



Gopher Peavey
1992



Plant from seed
Growing, maturing
Fruit, rebirth.
Symbolic
Symbolic of life,
love.
The seed given chance, forms and
becomes beautiful.
Growing and developing
in weather.
Placid, vicious,
frigid, tempid
weather.
The flower often forms.
Life giving rain and sun
create the motive for living.
Heat wilts
Cold retards
Drought withers
Frost bitters.
When the body lives,
the soul grows.
Forming the final cause.

-anonymous CNR student

Gopher Peavey
1992

Yearbook of the College of Natural Resources,
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In Memory of Gordon W. Gullion

by Elizabeth Jones

Last year's edition of the Gopher Peavey was dedicated to a very special man. This year, we are sad to say Gordon Gullion has passed away.

Gordon Gullion, the nation's leading expert on ruffed grouse and a professor at the University of Minnesota, died after a ongoing battle with cancer on Monday, September 23, 1991.

For over 32 years, Professor Gullion expanded upon what was previously known about ruffed grouse. "If it wasn't for Gordon Gullion, our knowledge of forest wildlife, grouse, woodcock, you name it, wouldn't be close to what it is today," said Sam Pursglove, executive director of the Ruffed Grouse Society. "He was Mr. Grouse."

Survived by his wife Ardelle (Vicki), four daughters, and four grandchildren, Gordon W. Gullion, Mr. Grouse, will be greatly missed.

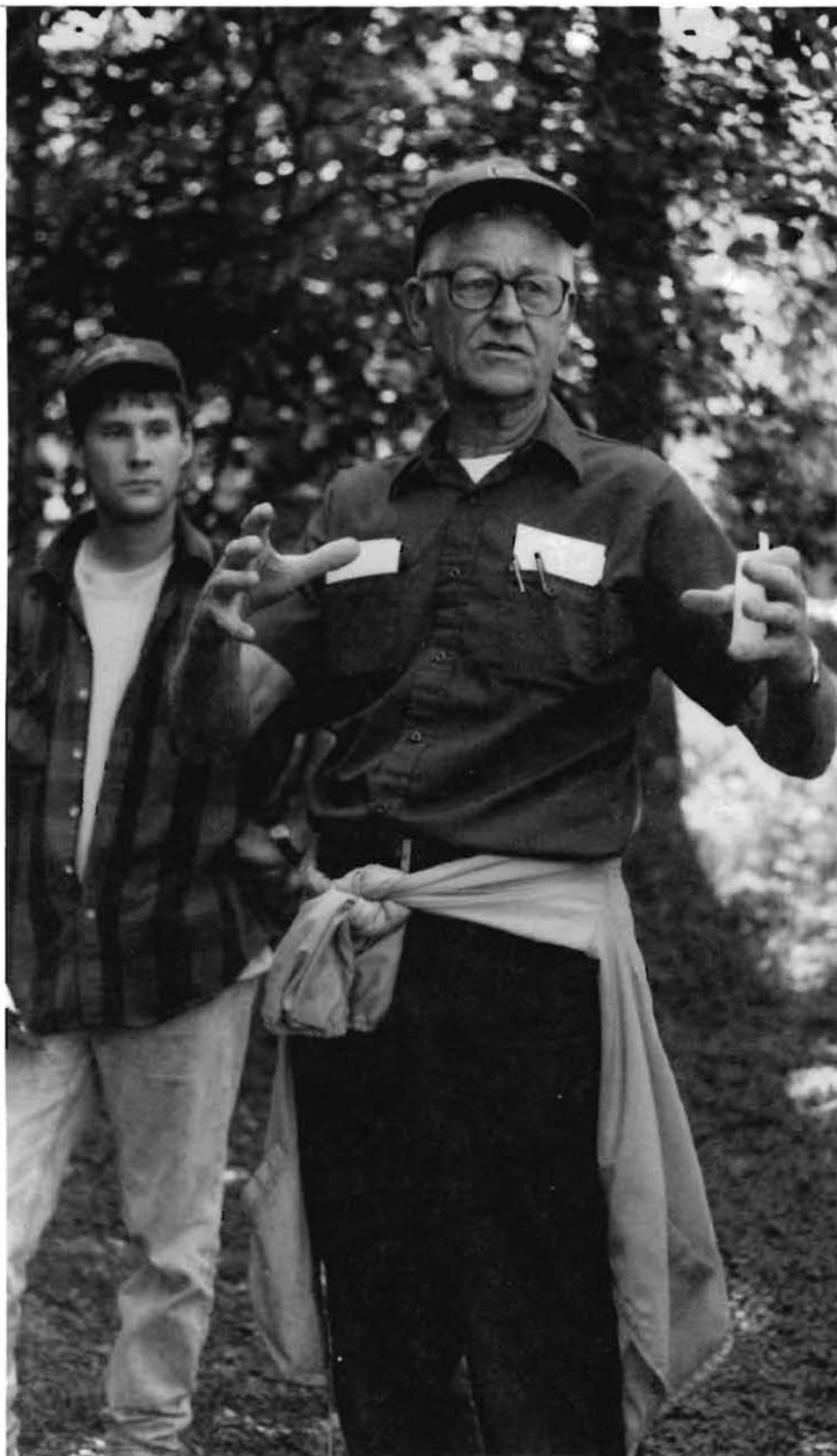


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Dedication: Professor Harold "Scotty" Scholten

by William "Sandy" McCartney, Jr. and Elizabeth Jones



Probably the first encounter most students have with Scotty Scholten is that wonderful time and place called Itasca. Everyone is struck by his quiet presence, and his thoughtful way of presenting more than 100 plants for you to learn in just a few days. Of course, you also are amazed at how fast Scotty can walk (if that's the word) from one plant to the next.

Scotty is a Midwesterner. He was born on a farm in Iowa, surrounded for a while by hogs. His family moved to northwest Indiana when he was still young, and the truck farm produced mostly vegetables for the Chicago metropolitan area market. For almost 3 years during World War II, Scotty was a hospital corpsman for the U.S. Navy attached to the Marines in the South Pacific.

After the war, Scotty entered Purdue University, receiving his B.S. in Forestry in 1949, and his M.S. in Forestry a year later. For the next 5 years or so, he was an Extension Forester in Indiana specializing in Farm Woodland Management. In 1955, he moved to Illinois to work as an Extension Forester in Farmstead Shelterbelt Management. His extension work also involved him with 4-H groups, Vocational Agriculture classes, and other farm and woodland owners.

Somehow, and the record is unclear on this point, Scotty decided that Minnesota was the land of opportunity. So, in 1957 he joined the University of Minnesota College of Forestry as an instructor. He started teaching a class, most recently titled "Farm and Small Woodlands Forestry". He continued his work in farm windbreaks and shelterbelts, participated in annual Woodland Field days throughout the state, and helped with the FFA Forestry Contests for many years.

For a change of pace, Scotty started working on his Ph.D. and was granted that degree in 1967. The title of his thesis was: Factors affecting the infection of black spruce (*Picea mariana* Mill.) transplants by *Cylindrocladum scoparium*. Since this graduate work was "too much", Scotty needed a break, so where did he go? North to Itasca, to teach "plants" to forestry students. Scotty did not go to Itasca by himself. His family spent time down in Bear Paw campground. Somehow fishing became an end-of-the-day event. First,



there was the row boat with Vilis Kurmis, then a 6 horsepower outboard motor, and finally in 1979, Scotty's son Garth brought a nice fishing boat up to the lake. But fishing was not the only interest; did you ever wonder why Scotty always wore a Chicago Cubs baseball cap? It was not required clothing for an up and coming professor.

In 1976, having been an associate professor for awhile, Scotty began a joint appointment with the Minnesota Extension Service as an Extension Forester specializing in Farmstead Shelterbelt and Field Windbreak Management.

Various honors and awards have been bestowed on Scotty over the years. He received the degree of Honorary State Farmer from the Minnesota Future Farmers of America in 1974, for 16 years of service to the state FFA. He has received from the University of Minnesota Forestry Club, the Uncle of Paul award in 1973 and 1991, and Forester of the Year award in 1990. In 1986, he and his wife Lorrie received a joint award for Outstanding Distinguished Service to Soil and Water Conservation from the Minnesota Association of Soil and Water Conservation Districts, for their work on the Minnesota Tree Handbook. In September of 1991, Scotty received a plaque that read in part "with Thanks from the hundreds of

Itasca students whom you have guided to a love of plants".

Although Scotty is a transplant from Indiana, he has successfully taken root, and prospered in this Minnesota environment. He has consistently shown others the beauty and splendor of our natural world. His modesty, charm, and wit have been constant companions. He has endeared himself to hundreds of people: students, farmers, foresters, everyone who has ever met him. He has been a wonderful teacher and friend, and this year's Gopher Peavey could not be dedicated to a finer man! Have fun fishing in Crosby, Scotty.



Photos by Janet Larson



Dean's Report

by Richard A. Skok

Undergraduate enrollment for fall quarter 1991 reached 525 students in the College of Natural Resources (CNR), a 21 percent increase over the previous fall and nearly an 82 percent increase since 1989. The increase was largely the result of new students enrolled in the recently established Natural Resources and Environmental Studies program. At the same time, we have experienced a smaller but consistent growth of about 15 percent in our graduate enrollment.

Undergraduate enrollments by curriculum are shown in the table.

	Enrollment	Degrees Granted
Curriculum	Fall 1991	1991
Forest Products	76	22 (03)
Fisheries and Wildlife	125	20 (07)
Forest Resources	79	14 (16)
Recreation Resources Management	28	3 (02)
Urban Forestry	13	1 (01)
Natural Resources and Environmental Studies	188	1
Adult Specials	16	n.a.
Totals	525	61 (29)

n.a.—not applicable

()—advanced degrees;

degrees reported are for 1991 academic year

Recognizing that we had instructional resources to accommodate higher enrollments than that of 1989, we have been successfully in absorbing larger capacities, and then some. We are now faced with enrollments in some of our required courses that parallel the numbers in our peak years of the mid 1970's. Unfortunately we are also faced with declining real budgets for instructional purposes. This means that we are faced both with issues of enrollment limitations in our programs and evaluation of programs for their viability. At this point natural resources does not have any special priority in the university. This is personally disappointing because we have tried to emphasize the importance of students understanding the contributions that natural resources make to both the material well being of people as well as to our environmental security.

Budget Matters. The University has incurred a program reduction of \$47 million in the current biennium. The college was forced to submit a plan for a program reduction of 6.4 percent in real dollars for Fiscal Year 1993. This means the loss of two more faculty positions and other support items for instruction and research—a painful reality.

In making our decisions during the past several months, we have tried to honor a couple of critical principles. First, we have sought to protect our core instructional program to assure future quality offerings for students in natural resource programs at both the undergraduate and graduate level. Second, we attempted to avoid actions that would lead to irreversible program outcomes. The difficulty in foreseeing future needs under fiscal stress can often lead to decisions that prove highly regrettable because they can not be reversed later.

The nearly \$300,000 of remodeling and building funds to improve the classroom and commons facilities at the Cloquet Forestry Center has cleared the planning and bid stage. We expect construction to begin in the spring and completion by late 1992. This will be an important addition to the center and its expanding role in continuing education for natural resource professionals.

The Dean's Ring was established in 1991 to recognize major College of Natural Resources donors. More than 40 individuals and organizations who have made major contributions since 1986 have accepted this recognition by the college to date. This highlights the reality that private gifts are becoming an increasingly important factor in support of programs such as ours.

Personnel Developments. Bob Stine, who served so ably as the interim coordinator of the Cloquet Forestry Center for the past year, was appointed to a three year renewable term on November 1st. Bob serves half-time in this capacity, with the balance of his work assignment as director of the Minnesota Tree Improvement Cooperative.

This past year saw the completion of three reviews of administrators in the college. I am pleased that **John Bell** was approved for a new five year term as assistant dean for student affairs. John also was recognized for his outstanding contributions to undergraduate education in the college by the Natural Resources Alumni Society. This was the first of a new biennial award that the alumni have established to recognize such contributions. The heads of both the Departments of Forest Products and Forest Resources, **Jim Bowyer** and **Alan Ek**, respectively, were reappointed for new terms after reviews were submitted.

One final and personal note. I have asked that the University administration begin a search for a new dean for the College of Natural Resources. June, 1992, I will have completed my eighteenth year as dean. Hopefully conducting a search now enables an orderly transition in affairs of the college. My decision to ask for the change at this time was not an easy one. However, there were both professional and personal considerations involved that makes this seem an appropriate decision. It seems to be a good time in terms of the college's future for such a change.

The decade ahead offers significant challenges and opportunities for those with natural resources management and environmental studies program responsibilities at the University of Minnesota. Societal values are clearly reflect-

ing the greater emphasis such programs will need. The College of Natural Resources is positioned to play a major role in developing the understanding and action that will be required of the University in these areas. New leadership will require the vision, dedication, continuity, energy and enthusiasm necessary to meet the college's responsibilities during this next decade and as we look ahead to the 21st century.

It has been a privilege and an honor to represent this college since 1974. We have generally shared the same goals and values in addressing the mission of this college. Change has occurred, and more lies ahead. I firmly believe that the college has been responsive to its responsibilities for natural resource management through its educational and research program leadership. The future will be the final judge of this, however.

My thanks to all of the students, staff, alumni and friends of the college for your past support. I know you will continue to advise and support the next dean of this college in as sincere and forthright a manner as you have me.



Department of Forest Products

by James L. Bowyer, Professor and Department Head

1991 will long be known around here as the year of the budget cuts—though the year ahead may turn out to be even worse in this regard. Marked budget reductions follow a number of successive years of belt tightening, and combine to make operating a bit more tricky than in years past. Actually, the faculty and staff responded, as they increasingly have in the recent past, by bringing in greater amounts of contract funds. To the occasional visitor, little appears to have changed. In actuality, the effect of simultaneous decreases in institutional financial support and increases in contract funds, is a significant increase in the percentage of departmental funding traceable to non-university sources. With over one-half of department funds now coming from contracts and grants, research and outreach programs are increasingly influenced by funding sources. Time will tell what the long-term effects will be.

One result of fiscal difficulties is that the Cold Climate Housing Center, a dynamic organization reported on with great pride in these and other pages since 1986, initiated

closure procedures in mid-year. Though efforts to locate new sources of funding continue, a total shutdown now appears to be a possibility. On the positive side, the group of faculty and staff that comprise this Center have much to be proud of. It is clear that through their efforts significant steps were made toward improved energy efficiency and long-term performance of the region's housing stock.

Despite financial woes, 1991 was marked by a number of positive developments, brought about by efforts of the department's faculty, staff and students. Not the least of these was continued growth of the paper science and engineering program. Student numbers in this program were up again, for the sixth straight year, as was student scholarship and general program support from industry sources. On the research side, **Bob Rouda**, **Hank Wells**, and **Mutombo Muvundamina** have made great strides in the past year toward establishing a strong paper recycling research effort. Considerable investment in equipment acquisition and upgrading has occurred, along with a number of steps to forge linkages with individuals involved in research and manufacturing within the paper industry. Along these lines, a new Research Advisory Committee was created within the Paper Science and Engineering Council to help guide development and planning of paper-oriented research.

Lew Hendricks brought international recognition to himself and the department when he was invited to speak before the Royal Society at a June meeting in London. Lew was one of a handful of experts from around the world asked to participate in an examination of "Housing In The 3rd Millennium."

Another development related to housing was the release in late fall of a series of broadcast-quality video tapes that focus on energy efficient building technology. The tapes range from short, topic-specific, how-to tapes for building crews, to more general information for home buyers. Project directors **Pat Huelman** and **Teddi Barron** have received rave reviews from the home building industry and associated agencies for their work, and have seen growing orders for the program series. The tapes represent a new direction for information transfer by the department, and the hope is that this series is just the first of many such productions.

Speaking of recognition, production management senior **Brian Lochner** made us all proud, when he won the first place scholarship award (\$2,500) from the National Particleboard Association for the 1991-92 academic year. Not that anyone here was greatly surprised at Brian's selection; Brian has compiled a 3.9+ grade point average while taking 18-20 credits each quarter.

Change has been the order of the day in the wood engineering position during this year. Last year I reported that **Bruno Franck** had gone to Switzerland for a study leave, and **Rakesh Gupta** had been attracted from Cornell to fill in for Bruno during his absence. Subsequently, Franck formally resigned to accept a job in industry, and Gupta accepted a tenure track position with Oregon State University. We were fortunate to then locate **Ignace Nyandwi**, who we hired as a research associate and lecturer in wood engineering. Ignace holds a baccalaureate degree in civil engineering from the Rostov Institute of Civil Engineering in the Soviet Union, and master's and PhD degrees in structural & civil engineering, respectively, from Marquette University.

Changes are also evident in departmental office staff. Most

significant was the retirement of **Emily Sundeen** after over 22 years of service. **Terri Aistrup** now directs support functions and keeps us from overspending our funds.

You may be aware of the tremendous cost of conducting chemistry oriented research today. For a wood chemist a significant part of life is spent trying to figure out how to finance the next experiment. This is the case with **Simo Sarkanen**, who with his colleague, Juraj Mlynar, are pursuing an exciting line of research to develop lignin-based, biodegradable plastics. Relentless efforts to locate funding paid off in a big way this fall, as a \$500,000 donation in support of lignin research was made by **Vincent Johnson**, a 1920 alumnus of the University, and former *Minnesota Daily* editor. Funds will be used to continue development work and to move toward development of commercial production technologies.

Yet another development, this related to marketing and distribution of forest products, involves the recently established forest products marketing endowment fund. The earnings from this \$500,000 fund, created through industry contributions and matching funds from the University, are now being used to initiate a series of education programs aimed at managers and executive level people in the forest products and building materials marketing and distribution industry. Groundwork for a new Forest Products Management Development Institute are being laid through the work of **Phil Steklenski**, who is also working closely with **Harlan Petersen**, and **Lew Hendricks** to organize the first workshop session.

I've run out of room to chronicle additional happenings around here, but suffice it to say that there is a good deal of interesting and exciting work going on. From all the folks mentioned above, and from the rest of the group—**Rolly Ger-tjeansen**, **Bob Erickson**, **Bob Kroll**, **Tom Milton**, **Elmer Schmidt**, **Bob Seavey**, and myself—please feel free to drop in at any time to tell us about yourself and to see firsthand what we are up to. The welcome mat is always out, and a cup of coffee is close at hand.

As a final note, I'd like to pass along an item I picked up by reading a recent letter from my old alma mater. If you know of someone who should know about us—a friend interested in engineering, science, or business, a gifted young student looking for a career or school, or the parents of such a student, please send me their name, address, and phone number. I will write a personal letter on your behalf, enclosing information about our programs.

Best wishes for the year ahead!



Department of Fisheries and Wildlife

by *Ira R. Adelman, Professor and Department Head*

The past year has been a very difficult time given the massive budget cuts imposed on the University by the state legislature and the University internal reallocations. The Department of Fisheries and Wildlife is certainly suffering its share of these budget reductions, but there are also many exciting new developments and accomplishments to feel good about.

The Department lost three staff members and gained one. The year saw the departure of **David Landkamer**, our assistant extension specialist in aquaculture, who took a position with the government of Guam as director of aquaculture training. We filled Dave's position through June 1992 by **Jeff Mittelmark** with assistance from **Curtis Nygaard**, county agent from Kittson County. Given the budget shortfall of the Minnesota Extension Service, it is unlikely that we will fill the position after July 1, 1992. Last summer we celebrated the retirement of **Dr. Thomas Waters** with a memorable cruise down the St. Croix River. During his 35 years with the department, Tom became world renowned for his work in stream ecology, and he continues to be active in completing many of his research publications. His work and personal contributions to the department will be sorely missed. We expect to fill his position within the year. We were all saddened by the death of **Gordon Gullion** after a long bout with cancer. Gordy was the world's foremost expert on grouse biology and management, and last year's Peavey was dedicated to Gordy in recognition of his contributions. Unfortunately, we lost Gordy's position due to the budget cuts. Someday we hope to have an endowed chair to continue Gordon Gullion's work on grouse and forest wildlife relations. On the positive side, we have finally filled the third position in the Minnesota Cooperative Fish and Wildlife Research Unit. **Dr. Bruce Vondracek** joined the Unit staff as the assistant leader in fisheries. Bruce's area of interest is fish ecology and management, and he has already undertaken a smallmouth bass research project on the St. Louis River.

