As usual it has been a busy year in the Forestry Department at Michigan Tech. The Forester staff has kept in shape by running around getting pictures of all the various club and departmental activities. The newest organization to be chartered this year is the Student Chapter of the Society of American Foresters. Next year should be an exciting one as the chapter gets involved in the department and other campus events.

Since our yearbook is printed on paper, and all of us come into contact with unknown numbers of paper-products in our daily lives, the staff agreed on Mead at Escanaba for our feature article. At this location the Publishing Paper Division is housed. I would especially like to thank Mr. Robert E. Barron, Sr., for taking Craig Mullenbrock and myself on a most enlightening tour of the entire Escanaba mill complex.

I would also like to thank all the students and professors who helped write the many articles, solicited advertisements, take pictures and generally helped to put together the 30th Michigan Tech Forester. A special thanks to all the alumni who contributed most generously for the publication of our book. I hope everyone gets as much enjoyment out of reading the Forester as I did editing it.

Laura L. Helbling
Editor
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THE 1979 FORESTER SALUTES
CHARLES HEIN

Industrial forester, land surveyor, real estate appraiser, respected teacher--these are among the attributes the recipient of this year's Forester Salute brings to Michigan Tech's Forestry Department.

This versatile faculty member is Prof. Charles E. Hein, who joined Michigan Tech's Forestry Department as a Lecturer in 1973 after working in industrial forestry for 20 years. In 1975 he was promoted to his present rank of Assistant Professor.

Extensive experience and diverse capabilities qualify Professor Hein--known as "Chuck" to one and all--to cover many areas of instruction. During recent years he has become the faculty member best known among incoming forestry students, through his instruction of the introductory course, "Forests and Modern Man." His knowledgeable, sincere manner in teaching this initial freshman course has established a rapport between Chuck and his students which continues as they progress through advanced courses under his instruction.

Professor Hein's courses include Natural Resource Use and the Law, Introduction to Land Surveying, and additional courses in the new Land Surveying curriculum.

A native of Laurium, Mich., he attended Calumet High School, where he starred in basketball. Following his graduation in 1948, he enlisted in the U.S. Air Force and served on active duty for one year.

After completing his active military service, he entered Michigan Tech, majoring in Forestry. While at Tech he also became a star member of the varsity basketball team.

In 1952 he married Diana Lasanen of Calumet. The couple have two children, Cathlyn and Steve. Cathlyn is a graduate of Michigan Tech and now is employed as a behavior analyst at Cambridge State Hospital, in Cambridge, Minn. Steve is a student at Michigan Tech, majoring in Land Surveying.

After graduating from college, Professor Hein found employment with the Forestry Division of Calumet and Hecla, Inc., at Calumet. Later the C. and H. unit was designated the Goodman Division. He continued to work as a forester for this company and its successor, Universal Oil Products, Inc., in various capacities until 1970. During that period, he rose to the position of District Forester, and later became Administrative Forester in charge of all company forest lands in Michigan's Upper Peninsula and in northern Wisconsin. These totaled 328,000 acres. He also had responsibility for the management of Canadian lands on which the company had timber rights. The lands under his supervision were utilized as a source of timber supplies for a sawmill at Mohawk, Mich., a veneer mill at Goodman, Wis., and for pulp mills in northern Wisconsin.
In 1970, Chuck transferred from forestry to the Real Estate Division of UOP, Inc. Two years later, he again felt the call of academia and returned to Michigan Tech to pursue a Master's degree in Forestry. The following year he received his M.S. degree and became a member of Tech's Forestry faculty.

During his employment in industrial forestry and land management, Chuck found it desirable to become proficient in both land surveying and in real estate appraisal. As a result, through experience and study he became a licensed Realtor and a Registered Land Surveyor. He continues to hold these credentials, and maintains membership in professional organizations associated with both of these fields. In addition, Chuck is a Registered Forester in Michigan, and a member of the Society of American Foresters. He continues to engage in occasional consulting work in all of these areas.

Chuck also enjoys a variety of recreational activities which are so readily available in this area, including fishing, camping and cross-country skiing. He also plays an active role in church work, and currently is serving as president of his local church.

These interests and activities, coupled with Professor Hein's understanding and concern for his students, have brought to him the high regard of all who know him in the University and in his home community. The Forester takes pleasure in extending this Salute to Professor Charles Hein!
Report from the Dean

by Dr. Eric A. Bourdo, Jr.,
Dean of Forestry and Wood Products

Enrollment in Forestry at Michigan Tech dropped below 600 students during the 1978-79 academic year. However, this downward trend appears to have stopped--enrollment projections for next fall exceed those for this same time a year ago. Two other enrollment trends are noteworthy: the percentage of transfer students has increased and so has the percentage of women. Next fall it appears that girls will make up a third of the new students. In spite of bleak predictions in the news media about jobs for foresters, placement of Michigan Tech graduates at the time of graduation was just under 90 percent.

The new forest surveying program has gotten well underway, with 40 students already electing it. Only two such programs have been approved in Michigan; and Tech's has measured up to all the standards specified by the State Board of Registration for Land Surveyors.

In spite of lower enrollment, overcrowding has gotten worse. Most of the pressure is due to greatly expanded research effort. In the academic Department of Forestry research during the past year has increased 49 percent to a total of over 336 thousand dollars. Similarly research at the Institute of Wood Research has been boosted by the signing in May of the largest research contract in the University's history - a 2 million dollar 5-year program to investigate wood preservation systems. This research is supported by the Electric Power Research Institute of Palo Alto, California. Concomitantly, research at the Ford Forestry Center more than doubled (106 percent increase) to a total of 447 thousand dollars. Thus, in 1978-79 research in forestry and forest products totals nearly 1,200 thousand dollars and a substantial increase for the forthcoming year already is projected.

One of the most significant developments in the School of Forestry and Wood Products has been its forest soils thrust. With forest land in the north country fast becoming an expensive commodity, with the developing need for growing more pulpwood and better quality timber, and with the impetus for good forest practice provided by Michigan's forest cultivation program, as well as with the recommendations contained in the recent study of Michigan's forests by the Jaakko Poyry Company of Finland, it became imperative that more attention had to be given to forest soils. Consequently, not only have forest soils become an important area of effort, but staff of sufficient size was assembled to do the work.

The CROFS (Cooperative Research on Forest Soils) organization has taken an increasingly active role in promoting work on forest soils classification, site conversion, and other items of interest to its largely industrial members. Not the least of its effort has been directed toward achieving better understanding by public agencies of the needs of industrial foresters.

