students.





College of Food, Agricultural
and Natural Resource Sciences

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We want to hear from you!

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comments that you would like to share to:

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• Building for the Future

- We are pleased to indicate three new gift accounts have been established in the University of Minnesota Foundation to support departmental programs.
- The first of these is a **Forest Resources Scholarship** (Fund 1872) to support undergraduate students who show professional promise in studies of forests and related resources.
- The second is a **Forest Resources Graduate Fellowship** (Fund 2135) to support graduate students who show professional promise in studies of forests and related resources.
- The third is a **Forest Resources General Fund** (Fund 1878) to supplement operations of the Department including teaching, research, and other efforts that foster successful outcomes in instruction, research and outreach.
- For information or to make a gift, visit:
• www.forestry.umn.edu
• or contact Alan Ek, Department Head
• at 612-624-3400 or at: aek@umn.edu

• Thank you for your support!