Department faculty have begun work on many new research projects as a result of successful grant proposals. **Peter Sorensen** and **Yossi Cohen** (along with **John Pastor**,

wildlife graduate faculty member from NRRI) were awarded grants from the National Science Foundation, perhaps the most prestigious granting organization in the United States. Peter is studying the underlying mechanisms for pheromone function in goldfish. This work may eventually be important to understanding reproduction in fish for purposes of enhancing desired species or controlling exotics. In a related project funded by Minnesota Sea Grant, he is evaluating whether natural odors can be used to control the exotic sea lamprey in the Great Lakes by interfering with their reproductive behavior. The research by Yossi and John involves use of the fractal and chaos theory in models to predict forest responses to management or climate change. Yossi also developed a model to predict the effect of changes in Rainy River flow regimes on Rainy Lake fish populations for the Minnesota DNR and the Ontario Ministry of the Environment.

Faculty in fisheries and wildlife have been collaborating with those in forestry on a project funded by the Legislative Commission on Minnesota Resources (LCMR) to develop a Generic Environmental Impact Statement relative to anticipated increased timber harvest throughout Minnesota. **Peter Jordan** is investigating possible effects on wildlife, and **Ray Newman** is looking at effects on fish. Forest wildlife relationships are being investigated by **Francesca Cuthbert** in her collaborative project with DNR on forest bird biodiversity. Biodiversity monitoring is the subject of yet another project involving both Francie and **David Andersen**, assistant co-op unit leader. This project concerns breeding productivity, habitat, and winter distribution of non-game birds. In addition, David is in the second year of a FWS project on ecology of ring-necked ducks in Minnesota. In the area of waterfowl biology and management, **Jim Cooper** is continuing his studies on urban goose management and the ecology of trumpeter swans in Alaska.

Department faculty continue to be involved in international activities. **Dave Smith**, our major international ambassador, continues his long-term projects on biodiversity and conservation in Nepal. Dave received another grant from Earthwatch (along with adjunct wildlife faculty member **Dave Garshelis**, DNR biologist) to study the abundance and distribution of sloth bears. He also received a contract from the World Bank to use GIS in the analysis of conservation and forestry development options. **Yossi Cohen** is continuing collaborative research in Israel, and **Peter Jordan** is working with Swedish colleagues.

The Minnesota Cooperative Fish and Wildlife Research Unit is finally fully-staffed and is successfully fostering collaboration among the University, the DNR, and the Fish and Wildlife Service. In a project sponsored by LCMR, unit leader **Mary Henry**, along with scientist **Chip Welling**, is studying the impacts of insecticides on wetland wildlife with assistant leader **David Andersen** covering upland wildlife. Mary is involved in a number of additional projects related to the effects of contaminants on aquatic biota. **Pamela McInnes**, research fellow, is collaborating with David on monitoring avian exposure to agricultural pesticides. **Tom Kwak**, research fellow, is investigating the impacts of fishing tournaments on largemouth bass populations.

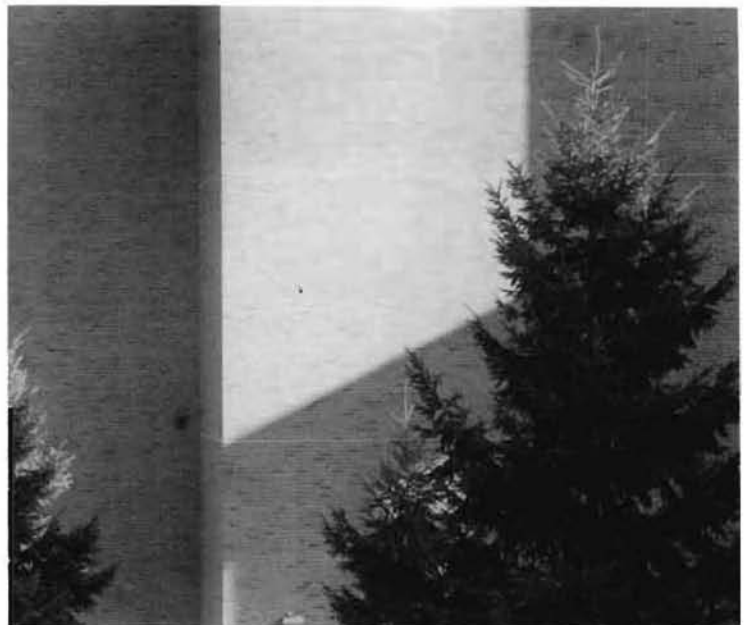
Two of our faculty are on partial or full leaves. **Anne Kapuscinski** is on sabbatical working on a book as well as

assisting groups in the Pacific Northwest on issues involving salmon management. **George Spangler** is acting Sea Grant director, half-time, and is attempting to save the Sea Grant Program from elimination. The governor vetoed the state's contribution to the Sea Grant budget which, if not restored, will mean the loss of federal support and the program. The loss would be especially unfortunate for the Fisheries and Wildlife department because we have consistently received significant research funding from Sea Grant. **Jim Kitts** returned to his duties as extension specialist in wildlife after ably serving as acting department head last year while I was on sabbatical.

We have added three new courses to our program, each of which are taught at the upper division and graduate level. Avian Conservation was team taught by **Francie Cuthbert**, **David Andersen**, and **Jim Cooper**; **Mary Henry** taught Pollution Impacts on Aquatic Systems, and **Yossi Cohen** taught Geographical Information Systems for Fisheries, Wildlife, and Biological Conservation. Each of these new courses had higher enrollments than anticipated.

Our office staff, **Jo Schroeder**, **Roslyn Zippa**, **Joan Watkins**, **Gerda Hagen**, and **Julie Horn** have all been under the pressure of adapting to new university financial and accounting systems. Technical support staff, **Jay Maher** and **Beau Liddell**, have their hands full, keeping the laboratories and computers functioning in the face of heavily increased use.

Despite the budgetary problems and the loss of staff, the department is at an all-time high regarding courses taught and funded research projects. It is obvious to me that the commitment of our faculty to high quality education and research in fisheries and wildlife has not been diminished.





Department of Forest Resources

by Alan R. Ek, Professor and Department Head

The past year has been one of both shrinkage and growth. There are fewer faculty, yet enrollment and research are both up and we are bulging at the seams in the newly remodelled Green Hall. We have also had staff additions that add measurably to our capabilities.

The F. B. Hubachek, Sr. Chair in Forestry Ecology has been filled by **Dr. Peter B. Reich** of the University of Wisconsin. Professor Reich has brought us a very active research and graduate program in forest ecology and ecophysiology. He has a Ph.D. from Cornell in environmental biology and plant ecology, an M.S. from the University of Missouri in forest ecology and a B.A. from Goddard College in Vermont in creative writing and physics. He recently received a Presidential Young Investigator Award through the National Science Foundation. His work here is developing on a range of topics from impacts of global climate change to restoration ecology.

Dr. Tom Nichols has joined us as a research associate to lead the Forest Vegetation Management Cooperative. Tom is an alumnus and comes to us from a position as a consultant. Formerly he worked for Michigan State University and Virginia Polytechnic Institute and State University. He is filling the position vacated by **Marna Butler-Fasteland**. Marna took a position with the Carlton County Soil and Water Conservation District. We thank Marna for a job well done and we are especially pleased that she is still close by. In fact, the Carlton County SWCD will soon be housed at the Cloquet Forestry Center.

Ms. Colleen O'Connor also joined us as the secretary/receptionist for the department. Colleen is filling the position created by the resignation of **Kathy Middleton**. Kathy had been with the department since 1979. You can find Colleen and our new accounts assistant, **Mary Anakkala**, in Rm 115 Green Hall.

Bob Stine, serving recently as acting coordinator of the Cloquet Forestry Center, has now been appointed to the position of coordinator. **Dr. Michael Swift** has joined us to serve as director of the Monticello Ecological Research Station (MERS) to lead research on water quality at that facility. Mike comes to us from the faculty of Wright State University in Ohio. Mike is skilled in aquatic ecology and is

interested in how animal populations respond to stress.

In September, **Dr. Ken Cole** joined the National Park Service Cooperative Park Studies Unit now located in Green Hall. Ken will be coordinating research projects on global change. He has a masters degree in biology and a doctorate in geology. His research has emphasized vegetational change as caused by plant succession, fire and past climate.

Anne Hallowell Reich joined us part-time to assist with developing departmental publications. Ann has a masters degree in science and environmental education from Cornell and her recent experience includes service as the editor of the Wisconsin DNR's EE News, a quarterly environmental education newsletter.

D. Y. Kim joined us as a research specialist to lead project work on an LCMR sponsored project entitled 'Impacts of intensive forest management and atmospheric change on nutrient cycling and tree species suitability. The project includes cooperating scientists from the departments of Forest Resources (**Tom Burk, Ed Sucoff**), Soil Science (**Dave Grigal**), the Natural Resource Research Institute, the MN Department of Natural Resources and the North Central Forest Experiment Station of the U.S. Forest Service. Such projects are an illustration of the increasingly interdisciplinary approach to research.

Other staff changes include the addition of **Dr. Daniel Erkkila** to the position of Tourism and Travel Specialist with extension. Dan is housed at the North Central Experiment Station at Grand Rapids and has a strong natural resources background. **Dr. Glenn Howe** joined us as a research associate in genetics and **Ms. Gail McGill** has taken a position with us as a research specialist in molecular genetics and tissue culture. Both Glenn and Gail are working with Assistant **Professor Glenn Furnier**.

Of special note, **Marcia Ritterling** was nominated and selected as one of three recipients of the 1991 College of Natural Resources Civil Service Outstanding Achievement Award. Congratulations! Marcia's role as departmental accounts specialist was especially helpful in bringing us through a period of rapid research program expansion. Marcia was also promoted recently to Senior Accounts Specialist.

Enrollment is still going up, particularly in the new Natural Resources and Environmental Studies major. Departmental faculty are continuing to play a large role in the instruction and shaping of that curriculum. Enrollment is up slightly in Recreation Resource Management and Urban Forestry majors. These changes reflect an increase in environmental awareness in society in general and of growing student interest in environmental issues. In particular, we see increased enrollment in departmental courses dealing with forest resources by students who are interested in forests, but not necessarily a professional career in the field. That trend has very positive implications for reaching a larger number of students across the University. Graduate student enrollment is up approximately ten percent above last year, with an increase in the number of students in forest ecology and forest hydrology.

Faculty and student interest in environmental issues continues to expand. Issues of concern are global climate change, acid deposition, concern about biological diversity, and in Minnesota, the Generic Environmental Impact Statement (GEIS) on timber harvesting and forest management.

Forest resources faculty have been heavily involved in the GEIS study. Study group leaders include faculty members **Dietmar Rose, Jim Perry, Dorothy Anderson, and Al Lundgren**. The study involves a number of new analytical approaches to examining resource productivity and sustainability in terms of the benefits forests can provide. Analyses include timber, soils, water, wildlife and biodiversity, recreation and aesthetics. Assistant **Professor Dorothy Anderson** and Research Associate **Dave Lime** have been offering three-week shortcourses on "Outdoor recreation management in the '90s" to professionals from a variety of agencies.

Faculty are increasingly involved in assessing impacts of development and research to improve our understanding of the structure and function of forest ecosystems. At the same time they are working to improve the quality and productivity of forests. As an example, Tree Improvement Specialist **Bob Stine** and **Professor Carl Mohn** in forest genetics are to be congratulated for their ongoing work in this area. Their efforts through the Minnesota Tree Improvement Cooperative have led to the establishment of over 40 seed orchards in the state, compared to essentially none in 1980. In the future, we can expect nearly all forest tree seed to come from improved plant materials. **Associate Professors Mel Baughman** and **Tom Burk** and **Professor Al Alm** are working on a project to improve the management of Minnesota's oak forests through extension efforts and research on forest regeneration success. The project involves several other faculty and is funded by the Legislative Commission on Minnesota Resources.

On the international scene, **Professor Ken Brooks** spent six weeks in Asia on a UN Food and Agriculture Organization assignment. His task was to review and evaluate formal education and training programs and institutions that focus on watershed management. Ken was also a co-instructor of a training course on "Watershed instrumentation and measurements" in Durango, Mexico. **Paul Ellefson** spent last spring working with forest economists at several institutions in Norway. Associate **Professor Jim Perry**, working with the Humphrey Institute, will serve as training director of a new large US AID Environmental Training project dealing with the environmental situation in eastern Europe. Jim has already been involved in cooperative research on water quality there. **Professor Peter Reich** has developed cooperative projects with Polish scientists that deal with air quality impacts on vegetation there. **Professor Hans Gregersen** and adjunct faculty member **George Honadle** are also leading University participation in the US AID Environmental and Natural Resources Policy and Training Project (EPAT). The goal of the project is for cooperating countries, particularly developing countries, to adopt economic policies which promote sustainable uses of natural resources as well as preservation and enhancement of environmental quality.

There is much more to tell, but I've used up my allotted space. Stop by if you can, and we'll show you more including new courses, student research projects, extension efforts and facilities. There are a number of informal seminars you might take that will give you a chance to see where things are going. If you can't make it, jot us a line. It is very helpful to hear what alumni are doing.





Office for Student Affairs

by John V. Bell, Assistant Dean

Garrison Keillor was accustomed to beginning his weekly dialogue on the Prairie Home Companion Show with, "It's been a quiet week in Lake Wobegon. . ." and end the monologue with ". . . where all the women are strong, all the men are good looking, and all the children are above average"; it has *not* been a quiet year in the Office for Student Affairs. There have been a number of staff changes and new challenges. In October of 1990, **Janet Larson**, a CNR graduate, joined our staff as degree program adviser. One of Janet's responsibilities is to advise College of Liberal Arts (CLA) and General College (GC) students who have an interest in one or more of our academic programs. As part of the University's common entry point advising, she spends portions of each week on the Minneapolis campus working with prospective transfer students. As a result of Janet's efforts, we have seen an increase in CLA and GC students entering our academic programs.

In September of 1991, **Bill Ganzlin**, Coordinator of Prospective Student Services, left the college to accept a new position within the University. After six years of service in the Office for Student Affairs, Bill has moved down the hill to the College of Biological Sciences as coordinator of outreach programs. In his place, we welcomed **William "Sandy" McCartney Jr.**, as interim coordinator on October 1, 1991. Sandy accepted the permanent position January 1, 1992. He comes to us with a M.S. degree in silviculture from this college and a B.A. degree in economics from the College of Liberal Arts. Sandy is working with prospective students, representing the college at high school and college fairs, and further developing the college's brochures and other prospective student materials.

As of the first of this year, **Sandy Gibbs**, Senior Secretary, has left our office following twelve years of service. Sandy has returned to St. Catherine's to complete her degree in nursing. You may recall that Sandy began working in our office while the late Professor Kenneth Winsness was Director of Student Services. We wish both Sandy and Bill good luck in their future endeavors.

Kathleen Christ, a senior in the College of Liberal Arts, came on board in August, 1991 as a student office assistant. Kathleen brings good cheer to our office, as she spreads her enthusiasm to many who inquire here for information. **Marni Lucas**, who joined us four years ago as senior secretary, recently had her position reclassified to Principal Secretary.

We've been fortunate to gain the services of **Justine Kent** as an administrative fellow for the current academic year. Justine is a graduate student in Forest Resources and helps the college with minority student recruiting and retention, tutoring, and special programs. Justine and Sandy McCartney are officed in Room 150 NRAB, which is a room we recently acquired from Cold Climate Housing. Cold Climate moved downstairs into room 40 NRAB, the former student organization room. In turn, the student organizations were gracious enough to move their offices to the Student Health Services building, along Cleveland Avenue.

CNR undergraduate enrollment grew to 552 by winter quarter 1992, a sizable increase over the past few years. Given this growth, individual classes have also grown appreciably. For example, close to 100 students now register for FR 1201—Conservation of Natural Resources. This increased student demand has prompted instructor **Phil Splett** to open an additional class section spring quarter for this and perhaps subsequent years. **Francesca Cuthbert** added a second section of FW 3052-Introduction to Fisheries and Wildlife, this past fall quarter, and **Paul Ellefson** had 130 students in his FR 5240-Natural Resource Policy and Administration class winter quarter.

These larger student enrollments have sent us scurrying about looking for larger classrooms, something we haven't done for years. Kaufert Laboratory 302, Hodson Hall 495, and the Green Hall Auditorium are being used much more frequently. Likewise, student numbers and the increasing interest in our programs have kept us very busy in student affairs, meeting the advising needs of lower division students and responding to greater inquiries from prospective students.

The college has been the beneficiary of an increase in student scholarships over the past few years. Since 1982, we have offered the Dayton Kirkham Scholarship to high school seniors and transfer students entering CNR on the basis of outstanding academic ability and a strong desire to pursue careers in natural resources. The scholarship is sponsored by the late Mr. Dayton Kirkham. In the past, six or more \$1,000 one-year awards were presented annually to high-ability students. Beginning fall quarter 1992, the scholarship has been altered to extend the award period to four years for freshmen and two years for transfer students. Freshmen may receive a total of \$4500 over four years and transfer students may receive \$2750 over two years. These are some of the finest scholarship awards at the University. Mr. Kirkham is honored by a fine pictorial tribute in the east entrance of NRAB.

Since this is the first time I have written this report from the Office for Student Affairs, I would appreciate any feedback you would care to provide. Finally, if you are ever in the area please feel free to drop in to see us. You are always welcome. My very best wishes go out to you.

An Open Letter to the Class of '92

Dear Graduates,

You made it my friends. Congratulations!

This June you will be given a diploma, gifts, and many warm wishes. Those things are great, but I'm giving you something different. Something better. And worse. Better because it will open up new avenues of opportunity. Worse because it comes with a heavy burden of responsibility.

I am giving you a soapbox. Use it to tell people about natural resource management.

You see, people need you. They need your knowledge. The problem, my friends, is that they don't know they need you. They have only a vague awareness that your profession even exists (Smokey Bear, Ranger Rick, etc. . .). You have to go out and tell people what you do, and why they need you.

Here's what I mean. Two years ago a couple of Penn State forestry professors came to town and gave a seminar in good old room 100 NRAB. They said something startling, so startling that I remember it to this day. Ninety-percent of all timber sales from the over 400,000 private forests in Pennsylvania are conducted without any professional forestry advice.

You and I know that a natural resource manager would make all the difference in the world. She would help those private forest owners get a better price for their timber, ensure higher quality regeneration, and limit soil compaction during logging. In short, she'd leave the forest and the landowner richer for having hired her. You and I know this, but most people don't.

Here's another example. In urban areas, my specialty, I'd say 95% of all construction projects on wooded lots are done without input from an urban forester. We all know the story: The Smiths pay gazillions of dollars for a wooded lot on which to build their dream house. Their builder says, I know you care about the trees. I do too. Meanwhile, his guys commit heinous crimes against the roots of those trees. This damage, however, takes years to manifest itself. When the proud new owners move in, the trees look great.

One evening five years later, Mrs. Smith. She looks at the trees, silhouetted against the setting sun, and notices a somewhat troubling thing: They have no leaves. She calls an urban forester. He tells her the trees were killed five years ago. There's no cure, but the damage could easily have been prevented if a tree preservation plan had been in place during construction. The Smiths pay thousands of dollars for tree removal and replacement, but that's nothing compared to the heartbreak they feel. You and I know that an urban forester could have prevented the loss.

Analogous states of affairs exist in other areas of natural resource management, but I'm sure by now you get the point. We know how we can help people, but they never seem to ask for advice—at least not until after they've done something wrong.

Aldo Leopold was a guy who knew how to use a soapbox. However, someone that gifted comes along about once an

eon. We can't wait for the next Aldo Leopold to come and speak for us. It's up to each and every one of us.

I'm not saying that you should write the next *A Sand County Almanac*. Start slow. Someday soon you will be asked what you do for a living. Don't panic. Here's what to do:

Step 1) Whip out your handy-dandy soapbox.

Step 2) Start your explanation like this: "I am a natural resource manager, specializing in _____ (forest products, recreation resource management, urban forestry, etc.)."

Step 3) The next four words out of your mouth are critical. Those four words will determine the future of our profession. Go with either, "I teach people to. . ." or, "I help people to. . ." After that, you're home free. Just tell people what a person with your training can do for them. And remember that you're on a soapbox. Be enthusiastic. Be proud. It's almost impossible to overstate the importance of what you do.