It is pretty generally conceded now that classification of forest soils must be based on criteria related to forests, and that criteria developed for agricultural soils cannot be broadly applied in forested areas. The forest soils research authorized by Public Law 268 (1977), the Accelerated Soil Survey Act, has gotten well underway. Although initial work is concentrated in Baraga County, contact is maintained wherever ongoing soil surveys relate to forest soils. Specialized soils research laboratories at the Ford Forestry Center now are complete and in full operation. An unique feature is their close ties with the national SCS soils laboratory at Lincoln, Nebraska, and full adoption of the procedures used by that lab, including its computer programs.

Computer applications in forestry at Michigan Tech have continued steady growth, much of the work of the five staff members (and many student helpers) being in the area of industrial service. Work for the U.S.D.A. Forest Service and the Michigan D.N.R. on the Resource Appraisal Program (R.A.P.) has been an especially interesting and continuing effort.

Work on highway rights-of-way classification for management of whatever timber occurs there is nearing completion. Moreover, four demonstration cuttings have been completed -- one each in Alger, Baraga, Gogebic, and Iron counties. All four cuttings were made by local jobbers; and it is significant that not one complaint from the traveling public was directed at these well supervised jobs.

Results of effort in the wood-for-energy field also has been gratifying. Over 1,000 tons of chips, a byproduct of research on a "forest cultivation" thinning, were delivered to Marquette for use by the local power plant. Recently a decision was made by the plant's governing board to incorporate use of wood for power in its proposed expansion.
History tells us that, at one time, Socrates was charged with the act of corrupting the minds of his young Athenian students. The good citizens of Athens felt their children needed a practical education—a purely professional education. In the teachings of Socrates there was a vital place for virtue before ambition, the values of truth before that of rhetoric. But what about today—where do we place these matters?

I suspect you would find, in most institutions, these virtues of ethics and truth are treated not at all or—at best—are viewed as so much fluff. Most faculty of professional and scientific areas give priority to essentials in technical through curriculum allowing little, if any, time for discussion of mundane matters, such as the ethic...

There is such a great press to adequately secure the essentials in education in the sciences and the applied arts of the profession that (they say) there is no time for such broad philosophical treatments of interpretation of “truth,” virtues of ethical reasoning, essentials of honesty...

Gene’s “Top Log in the Deck”

Can we afford not to provide exposure to these elements and at the same time, feel confident that our young people are well educated? And, if there is time and space for it in the already crowded curriculum, is there any evidence that a “new course in ethics” will make our foresters more ethical?

When someone uses the word ethic, my first thought turns to the old-fashioned American work ethic. When I was a kid on the farm in Dane County, Wisconsin, I was first introduced to it. This was in the times of the Great Depression; a real “stem-winder” compared to the mini-recessions we have today. Those were the times to learn about hard work.

The American work ethic has always assumed that if you worked hard, your efforts would be well rewarded. And I have always felt this was true. But now, as I make the trail through my 60th year, I would like to amend this a little bit. It is one matter to work hard and another to work SMART. The wise work ethic remains that one should work hard, but one should also work smart.

Hard work really never hurt anyone who was used to it. And to most it results in distinct benefits. The late Vince Lombardi of Green Bay Packer fame is reported to have said—“It’s interesting—the harder we work—the luckier we get.” These are rewards and hard, smart work often leads to them.

There’s little virtue in hard work at menial tasks unless these fit into the clear, well-conceived design which is the result of working smart. We must use our minds to develop new ideas, improve on old ways or update antique equipment. Work hard—yes—but also stimulate, create, motivate, develop, and perfect new solutions to old problems. If we apply the modified American work ethic it now becomes “WORK HARDER AND WORK SMARTER”—your final contributions to Society will be well recognized.
Dr. Eric A. Bourdo, Jr.
Dean, School of Forestry and Wood Products
B.S. Michigan Tech Univ.
M.S. Univ. of Michigan
Ph.D. Univ. of Michigan

Dr. Lindo J. Bartelli
Adjunct Professor
B.S. Michigan State Univ.
M.S. Michigan State Univ.
Ph.D. Univ. of Illinois

Dr. Gene A. Hesterberg.
Head, Department of Forestry
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Johann N. Bruhn
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M.S. Northern Arizona Univ.  
Ph.D. Univ. of Idaho

Dr. C. Richard Crowther  
*Professor*  
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M.S. Iowa State Univ.  
Ph.D. Univ. of Michigan

Dr. Robert F. Ginn  
*Assistant Professor*  
B.S. Colorado Univ.  
M.S. Institute of Paper Chemistry  
Ph.D. Delaware Univ.

Dr. Allan P. Drew  
*Assistant Professor*  
B.S. Illinois Univ.  
M.S. Univ. of Arizona  
Ph.D. Oregon State Univ.

Charles E. Hein  
*Assistant Professor*  
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M.S. Michigan Tech Univ.

Margaret M. Harris  
*Faculty Assistant*  
B.S. Michigan Tech Univ.  
M.S. Michigan Tech Univ.
Margaret F. Herman  
**Instructor**  
B.A. Colorado College  
M.S. Washington State Univ.

Dr. T. Robin McIntyre  
**Assistant Professor**  
B.S. Auburn Univ.  
M.S. Auburn Univ.  
Ph.D. Auburn Univ.

Dr. Martin F. Jurgensen  
**Associate Professor**  
B.S. Syracuse Univ.  
M.S. Syracuse Univ.  
Ph.D. North Carolina State Univ.

Dr. Roswell K. Miller  
**Associate Professor**  
B.S. Syracuse Univ.  
M.S. Syracuse Univ.  
Ph.D. Univ. of Michigan

Dr. Lawrence Rakestraw  
**Professor**  
B.A. Univ. of Wisconsin  
M.A. Univ. of Wisconsin  
Ph.D. Univ. of Washington

Dr. Yuan-Zong Lai  
**Associate Professor**  
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M.S. Univ. of Washington  
Ph.D. Univ. of Washington
Robert J. Ross
*Faculty Assistant*
B.S. Michigan Tech Univ.

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Dr. Norman F. Sloan
*Professor*
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M.S. Univ. of Wisconsin
Ph.D. Univ. of Wisconsin

Kathleen Slattery
*Laboratory Associate*
B.S. Michigan Tech Univ.