If you are at someone's house at the time, I guarantee you will be asked to go out to the back yard and tell the hosts what's wrong with their trees, or you'll be asked what kind of wood their heirloom desk is made from. Don't just give them an answer. Show them how far the roots of a tree extend from the main stem. Or better yet, show them the trick Scotty showed you with dogwood leaves. Show them signs from the animals they didn't even know lived in their yard. Dazzle them.

Ready for the next step? No matter where you live there will be a tree committee or environmental board. Join it. I'm not talking about S.A.F. or other professional organizations (although you should join those as well). We spend too much time in beige conference rooms talking about natural resource management with other natural resource managers.

One last thing: Before I give you this soapbox, you must promise something. Promise you will not use the soapbox to say anything that even remotely resembles this: "I'm sick of those tree-hugging eco-freaks trying to keep us from doing our job." Don't use this soapbox to say anything that pits "us" (natural resource managers) against "them" (anyone). There is a growing feeling in some sectors of our profession that people are out to get us. My friends, no one is out to get us. A lot of people, however, are legitimately concerned about the health of the planet, and therefore are watching what we do and whose interests we are serving.

I see this increased awareness and concern people have as an unprecedented opportunity for natural resource managers to fulfill the vision Aldo Leopold voiced from atop his soapbox. Use your soapbox to teach, not to bicker. We don't have time to bicker—there's too much work to be done. Use your soapbox to bring people together, to channel their concern and energy to achieve positive things.

Well my friends, that's about it. Sorry this letter has been so long, but, in the words of Pascal, "I lack the time to make it short." Here's your soapbox. Use it often and well.

With warmest wishes for a long and successful career,

Christian Siems
Class of '89



Graduating Seniors



Bradley Berry
Spring, 1992
Forest Products



Lyle Buss
Winter, 1992
Wildlife



Marsha Curtis
Winter, 1992
Forest Resources



Douglas Dailey
Spring, 1992
NRES



Shirley Fowler
Spring, 1992
Forest Resources



Carla Fussy
Spring, 1992
Recreation Resource Management



Dean Halvorson
Spring, 1992
Forest Resources



William Johnson
Spring, 1992
NRES



Jeffrey Knutson
Spring, 1992
Forest Resources



Joel Lemberg
Spring, 1992
Forest Resources



Anthony Miller
Spring, 1992
Forest Resources



Dawn Nelson
Summer Session I, 1992
Forest Products



Dawn Olson
Spring, 1992
Forest Resources



David Pearson
Winter, 1992
Forest Resources



Mary Skorupa
Spring, 1992
Forest Products



Michael Smith
Spring, 1992
Forest Resources



Monica Stasz
Winter, 1992
Wildlife



Aaron Wunrow
Spring, 1992
Recreation Resource Management

Graduating Seniors Not Pictured:**Kelly Anderson**

Spring, 1992
NRES

Kyle Anderson

Spring, 1992
Fisheries and Wildlife

Omar Ansari

Spring, 1992
NRES

Katherine Beaulieu

Winter, 1992
Wildlife

Thomas Bednar

Spring, 1992
NRES

Dennis Blake, Jr.

Spring, 1992
Forest Products

Richard Bock

Spring, 1992
Fisheries and Wildlife

Paul Carruth

Spring, 1992
Forest Products

Wayne Christopher

Spring, 1992
Fisheries and Wildlife

Sarah Clarkin

Fall, 1991
Wildlife

Dominic Demma

Winter, 1992
Fisheries and Wildlife

James Duerr

Spring, 1992
Recreation Resource Management

Kirby Ellingson

Spring, 1992
Fisheries and Wildlife

Ricky Fern

Spring, 1992
Forest Products

Susanne Gabriel

Winter, 1992
Wildlife

Lara Gens

Spring, 1992
Forest Resources

Robert Gerlach

Winter, 1992
NRES

Bradley Giese

Winter, 1992
Fisheries and Wildlife

Robert Gitzen

Winter, 1992
Fisheries and Wildlife

James Harms

Spring, 1992
NRES

Timothy Hockin

Spring, 1992
Forest Products

John Holahan III

Spring, 1992
Forest Products

Kimberly Jenkins

Spring, 1992
Fisheries and Wildlife

Bart Jensen

Spring, 1992
NRES

Mark Keller

Winter, 1992
Forest Products

John Kroll

Winter, 1992
Forest Products

Michael LaClair

Spring, 1992
Forest Products

Marybeth Laffey

Spring, 1992
NRES

James Larson

Spring, 1992
NRES

Becky Lein

Spring, 1992
Forest Resources

Christopher Lintula

Spring, 1992
Urban Forestry

Christopher Lord

Spring, 1992
NRES

Sharon McGilp

Spring, 1992
Fisheries and Wildlife

Gary Meyer

Winter, 1992
Forest Products

Christopher Miller

Spring, 1992
NRES

Michael Minar

Winter, 1992
Fisheries and Wildlife

Robert Mossman
 Fall, 1991
 Fisheries and Wildlife

Leslie Ryan
 Spring, 1992
 NRES

Daniel Swanson
 Spring, 1992
 Forest Products

Romaine Nielson
 Winter, 1992
 Recreation Resource Management

Timothy Schleicher
 Winter, 1992
 Recreation Resource Management

Robert Tapp
 Spring, 1992
 NRES

Kevin Niemela
 Spring, 1992
 Fisheries and Wildlife

Wade Schroeder
 Winter, 1992
 Forest Products

Tony Teichert
 Spring, 1992
 Fisheries and Wildlife

Maria Olson
 Winter, 1992
 Wildlife

Stanley Schweitzer
 Spring, 1992
 Forest Products

Jeff Tillma
 Summer Session II, 1992
 Fisheries and Wildlife

Christine Penney
 Fall, 1991
 NRES

Vicki Siltman
 Spring, 1992
 Forest Resources

Perry Ward-Mossman
 Winter, 1992
 Fisheries and Wildlife

William Pitt
 Spring, 1992
 Fisheries and Wildlife

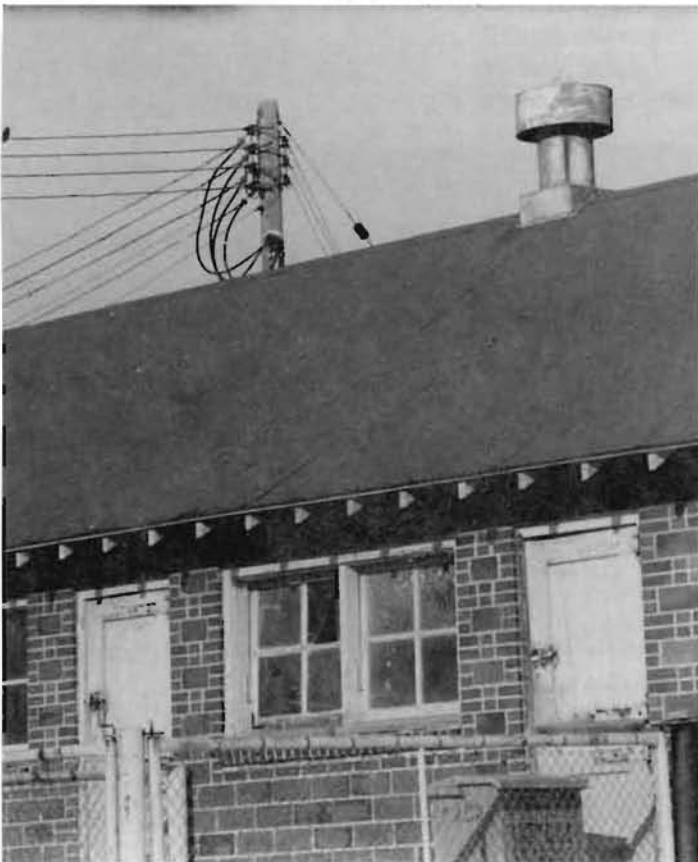
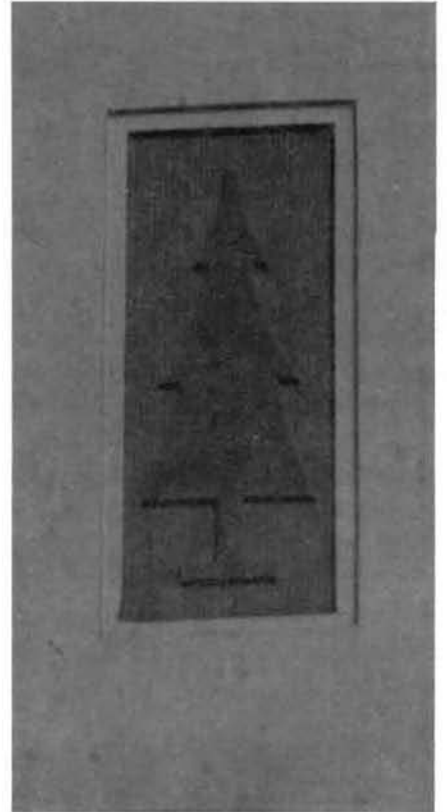
Brian Steigauf
 Spring, 1992
 Forest Resources

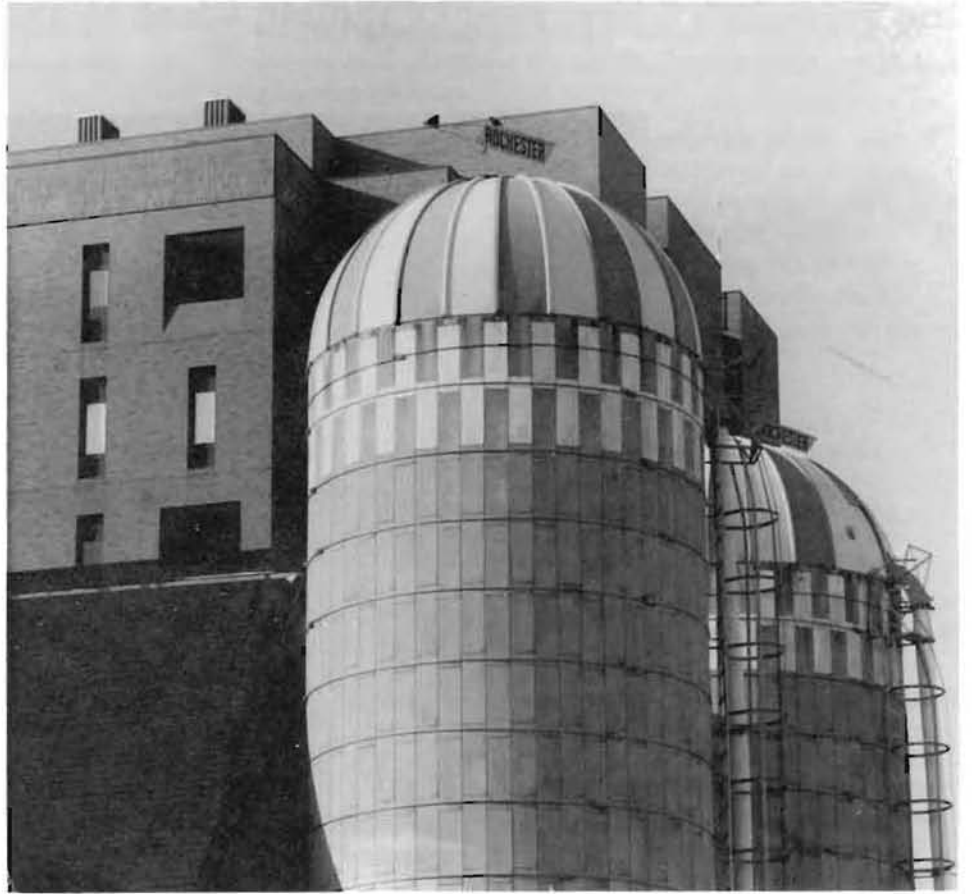
Xue Yang
 Summer Session I, 1992
 Forest Products



Seniors Dawn Olson (left) and Mary Skorupa cram for finals in the CNR computer lab.

Where on campus can you find . . . ?





One Forester's Story: Paul O. Rudolf, Class of 1928



By Beverly Carlson

One Forester's Story: Memoirs of Paul O. Rudolf is an autobiography written by Paul Rudolf for his children and grandchildren. This collection of personal experiences was meant to be a source of information left by Rudolf for his family. But this story of one man's life serves not only as a remembrance for future generations, it serves as an example of the successful growth, development and maturation of an individual with ambition and a purpose.

Paul Rudolf was born on November 4, 1906 in La Crosse, Wisconsin. At the age of four he moved to Minneapolis by train. Here he grew up with his parents and his two younger sisters. At home, German was spoken almost exclusively by his parents until the children had grown, at which time "the folks switched over to talking English . . . except when they wanted to say something that they didn't want the younger kids to understand".

In September of 1924, Rudolf began his college career at the University of Minnesota. He remembers his first experience registering for classes:

I took the streetcar to the University's main campus. I found the proper building and got into a long line at the office. When my turn came, I received crushing news. I couldn't register there for the forestry course but would have to go to the St. Paul Campus (then called the Farm Campus) to do so.

Of his first two years, Rudolf says: "...forestry students at Minnesota took mostly basic or background courses; very few strictly forestry courses. I found that I had to study a good deal more intensively at the University than had been necessary in high school. . .". Doesn't this sound familiar? Some things never change.

Rudolf also talks of the Freshman Corporation of 1925. At the end of the freshman year forestry students were required to attend an eight week summer session at the Forestry Station at Itasca State Park. Here, 35 students stayed in one bunkhouse and studied the "North Woods". Rudolf talks of his experiences:

There were many acres where brush, primarily hazel, was dense and sometimes more than head high. The bushes not only make for difficult "going", but they often harbored myriads of wood ticks. We picked off all we could see as soon as possible, but every night after getting undressed we had tick inspection. Usually quite a few were found. The record was close to 80 on one person at one time.

(In) the latter part of August the Itasca session came to an end, having accomplished some important purposes. We students had become acquainted with the forest first hand and had acquired a "feel" for it. Also we had become well acquainted with our classmates and

faculty members and developed a certain sense of camaraderie and group loyalty that seemed to distinguish forestry students from others at the University.

In his junior and senior years, Rudolf says he "really began to learn forestry" taking such classes as silviculture, wood structure and identification, surveying, forest economics, forest management and regulation, geology, ecology, forest pathology and forest entomology.

Rudolf spent spring quarter of his junior year at the Cloquet Forest Experiment Station. Here, 18 students were organized, as at Itasca, as "The Junior Corporation of 1927". At Cloquet Rudolf studied such subjects as logging, forest management and reforestation.

In March 1928, Rudolf received his Bachelor of Science in forestry. After graduation, Rudolf decided to accept a graduate assistantship at Cornell University, where he was to assist a research professor in forestry and pursue work toward a degree of Master in Forestry. He finished up a temporary summer job in Wisconsin and was on his way to Ithaca, New York in August.

At Cornell, Rudolf worked on thesis problems and preparing his theses, research work and auditing classes. With a feeling of "considerable trepidation" Rudolf successfully made it through his oral exam with the Forestry faculty and received his Master in Forestry degree in mid-June 1929. Rudolf assesses his year at Cornell saying, "I matured a lot, not only physically, but also mentally, socially and professionally." Although he adds that, "All my forestry education did not come from attending classes."

Rudolf's work experiences before and following graduation shaped an accomplished career in forestry. In 1926 Rudolf worked with The Bureau of Plant Industry on a campaign to save the western white pine from white pine blister rust in the Kaniksu National Forest (northern end of the Idaho panhandle). Here an electrical storm interrupted his work and he was forced to join a firefighting team for 34 days. He explains, "The men at this camp not only were fighting fire in general, but they also were trying to protect a grove of old-growth western red cedars from fire damage."

In 1927, Rudolf accepted a timber survey job in eastern Oregon. He later transferred to Bayfield County, Wisconsin in 1928 to work on a land economic inventory project. Rudolf passes his U.S. Civil Service examination for Junior Forester in 1929 and was offered an appointment from the Branch of Research of the Forest Service at the Southern Forest Experiment Station branch in Starke, Florida. Here, Rudolf conducted research in the areas of naval stores, thinnings, and forest fire effects.

December of 1930 Rudolf decided to transfer back to Minnesota and begin work at the Lake States Station (in the old Dairy Building on the St. Paul Campus at the University).

Here he worked on a new program of experimental tree planting in the sandhills of north-central North Dakota. He then worked the Plains Shelterbelt Project. He describes the project origination:

The story behind the Plains Shelterbelt Project was unusual: President Franklin D. Roosevelt made a trip through the drought-stricken Plains in early in 1934. Upon his return to Washington he sent a note to Secretary of Agriculture Henry Wallace, the gist of which was this: "Why can't the Forest Service plant a belt of trees to control the blowing of soil in the Great Plains?"

Rudolf's part in this special project was to prepare a guideline publication on the project and write a special chapter on the "shelterbelt experience in other lands". Rudolf's connections on this project directed him towards new projects.

In 1931 he was involved in establishing the first comprehensive seed source study in the Lake States. By 1935 he was the head of this project. He was involved in creating and chairing a new Lake States Forest Tree Improvement Committee in 1950. In 1953, Rudolf was called to Washington to prepare a "justification statement" that would help convince budget officers and then Congress that appropriating funds for forest genetics research would be beneficial. When these funds became available in 1954, Rudolf was involved with the development of a new research program in forest genetics.

While at the Lakes States Station, Rudolf also conducted reforestation studies and studies measuring the effects of forest fires on trees and associated vegetation. He researched soil erosion and prepared maps of the upper Mississippi watershed.

Throughout his life Rudolf was involved in many professional societies, such as the Society of American Foresters, International Crop Improvement Association, Michigan Academy of Sciences, and Minnesota Academy of Sciences.

After retirement, Rudolf's forestry activities continued to play a big part of his life. He says, "I didn't feel right about seeing some 38 years of forestry experience go down the drain, and I knew one could become out-dated awfully fast." So, he worked for the Forest Service revising the Woody Plant Seed Manual and Silvics Handbook, and the University of Minnesota teaching ecology at Itasca State Park and applied silviculture at Cloquet for the College of Forestry.

Mr. Rudolf's background, education, career and activities reflect the success of an individual who made significant contributions to the advancement of forestry and conservation. His life and accomplishments are a positive example for all students and professional men and women in natural resources. His memoirs can be found in the forestry library.

Alumni Spotlight:

Fred Rengel, Product Manager, Fullerton Lumber Company

By: Beverly Carlson

Fred Rengel graduated with a B.S. degree in Forest Products from the College of Forestry, University of Minnesota in 1977 and has gone on to establish a successful career in the lumber industry. Fred's educational and professional experiences in industry serve as a good example for forest product students today.

Fred began his education at the University as a chemistry major. While studying chemistry, Fred decided he would like to use his math and science background to work with people in the business world. This decision prompted his move to the College of Forestry to study forest products, with a specialization in marketing.

During his college days, Fred gained experience in the lumber and building materials industry working for Engineered Building Components. Here, he built trusses during the summer of both his junior and senior years. He also worked as a research assistant in the former pulp and paper department.

After graduation, Fred began his career as a assistant product manager buying building materials and lumber for Fullerton Lumber Company. He held this position from 1979-87. From 1987-90, Fred went to work for Trustworthy Hardware, heading up a building materials department. When this company became insolvent, Fred returned to Fullerton Lumber, this time with more responsibility as the product manager.

Fred's time at Fullerton Lumber is spent purchasing lumber and building materials for retail lumber yards; a wholesale lumber distribution company in Fort Dodge, Iowa; and a manufactured housing and building company in Worthington, Minnesota. He talks to representatives from lumber mills and wholesalers about their inventory needs, determines purchasing requirements, buys the lumber from producers and wholesalers and has it shipped to his location by truck or rail.

At times Fred's job can become stressful. The stress comes from escalating lumber prices and/or lack of available lumber supplies. Fred's job is to predict future lumber market conditions. He needs to forecast lumber prices and decide when to buy, when not to buy and how these price changes will affect Fullerton Lumber's advertising.

A portion of Fred's work also includes facilitating the continued education of people in his field. He collects technical

materials put out by various lumber associations and distributes this information to workers in the lumber industry to inform them of the latest industry changes and developments.