Helmut M. Steinhilb
*Professor*
B.S. Michigan Tech Univ.
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Dr. Bernard C. H. Sun  
Associate Professor  
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Executive Secretary  
Dean's Office
News of the Department

The Department of Forestry attained a new pinnacle of recognition at the Fall, 1978, Commencement, when the University honored two of its faculty. Both were Forestry Department faculty members: Professor H.M. (Hammer) Steinhilb, and Dr. Martin F. Jurgensen, Associate Professor.

Professor Steinhilb received the University’s Distinguished Teacher Award, and Dr. Jurgensen was recipient of the Research Award for 1978. The presentation of these annual awards to two members of a single department is unusual, if not unique, at Michigan Tech. The Forester congratulates both men, and joins the Forestry faculty and student body in the pride and satisfaction they, as well as the recipients, share in this achievement.

Hammer’s citation noted his 33 years as a teacher, during which he has become one of the most respected members of the Tech faculty in the eyes of his students and the faculty. His interest in students, his attentiveness to their problems, and diligence in explaining difficult subject matter place him at the top in teaching effectiveness. His capability is aided by a well-known wit and colorful personality. These qualities enable Hammer to develop a close rapport with students as he leads them through the concepts and techniques of aerial photo interpretation, cost control in logging, land surveying and other subjects.

Marty’s award came in recognition of research he is conducting for the U.S. Forest Service in Montana. This work focuses on forest residue utilization and fire management in areas of logging on steep mountain slopes. He also has engaged in studies of methane and protein production from pulp mill wastes; the impact of total tree harvesting on forest site quality; the biomass/energy concept, and nitrogen cycling in undisturbed northern hardwood forests.

In addition to fulfilling their teaching responsibilities, many Forestry faculty members have been active in research and other professional activities.

Dr. Lindo Bartelli is author of a chapter titled “Technical Classification System for Soil Survey Interpretation,” in Advances in Agronomy, published in Academic Press.


Margaret Herman has been named to the Endangered Species Mammal Committee for Michigan. Dr. Herman and Dr. Norman Sloan are participating in work of the Michigan Endangered Species Committee which is studying possible additions to the Michigan Endangered Species list.

Dr. Lawrence Rakestraw is author of “A History of Forest Conservation in the Pacific Northwest, 1891-1913,” published by Arno Press. Dr. Rakestraw has been named to the Editorial Board of the Journal of Forest History, and to the Forest History Society’s Committee on Libraries and Special Collections.

Irvin Ziemer is engaged in a study to establish the potential for cable yarding in the Lake States. He is examining the states of Michigan, Wisconsin, and Minnesota to quantify acreages of land possibly suited to cable yarding but unsuited to the more conventional skidding techniques.

Dr. Eric A. Bourdo, Dean of Forestry and Wood Products, has been named a member of the Solar Resource Advisory Panel for the State of Michigan. Last fall Dr. Bourdo presented a paper at the eighth World Forestry Conference at Jakarta, Indonesia. The paper...
Ford Forestry Center
Forest Technology
Computer Center

Thomas L. Kelley, Assistant Professor; Gary L. Willis, Research Forester; James A. Johnson, Research Forester.

Ralph G. Duffek, Assistant Professor; James P. Dougovito, Teaching Aide.

William J. Bertie
Assistant Professor
Britt Wins Award

Carlton E. Britt, a junior forestry student here at Tech, was recently named the first place winner in the Annual Northeastern Loggers' Association Scholarship Contest for four year forestry schools. Britt is a native of Ann Arbor, the son of Dr. Eugene M. Britt and Lorraine M. Britt. He has attended Michigan Tech since fall of 1976, has an earned graded point average of 3.81, and expects to graduate in May of 1980 with his degree in Forest Management.

The Northeastern Loggers' Association is comprised of members from all parts of the forest industries in the twenty-five states comprising the "Northern" Region of the United States. The Scholarship Contest is open to juniors in twenty-one four year forestry schools throughout this region.

George F. Mitchell, Executive Secretary of the Association, sent the $1,000 first prize to our Forestry Department for presentation to Britt. The award was based upon Britt's scholastic performance, work experience, and an illustrated essay on the topic of "The Economic Impact of Forest Land Withdrawals."

Britt is a member of the Forestry Club, the Phi Eta Sigma freshman honor society, the Xi Sigma Pi forestry honor society, the Student Liaison Committee for the Vice President of Academic Affairs, the Forestry Departments' Student Advisory Committee, and is a part-time timber marker for the Forestry Division of Universal Oil Products Company of Calumet, Michigan.

Michigan Tech is the only school in four years that has produced winners in this Scholarship Contest in both the two-year and four-year divisions. Last year a freshman student in the Forest Technicians Program of the School of Technology was one of the winners presented with a cash award.

Roswell K. Miller

News of the Department (cont. from page 15)


There have been few faculty changes during the past year. Nancy Breisch, who taught Entomology lab in the fall quarter, 1978, spent the remainder of the school year completing her Master's Degree work at The University of Michigan.

Lynn Herman joined the faculty as a research associate last spring. He is engaged in a pine marten study directed by Dr. Sloan. Mr. Herman is completing his Master's Degree requirements at the University of Montana.

A successful grant application submitted by Dr. Bernard Sun has secured equipment valued at more than $22,000 for use in the Wood and Fiber Utilization Program. The Undergraduate Science Education Grant provided by the National Science Foundation totals $11,300, with Michigan Tech providing an equal amount. The funds were used for purchase of a controlled temperature and humidity chamber with microprocessor control system, and two balances. The chamber can be used as a dry-kiln.
GRADUATING SENIORS — Majoring in Forestry

DOUGLAS W. ALLEN
Forest Genetics Option
Ann Arbor, Michigan

DANIEL J. BAILEY
Forest Soils Option
Freeland, Michigan

DAVID BATEMA
Conservation Option
Holland, Michigan

GENE I. BECKER
Forest Management, Wildlife
Ecology Options
Waterville, Ohio

BARTERBARA A. BONEFELD
Forest Genetics Option
Escanaba, Michigan

GARY A. BRANZ
Recreation Resource Management Option
Clio, Michigan

TIMOTHY A. CAID
Forest Management Option
Three Oaks, Michigan

JOHN B. CAREY
Forest Soils Option
Lansing, Michigan

BRUCE D. CHAMBERLAIN
Forest Management Option
Ixonia, Wisconsin
GARY M. CHRISTENSEN
Urban Forestry Option
Grayling, Michigan

STEVEN E. CLARK
Land Surveying Option
Sitka, Alaska

PAT H. COMAS
Forest Management Option
Pontiac, Michigan

DANNY D. CONVERSE
Land Surveying Option
Shepherd, Michigan

JEFFREY A. CUNNINGHAM
Land Surveying Option
Swartz Creek, Michigan

CRAIG M. DALE
Recreation Resource Management Option
Lansing, Michigan

KEVIN W. DAVIDSON
Industrial Forestry Option
East Lansing, Michigan

TERRY J. DeBLAAY
Wildlife Ecology Option
Grand Rapids, Michigan

DAVID J. EPPERLY
Land Surveying Option
Franklin, Wisconsin
ANTHONY MULE
Land Surveying Option
Waukegan, Illinois

GARY L. OULLETTE
Urban Forestry Option
Detroit, Michigan

STEVEN E. PARR
Conservation Option
Coldwater, Michigan

CHARLES L. PERCY
Recreation Resource Management Option
Bloomfield Hills, Michigan

JEROME R. PEREZ
Recreation Resource Management Option
Peoria, Illinois

ANN C. PETERSON
Conservation Option
Hinsdale, Illinois

THOMAS D. RUSSELL
Wildlife Ecology Option
Kalkaska, Michigan

THOMAS W. SADLER
Recreation Resource Management Option
Warren, Michigan

RICHARD B. SINGER
Forest Management Option
Saginaw, Michigan
EDWARD M. SKOP  
*Forest Engineering*  
Boyne Falls, Michigan

RICHARD T. SPRAGGS  
*Forest Management Option*  
West Simsbury, Connecticut

CURTIS R. STEBIC  
*Forest Management Option*  
Crystal Falls, Michigan

MARK R. STEELE  
Crystal Falls, Michigan

SCOTT T. STOERY  
*Land Surveying Option*  
Naperville, Illinois

SCOTT B. SUTHERLAND  
*Urban Forestry Option*  
Arlington Heights, Illinois

PAUL G. TRINKA  
*Forest Management Option*  
Plymouth, Michigan

DAVID H. TUFVESSON  
*Forest Soils Option*  
Jackson, Minnesota

ERIC D. VANCE  
*Forest Soils Option*  
Worthington, Ohio
WOOD & FIBER UTILIZATION
NOT PICTURED

KATHLEEN A. GILLETT
DANIEL W. MILLER
DAVID D. SCHMIDT
JOHN A. SCHNEIDER
DAVID W. SHAVER
NANCY J. SUTHERLAND

FORESTRY
NOT PICTURED

RICHARD D. AHLER
JOHN W. ARZOOGAN
GARRY F. ATKINS
STACEY C. AULT
MICHAEL J. AVERY
RICHARD C. BAKER
JAMES R. BECKETT
MARY C. BENTLEY
FRANCIS M. BEST III
JOHN C. BIRKNER
JAMES A. BODI
PHILIP W. BOWDEN
MATTHEW A. BRADY
ALAN J. CAMPBELL
GARY G. CASKEY
CURTIS D. DILL
THOMAS K. DIVNEY
JON S. DROSKA
THOMAS C. FISHER
PAUL A. FLYNN
GREGG E. GLAUS
JAMES C. KIBBY
LINDA SUE KUNKLE
KURT A. LABELLE
MICHAEL J. LAPIATTE
ROBERT E. LEMORIE

ELLEN P. McINNIS
THOMAS S. McNELIS
CLAUDIA C. MAKELA
TERESSA J. MATT
RORY J. MATTSON
STEVEN S. MERCHANT
ANN L. MORROW
CRAIG W. MULLENBROCK
STEPHEN P. OBERST
JAY R. OWEN
JAMES M. PARDINI
DANIEL V. PERRON
ROBERT R. RAIMO
DOUGLAS P. RIBECA
ROBERT S. RICHARDS
DOUGLAS V. RITTER
ANN B. RUMBOLD
ERIC B. SAARM
THOMAS E. SCHACHER III
PATRICIA A. SCHMENK
CURTIS R. STEBIC
WILLIAM R. STOKES
CHRISTOPHER W. THOMAS
KEITH R. WATERS
TERRY L. WIEGMAN
BRADLEY W. WYTCHERLY
FORESTRY TECHNICIAN PROGRAM

Sophomore Class

Left to right, kneeling: Jeff Corey, Brian Poemer, Ralph Strasdin, Bill Houck; second row: Roy Moesser, Rick Jeffere, Rick Walton, Barbara Pelto, Woody Hardy, Tim O'Malley, Gail Schuster, Sherry Hahn, Jim Flores; third row: Steve Dabrowski, Paul Branch, Ron Basso, Matt Lohela, Kevin Haustein, Randy Korthase, Randy Chollette, Steve Teuscher, Carl Schaffner, Phil Ketola.
Freshman Class

Left to right, front row: Matt Gutjahr, Ric Plate, Jill Bennett, Mary Somers, Michael Kocher; second row: Fred Willem-stein, Ken Schmit, Jim LaChapel, Mark Knight, Ron Brickner; third row: Roger Perreault, Jeff Davis, Bruce Bugbee, Robert Sommer, Paul Cramer.

Left to right, first row: Anna Saterstad, Becky Azman, Cheryl Silschott, Randy Kerr, Kathy Buerkle, Lisa Cubba; second row: Charles Mannor, Joe Whalen, Tim Roth, Rick Hopson, Bob Tylka, Andy Creedon, Gary Mullen.
VISITING SPEAKERS

Dr. Les Pengelly, center. Professor of Wildlife at the University of Montana, spoke to Forestry students at an open seminar. Dr. Pengelly is a former president of the National Wildlife Society. Here he talks with Dr. Norman Sloan and Dr. Margaret Herman following his presentation.

Problems associated with tropical forests in Central and South America were discussed by Dr. Stephen Preston, center. Associate Dean of the School of Natural Resources, University of Michigan. The seminar was open to all interested students and faculty. Dr. Bernard Sun and students discuss tropical forest utilization problems with Dr. Preston.

Forestry Club members heard a talk given by Dr. Stephano Lucci, center, who is engaged in post-doctoral research in soils at Michigan Tech. He received his Ph.D. degree at the University of Florence, Italy.

Members of the Wildlife Club converse with Dr. Daniel Trainer, Dean of the College of Natural Resources at the University of Wisconsin, Stevens Point, second from left. Dr. Trainer spoke to members of the club at one of its regular meetings.
Ruffed grouse habitat management was the topic of a talk given by James Hammill, Wildlife Biologist with the Michigan Department of Natural Resources. Mr. Hammill, who is stationed at Crystal Falls, spoke to the MTU Wildlife Club.