Periodically Fred returns to the University of Minnesota to promote interest in forest products. He speaks to students in the Forest Products Orientation class about the marketing area of specialization. He talks at various community colleges on behalf of the University trying to spark interest in the College of Natural Resources. He also serves on the Board of the Alumni Association.

Fred remembers some valuable courses from the forest products program which help him in his work today. He names the Situation Analysis class taught by Jim Bowyer (now called Analysis of Production Systems, ForP 5306) as "encompassing a good share" of what he does. This class taught Fred about the business and marketing aspects of forest products. Fred also says that professional writing and speech were valuable courses because they taught him to be comfortable enough to convey ideas to other people. Fred says these classes "made me think on the technical hand and gave me the tools to communicate. . ." on the other.

When asked his thoughts on the job market today for forest product students, Fred comments that it's "tough because of the economy . . . but on the other hand, all companies need good employees, at all times. Intelligence, interest and enthusiasm go farther than what your resume says. There are always jobs out there for good people . . . if you're diligent, the positions are there." Fred also says that graduates need to show prospective employers that they have been involved in activities, and they have tried to learn something about the business.

Fred advises that students contact companies they are interested in working for while still in school and become involved, even if it's on a volunteer basis. He says it is important to learn how a company works. When job searching, he suggests that graduates not only contact personnel, but also the person who is doing the job you'd like to have. He says, "People like to share information they know and be asked their opinion." Companies "are impressed to know you're serious." When a position is offered it is important to be flexible—"just because you've studied in one area, that may not be where you'll eventually end up."

FULLERTON

Building Center

Faculty Spotlight:

Carl Vogt, Extension Forester

by Rick Klevorn

Ever wonder who uses all those little offices up in the corners of Green Hall? Well, 330D is used by Carl Vogt, a consulting forester with the Minnesota Extension Service and CNR instructor.

Carl came to Minnesota in 1964 after graduating from the New York State College of Forestry. His first position in Minnesota was with the Minnesota Department of Natural Resources as a district ranger in southeastern Minnesota. Shortly after, he became a land manager for the Minnesota Environmental Service Center. In 1978, he joined the U of M as an extension forester, a position he still holds today. Carl also has a teaching certificate, and teaches Introduction to Forestry and Introduction to Minnesota Natural Resources here in the College of Natural Resources.

During his professional career, Carl has developed his own forestry consulting business, The Environmental Consortium. TEC includes a nursery and Christmas tree farm, as well as maple syrup and walnut production. He also consults and advises private land owners and public land managers concerning forest management practices.

Carl not only teaches and manages his own business, he is

involved in numerous professional and trade organizations, including The Minnesota Forestry Association, The Society of American Foresters, The Minnesota Society of Arboriculture, The Minnesota Christmas Tree Growers Association, and The American Walnut Council, to name just a few. Now Carl doesn't simply join an organization, he gets involved! He holds, or has held, offices in all of the above organizations.

Although Carl keeps very busy with his involvement in professional and trade organizations, he still finds time to serve as advisor to the Forestry Club – a service he has provided to students more than once in the past.

When asked about the impact of forest practices on the environment, Carl explains that foresters have to decide what's important. For instance, Carl doesn't use pesticides on his Christmas tree farm. He believes that pesticides should be reserved for more important crops. "They're only Christmas trees. . .", he says.

Carl is one of those approachable types who gives good advice, drawing on more than a few years of professional forestry and business experience. When observed, he teaches a good lesson in priorities.

Sponsor Spotlight:

C. H. Carpenter Lumber Company

By Beverly Carlson

C. H. Carpenter Lumber Company has been in business since 1912, when Chester H. Carpenter first began company operations. Today the company has 75 employees, and its lumber sales encompass both Minnesota and North Dakota.

C. H. Carpenter Lumber has been a family run company since its founding by current president John Andren's grandfather. After his grandfather's death, John's mother and aunt left college to run the business, which was unheard of in the time of the Depression. Later, John's father and uncle took over.

The company's sales are primarily retail lumber to both contractors and remodelers, from starter homes to \$800,000 homes. Annual sales range from fifteen to twenty million dollars. John predicts that the company's focus will remain the same in future years. On a typical day at C. H. Carpenter Lumber, John visits with builders and sales people, manages the company's personnel and investigates new

ways to increase sales and cut company costs.

John makes contributions to the lumber industry by serving on the board of the Northwestern Lumber Association. As part of this association, he participates in future planning for the industry. He also serves on the Salvation Army advisory board.

C. H. Carpenter Lumber's association with the Gopher Peavey has been a long and steady one. The company has supported the Peavey for "as long as I can remember . . . and that's at least twenty years," John says. He also adds, "I've always liked the Forestry school, and the Gopher Peavey . . . it's nice advertising."

The Gopher Peavey would like to thank John Andren and C. H. Carpenter Lumber for its contributions to industry and its continued support of the Peavey throughout the years.

C.H. Carpenter
LUMBER

Bell Receives First Biennial Award for Undergraduate Contributions



by Sandra Manthe

John V. Bell, Assistant Dean for Student Affairs, College of Natural Resources, was honored in May, 1991, with the first biennial award for Outstanding Contributions to Undergraduate Education. This award was made available by the College of Natural Resources Alumni Society and is presented in recognition of a faculty or staff member who has made significant contributions to undergraduate education in the college.

On May 9, 1991 the award was presented by Anita Burns Twaroski, a member of the College of Natural Resources Alumni Society, as part of the society's annual spring dinner and program.

Many valuable experiences have shaped Bell's successful career. Bell began his service at the University of Minnesota in January of 1966, in the St. Paul Office of Admissions and Records. From there he worked in the Institute of Technology (1974-1981) and finally moved over to the then

College of Forestry as Director of Student Services in early February, 1981. The College of Forestry became the College of Natural Resources in 1988. Bell's position changed titles in 1986, when he was appointed Assistant Dean for Student Affairs, "When they saw how brilliant I was", jokes Bell.

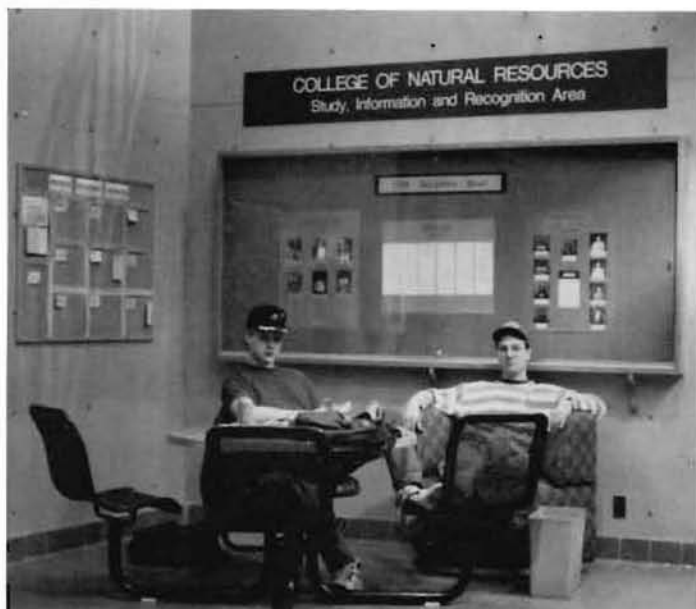
All modesty aside, Bell has had remarkable experiences in education. After earning degrees in Missouri and Kansas in the late 50's and early 60's, Bell was awarded National Science Foundation appointments at Southwestern Oklahoma State in Weatherford, Oklahoma, University of California-Berkeley and finally at the Oak Ridge Institute of Nuclear Studies at Oak Ridge, Tennessee. Prior and during this period of time, Bell taught high school science in two different Kansas high schools. Sandwiched in between were two years in the U.S. Army.

Subsequent to his appointment at the Oak Ridge Institute, Bell, his wife and three children packed up and headed north to the University of Minnesota and have been here ever since. Bell vividly recalls one aspect of that move. He and his family were driving on the bridge over the Clinch River (Tennessee), in late December. The temperature was 73 degrees, and John noticed several boats with people fishing in their shirt sleeves. Approximately one month later the thermometer read 27 degrees BELOW zero in Roseville, Minnesota. That's a swing of 100 degrees. "I had never experienced anything quite like that," Bell said.

Over the past eleven years, John has seen tremendous change in the CNR Office for Student Affairs. "We are doing a whole host of activities now that weren't even thought of in 1981." Some examples of projects adding dimension to the office are the Undergraduate Research Opportunities Program (UROP), computerization of various student data bases, Common Entry Point advising on the Minneapolis Campus, and the addition of the Natural Resources and Environmental Studies (NRES) curriculum.

Although the University has undergone drastic changes in the last 26 years, Bell has shown leadership in his ability to stay on top of change and provide assistance and support to students, staff and faculty alike. He is a distinctive part of the College of Natural Resources, and unquestionably Bell is most qualified and deserving of the College of Natural Resources Alumni Society Award for Outstanding Contributions to Undergraduate Education.

College Holds Reception for New Lounge and Study Area in NRAB



by Janet Larson

The College of Natural Resources (CNR) has a new study and lounge seating area in the lower level of the Natural Resources Administration Building (NRAB) outside of the Forestry Library. November 19, 1991 marked the initiation reception of this area labeled "The CNR Study, Information and Recognition Area."

The area features new couches, chairs, end-tables, and study tables. It is a popular and much needed facility. Students have been taking advantage of benefits the area has to offer during all stages of development.

Students, faculty, and staff of CNR and other colleges gathered on the afternoon of November 19th to enjoy refreshments and look at the new features of the Study, Information, and Recognition Area. Honored guests and speakers at the reception included Nick Barbatsis, University Assistant Vice President for Student Affairs, and Richard Skok, Dean of the College of Natural Resources. Approximately 35 people attended the reception.

Creation of the Study, Information and Recognition Area was made possible by funds provided by the College of Natural Resources and a small grant from two University's Vice President offices: The Office for Student Affairs and the External Relations Office. Early in 1991 the college intended to provide lounge seating in the once vacant area; however, no plan or design existed for the space. A short time later, a program announcing available grant monies for initiatives proposing to strengthen the campus community was offered by the central administration offices. After some discussion with the CNR Student/Faculty Board, a grant writing team formed, and a proposal was submitted for the area.

The grant money offered was earmarked for projects meeting one or more of the following criteria:

1. Strengthen the sense of community at the University
2. Make commuter students feel a part of the U community

3. Address non-traditional student needs
4. Strengthen relationships between students, faculty, and staff

University-wide, 67 proposals were submitted. Our project was one of 21 initiatives funded. Grant dollars for the CNR project totaled nearly \$2,000. The proposal included several features in addition to the lounge seating and study tables.

A new recognition board enclosed by a glass case was installed to display names and photographs of CNR students deserving recognition. Dayton Kirkham scholarship recipients, students on the Dean's list, and students serving on the CNR Student/Faculty Board are now honored by having their names and/or photographs displayed in this recognition case.

A car pool/ride exchange board was created to help students, faculty and staff find others from the college that would like to share rides. Use of this board has been slow so far. We hope that more people will take advantage of the commuter board to help alleviate some of the growing commuting and parking congestion here at the University.

The latest addition to the area is a wall-mounted plexiglass information display where child care, parking, commuting, Undergraduate Research Opportunities (UROP), and other information materials are made easily available. The CNR Student/Faculty board will monitor the use of these information materials and assess the needs of current students, faculty, and staff so the information display may be kept current and useful.

Although the funding for this project has been exhausted, it is our hope that we may be able to expand and improve the facilities that we were so fortunate to receive. Via a recent questionnaire, students offered suggestions for improvements to the new area. Most students would like to see improved and expanded vending selections (adjacent to the new student area), plants or items to improve the decor, and more study tables. One student quoted a line from a recent movie, *Field of Dreams*, that seems to describe the area well: "If you build it, they will come."



Dean Skok and Regent Craig





UNIVERSITY
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MINNESOTA

FORESTRY AND
BIOLOGICAL STATION

SINCE 1909

Itasca 1991: A Pleasant Surprise

by Aaron Schwartz

A few of my friends have already been through the Itasca session and they warned me, "It's all a bunch of hunters. The best you can do is enjoy the scenery!" Nevertheless, I was looking forward to the experience. Itasca was going to be one of my fun classes. Finally, I had a chance to do something related to my major. I was also getting tired of hearing comments like, "Gee, it's awful hard to get a good summer job without Itasca under your belt." Yet, in the back of my mind, I kept wondering if I'd actually enjoy it.

I barely entered the station when I found several pileated woodpeckers waiting to greet me at the entrance. Two hours later we were all gathered in the assembly hall, suffering through the formalities.

"Are there any vegetarians among us? Please stand up."

After being warned about Itasca, I must admit, I wasn't eager to stand up for fear of getting a bullet to the head. However, I was eager to start exploring the park, and that's how I spent the first night. After all, classes started the next day, and I wasn't sure if I'd have much free time.

Boat safety turned out to be the topic covered the first day. Not bad, although the foresters weren't very happy about it. While others were diligently slaving away, we drank coffee, ate doughnuts, and occasionally did something that resembled attending a class. As the days ran on, the difference became deeper. But of course, we wanted it that way.

"Yeah, actually naming the plants is



optional. Phil and Janet said we just need to be able to recognize that it is indeed a plant," I told my forestry cabinmates.

Okay, I lied, but we did have it pretty easy. Most of the activities in class were too interesting to qualify as work. Learning to identify about ninety Minnesota plants was time-consuming, yet one of my favorite tasks. It was a great feeling to walk through the forest and correctly identify about half the plants in sight. Well, at least I thought I could. Even four months after the experience, I still find myself naming plants.

I must add that I feel remorse for the the poor little *Toxicodendron radicans* that was brutally hacked to death by a certain student (who shall remain unidentified, although his first name is a palindrome.) Of course, not far from its deathbed stands what's left of the *Cornus stolonifera*. It's Phil's fault for mentioning that it was a hallucinogen.

The Fisheries and Wildlife Techniques class had its highlights as well. It was amazing how many different excuses people could come up with for using the Zodiac – almost as amazing as our ability to capture small mam-

mals and step on them. Oh well, the mistnetting was a favorite subject, along with the worthwhile topic of electro-fishing.

I must admit, however, the best time of all was after class was over. It was great to go on long bike rides and spot snoring deer or the occasional bear. Canoe trips across the lake or over to Schoolcraft Island to examine the world's largest field of poison ivy were always a blast, too. Of course, after all this recreation there was always time to make a trip to Headwaters Inn. I have documented evidence that students have been going there since at least 1937. Unfortunately, we only went on one latenight swim in the rain. (How many still remember their numbers?)

The academic reason for the Itasca session is to gain some experience in



the field, however, there were many little things that came with the package. Little things such as enjoying a beautiful area of Minnesota and meeting other people from your major in a summer camp-type setting. When I think back on it, we were all a bunch of characters, but not in a bad sense. The group was definitely not the type of people I feared it would be.

I am trying to remember the names of all the twenty-five Fisheries and Wildlife students. I could only remember twenty-four. Oh yeah... I forgot myself. by the way, I still have this little tune in my head...

"There's a tear in my beer 'cause I'm cryin' for ya dear..."





They'll never find me here!
Leon Somme measures a red pine from the inside out.



Justin Grussing, Faith Hall, and Pat Bundy look on as grad student Anne Selting is not impressed.



Attack dogs at Itasca?
The streets of Minneapolis are safer.



Will the body fit?
Doug Hecker observes dirty work in the soil pit.



Yeah, it's a big one alright.
Grad student Justine Kent tries out the Biltmore stick.

Remembering the Plants

by Kimberly Wallin

The moment finally arrived—Itasca. I was looking forward to meeting all of the green trees, shrubs and other forest creatures, along with biking, swimming and meeting people. Of course I heard of the intense studying—measurements, ecology and plant biology. Nonetheless, I was looking forward to the Itasca experience. Upon arrival, the beauty of the area met every expectation. The smell of the clean air surrounded my olfactory glands. The sound of the lake welcomed each of us. This peaceful bliss lasted for about an hour! Soon homework, studying and trying to sneak in sleep took over. Preparing for the fluctuating weather and staying healthy was also challenging since the temperature averaged 90 degrees Fahrenheit the first week, and during the field final on the last day (three weeks later) it snowed.

During Itasca, each of us had opportunities to meet people in unique ways. We were expected to identify up to 20 plants by sight, along with common names and latin names (correct spelling down to the hyphen) each day. During times of intense memorizing, I really got to know peoples' sense of humor (or lack of one) and their creativity in associating plant names.



Here are several ways some of us remembered specific names:

ironwood * *Ostrya virginiana*
Virgins in Austria wear ironwood.

round-lobed liverleaf * *Hepatica americana*
Hepatitis, round American livers.

starflower * *Trientalis borealis*
While chewing Trident staring at the northern lights they got starry-eyed.

woolly sweet cicely * *Osmorhiza claytoni*

A rabbit was hopping in the forest and spotted a plant that looked like a carrot so he hopped to it. He then bent over to smell it and said, "Hey man, this is not a carrot!". He then dropped to his knees, bowing and chanting, "Osssmoorhizaa claaytoonii, woolly sweet cicely."

jack-in-the-pulpit * *Arisaema atrorubens*
Arisa and Ema were in the pulpit with Paul Rubens.

naked bishop's cap * *Mitella nuda*
The hairy hat was on the naked bishop rotting.

round-leaved dogwood * *Cornus rugosa*
The dog was laying on the round rug.

pearly everlasting * *Anaphalis margaritacea*

We went to Anaphalis, drank margaritas and were pearly everlasting, see ya!

woodbine * *Parthenocissus inserta*
Tendrils inserta.

blue flag * *Iris versicolor*
The thin blue flag was very colored.

woolly yarrow * *Achillea lanulosa*
Woolly lace material keeps you a' chilly.

jack pine * *Pinus banksiana*
Jack robbed the bank but was caught due to his rabbit ears.

water horehound * *Lycopus* spp.
There was this man on a ship . . . (inside joke).

gray dogwood * *Cornus racemosa*
Greyhound dog racing.

frost grape * *Vitis riparia*
Quick repair the grapes for wine before the frost gets them!

great burdock * *Arctium lappa*
The dog with the big tongue jumped onto the great-grandpas lappa to keep warm in the Arctic.

labrador tea * *Ledum groenlandicum*
Let 'em grow on land instead of in the bog.

bittersweet * *Celastrus scandens*
I had a scandalous and bittersweet relationship with Celeste.

joe-pye weed * *Eupatorium maculatum*
Joe Pye was sent to the sanitorium in Europe.

willow * *Salix* spp.
Weeping willows weep saline tears.

This sample gives you an idea of the different and fascinating student minds found at Itasca. Most of their creative associations are not fit for print. I would like to thank everyone who contributed to this list. I do not think it would be fair to give credit to one individual, since often it was the tired minds of many that worked with each other to create, laugh and remember.



Deb Moritz and Jean Sieben sit outside their room with a view.



Ken Nyquist eats watermelon.



Instructors Phil Splett, Villis Kurmis, and Scotty Scholten enjoy the Itasca experience in their cabin. They've paid their dues.



Brian Jorgenson and Gerry Wind tailgating under the red pines. Paul grew tall on this food!



Itasca Teaching Staff, 1991

Professor Scotty Scholten, William "Sandy" McCartney, Jr., Professor Emeritus Villis Kurmis, Phil Splett, Janet Larson, Professor Ed Sucoff. Not pictured: Steve Stenger

Springing Ahead In The Fall: Cloquet 1991

by Andy Bluhm

The University of Minnesota Cloquet Field Session is an invaluable and unique experience for graduating seniors in the Forest Resources major. The Cloquet Experimental Forest is nationally recognized; however, the most important recognition is by the students themselves. Since its introduction, students, teachers, and ideas have changed, yet the sentiment that the Cloquet Session is extremely valuable has remained the same.

The Cloquet Forestry Center celebrated its eighty first year in 1991. The center is the result of the vision of Professor Samuel B. Green, who purchased the unallotted Native American land (at a now astonishing \$1.25/acre), and created the original block of 2,215 acres. Cloquet is now the oldest experimental forest under continuous operation in the United States. It contains unique forest types, not found elsewhere in this region. This is due, in part, to the request of Professor Green to reserve several stands of mature trees, and to the miraculous sparing of the center by the Cloquet fire of 1918. The diversified ecosystem dramatically increases the learning opportunities for educational and research activities.