Dr. David Jenkins, left, chats with Dr. Norman Sloan during Dr. Jenkins' visit to the Forestry Department. He is Chief of the Wildlife Division, Michigan Department of Natural Resources. Dr. Jenkins presented a seminar for all interested students and faculty.

James Ludwig of Iron River presented a seminar on a new matrix system for valuing wetlands. He is associated with Ecological Research Services, specializing in environmental assessments and consulting with land owners concerning land-use restrictions related to environmental laws and regulations.

The Forest Products Research Society heard a talk by Edwin S. Miyata of the U.S. Forest Service Forest Engineering Laboratory, Houghton. Mr. Miyata spoke on industrial engineering.
FEATURES
Long before the minerals and forests of Michigan's Upper Peninsula were developed, Henry Wadsworth Longfellow made known this region in his "Song of Hiawatha"...

"From his lodge went Hiawatha, Dressed for travel, armed for hunting. Forth he strode into the forest... Crossed the rushing Esconawbaw."

It is here, on the very bank of the rushing river that Longfellow describes—the Escanaba River, where Mead Corporation's Publishing Paper Division is presently headquartered.

Tracing the mill's history, we go back to the early 1900's, a time of great metropolitan growth in the midwest. The best virgin timber in which Hiawatha once roamed, had by now fallen to the swing of the lumberjack's axe. With the development of great urban areas such as Milwaukee and Chicago, the need for pulp and paper began to grow. In response to this need, the Escanaba Pulp and Paper Company built a pulp mill on the Escanaba River in 1911. In 1919, Mead Corporation supplied half the money for a newly organized company, Escanaba Paper. In 1920, the No. 1 machine was put into production, making newsprint. Eleven years later a switch was made to wallpaper production.

Finally, in 1944, the mill became a wholly-owned subsidiary of Mead Corporation, was expanded, improved and in 1947 the mill began turning out book papers and offset stock.

In the mid-1960's, the Escanaba Division of Mead had a 100-ton-per day groundwood pulp mill and two paper machines. Their combined capacity rate was 300 tons per day of both coated and uncoated papers.

In 1967, Mead chose Escanaba as the site to gain control of market leadership in both book and magazine coated papers. Over $100 million was invested, the largest single capital expenditure the corporation has ever made. A new high-speed computer-controlled paper machine was installed, the No. 1 machine was rebuilt and other additions and alterations have resulted in making this mill one of the most efficient and advanced of its kind in the world.

Papermaking at Escanaba begins with timber. 460,000 acres of Upper Peninsula forests are owned by Mead. To ensure that the mill receives enough wood to produce 600 tons of paper a day and an additional 320 tons of pulp, the Woodlands Division is called upon. Seventy employees involved in Woodlands, manage one-third of the mill's total fiber needs of 1200 cords daily. This pulpwood comes from Mead lands and other private, State and Federal forests in the U.P. All timber harvesting is contracted by nearly 50 contractors who employ over 400 field workers.

To facilitate efficient transport of its wood supply, Mead has a Peninsula-wide system of woodyards. Scales with rail sidings are located at Trout Lake, Newberry, Shingleton, Gulliver and L'Anse. Champion has a truck yard and fifteen mini-yards are situated strategically for wood delivery. Scheduled truck hauls are radio-controlled and the rail movement of wood includes a daily pulp train. Wood procurement takes place in all fifteen Upper Peninsula counties, totalling 440,000 cords per year, at a cost of over 10 million dollars. In addition to the pulpwood, over 10 MRF of sawtimmer is sent to area mills each year, providing money Mead can reinvest in its operations.

Depending on the area and its contractors, pulpwood reaches the mill in one of two forms, either as 100-inch delimbed sticks or as one-inch chips ready for pulping. Pulpwood sticks arrive by truck or rail and are loaded onto a conveyor which leads to the first process in papermaking—debarking. The Escanaba mill has two drum debarkers which rotate hundreds of sticks at one time causing the bark to be removed through abrasive action.

These two drum debarkers spin like gigantic clothes dryers to remove bark. Once rotated a predetermined time, the sticks are discharged onto a conveyor leading to the chipper."

These two drum debarkers spin like gigantic clothes dryers to remove bark. Once rotated a predetermined time, the sticks are discharged onto a conveyor leading to the chipper.
After debarking, logs travel via conveyor to the chipper, a rotating disc fitted with blades. A few seconds later the eight foot stick is now a pile of chips, 7/8” in size. These chips are then stored in large piles for future use.

The other source of chips comes from contractors who harvest pulpwood using feller-bunchers and portable chippers. Loaded chip vans arrive at the mill, back onto a hydraulic frame which raises the truck, dumping the entire load at once.

Mead uses both the groundwood pulping process and the chemical pulping process. The latter incorporates both softwood and hardwoods in its mixture. Most printing papers contain a mixture of hardwood for texture, bulk and good printability, and softwood for high strength. In this process, chips are cooked under pressure in huge digesters with steam heat and chemicals. These combine to dissolve lignin and separate wood fibers.

Next, “cooked” pulp passes through screens and a series of washers, removing chemicals and other impurities. Once completed, washed pulp is stored in a concentrated form.

When the pulp is needed, it is diluted, chemicals are added, and the pulp is run through a series of bleachers until it reaches a cottony soft texture, ready for the paper machines. This mixture consists of one per cent wood fiber and 99% water. The liquidy mixture then flows from the headbox onto a fast-moving fine-mesh continuous screen. As the screen moves the water is drawn off, leaving just the aligned fibers, thus forming a mat of paper. A felt-like belt picks up this mat, carrying it through presses. As the mat travels farther, more water is removed by drying the paper mat against steam-heated drying drums. Now a web of paper, it emerges from the drying drums with a precisely controlled moisture content and is wound into a 25-ton roll, or “log.”

That’s a brief explanation of an operation that is run at high speeds, with sophisticated, computer-controlled equipment.

Presently, two paper machines are in operation. The No. 3 machine started production in 1969, and is one of the largest and most productive paper machines of its kind in the world. It is used primarily for production of coated web offset papers for book and periodical publishers.

These coated papers are finished by the application of a film of clay, adhesives and other additives. The Escanaba mill is unique from most mills. Often, coating is done as a part of the paper machine process, but here the paper is allowed to cool prior to coating. This results in a superior surface finish, the mark of the finest quality printing papers. If a glossy finish is desired (such as the paper this article is printed on) the web emerges from the coating operation and moves to the supercalenders. These stacks of highly polished metal rolls, alternating with cotton surface rolls, literally iron and polish the paper to produce a smooth, high gloss finish.

The final step involves the slitting of the paper to desired widths, wrapping and shipping by truck or rail to customers throughout the country.

An incredible amount of water is used to meet the needs of this modern paper mill. Thirty million gallons of water are used each day from Lake Michigan’s Little Bay de Noc. After use in the mill, the water undergoes a highly efficient purification process. Mead has made an enormous technological and financial investment to insure the protection of the Escanaba River and Little Bay de Noc. The water treatment system consists of 120 acres of lagoons, clarifiers and aerators, all work-
ing to meet or exceed state and federal water quality standards. As far as air quality control, the Mead complex is second to none in odor control. As a result of this advanced system, Escanaba has been cited as a "model mill" by the U.S. Environmental Protection Agency.

Mead currently employs over 1100 at Escanaba with nearly 500 additional jobbers employed in the woods. Of paramount importance to both Mead and its employees, is the safety policy and its programs. One of Mead's principal objectives is meeting all OSHA standards. Realizing that production and safety must go hand in hand for a successful operation, the company has accepted the responsibility of providing a safe and healthy work place for its employees.

Today, Mead is Delta County's largest taxpayer and one of its largest employers. All of Mead's lands are open to the public for hunting and other recreation uses—just like they were when Hiawatha called this region home. Through the wise use of modern silviculture and technology, Mead Paper manages its woodlands to provide a continuous source of raw material to feed its mill and meet our nation's needs for quality papers.

With careful planning, Mead at Escanaba will continue to maximize all possible benefits for both man and nature and do so with minimal environmental impact. We salute Mead Paper at Escanaba, for its many and varied contributions to the people, land and economy in the "Land of Hiawatha," Michigan's Upper Peninsula.

—Craig W. Mullenbrock

Made in Escanaba Mead coated papers are used in:
New England Journal of Medicine
Smithsonian Magazine
Farm Journal
Bon Appetit
American Airlines Magazine
National Geographic
Handyman
Amagram
Food & Garden
L.L. Bean Catalogue
Brooks Bros. Catalogue
Bonwit Teller Catalogue
Consumer Life
Architectural Digest
etc.

One man, operating this control panel, can adjust the machinery throughout much of the papermaking process.

Mead's coated papers are unique because they are allowed to cool, before "filling" with various clay and adhesive mixtures. Here, the paper is engaged in the coating process.
Rolls are slit to size, rerolled and packaged for protection in transit and against moisture extremes. Finally, wrapped rolls are loaded onto trucks or rail cars for delivery to customers. Over 600 tons of paper are shipped daily.

Stretching for a quarter-mile, the building shown above houses Mead's No. 3 paper machine—its largest and most productive one. The web of paper at right is passing over the fourdrinier, which draws off water before the paper enters the block-long dryers.
Prof. Noblet Enrolled in Hall of Fame

Professor U.J. Noblet, founder of forestry education at Michigan Tech and Head of the Department of Forestry from 1936 to 1962, received a significant honor August 10, 1978, when he was enrolled in the Forestry Hall of Fame.

The announcement was made at a banquet held during the Forest Festival at Manistee, Michigan. Dr. C. R. Crowther, representing the Hall of Fame Committee and Michigan Tech, made the presentation.

Professor Noblet, who now lives near Rapid River, Michigan, on the shore of Lake Michigan, was cited for his many accomplishments in behalf of forestry in Michigan and the Lake States region, and for his work in developing a highly regarded school of forestry education at Michigan Tech.

It was noted that Professor Noblet joined the faculty of Michigan Tech in 1929, following service with the U.S. Navy during World War I, graduation from Michigan State University, and several years’ experience in high school teaching. He served as athletic director and coach at Michigan Tech until 1936, when he was successful in inducing the college administration to begin an undergraduate curriculum in forestry. From this modest beginning, forestry education at Michigan Tech has advanced to become one of the leading undergraduate programs in the nation.

Contact with private industry, and preparation of forestry graduates for effective employment with both private and public organizations, was a hallmark of Bert Noblet’s approach to developing a strong forestry program at Michigan Tech. These policies continue to undergird the University’s forestry education program to the present time.

Another of Professor Noblet’s accomplishments, noted during the presentation ceremony, was his establishment of a Practical Woods School, soon after the end of World War II. This program, located at Camp Pori, some 45 miles south of Houghton, provided a 9-month course for training forestry technicians.

Professor Noblet’s contributions to the improvement of forest practice in the Lake States constitute one of his major achievements, it was noted. He worked extensively with several major forest land-owning companies in the Lake States in the development of sound forestry programs. This work constituted a strong contribution to betterment of the economy of the region, and its effects will be felt for generations.

Acquisition of the Ford Forestry Center by Michigan Tech, as a gift from the Ford Motor Company Fund, came about largely through Professor Noblet’s efforts, the citation noted. He also was praised for his activity in the Society of American Foresters over a period of many years. He held many offices in that organization throughout his career.
One of the most important undertakings of the Forestry Sciences Laboratory is the development of economically feasible harvesting systems. The foremost objective of this work is to increase utilization of forest residues, such as tops, crooked stems, and large limbs, as well as improving the quality of forest stands in the North Central States.

Since our last report, several whole tree chip harvesting systems (Fig. 1) have been tested by the Forestry Sciences Laboratory to investigate their feasibility for recovering forest residues and their effect on the growth of the residual stand. In this year’s article we report on two of these investigations.

A cooperative research study with Michigan Technological University entitled, “Field Evaluation of a Topwood Recovery System for Hardwood Sawlog Tops” was conducted on a northern hardwood stand of 21 acres located at MTU’s Ford Forestry Center in January, 1978. The objectives were to test the capability of a prototype topwood processor designed and built by the FSL, and to study the economic feasibility of recovering tree tops and large crooked limbs in a form suitable for commercial use. The topwood processor was designed to reduce the bulky tops to a manageable size for transport to the roadside, thereby minimizing damage to the residual stand. Along with the topwood harvester, a Clark Ranger Grapple Skidder and a Morbark Whole-Tree Chipper were used. Total recovery was 155 tops (108.5 green tons) in 15 hours of topwood harvesting operation. The estimated production cost ($/ton) of the harvesting system is summarized in table 1.