The original purpose of the center was research work. However, invaluable information for the management of Minnesota's forests can be found here. Undergraduate academic training was established in 1924. The past and present field sessions remain an exceptional experience for graduating foresters. The students,

numbering in the hundreds during the CCC days to eighteen in 1991, live and learn together, providing for most, the high point in their college career.

The fall of 1991 was not an exception, but a continuation, of the benefit and service this type of a program has to offer. Granted, the students, personnel and facilities have changed through the years, but the combination of student life and student work has remained the same. The integration of students with their future profession is the greatest reward of the Cloquet session. It provides a greater understanding of the connections between a forest and forest management. The session not only demands that students recognize these connections, but requires them to synthesize ideas on their own. Students must come up with a working solution for a problem. The session provides "real life" situations and no "textbook" answers. Each student views the challenge differently and provides their own individual answer. For many, this task was a startling reminder that forest management is not carved in stone.

Just as the field of forestry changes, the 1991 session differs from the previous years and will be different from years to come. Perhaps the main reason for this change lies within the students themselves. Whatever a student brings into the session determines what they will derive from it. This reasoning applies to academics, but really relates to the non-academic side of the Cloquet session. Personal, social, and environmental experiences during the ten weeks are as important as the academic experiences. These experiences create memories unique only to the past year. Our unique experiences are summed up in "The Top Ten Things To Remember of the 1991 Cloquet Field Session":

10. Extended attention spans

9. Viewing the valet parking skills of students
8. The effective impact of the womens prank
7. Spending sober weekends snowed in
6. Lack of interest in the World Series by both students and faculty
5. Limited exposure to hybrid aspen utilization
4. Scintillating aroma of mens bunkhouse
3. The Museum
2. Five star quality food
1. Strict adherence to traditional bell-shaped curve

Because this field session provides great personal and academic benefits, Cloquet enjoys a national reputation of offering one of the finest programs of its kind in the United States. In addition to the original, "old time" forestry program, courses such as forest hydrology, recreation management, forest engineering, and remote sensing have been added, creating a valuable learning experience for todays students. Considering the response of students today, the following excerpt from the Gopher Peavey is as appropriate now as when it was written in 1928.

To a man (student) it is the Corporations (classes) verdict, as it has been the verdict of every Junior Corporation, that the field work at the Cloquet Station is the most successful thing in the forestry course, and it takes a good deal to be better than Itasca. The Experimental Station offers wonderful opportunities for studying forestry in the field, and the practical knowledge gained through days of contact with acres, chains, stands, types, sites, and growth is far more lasting and of greater value than that gained from lectures and study courses.

Summer Job Experiences

NRES Summer Internship

by Kimberly Errigo

I spent the summer of 1991 at Bay Shore Resort on Leech Lake, Minnesota. As the resort naturalist, it was my job to design, implement, and evaluate nature programs for the resort guests. I worked in conjunction with the United States Forest Service based in Cass Lake, MN. Technically I was a volunteer for the Forest Service, because the resort paid my wages.

The resort naturalist program was established by the Forest Service to increase the environmental literacy of the people who visit the Chippewa National Forest. My program attendance was fairly consistent, with numbers varying from 2-30.

An average week started with an introduction and video program on Sunday night. Mondays I had two programs and a campfire in the evening. Tuesday, Wednesday, and Thursday I gave either two or three programs each day. Friday I usually gave one, but sometimes two programs; I had to finish by early afternoon, so that I did not impede the speed of packing to go home. Saturday was my day off. I tended to design new programs each week, while keeping some of the previous week's and removing any that hadn't worked well. Programs that worked well included: bald eagles, loons, leafprinting, scavenger hunt, lake exploration, canoe trips, wild edible plants, and campfires.

My program ideas came from my own interests as well as information from the resort owners regarding what had worked in the past. I researched and outlined the programs on my own. I also decided when and what programs would be given. The autonomy in this job was enormous, which made the success all the sweeter.

I would heartily recommend this kind of internship for anyone entering the environmental education field. Not only did it give me practical experience in designing programs, but it allowed me the opportunity to gain volumes of knowledge about the natural world. This, I believe, is the fundamental basis needed for good environmental education.

Training with the Soil Conservation Service

by Deb Walchuk

During the summer of 1991, I served my first tour of duty as a Soil Conservation Trainee with the U.S.D.A. Soil Conservation Service (SCS). I was assigned to the Lewiston Field Office in Winona County, southeastern Minnesota.

A farmhouse located on a ridgetop became my home away from home. I wanted to be outstate, and I was. The only sounds that broke the quiet nights were semi-trucks driving on interstate 90, coyotes in the back yard, and my dog barking and growling at whatever might be threatening.

I was fortunate to be training in a county that is very progressive in their attitudes toward conservation. Here, a soil stabilizing structure, with a pond behind it, is a status symbol! The structures are small dams with spillways. Some have water-holding ponds constructed behind them. Usually they are located on the uplands and constructed at the head of valleys to keep soil from washing down the valleys into the rivers. Wildlife also benefit from these ponds.

To my delight, the job proved to be very diverse. I spent some of my time in the office, learning the administrative skills required to assume the role of a District Conservationist. I also spent time outdoors, laying soil conservation contour lines and strips in fields and planning construction jobs. The remaining time was spent attending Soil and Water Conservation District (SWCD) meetings, taking various tours, (including watershed studies and agricultural waste system tours), and participating in educational and informational sessions.

I particularly enjoyed learning to engineer and design erosion control practices. Development of these erosion control practices involves surveying the site, determining runoff levels for the watershed, designing plans of structures to be built, and supervising the construction of waterways, water diversions, soil stabilizers and other structures.

SCS District Conservationists are accountable for activities within their district. Their primary role is to pro-



vide technical expertise to the SWCD, and to oversee federally assisted conservation programs designed for private lands.

Many private landowners participate in government programs. These programs require the implementation of conservation plans on highly erodible land. Highly erodible land covers a large portion of Winona County, which is bordered by the Mississippi River and contains Whitewater State Park. The topography is a combination of uplands and valleys, with silty soils overlying karst geology. This combination makes the area very sensitive to soil erosion and groundwater contamination.

I also learned about sealing sinkholes. Lewiston is currently dealing with groundwater contamination, due in part to municipal runoff that has been flowing into a series of sinkholes near the edge of town. Sinkholes form when open spaces or gaps occur in the layers of bedrock. These holes open up at the surface, sometimes in a matter of minutes during heavy rains, and suck in water and soil. Our job was to seal the holes and prevent further contamination.

To locate the origin of the sinkholes, we first excavated the holes down to the shelves of bedrock under which the runoff was escaping into underground water supplies. We then sealed the holes by blocking the cavities with large rocks and capping them with concrete domes. A layer of clay is laid over the concrete, followed by a layer of sheet plastic, then another layer of clay, of plastic, and clay again. Topsoil is used to finish the job. This work is performed by private operators with heavy equipment. While scrapers, Caterpillars, and sheepfoot rollers drove around above us, I assisted the project leader, surveying the excavation and grading the job to ensure design specifications were met.

We found some very unique things in these holes, since they are often used as dumps. I remember one hole especially for the naturally occurring phenomena it revealed. When we excavated down to the water table, we found dark, soft soil under the clay layers. The black soil was not muddy or sticky, but instead, so plastic that we could jump up and down on it as it behaved just like a trampoline (when one person jumped and came down another standing nearby bounced up). The operators quickly got their Caterpillars out of there.

Spending summer days meeting new people and discovering new corners of Winona county was a lot of fun for me. Taking walks on the ridge-top during sunset to see the deer behind the fields near the woods, with the river valley beyond was...indescribable. Later, listening to the coyotes howl was the greatest. Susie Dog would sit at the foot of my bed, with her chin resting on the sill of the open window and just listen, waiting for them to come into our yard.

Working West in Libby, Montana

by Michael Hass

This summer began like many of the previous summers of my collegiate life. Take my last final at noon Friday, be on the road Friday night, travel halfway across the country, and start work Monday morning 8:00 am. This summer I was on my way to Libby, Montana to work as a hydrologist technician for the U.S. Forest Service (the area where the film *Always* was made). My duties were to walk selected streams from source to end, break the stream into sections, and evaluate each section based on physical characteristics. Then the evaluations were plugged into a model telling how much timber one could "safely" harvest from the area.

My favorite time was "invading" Canada with my fiancée for a few days. Sanity tips #1 and #2: don't bring any peaches with you in your lunch and make sure you know how many miles you can go in a rental car without being charged BEFORE you go on a road trip. Other fond memories include

searching for endangered amphibians at 2:00 a.m., doing some amateur aerial photography of harvest units from the open side of a helicopter, and going on a six day trip fighting fires in Idaho without my supervisor's permission. Sanity tip #3: always get permission. In the end I managed to make it home alive and earn just enough money to get me through fall quarter. I was offered the chance to return, but because of Cloquet I had to refuse.

 city of
bloomington, minnesota

Inspecting Trees for the City of Bloomington

by Kimberly Wallin

The winter of 1991 I changed my major from Forest Resources to Urban Forestry. After working for the U.S. Forest Service in northern Idaho the previous summers, I felt comfortable about the change. Yet, the summer of 1991 was one that I will never forget.

I worked for the City of Bloomington (MN) as a tree inspector. The job was wonderful! I worked outside, talked to fine Bloomington citizens, and had perfect hours and minimal stress. My days consisted of getting up and riding my bike from St. Paul to Bloomington every morning (right Andy and Jeff?). Once at work, I changed into a work shirt, jeans and steel-toed boots. I was handed my assignments for the day and went to work in a full-sized truck, with vinyl covered seats, in 90 degree Fahrenheit weather—yuck! I worked, took a half-hour lunch break, fifteen minute afternoon break and rode my bike home every day—right Andy and Jeff!

This was not a bad job. In fact, some of the people I spoke with in the field were interesting. I had many interesting conversations, for example: trying to convince a homeowner that their sugar maple did not have oak wilt; or that Dutch Elm Disease is not, and I repeat, is not contagious to humans. These were very simple tasks compared with persuading a recently widowed homeowner that the forty year old elm which was planted on their first wedding anniversary, had to be removed.

Glen Shirley, Bloomington City Forester, along with many others in Bloomington, helped tremendously. His combination of professionalism and patience made my summer rewarding in numerous ways. Although a bachelors degree exposes one to more doors of opportunity, it does not supply a person with all knowledge.

My Experiences in Walt Disney World

by Erin Sutter

This Fall, I spent four great months working in the "Wonderful World of Disney." I know what you're going to ask and the answer is "No! I wasn't Mickey Mouse." I hope you're not too disappointed. Actually my job title was Merchandise Hostess. Of course, that is just Disney's way of getting people to do a lot of work without paying them very much. Yet, I had a blast, and I am very glad that I had the chance to experience the world of theme parks from the inside. You learn a lot about how to create magic and make things appear better than they really are.

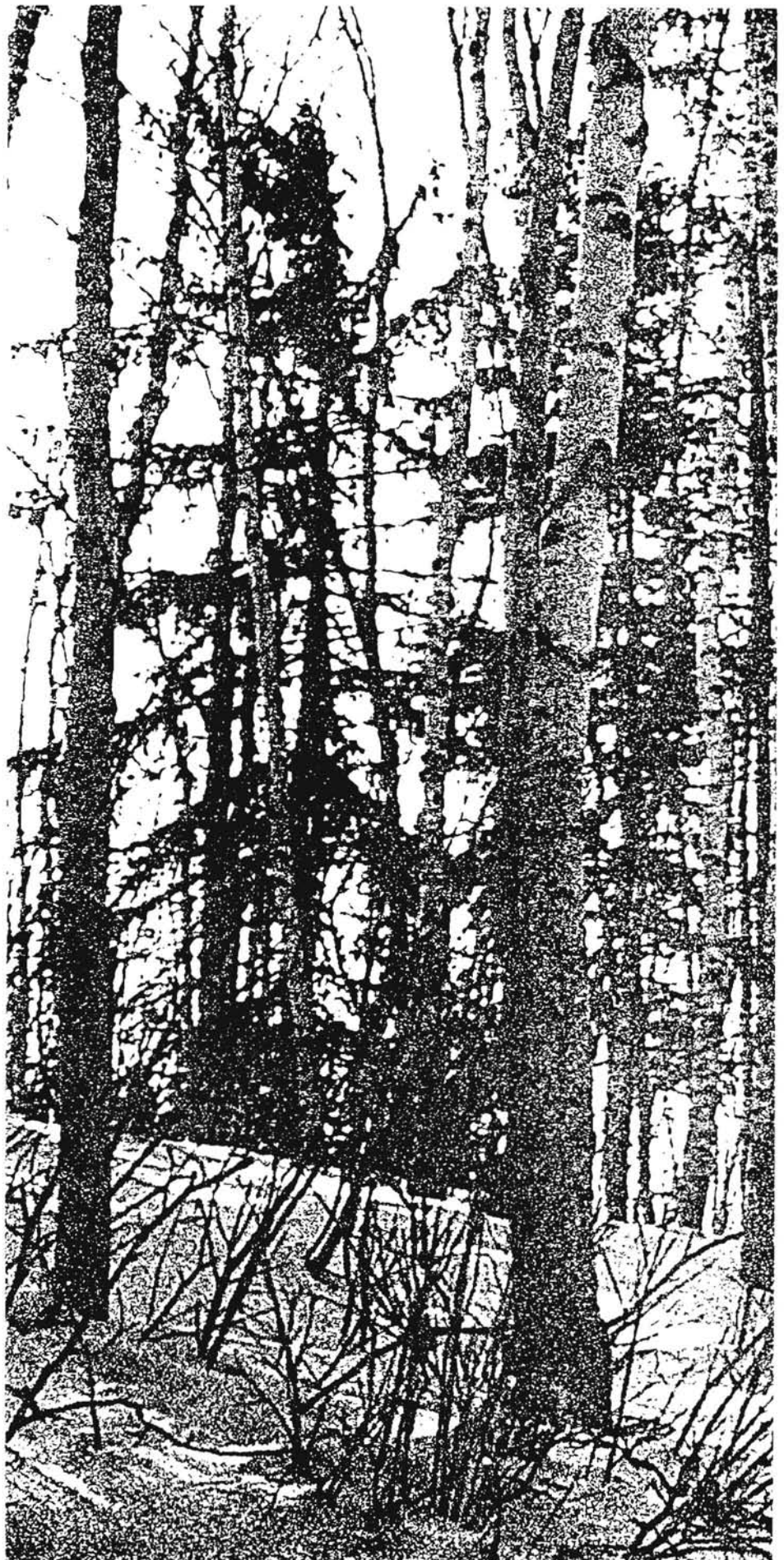
"So how did I end up spending Fall Quarter in sunny Florida, away from the snowstorms that were plaguing Minnesota?" Actually, going to work for Disney was a dream I had had for quite awhile. I saw an ad in the *Minnesota Daily*, and I went to a presentation put on by recruiters from the Walt Disney World College Program. I was impressed by the number of opportunities they offered. I found that housing was provided for all the College Program participants, so we wouldn't have to go looking for a place to live in Florida. We could rank job choices we would like to have once we got to Walt Disney World. Ten business seminars would be offered covering such topics as finance, marketing, and Disney history. Plus, we would be down in Florida when Minnesotans were shovelling their cars out of snowbanks. I was sold, and told the interviewer to sign me up.

"So where did I work and what did I do down in Walt Disney World?" I worked in a shop in EPCOT Center called the World Traveler. It was located in a area between the United

Kingdom and France Pavilions in the World Showcase called the International Gateway. I sold Mickey Mouse T-shirts, lots of plush Disney characters, and Beauty and the Beast merchandise. I met people from all over the world. I even tried out some French I learned in high school, but hadn't used since. Whenever someone from Minnesota came to the shop, I would talk to them about how the Twins won the World Series, or I'd ask them about the snow. It was sad to not have a White Christmas. Yet, it was nice to know that I could still walk outdoors without a jacket when I'd be freezing at home.

"So what does working at Disney World have to do with my major in Forestry and my desire to be a naturalist?" I have been asked that question many times. Well, I did get to see the Walt Disney World Tree Farm, where they grow the trees that are used in the parks. But, my real answer is that public relations is a necessary skill in any field of study, especially in Forestry. I had a full week of training before I was even allowed to interact with the guests. "Guests" is the word that Disney uses instead of "customers," indicating how the visitors to Walt Disney World are to be treated. All employees are called "Cast Members" to remind them that working at Disney is like being on stage. Everything we do in front of the guests affects how they feel about their experience. One of my training sessions was called Showmanship, and it dealt with how to relate with guests in a pleasant manner. We were told to always flash that Disney smile and be courteous. These were great things to learn, and I have already used them to improve my service in my job back in Minnesota. In the future, I know that these skills will help me with public relations and with all the things I want to do.

"So what's it like to come back from an experience like this one?" I admit that it is hard to come back to school. So many things have happened while I was away, and it has taken a while for me to get caught up. Still, I wouldn't trade my experience for anything. It is great to get away from learning from books and learn by doing for a change. Although I may not have received any college credit for my experience, I had a good time. After all, isn't that what learning is all about?



Remember the Great Halloween Blizzard of '91?



Why didn't we go to Florida State?



Route 13B awaits the Snowbank Rescue Team.

The Society of American Foresters University of Minnesota Student Chapter

SAF offers the opportunity to get out into the "real" world while you're still a student, to learn what is happening in forestry first hand, and to become a part of it. The

University of Minnesota is the place to begin your career, and SAF is a great resource in helping you grow and develop that career.



1991-1992 Officers and Members

Back row: Chad Konickson, Membership; Jeff Knutson, Vice-Chair; Shirley Fowler, Treasurer; Front row: Mary Jackson, Membership; Dawn Olson, Chair; Janet Eckhoff, Secretary



Membership co-chairs Chad Konickson and Mary Jackson held a SAF introduction and kickoff membership drive at the 1991 Itasca Forestry Session.

Faculty Advisor: Phil Splet

Edward Bilek	Dennis McDougall
Mark Brady	Kathleen McTighe
Barbara Burke	Kristina Meier
Tony Cheng	Peter Miller
Steven Clark	Paul Mowery
Bruce Cox	Debora Moritz
Marsha Curtis	Glen Olson
Amy Domstrand	John Payne
Paul Dickson	Chad Pierskalla
Pat Dorgan	Robert Quinn
John DuPlissis	Vicki Raffle
Karlyn Eckman	Edward Rain
Carla Fussy	David Rathke
Ted Geier	Eric Roers
Eric Geisler	Deron Ruesch
Lara Gens	Sherry Schmidt
Richard Haak	Lee Schoenecker
Faith Hall	Ingrid Schneider
Dean Halvorson	Jean Sieben
Douglas Hecker	Kent Slaughter
Sarah Henriksen	S. Kelly Smith
Richard Klevorn	Erin Sutter
Steven Kohls	John Vandenberg-Daves
Becky Lein	Dirk Vanderklein
Joel Lemberg	Kimberly Wallin
Tim Leuth	Michael Walters
Donald MacKay	Zhi Xu
Bryan Malone	

The student chapter would like to recognize Tony Cheng, Don MacKay, and Paul Dickson for their participation on the Minnesota State Society of American Foresters Forest Practices Regulations Task Force.

The student chapter would like to thank Janet Eckhoff, graduate student, U of MN, for the slide presentation she put together from the 1991 Society of American Foresters National Convention in San Francisco, CA.

1991 SAF National Convention: One Student's Experience

by Janet Eckhoff

Forestry is a dynamic field, as constantly changing in demands as the forests it represents. SAF activities afford the opportunity to meet a lot of people. Attending the National Convention was a rewarding experience. It was a chance to see and hear natural resources professionals speak on a wide range of topics and to feel a part of the Society as a whole.

The 1991 SAF National Convention was held in San Francisco, California. The theme of the conference was "Pacific Rim Forestry—Bridging the World." Six U of MN student chapter members attended the convention at the San Francisco Hilton Hotel, with dorm accommodations provided by the University of California—Berkeley. The student tour hosted by Don Gasser, Chair, Northern California SAF, was one of the highlights of the convention. This was a Marin County tour of resource management in the urban/wildland interface.

We travelled by bus to the summit of Mt. Tamalpais for an overview of the Bay Area, which unfortunately, but quite typically, was obscured by fog and drizzle. While there, Bill Haslof of the Marin County Water District introduced us to the local problems of wildfire, water yield, wild pigs, and GIS system usage.