A second study entitled, “Strip Selection Method of Mechanized Thinning in a Northern Hardwood Pole Size Stand” was carried out on a predominantly pole size northern hardwood stand of 13 acres located in Alger County (August, 1978). The study had two objectives—first, to test and evaluate a whole tree chip harvesting system for thinning a hardwood stand and second, to provide whole tree chips for experimental burning as an auxiliary energy source in a coal fired electrical generating power plant (Marquette Board of Light and Power). This study was a cooperative research effort sponsored by Michigan Technological University, North Central Forest Experiment Station-USDA Forest Service, Michigan Department of Natural Resources, Marquette Board of Light and Power and the Michigan Department of Commerce - Energy Administration. A Drott Feller-Buncher, John Deere Skidder, Morbark Chipper 5 truck/tractors, and 5 chip vans were used. Total production was 1000 green tons in 33 hours of chipping operation. The estimated production cost was $9.00 per green ton.

The productivity and cost of any harvesting system changes from one logging chance to another and from one contractor to another, but these field trials have indicated that whole tree chipping is a feasible way to increase utilization of the available forest resource and to improve the quality of forest stands in the North Central States.
Ford Forestry Center Research

by Carl Trettin

Michigan's Act 268, P.A. 1977 identifies the Ford Forestry Center as the agency to provide the technical backup to the accelerated soil survey of Michigan. Under the Act the Center is working in cooperation with the Soil Conservation Service, Michigan Department of Agriculture, U.S. Forest Service and other state and county agencies to provide the technical data to make accurate forest soil interpretations for use by forest land managers. Currently the Center is working in eight counties throughout Michigan.

The primary role of the Ford Forestry Center is to furnish technical back-up for soil surveys where forested soils represent a large part of the country. Field sampling is tied to analysis by a soil survey laboratory at the Center which is being equipped and staffed to provide analysis of significant aspects of the soil-plant ecosystem. This will include characterizing soil taxonomic units, describing landscape systems, identifying present and potential plant communities for each kind of soil, and correlating plant growth, species adaptation and response to management by kinds of soil. In order to standardize analytical studies, the laboratory is working closely with the Soil Conservation Service National Soil Survey Laboratory (NSSL), which is located in Lincoln, Nebraska. The laboratory techniques and procedures employed match those of the NSSL, thereby insuring results compatible with national standards.

To accommodate these research activities the Soil Survey Laboratory has expanded its facilities to include a physical analysis lab, chemical analysis lab, two special purpose labs and a sample prep room. These facilities have been equipped with modern analytical instruments.

The laboratory has also implemented an Automatic Data Processing System (ADPS) which provides for the computation of all the lab data. In addition the ADPS computes a laboratory report and an interpretations report for each soil studied. Through this system the laboratory data becomes part of a national soil data base which is centered at the NSSL in Lincoln, Nebraska. The system also makes available any soils data in the national data base for use and analysis at the Center.

The expansion of the Soil Survey Laboratory has gained national recognition for the soils research program at the Center. The laboratory also provides other researchers at the Center and the Forestry Department, as well as other departments, with quality research facilities and expertise.
This past March, the Forestry Club sponsored the annual Venison Booyaw. Held at the Trinity Episcopal Church in Houghton, the Booyaw dinner attracted a larger than normal size crowd of hungry people. Dr. Gene Hesterberg gave the dinner invocation, and the people soon after began gorging themselves on the tasty stew-like meal.

Thanks to Dr. Norman Sloan, the chief cook in charge, the Booyaw meal was a total success. Norm out did himself this year by further perfecting his Booyaw recipe. The results of Norm's hard efforts were known when at the end of the dinner there was only a very small portion of the Booyaw left. Surprise! There was actually venison in the Booyaw this year!

Following the satisfying meal, Lynn and Margaret Hermann presented slides of the lands and wildlife of Montana. The slides had something to appeal to everyone, ranging from colorful mountain scenes to people cross-country skiing.

The evening ended far too quickly, but Booyaw 1979 was a success. A very special thanks goes to everyone who participated in Booyaw in one way or another.

— George W. Shabel, Jr.
Forester Staff:

Advisor: Dr. C. R. Crowther
Editor: Laura Helbling
Business Manager: Gregg Glaus
Photo Editor: Craig Mullenbrock
Art: Gene Burks
Photographers: Cathy Bowers, Philip Bowden
Makeup Editors: Susan Uttke, Mary Gallup, Janice Arden
Advertising: Frank, Best, Matt Brady, Tim Gufillian

Craig Mullenbrock sizes up a candidate for the Yearbook's paper stock.

Vince Sarno, Gregg Glaus, Phil Bowden, Craig Mullenbrock and Laura Helbling get the 1978 Forester ready for mailing to alumni.

High-level discussion takes place as Laura Helbling, Frank Best, Gregg Glaus, Phil Bowden and Gene Burks decide on plans for the '79 Forester.
If I invert this, will the image be upside down?

Look what the tide washed in!

My average cull factor is 156 per cent.

I get 2,504 paces per tally.
Forestry Club’s Winter Carnival snow statue parodied the movie, “Smokey and the Bandits.”
Christmas cheer, forest soils version.

Forestry Club's Winter Carnival skit featured, left to right, Jerry Perez and Dave Hamlin as Middle East negotiators and radio interviewer Jeff Noble in a "Face the Nation" takeoff.

Forestry Club moved into its new spacious telephone booth quarters.
THE OTTER RIVER CAMP

Probably this year's greatest achievement out at the camp has been the death of at least nineteen mice! Sorry folks, I know you'll miss the scampering in the kitchen at night, the disappearing soap, and the mice-mess near the sink.

We'll also miss the classic old refrigerator, with its inconsistent combinations of clatters and clunks as it struggled to keep its contents cool. It has been replaced by a nearly new, and much larger refrigerator. Hopefully, it performs as well as the old one.

Another accomplishment has been the installation of a wood stove in the main room to replace the old oil stove. No longer is there any oil smell back behind the cabin! But, what a chore to get that old tank out.

Much was accomplished on fall work day. About 35 foresters braved the early morning chill, and arrived at the camp ready to work. Thanks to everyone's hard work, and a nutritious meal of left-over booyaw, the day was a big success.

This past year will probably be remembered by all cabin goers as the year of the wet wood. Many of us learned that anything dry makes good kindling material. Next year, however, things will be different, as six summer campers will be at the cabin to split and stack a good supply.

Along with the hard work, there are good times and memories. Talking around the fire, snowshoeing out to the beaver dam, enjoying the fresh, crisp air of the night while looking up through the cedars, and the good feeling of swinging an axe are some of the things I have enjoyed the most. The cabin is the best place to go to really become refreshed.