We then bused halfway down the mountain and disembarked for a hike the remainder of the way down into Muir Woods. While in Muir Woods, Robyn Meyer, graduate student at the University of California and employee with NASA Ames Research Center, spoke on redwood ecology and preservation management.

Our bus tour continued on to Muir Beach for a barbecue lunch followed by a presentation on marine and forest management by Bill Shook, Reyes Point National Seashore, U.S. National Park Service.

We returned to San Francisco via the Golden Gate Bridge and travelled through Golden Gate Park on our way back to the Hilton for the Ice Breaker.

Other highlights organized for the students included: a breakfast with U.S. Forest Service Chief Dale Robertson, a breakfast with Timber Association of California President Bill Dennison, a résumé and interview workshop, the student reception and "speak out," a meeting of the National Student Assembly, and the University of Minnesota Alumni gathering.



Left to right: Peter Bundy, Janet Eckhoff, Shirley Fowler, Mary Jackson, Dr. Alan Ek, Forest Resources Department Head, Rick Klevorn, and Jeff Knutson.

We were very proud to see Dean Skok receive the Gifford Pinchot Medal at the Awards Luncheon. This award recognizes outstanding contributions by forestry professionals to administration, practice, and professional development in North American Forestry. CONGRATULATIONS DEAN RICHARD SKOK!

Three graduate students displayed posters of their research: Peter Bundy—"The Preliminary Effects of Scarification on Red Oak Regeneration in Southeastern

Minnesota," Catherine Dybiec—"Evaluating a Natural Resource Professional Development Course: Is Training Worth it?," and Greg Arthaud—"Implementing and Integrating Wildlife, Recreation, and Timber Management Models in a Geographic Information System."

Jeff Knutson, Shirley Fowler, Rick Klevorn, and Janet Eckhoff spent time selling at the souvenir table which earned the University of Minnesota student chapter a portion of the proceeds from the sales.



Dean Richard Skok and SAF President Ross Whaley. Ross presented Dean Skok with the Gifford Pinchot Medal at the SAF National Convention in San Francisco.



Peter Bundy



Cathy Dybiec

Society of American Foresters Objectives: "To advance the science, technology, education, and practice of professional forestry in America"...

In December the 1991 SAF Minnesota State Convention was held at Cragun's Resort in Brainerd, MN. The theme of the convention was "Demystifying Forest Practices Regulation: Developing Your Minnesota Perspective." Among the many speakers, foresters from Oregon and Maine spoke on the regulations in place in their states; representatives from the US Forest Service and the MN DNR spoke on the implications of regulation; private interest groups and private landowners spoke on their perspectives of regulation; and Dr. Paul Ellefson and Dr. Mel Baughman, from the University of MN, spoke on elements of and alternatives to forest practices regulation. Dr. Alan Ek participated in a panel discussion on Minnesota perspectives of regulation. Several students from the SAF U of Mn Student Chapter attended and participated in the convention. Dawn Olson gave the student chapter report.



Steve Laursen presenting Phil Splett with a SAF certificate.



Steve Laursen, MN State SAF Chair, visiting at a SAF U of MN Student Chapter meeting.

A special thanks from the student chapter to our guest speakers!

Steve Laursen SAF 1992 MN State Chapter Chair joined us for one of our meetings. He encouraged us to strengthen our communication with the other state chapters and offered to help hold a Land Ethic Workshop for our chapter. At a student chapter meeting Steve Laursen presented **Phil Splett**, our faculty advisor, with a certificate of appreciation from the National SAF for "Superior Member Recruitment" 1990. Only 10 certificates are awarded nationwide for this contribution. Congratulations Phil! Other guest speakers this year included **Kathy Nelson**, WI DNR Forester, who gave a talk on Timber Stand Improvement (TSI). When the opportunity arises we will participate with the Wisconsin DNR in this activity as a fund raiser for our chapter. **Dr. Mel Baughman**, Extension Specialist-U of MN, promoted the Minnesota Forestry Fair, which will be held at the end of April. Fifteen thousand students, grades K-12, from around the state will attend the four day event at the Minnesota Landscape Arboretum in Chanhassen. Several natural resources students volunteered to help as ambassadors and instructors at the Fair. **Marty Christiansen**, MN SAF State Chapter Membership Chair, spoke with our chapter on the mentoring program being initiated by the MN State Society. This will afford students an opportunity to establish ties with professionals in various areas of Minnesota and in a variety of career paths. Both the fall and winter quarters we were pleased to have **Dr. Don Faber-Langendoen**, Research Associate, U of MN Dept of Ecology, Evolution and Behavior, speak about "Ecological Constraints on Rain Forest Management at Bajo Calima, Western Columbia"; **Dr. Lee Frelich**, Research Associate from the same department, who spoke on "Old Growth in the Lake States"; and **John Thompson**, Area Manager, St. Louis County Land Dept, on "Our Growing Heritage—Minnesota Forests".



Jeff Knutson, Rick Klevorn, Dawn Olson, Shirley Fowler, Dean Richard Skok, and Janet Eckhoff

Janet Eckhoff gave her slide presentation of the 1991 National Convention held in San Francisco. Janet also served as a moderator for one of the afternoon sessions. Kristina Meier taped the proceedings for both days. The evening banquet featured Dean Skok who received the Gifford Pinchot award at the National Convention, and guest speaker Mr. Rod Sando, Commissioner, MN DNR. The convention was a very enlightening and fun experience.



Janet Eckhoff

"...and to use the knowledge and skills of the profession to benefit society."

The Student Chapter Activities in

1991-92 included: Membership Challenge to University of Idaho for the largest increase in new memberships for the school year. At the 1992 National Convention in Virginia the winner will be presented with a homemade "plaque" (from a tree species native to the losing chapter's state) and a round of drinks. It is too bad that Idaho will probably not get a nice red pine souvenir from Minnesota but we are off to a great recruitment start this year! In October eight students attended the fall field trip with the Southern Chapter to the Science Museum of Minnesota Field Station on the St. Croix where Thomas Crow and Ron Lawrenz presented "A Context for Considering Biological Diversity." Another new event, the Holiday Greeting Card Exchange began before Thanksgiving and ended after fall finals week. We had decorated "mail boxes" in the hall of NRAB, students brought in their holiday greeting cards and put them in the boxes for a fun exchange. The student chapter held a Land Ethic Workshop during the first part of Spring quarter. Several students volunteered in late April as instructors and ambassadors at the Minnesota Forestry Fair. Also in April, the SAF U of MN student chapter presented a display booth about SAF at the first College of Natural Resources Earth Fair. To encourage community involvement across the country, SAF launched the 'Mission: Possible' Community Outreach Program. The National Society's goal is to accomplish 100,000 hours of natural resources related community service around the country from August 1991-92. As the SAF mission statement says: using our forestry skills "to benefit society". The University of Minnesota chapter was pleased to participate with over 500 hours pledged by students.

At the 1st Annual Tree Planting weekend in May of 1991 eight students planted over 6000 seedlings at the Cloquet Forestry Station in 1½ days. **Ron Severs** and everyone at Cloquet deserve a special thank-you for organizing the weekend and working with us! The 2nd Annual Tree Planting weekend at the Cloquet Forestry Station is scheduled for May 1992. This year we expanded the event to offer two different fun-filled weekends (one of them is bound not to have rain).



Cannon River Wilderness Area



Cannon River



Dave Schultz, Jeff Knutson, Eric Roers, Mary Jackson, Barb Spears, Tammy Fisher, Janet Eckhoff, and Don MacKay

Challenging Your Perceptions: Siggelkow Leadership Development Retreat 1991

by Michael Hass

Over two hundred students from all colleges and campuses of the U of MN converged on Camp St. Croix, the weekend of April 26-28, 1991, for an important retreat. From the College of Natural Resources, Brenda Jones and I attended. We came for the following reasons: to explore perceptions and see how they came into being, to question our perceptions and the perceptions of others, to examine their connection to issues of leadership. The retreat officially began with a keynote address by Marvalene Hughes, setting the tone for the weekend. She explained that for the retreat to work successfully, two rules must be followed by everyone—speak your mind and let others speak theirs, without resentment.

The retreat then divided into small groups of six to eight people that met periodically throughout the weekend. These small groups were the soul of the entire weekend. In our group, we were able to actively discuss opinions, talk of our dreams and fears, tell of our prejudices and angers, and comfortably be as open as possible in all confidence. We talked about issues ranging from racism, to sexuality, to possible futures for ourselves and the world. Even today, I feel uplifted when I remember what we discussed.

The body of the retreat included workshops and large group presentations. A total of eighteen possible workshop subjects were available—it was difficult to select which ones to attend. Workshop subjects ranged from storytelling, to politics with Donald Fraser, to disabilities, to managing

conflict. Three separate large group presentations dealt with homophobia, ethical leadership, and continued action. All of these events were interactive, and everyone was encouraged to be involved. Participation was almost unanimous before the weekend was over.

In the end I found it difficult to leave. While not everyone came away with what they expected, I feel I came away with something special. The College of Natural Resources offers to send student leaders to this annual retreat each year. See John Bell for details. Brenda and I will answer any questions you may have about Siggelkow. Be careful though, I will do everything in my power to convince you to attend.



CNR Student-Faculty Board '91/'92

by Elizabeth Jones and Janet Larson

This year has been a year of new ideas and growth for the Student-Faculty Board. Attendance and participation at meetings and activities has reached a new high, and this has led to increased board spirit and activity.

The board has applied for and been approved to receive two sources of funding to help support the activities sponsored by the board this year: a \$400 University administrative grant for student activities, sponsored by the University Office of the Vice President for Student Affairs and a \$300 St. Paul Board of Colleges grant. These funds could not have been secured without the diligent efforts of board president Dennis Blake and treasurer Janet Eckhoff.

You may ask what the Student-Faculty Board intends to do with these funds. Well, there are big plans! The Student-Faculty Board is planning the College of Natural Resources Earth Fair '92. The two-day fair will be held Thursday, April 23, and Friday, April 24. A large tent will be set up on the lawn outside the Natural Resources Administration Building. Under the tent, CNR clubs and organizations will host demonstrations, activities, and display information. A cookout is planned for Friday afternoon, along with volleyball on the athletic field. Sports, games, and just plain fun are planned to make this Student-Faculty Board function a success.

The Student-Faculty board has also offered to send its members to the 1992 Siggelkow Leadership Retreat in the spring. Unfortunately, the retreat and the Earth Fair conflict on Friday, April 24. Board members wishing to participate in both events have a difficult choice to make. Students from many of the university's organizations will be attending this annual retreat. See Michael Hass' article on the 1991 retreat elsewhere in the Peavey.

The S/F board had a leadership retreat of its own with Dean Skok over winter break. Members spent a half-weekend at the Cloquet Forestry Center, enjoying one of the few sunny



Front: Janet Eckhoff, Mary Jackson, Forestry Club guest Carolyn Towler, Rick Klevorn, Mary Skorupa, Dawn Olson. Back: Phil Domek, Chad Konickson, Peter Miller, Dennis Blake, Janet Larson. Not pictured: Howard Post

Saturdays of this damp, gray winter. A major 'brainstorming' session brought about some super ideas for the coming year, including the first CNR Earth Fair.

Once the business portion of the retreat was complete, board members visited Jay Cooke State Park for late afternoon skiing and hiking in the woods overlooking the St. Louis River. Since the S/F board retreat went so well, another retreat is planned for the weekend of October 2, 1992. New and experienced officers will be invited to attend, again at the Cloquet Forestry Center.

The Student-Faculty Board is proud of its new-found energy, ideas, and accomplishments. We intend to keep up the good work in the future.



Howard Post and Phil Domek outside their Cloquet Forestry Center cabin.



Student-Faculty Board members meet with Dean Skok in the Log House at the Cloquet Forestry Center retreat

ES Club Grows with Environmental Interest

by Sandra Manthe

Fall quarter 1990, Chris Lord and Ross Toepel founded the Natural Resources and Environmental Studies Club. It was formed to help preserve the University's environment, while also providing a social atmosphere for students.

The Natural Resources and Environmental Studies Club shortened its name to the Environmental Studies Club (ES Club) the following winter quarter. Starting out with only nine members, the club now boasts a membership of forty students.

Earth Day activities, environmental forums and guest speakers are some of the events that the ES Club has sponsored in the past. This year's planned activities include sponsoring a booth at the Environmental Forum on alternative energy and working with the Society of American Foresters to help clean up a portion of the Cannon River near Fairbault. Earth Day week will be very busy for the club. We plan to co-sponsor several events including the CNR Earth Fair, uniting all College of Natural Resources organizations in an attempt to disseminate information to the student body. "Earth Day is kind of like Christmas for environmentalists," says Pete Miller, current president of the club.

Campus issues such as recycling and plastic-use have also been addressed by the ES Club with success. "We have been working on the cafeteria, to change its policy on plastics, and it's been effective because you are seeing more regular silverware and dishes being used instead of just plastic," comments Miller. "Due to more students in the college and more interest in the environment, people are more willing to participate."

Although the Environmental Studies Club has only two years under its belt, it has begun to make its mark on campus. As environmental awareness grows, off campus and on, you can expect to hear more about this club and their achievements.

Environmental Studies Club Officers for the 1991/92 school year

President	Pete Miller
Vice President	Phil Domek
Secretary	Phil Radtke
Treasurer	Brenda Jones

Recreation Resource Management Club

by Tim Schleicher

The Recreation Resource Management (RRM) Club, with the largest active membership in its twenty year history, began fall quarter by electing new officers for the 1991-92 school year.

President	Aaron Wunrow
Vice President	Chad Konickson
Treasurer	Chad Storley
Secretary	Tim Schleicher
Sergeant-at-arms	Scott Gerdes
Faculty Advisor	Dr. Dorothy Anderson

The RRM Club then set out to raise some funds, improve its visibility in the College, and establish contacts with natural resource-based recreation professionals.

To achieve the first of these goals, we decided to produce and sell T-shirts and sweatshirts with a design suitable for all students in the College of Natural Resources. Scott Gerdes developed a number of conceptual designs and, after much discussion, the club selected a final design for the shirts. The finished product arrived as students were taking fall quarter finals, so the shirts were sold during winter quarter.

Fall quarter was also spent organizing a series of visits to local and regional recreation areas. These visits were organized as a means for students to meet and talk to park managers and other recreation professionals about current issues facing the natural resource-based recreation field. Two examples of such visits are described below.

In February, the RRM Club made a trip to Wild River State Park. We toured the facility and met with Chuck Kartak, Park Manager. Mr. Kartak

gave us a manager's perspective of the Minnesota State Park system and some of the issues that he deals with daily. He also provided us with information on obtaining state park internships, and parks worker and management positions. A number of students also did some cross-country skiing.

During that same month, the Club attended a seminar at Hennepin Regional Park District Headquarters organized by Barbara Fisher, Research Manager. Club members had the opportunity to discuss current issues with Ms. Fisher, as well as the Chief Landscape architect, the Director of Hennepin Parks' Department of Natural Resources Management, a Division Operations Manager, a Park Ranger, and the Personnel Administrator.

Those representing Hennepin Parks gave very informative talks about their responsibilities as well as the types of positions within their respective Department or Section. In fact, all visits to local recreation areas provided members with a valuable opportunity to meet and talk with people working in the natural resource-based recreation field.

Several RRM Club activities are planned for spring quarter. These include additional visits with recreation professionals, an annual spring picnic, and involvement in the College of Natural Resources' Earth Fair held in April. The RRM Club also makes an annual trip to Chippewa National Forest to maintain its "adopted" five mile section of the North Country National Scenic Trail.

A Year in the Life of the Fisheries and Wildlife Club

by Eric Spadgenske

The Fisheries and Wildlife Club, Student Chapter of the Wildlife Society, is a University of Minnesota sponsored club. Yearly activities vary from year to year, including fisheries and wildlife related outings throughout the state and country, hosting speakers from various natural resource disciplines, and other club sponsored recreational and educational activities.

In 1991-92 the club has hosted a variety of speakers from natural resource organizations. Some spoke on how to get jobs in natural resources; chimpanzee behavior and conservation in Africa; and research conducted throughout the University of Minnesota. Club activities have included a trip to the OmniTheater to see "Ring of Fire", selling bird seed at the Forestry Club Christmas Tree Lot, and a pizza party. A fisheries and

wildlife study group was organized this winter by club members to help students prepare for the Wildlife Conclave Quizbowl and civil service exams for jobs with the State Government.

The club is gearing up for a busy Spring. Plans for participation in Wildlife Week and Wildlife Conclave top the agenda. The Fisheries and Wildlife Club is playing an active role in establishing a native wildgrass prairie in front of the St. Paul Student Center, which will be beneficial in educating the public about the conservation of this disappearing ecosystem. The club is also considering volunteer-

ing on a habitat enhancement project with the U.S. Forest Service.

Anyone who is interested in fisheries and wildlife, or other areas in the natural resource field, is encouraged to join in on the fun, camaraderie, and experience of the Fisheries and Wildlife Club.

Club Officers

President	Jenni Benkert
Vice-President	Kim Jenkins
Secretary	Eric Spadgenske
Treasurer	Rich Vaughn
E.E.O.P Coordinator	Mark Nemeth



Left to right: Rich Vaughn, Kim Jenkins, Jenni Benkert, and Eric Spadgenske

Forestry Club Conclave

by Shirley Fowler

For years I've heard stories, tall tales rather, about the honorable tradition of Conclave. This year I finally got up the nerve to find out what it's really all about—and it was a BLAST!

This year was the 40th Annual Conclave held by Southern Illinois University at their field station in Carbondale. Seven of us endured the fourteen hour one-way trip: Marsha Curtis, Rick Klevorn, Dennis McDougall, Dawn Olson, Eric Rhodenbaugh, Eric Roers, and myself.

We rolled into camp around 11:00 p.m. Friday night. We were pretty groggy, but still ready to party. Several campfires were going, and we chose to head down to the one on the beach. Here they were hosting the "unofficial" events of the weekend. We were pitifully shut out of both the bushiest beard and hairiest legs contest. I should have realized that this was a foreshadowing of our perfor-

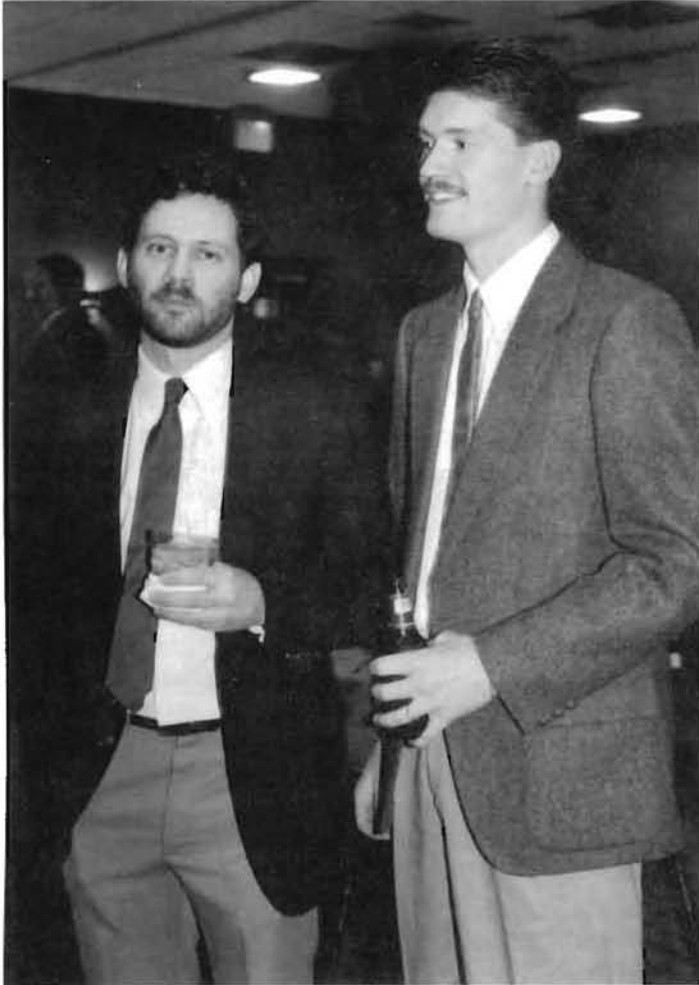
mance in events to come.

The contests started bright and early 8:00 a.m. the next morning. It took some coaxing, but the women finally managed to drag the guys out of their bunks in time for the first round of events. They faced a wide gamut of activities ranging from dendrology to match splitting, log rolling, tobacco spitting, and the chain toss. We each participated in as many events as physically able, but it was a gruelling schedule. By the end of the day we were a sorry bunch.

We managed to eek out ZERO points for the prestigious institution of the University of Minnesota. But keep in mind that other schools like Missouri University practice year round for Conclave. Whereas we were lucky to figure out which way to hold a cross-cut saw (sharp side down). Regardless, we had a terrific time trying. In all fairness, I should mention that Dawn came close to placing in the chain toss—except she had a bastard loop in the end. However, all was not lost... We did manage to win some door prizes at the award banquet that evening. Eric Roers won a com-

memorative tin of Red Man, Dennis won a lime green baseball cap with a ticket he found on the ground, and I walked off with a cruiser's vest. There was a dance following the banquet, equipped with a live country band. We had long since discovered that Anheuser Busch was one of the sponsors (for t-shirts and REFRESHMENTS), so I had suspected that the dance might be interesting, but I KNEW we were in for a wild night when I arrived. The first thing I saw was a dozen or so foresters—Marsha included, rolling around on the ground waving their feet in the air. They were performing one of those bizarre rituals called a line dance to the tune of "Taking Care of Business". We all had a great time dancing, shouting and partying all night. Of course we were exhausted by the time we arrived home Sunday night around midnight, but it was a good feeling of exhaustion—almost cleansing. I have to say that Conclave was an incredible experience, probably the best of my college career. I'm only sorry that I didn't participate sooner.

Foresters' Day Banquet



Forestry Club '91/'92 president Rick Klevorn (left) and '92/'93 president Chad Konickson



Left to right: Glen Olson, Dawn Olson, and Mike Walters



Drinking-it

Left to right: Dean Lundblad, Dennis McDougall, Jeff Knutson



Paul Dickson *Eating-it*



Bucking-it

Marsha Curtis (left) and Kris Meier

Foresters' Day On Upward Swing

by Rick Klevorn

Really smart people tell us that things tend to operate in cycles. You know, like the ruffed grouse thing. It's been said that student kinds of things tend to operate in cycles, too, like participation kinds of things. This year the Forestry Club cycle took an upward swing. Although things started out a little slow, and we had a few minor problems, the magic of tree lot got us back in the black, and winter quarter started off with a bang. January meetings packed the student lounge with club members. Before we even got a chance to learn each others names, it was February, and preparations for Forester's Day had begun. Committees, chaired by officers, were formed with eager and willing volunteers, and by the first weekend in March, all the details had been worked out in every way. The banquet drew a good crowd to eat, drink, and recognize special club contributors, including Forester of the Year Al Alm. The traditional pancake breakfast was brought back, and the response was fantastic. The faculty pancake flipping crew made sure everyone was well-fed and happy. The conclave field events actually went over the scheduled amount of time due to the large competitor turnout. As a special treat for those attending, a few old-timers showed up to demonstrate the finer techniques used in difficult events, such as the tobacco spit, and keg toss. Paul presided over the day's festivities under tight security. The day ended with the Forester's Day Dance. Those who packed themselves into the Terrace Cafe danced the night away to the music of Farm Accident. Participation at all Foresters' Day events was tremendous, unexpected, and, in fact, overwhelming. If the cycle thing is true, next year should be even better. Better yet, maybe the "clubs aren't cool" attitude has passed, and we've found that maybe its not so bad to get together and have a little fun once in a while. If this year was any indication, fun is definitely better than cool.



Beating-it
The future logger



Shaving-it
Paul Mowry (left) and Deron Ruesch



Spitting-it
Ken Nyquist



Splitting-it
Justine Kent





Dawn Olson cheers along Shirley Fowler



Tossing-it
Bruce Cox



Balancing-it



$\frac{1}{2}$ Paul is $>$ or $=$ to 1 Tony?



Exposing-it

Foresters' Day field event photos taken by Paul Dickson, winner of the 1992 photo contest



Believing-it

Top row: Paul Dickson, Eric Roers, Paul Bunyan, John Payne, Mike Dillon, Doug Hecker, Shirley Fowler, Mike Walters, Dawn Olson, Paul Mowrey

Row three: Eric Rhodenbaugh, Dave Haugen, Jill Kimsal, Jill Kimsal's friend John, Dean Lundblad

Row two: Bruce Cox, Suzanne Wooton, Rick Klevorn, Tony Cheng, Dennis McDougall, Erin Sutter, Chad Konickson, Deb Konickson, Justine Kent, Mike Johnson, Beth Bourn

Bottom row (sitting): Kim Vogstrom, Marc Roberts, Ken Nyquist, Kris Meier, Marsha Curtis

TAPPI and PIMA Student Chapter Report

by Mary Skorupa

For students interested in the production of paper, the Technical Association of the Pulp and Paper Industry (TAPPI) and the Paper Industry Management Association (PIMA) provide a means to gain exposure and meet with professionals. Currently at the University of Minnesota, the enrollment within the student chapters of TAPPI and PIMA totals fifty-two. Although all of our current members are majoring in paper science and engineering, these chapters are open to any university student.

Activities for 1991-92

1. Attendance at conferences and meetings sponsored by local and national sections:
 - North Central PIMA's Fall meeting in Stevens Point, WI
 - Lake State TAPPI's Fall meeting in Appleton, WI
 - Minnesota TAPPI's Winter meeting and trade show in Brooklyn Park, MN
 - National TAPPI's 1992 meeting in Atlanta, GA
 - Minnesota TAPPI's Spring meeting in Shoreview, MN, conducted as a joint meeting with the University of Minnesota Paper Science and Engineering Council.
2. The establishment of a Student Mentor program, matching incoming freshmen and transfer students with upperclassmen in order to improve member participation.
3. Pulp and paper mill tours of Champion International in Sartell and Boise Cascade's Corrugated Plant in Saint Paul.
4. Industry seminars hosted during Fall quarter preceding company interviews.
5. Social events:
 - Tailgating party for the MN-WI hockey game at the Met Center
 - Intramural broomball Winter quarter
 - TAPPI '92 in Atlanta, GA
 - Paper Science and Engineering Spring Banquet
 - Spring picnic



Here, John "Bucky" Holahan is working on a UROP project in Kaufert Laboratory. A UROP (undergraduate research opportunity program) grant gives students a chance to participate in university research projects. John is working with Dr. Simo Sarkanen of the forest products department on lignin chemistry research.

Every two years, TAPPI members from around the world attend the National TAPPI conference in Atlanta, Georgia. On March 2-4 of this year, 14 students from the University of Minnesota attended TAPPI '92. The theme of this year's conference was "Ride the Wave of Technology", placing emphasis on issues and trends in the paper industry. An estimated 12,000-15,000 industry professionals attended the 3-day event which included over 400 exhibits.



At the TAPPI '92 conference, papermaker Arnie Grummer demonstrated the art of making "homestyle" recycled paper using tin cans, a screen, and a blender. Grummer played a key role in the "Vision 300" program which involved a nation-wide art and essay contest for elementary school children and an exhibit in the Smithsonian Institute celebrating the tricentennial of American papermaking.





Kaufert Laboratory houses a small scale paper machine where the students learn the basics of papermaking through hands-on experience. Above, Kurt Olsen inspects pulp being fed onto the pilot machine while Tom Edgren (below) monitors the dryer section.



Back row (left to right): Tim Hockin (Sr), Mike La Clair (Sr), Ricky Fern (Sr). Middle row (left to right): Mary Skorupa (Sr), Dennis Blake (Sr), Kim Pence (Sr), Brad Berry (Sr), Brian McCarthy (Grad.). Front row (left to right): Mitch Rauk (Jr), Dawn Nelson (Sr), John "Bucky" Holahan (Sr), Brian Olson (Jr), Chris Wimberger (Jr).



(L to R): Mike LaClair, (Sr) Mitch Rauk, (Jr) Dan Allard (Soph). Student booth at MN TAPPI's winter meeting and trade show.



Students, friends, and faculty at tailgating party before MN-WI hockey game at the Met Center.

Faculty Baby Photo Quiz

Yes, faculty members were babies once, and here is proof.

Each faculty member shown here can be found in the adult phase on the following pages. Each baby is now an associate professor or full professor. There is at least one baby shown here from each of the three CNR departments.

Can you guess who these babies are?

Find answers on page 66.



Faculty

Forest Resources



Dorothy Anderson
Assistant Professor

Joined the faculty in March 1990. Is responsible for conducting research and teaching graduate and undergraduate courses in recreation resource management. Received a Ph.D. in natural resources with an emphasis in human behavior in wildland recreation settings from Colorado State University. Has a master's degree in geography, emphasizing land use planning, and a bachelor's degree in geography, both from the University of Minnesota. Previous work was for the Minnesota Department of Natural Resources as a consultant to the Division of Forestry, Utilization and Marketing Specialists.



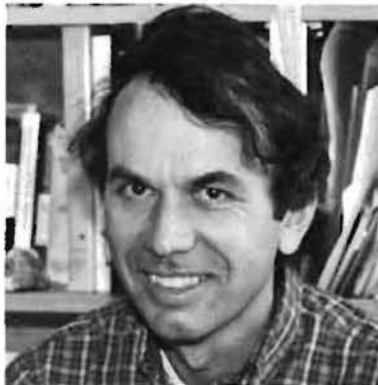
Marvin Bauer
Professor and Director, Remote Sensing Laboratory

Teaches Remote Sensing of Natural Resources, Advanced Remote Sensing, and Remote Sensing/Forest Inventory. Research interests include measurements and modeling of the spectral properties of vegetation, and applications of quantitative remote sensing to inventory and monitoring natural resources and environment.



Melvin J. Baughman
Associate Professor, Extension Specialist

Develops educational materials and programs aimed at improving management of nonindustrial private forest lands. Writes extension publications, produces slide sets and video tapes, and organizes conferences and tours on a wide variety of forestry subjects. Research focuses on forest economics and policy studies related to private forest lands.



Robert Blanchette
Department of Pathology

Teaches the Forest Pathology course in the Department of Plant Pathology. Active research projects include investigations of wood decomposition, industrial uses of fungi that selectively degrade lignin, biological control of soil-borne diseases in tree nurseries, screening trees for resistance to gall rust, and other studies involving forest and shade tree diseases.



Charles Blinn
Associate Professor and Extension Specialist

Co-teaches Forestry Applications of Microcomputers. Major areas of interest are in forest management, economics, microcomputer applications in natural resource management, and silviculture.



Kenneth N. Brooks
Professor and Director, Graduate Studies in Forestry

In addition to part-time administrative duties as Director of Graduate Studies in Forestry, teaching responsibilities include Forest Hydrology, Range Management, and a colloquium "Agroforestry: Sustainable Production and Watershed Management." Research continues on the hydrologic function of peatlands and further development of a hydrologic model of peatlands—upland watersheds in the northern Lake States. Work with the Forestry for Sustainable Development program has continued on the role and importance of watershed management.



Thomas Burk
Associate Professor

Teaches Natural Resources Inventory, Forestry Applications of Microcomputers, and Forestry Biometry. Research interests include development of forest growth and yield modeling methodologies, use of Bayesian concepts in sample survey design and analysis, microcomputer implementation of forest projection and planning systems, and statistical computation programming.



Kenneth Cole
Research Ecologist

Previously working with the National Park Service, he joined the Forest Resources Department Cooperative Park Study Unit in 1991. Is the coordinator for the N.P.S. Global Change Research Program in the Western Great Lakes Region. Research includes plant ecology, fire ecology and paleoecology.



David French
Professor

Lectures on selected subjects in forest pathology and teaches the Urban Forestry course. Advisor to urban forestry students. Research involves vascular wilts (Oak Wilt and Dutch Elm Disease), aspen cankers, dwarf mistletoe of spruce and jack pine, chestnut blight and other tree diseases.



Cindy Buschena
Jr. Scientist

Work over the past twelve years has been involved with forest biology and tree physiology. Research interests include forest ecology and *mycorrhizal fungi*.



Paul V. Ellefson

Professor of Forest Economics and Policy. Author of the book *Forest Economics and Policy Research: Strategic Directions for the Future* (1989, Westview Press). Research continues on the evaluation of forestry information flows to state legislative systems and assessment of policy analyst activities in natural resource agencies.



Glenn Furnier
Assistant Professor

Teaches Introductory Tree Physiology and Genetics, Plant Molecular Evolution, and Forest Resources Seminar. Holds a joint appointment in the Department of Plant Biology. Research in tree genetics and *mycorrhizal fungi*.



Hans Gregersen
Professor

Teaches Forest Economics and Planning, Natural Resources in Developing Countries, and Economic Analysis of Forestry Projects. Current research deals with forest and economic development of less developed countries, evaluation of forestry research and the process of technological innovation in forestry.



David Grigal
Professor

Teaches Forest Soils and Silviculture: Soil Site Relationships at Cloquet. Interested in forest vegetation-soil relationships, including nutrient cycling, especially nitrogen nutrition and cation depletion, productivity on peatlands, and relationships between soil map units and forest productivity. Past work has dealt with biomass estimation, effects of forest disturbance and numerical classification of forest ecosystems.



Herbert Kulman
Professor

Teaches Forest Entomology, Current Topics in Forest Entomology and part of Wood Deterioration in Forest Products. Research includes ecological studies on forest insects, especially defoliators of spruce, fir, aspen and jack pine.



David Lime
Research Associate

Joined the faculty in March 1987. Teaches Recreation Behavior in the Forest Recreation program (RRM). Is affiliated with the University's Tourism Center coordinated through the Minnesota Extension Service and works as unit leader of the recently established National Park Service, Cooperative Park Studies Unit (CPSU). Research emphasis on water recreation and wilderness recreation use problems.



Allen L. Lundgren
Adjunct Professor and Research Associate

Works with Dr. Hans Gregersen in managing the Forestry for Sustainable Development (FFSD) Program in the Department of Forest Resources. Develops training materials for development assistance organizations and national resource management agencies in the Third World. Helped organize and conduct training courses on forestry for sustainable development in Oxford, England; Durango, Mexico; Amman, Jordan; Nairobi, Kenya; and other locations.



Robert Martin
Research Associate

Joined the faculty in February of 1988. Co-teaches Remote Sensing of Natural Resources. Research interests include optical, radar, and video remote sensing of natural resources. Related interests include the development of remote sensing systems for use in light aircraft and modeling the influence of canopy geometry on microwave and optical reflectance from vegetated surfaces. Holds a Ph.D. and M.S. degrees in agronomy from Kansas State University and Texas A&M University respectively, and B.S. degree in geography, also from Texas A&M University.



Carl Mohn
Professor

Teaches Dendrology, Introductory Tree Physiology and Genetics, and Forest Genetics. Research includes forest tree improvements through selection and breeding: by hybridization in *Populus*.



James Perry
Associate Professor

Director of the Center for Natural Resources Policy Management and Director of Graduate Studies for Water Resources. Holds a Ph.D. in biology from Idaho State University, and has more than 20 years' experience in water quality and environmental management. Has presented lectures around the world. Recent work in the Forest Water Quality Program has included experimental manipulation of whole ecosystems such as lakes, stream channels, temporary ponds, and coastal tide pools.



Lloyd P. Queen
Research Associate

Teaches Remote Sensing of Natural Resources and Geographic Information Systems in Natural Resources Analysis. Research involves quantitative approaches to natural resources inventory and management utilizing remote sensing and GIS systems. Received his Ph.D. degree in geography from the University of Nebraska-Lincoln. Holds an M.A. degree from the University of Nebraska-Omaha, and a B.S. degree from Mankato State University. Expertise in remote sensing, digital image processing, GIS, automated cartography, and computer graphics.



Peter Reich
Professor

F. B. Hubachek, Sr. Endowed Chair in Forest Ecology. Teaches graduate and undergraduate students, and conducts research in forest ecology. Research experience includes work with tropical and temperate forest ecosystems. Holds a M.S. degree in forest ecology from the University of Missouri, and Ph.D. in environmental biology and plant ecology from Cornell.



Dietmar Rose
Professor

Teaches Forest Economics and Timber Management Planning, Quantitative Techniques in Forest Management, and Role of Renewable Natural Resources in Developing Countries. The latter course is taught by a team of faculty members and addresses emerging international developing issues. Is currently finalizing an integrated forest planning model with funding from the Legislative Commission on Minnesota Resources. Is also leading efforts for coordinating and networking forestry research on an international level. Is working with international organizations in the economic assessment of biodiversity.



Harold "Scotty" Scholten
Professor and Extension Specialist

Teaches Important Forest Plants at Itasca, Farm and Small Woodland Forestry, and Conservation of Natural Resources courses. Research is on designing farmstead shelterbelts, dry-land field windbreaks under center-pivot irrigation systems, and living snowfences to more effectively perform their major functions of controlling snow drifting and soil erosion, as well as providing wildlife habitat. Artificial scale model shelterbelts, windbreaks, and living snowfences are used to study the effects of design on snow distribution patterns.



Philip Splett
Instructor and Career Opportunities
Coordinator, (OSA)

Teaches Conservation of Natural Resources, Forest Resources Orientation, Field Forest Measurements and Important Plants in Fisheries and Wildlife Habitats. Provides career information and assistance to students and alumni seeking employment. Coordinates the College of Natural Resources Scholarship and Alumni Relations programs.



Carl Vogt
Instructor and Extension Forester
 Teaches Introduction to Forestry, Introduction to Minnesota's Natural Resources, Directed Study-S.E. Minnesota Hardwood Silviculture and Forestry for Teachers. General Chairman, 1988-Minnesota Forestry Fair. Main areas of interest are black walnut management, maple syrup production, hardwood silviculture and Christmas trees. Manages woodlots and tree farms as a consulting forester and operates a nursery specializing in nut trees and hardwood seedlings. Active in a number of forestry-related organizations and professional societies.



Edward Sucoff
Professor
 Teaches and learns from a great group of students in Tree Physiology and Genetics, Tree Physiology Lab, Forest Ecology Lecture, and Field Ecology at Itasca. Current research examines aspects of global warming and the physiology of water stress. Also involved in the Forest Vegetation Management Program.

- Emeritus Faculty**
- Egolfs Bakuzis**
 - Henry Hansen**
 - Frank Irving**
 - Vilis Kurmis**
 - Lawrence Merriam, Jr.**
 - Merle Meyer**



May I help you? Student affairs office assistant **Kathleen Christ** is always willing to help.



Do you think that we can fly to Itasca?

Cloquet Forestry Center



Alvin Alm
Professor

Teaches Silviculture and Senior Seminar in St. Paul and Field Silviculture at the Cloquet Forestry Center. Advises a number of graduate students and conducts research in areas of regeneration and site preparation. Office is at Cloquet but often commutes to St. Paul.



Robert Stine
Research Fellow / Coordinator,
Cloquet Forestry Center

Directs the activities of the Minnesota Tree Improvement Cooperative, working out of the Cloquet Forestry Center. Genetic improvement work is being carried out on red, jack, and white pine and on black and white spruce.



Ronald Severs
Scientist and Forest Manager

Current responsibilities include developing forest management programs for the Cloquet Forestry Center and coordinating these programs with research activities at the Center.

Emeritus Faculty

Alvin Hallgren

Fisheries & Wildlife



David E. Andersen
Assistant Professor

Assistant Unit Leader at the newly established Minnesota Cooperative Fish and Wildlife Research Unit. Developing a research program on the impact of human activity on wildlife and their habitats. Current research includes applying theoretical statistical models to sampling from wildlife populations. Recent research centered on communities of raptorial birds in east-central and southeastern Colorado. Related research has included projects on mule deer, pronghorn, swift fox, breeding avifauna, raptors, and aquatic vertebrates and macroinvertebrates.



James Cooper
Associate Professor

Teaches Wildlife Population Ecology and Management and Waterfowl Management. Research includes incubation behavior of North American waterfowl, ecology and management of Canada geese and trumpeter swans, and waterfowl ecology in an urban environment.



Mary G. Henry
Associate Professor

Leads a Cooperative Unit established in the Department of Fisheries and Wildlife in 1987. The unit's purpose is to foster applied research of interest regionally and nationally and to train graduate students in natural resource management. Research interests are in the areas of aquatic toxicology and fisheries biology. Mary and two assistant leaders will each teach one graduate/upper division course each year while advising M.S. and Ph.D. students.



Yosef Cohen
Assistant Professor

Teaches Wildlife Ecology Management: Planning, Policy and Administration. Involved in ecosystem modeling and competition in aquatic ecosystems.



Francie Cuthbert
Associate Professor

Teaches introduction to Fisheries and Wildlife and is Director of Graduate Studies for the new Conservation Biology Program. Research includes behavior, ecology and conservation of nongame birds.



Peter A. Jordan
Associate Professor

Teaches an undergraduate course in fish and wildlife habitats and a graduate course covering ecology and management of large mammals. Has been studying the ecology and management of moose in Minnesota and at Isle Royale for more than 20 years, and has expanded his moose research to Sweden. Has students looking at the ecology and behavior of white-tailed deer. Researches the integration of moose management with forestry practices in the Superior National Forest. A member of the Board of Directors of the Minnesota Zoo.



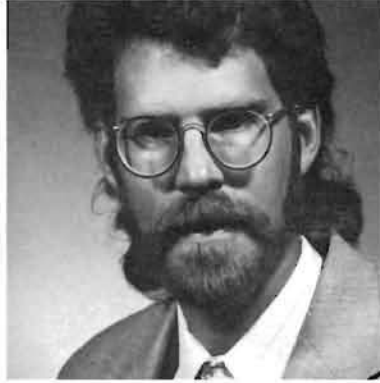
Anne R. Kapuscinski
Associate Professor

Fields of interest include fish genetics, aquaculture, and conservation biology. Interested in genetic variation for quantitative traits. Current research is focused on determining the ability of fishing to act as a form of artificial selection and to elicit significant genetic changes in exploited populations. Research interests in genetics and development of genetically improved lines of fish for aquaculture. Serves as Aquaculture Specialist under the Minnesota Extension Service and Sea Grant Extension. Collaborates on regional Extension programs aimed at coordinated improvement of the aquaculture industry.



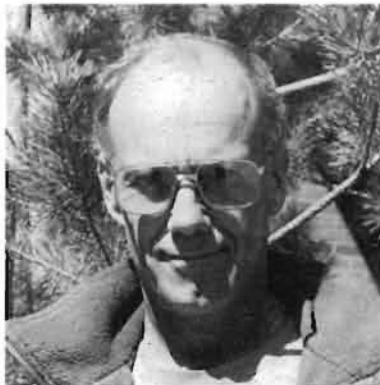
James Kitts
Associate Professor

Teaches Wildlife Management for Non-majors and Ethics in Natural Resources. Conducts workshops, seminars and field courses in Management of Woodlands for Wildlife. Instructs Master Gardeners, structural pest control operators, food processors and grain elevator operators in control of problem wildlife. Counsels urban and suburban landowners in methods of landscaping and management to attract desirable wildlife. Contributes to life skills of youth as a member of the National 4-H Shooting Sports Projects Committee and in Minnesota as an instructor and judge for 4-H projects in Minnesota 4-H Natural Science Program.



Raymond Newman
Assistant Professor

Teaches Fishery and Wildlife Management and Stream and River Ecology and assists with Ethics and Values in Natural Resource Management and Fishery and Wildlife Habitats. Research interests focus on stream ecology and feeding relations with an emphasis on factors affecting trout populations, the effects of human disturbance on stream fish and invertebrates and the potential role of defensive chemicals in aquatic plant use by invertebrates. Specific projects include the effects of beavers on trout and trout streams and the trophic relations of the exotic ruffe.



David Smith
Assistant Professor

Teaches Fisheries and Wildlife Orientation and Introduction to Fisheries and Wildlife Management. Research is on conservation of small wildlife populations.



Peter Sorensen
Assistant Professor

Teaches courses on the physiology and behavior of fish. Research focuses on the relationships between fish physiology and behavior and how these are influenced by the environment. Is interested in the senses of smell and taste in fish and determining the identities and roles of fish sex pheromones in reproduction. Holds a doctoral degree in biological oceanography from the University of Rhode Island and a bachelor of arts degree in biology from Bates College.



George Spangler
Professor

Teaches Ecology of Fish Populations and Fish and Wildlife Population Dynamics. Research includes fisheries management, fishery population analysis and modeling predator-prey interactions.

Forest Products

Bruce Vondracek **Assistant Professor**

Is the Assistant Unit Leader for the Minnesota Cooperative Fish and Wildlife Research Unit. Holds a Ph.D in Ecology from the University of California, Davis. Is interested in the physical and biological factors which influence stream fish microhabitat selection. Work seeks to determine at the most basic level how the availability of water velocity, depth, cover, substrate, and species interactions shape the habitat selection of individual species. By combining the responses of all species in a community a mosaic can be developed.

Emeritus Faculty

Daniel L. Frenzel, Jr.
William H. Marshall
Thomas Waters



Robert Erickson **Professor**

Teaches Topics in Wood Moisture Relationships. Research focuses upon developing improved processes for the drying and overall production of lumber, the analysis of drying stresses and strains, moisture movement and its effects, and the analysis of perpendicular-to-grain creep in first-dried wood.



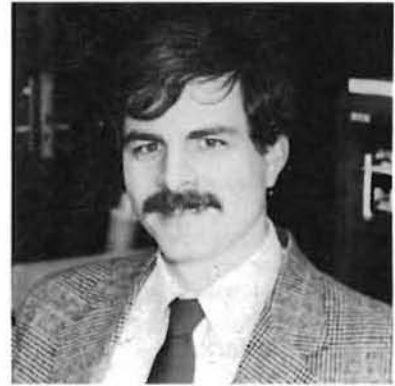
Roland Gertjejansen **Professor**

Teaches Pulp and Paper Technology, Wood-Base Panel Technology. Research is on wood-base composite products with the emphasis on the utilization of under-utilized species and the performance of wood-based composites in service.



Lewis Hendricks **Professor**

Conducts the annual two-week Lumbermen's Short Course and annual Hardwood Lumber Grading Short Course. Author of publications dealing with wood heating, preservation, ice dams, cold climate construction techniques and wood finishing topics. Is a consultant to wood industries and homeowners. Remains a board member of Woodcraft Industries, St. Cloud, Minnesota, since 1971.



Patrick Huelman **Associate Professor**

Coordinator and director of the Cold Climate Housing Center (CCHC). CCHC is a source of comprehensive information relative to the design and operation of energy-efficient homes. Its objective is to assist the home building industry to improve dwelling life.



Thomas Milton
Assistant Professor

Responsible for designing and implementing extension programs and publications for Minnesota's sawmill industry and wood product manufacturers. Is also the co-editor of the *Minnesota Forest Products Marketing Bulletin*.



Ignace Nyandwi
Research Associate

Currently researches structural grading and engineering properties. Has a strong background in structural and civil engineering.



Robert Rouda
Professor

Teaches Pulp and Paper Process Calculations (including the use of microcomputers for process modeling and simulation), Pulp and Paper Process Operations, and Paper Engineering Laboratory. Interests lie in the development and application of modern computer process simulation technology to the improvement of pulp and paper process operations. This includes the development of computer simulation laboratories for graduate and undergraduate education seminars and workshops for industry, and associated computer programs for these purposes.



Mutombo Muvundamina
Assistant Professor

Teaches courses in paper science and engineering and paper recycling. Holds a Ph.D in fiber and polymer science and a master's in chemical engineering from the University of Washington.



Harlan Petersen
Assistant Professor

Teaches Forest Products Marketing and the Annual Wood Industry Tours course. Specializes in extension programs in forest products utilization and marketing with emphasis in the areas of wood drying and wood moisture relationships. Coordinator for the undergraduate program in Forest Products Marketing. Also advises the student chapter of the Forest Products Research Society.



Simo Sarkanen
Associate Professor

Teaches Wood Chemistry I, Wood Chemistry II, and Adhesion and Adhesives. Research is on physico-chemical properties of lignin derivatives, biodegradable plastics from byproduct lignins, and lignin biodegradation.



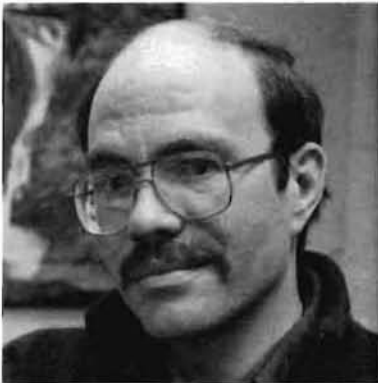
Elmer Schmidt
Associate Professor

Teaches Wood Deterioration, Undergraduate Seminar, Methods and Advances in Wood Protection and Mushroom ID and Ecology (Extension course). Research is on control and application of fungi in forest products. Other projects include: Fumigation of export oak, spore germination of wood decay fungi, preservative systems for wood composites, remedial treatment of decay, shiitake mushroom production on Minnesota hardwoods, biodegradation of kraft lignin components, and evaluation of new wood preservative systems, and biodeterioration in hardwood fuel chips.



Phil Steklenski
Research Fellow

Teaches Analysis of Production Systems, which deals with material balances, equipment selection, economic analyses, and microcomputer use in forest products manufacturing and marketing operations, and Undergraduate Seminar. Serves as project leader for short-term assistance projects for forest products companies. Performs collaborative and independent research related to construction, performance, economics, and manufacturing processes involving building materials and housing components.



Robert Seavey
Research Associate

Teaches Wood Structure and Identification, and co-teaches Wood as a Raw Material. Research deals with timber bridges and wood moisture relationships. Also active as a wood products consultant. Ph.D and masters from the University of Minnesota and a B.A. from Lawrence University.



Henry Wells, Jr.
Associate Professor

Specializes in paper science and engineering. Interests include computer simulation (in paper science) and process control.



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College of Natural Resources Accounting and Staff (left to right): Karen Dewanz, Judy Rosassen, Kara Henke, Sue Johnson



Forest Resources Extension Staff: Denise Hankey (left) and Mary Ann Hellman



Graduate Studies Director, Forest Resources and Forest Products: Kenneth Brooks

1991-1992 Staff



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Fisheries and Wildlife Staff (left to right): Joan Watkins, Gerda Hagen, Jo Schroeder, Julie Horn, Roslyn Zippa



Fisheries and Wildlife Librarians: Lorilee Kerr (left) and Susan Stegmeir



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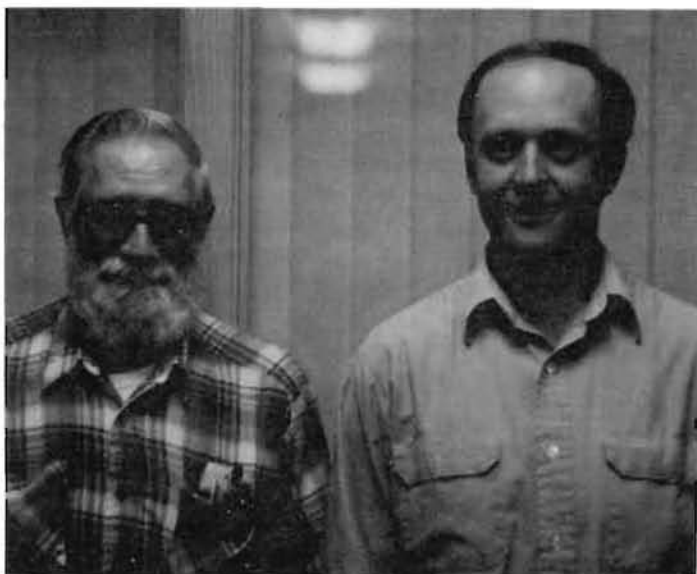
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Janelle Schnadt, Marcia Ritterling, Colleen
O'Connor, Kari Elfstrom, Mary Anakkala



Cloquet Forest Technicians: Chuck Kramer (left) and John Blanchard



Cloquet Administration Staff (left to right): Phyllis Bakka, Bonnie Jones, Karen Nelson



Cloquet Maintenance Crew: Gene Spicer (left) and Mark Anderson



Cloquet Kitchen Staff: Marlys Tate, Florence Meger

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Forest Resources
Junior
Milaca, MN



Deron Ruesch
Forest Resources
Sophomore
Worthington, MN

Not pictured:

Joshua Stringer
Natural Resources and
Environmental Studies
Freshman
Fontana, CA



Yuan Ling
Paper Science and Engineering
Sophomore
Peoples Republic of China



Roseanne Schauer
Recreation Resource Management
Freshman
Green Isle, MN



Nicole Matuska
Natural Resources and
Environmental Studies
Freshman
Rapid City, SD



Jason Skewes
Fisheries and Wildlife
Freshman
LaCrosse, WI

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Sophomores:

Andrew Domres
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 Ben Hohman
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Freshmen:

Jacob Thompson

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Rick Klevorn
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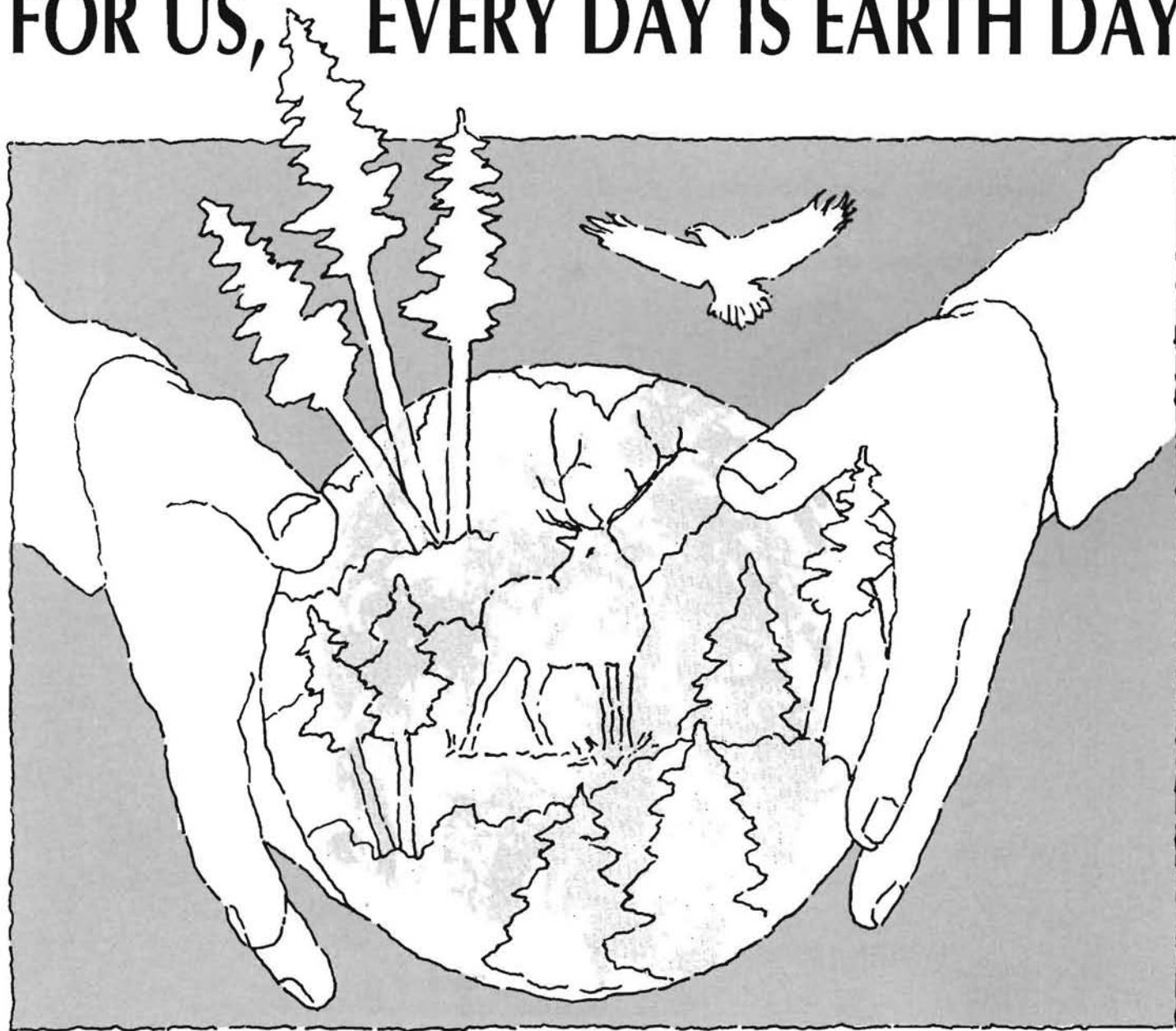
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Professor Jim Bowyer
Bottom row (left to right): Associate
Professor Mel Baughman, Associate
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Professor Jim Perry

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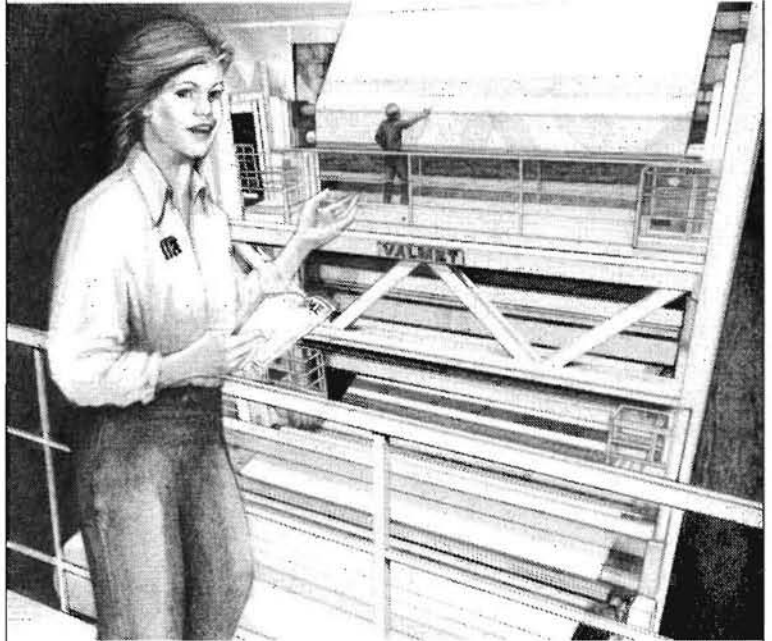
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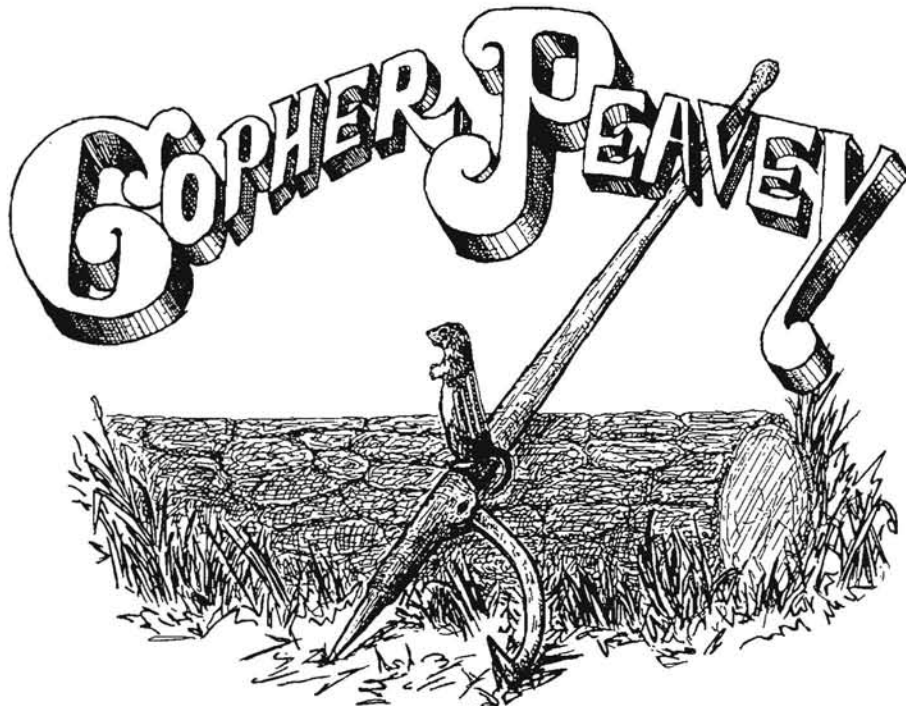


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