Rich Spraggs
Camp Committee
Chairman
working low....

and pulling the load."
Forest Products Research Society

M.T.U. Student Chapter

Through the past 78-79 school year the FPRS club has kept busy. Now completing its second year of existence the club has grown to twenty-five members in size and is slowly getting involved in more activities.

We started this year off in the Fall of '78 by helping the FPRS, Upper Mississippi Valley Section, present their fall meeting. The location of the meeting was here on the MTU campus and despite the northerly location there was a good showing. The theme of the meeting was "The High Potential of Wood From Second Growth Forests of the North." Many technical papers were discussed with most topics dealing with low grade hardwood use in furniture, highway noise abatement walls, and wall paneling. The meeting was interrupted by lunch and dinner and the club put on a social hour later in the evening where the students enjoyed conversing with the businessmen.

Later in the fall the club participated in a pulp cut. It was a successful day of hard work which was financially benefiting and enjoyed by all. The day was ended with a picnic in which most of the members spent nurturing their tired bodies (the drinking age was 18).

The winter months left the club fairly stagnant as it does most things. But even though the snow kept falling, members were discussing plans for the revival of the club come spring.

The first piece of business in the spring dealt with officer elections. The retiring officers: Christopher Hobbins (Chairman), Daniel Miller (Vice-chairman), Tad DeVilbess (Membership chairman), and Paula Anderson (Secretary-Treasurer) were replaced by (in the same order) Robert Adams, Richard Karlowski, Monica Wojdak, and Carol DeBacker.

Under the new administration the club participated in "Tech is," a MTU campus open house. The club plans to present the Wood Fiber and Utilization program with informative displays representing each option.

Finally the club is also planning to take part in a tree plant before the school year ends. It should aid our financial situation and prepare us for the next year to come.

Robert Adams
Chairman, MTU
FPRS, Student Chapter
Over the past few years forestry students at MTU have seen an abundance of diversification occurring within their immediate environment. Within the forestry department there have been several changes among faculty, curriculum, course offerings, as well as the formation of various student organizations.

The world around us is in a very dynamic state and the changes that are made are established with the intent of securing and building a more technologically advanced society without upsetting the harmony and stability of the nation and the people within that nation.

In the spring of 1979, several students decided to implement a change within the department. These students elicited a lot of enthusiasm and support in the formation of a Student Chapter of the Society of American Foresters. We were granted recognition as a Student Chapter on April 23rd, 1979. We have established our own objectives to supplement those objectives formulated by the SAF founding fathers in the early 1900's. They are "To advance science, technology, education and practice, of professional forestry and to use the knowledge and skills of the profession to benefit society."

Our primary objectives as a student chapter are not only to uphold the objectives of the S.A.F. in Washington, but to zero in on a very important missing element at the University: individual professional career development. This involves meeting and talking with practicing foresters and educators on a local and national basis. The MTU Forestry Department does an excellent job of providing us with a well-rounded educational background that is widely recognized across the nation but, it is time for the students to individually extricate themselves from the spoonfed theory and get involved — at an early stage in their career — in their own personal professional career development. By attending S.A.F. meetings locally and nationally, students can obtain knowledge of the most current policies and techniques that are available and applicable to modern forestry.

We are the future foresters of America. We should open our visual and audible perceptions to those professionals that are practicing forestry today so that we can obtain and understand their hard-earned knowledge and apply these principles to the forests as professionals of tomorrow.

Michael D. Sekely
After only three years of existence, the soils club is gaining recognition. Thirteen chapter members represented Michigan Tech at the S.C.S.A. state meeting held in Lansing in the fall. The Club accepted an award in behalf of Gene Hesterberg, presented by the state chapter in appreciation of his outstanding assistance in the establishment of the Tech Chapter.

The club had its first annual banquet in December. Attendance of both students and professionals was excellent. Gene was presented with the S.C.S.A.'s outstanding service award at the dinner.

Winter Carnival brought hopes of capturing first place in the one-nighter snow statue category. The club managed a second place showing last year. The best laid place of mice and soils people...the only thing captured was a good time. Even the broomball team complete with imported players from Iowa, was defeated by a miraculous last minute goal. Maybe next year!

Spring term was highlighted with an excellent talk and slide presentation by Dr. Erbisch of the Biology Department about the stamp stands and problems of vegetating them.

The year's fund raisers were profitable and fun. A fall pulp cut put our bank balance well into the black. Winter and Spring terms were spent selling coffee and donuts in the forestry building to starving students and faculty. The students especially seemed to appreciate this new idea. The last fund raiser of the year had the soils people planting red pine for the Quincy Mining Company. It was cold that day and the white stuff made an appearance for a while. But as usual, the club had a particular knack for turning a possible disaster into an enjoyable time. Treasurer Joe Jacobsen is still grinning about profits for the year, although counting the coffee and donut money became a bore for him.

The Chapter would like to thank several people for their assistance in the year's activities. Gene Hesterberg, Lindo J. Bartelli, and Martin Jurgensen have been invaluable in planning for speakers and advising on S.C.S.A. events.

The future looks bright for the Tech Chapter. We have two members on the state student relations committee. This should provide for some important contacts for the future. The summer state meeting will be held in the Upper Peninsula at Big Bay. Several of our members will attend the meeting. The Michigan State University Chapter is also planning on visiting the U.P. this summer. They intend to visit Houghton for a weekend to see our soils and social assets.
Wildlife Society

During the weekend of March 16, 1979, a delegation from the Michigan Tech Chapter of the Wildlife Society ventured to the University of Nebraska in Lincoln. U of N hosted the 1979 North Central Wildlife Conclave. The conclave is a convention of midwestern universities which offer wildlife ecology programs. The weekend was spent attending a variety of lectures and seminars centering around the topic of wildlife, especially as it pertains to the Nebraska countryside.

The highlight of the weekend was the annual quizbowl. The quizbowl was run on the same format as the original television college quizbowl. Questions covered a gamut of topics, including wildlife management, taxonomy, and fisheries management. The Michigan Tech team, consisting of Captain Stacey Ault, Doug Jones, Steve Merchant, and Tim Webb placed second in the competition out of ten schools competing. First place was taken by the University of Wisconsin at Stevens Point. Team coordinator Terry DeBlay was particularly pleased with the brilliant upset of the Purdue team by Michigan Tech.

Next year's conclave (1980), will be held at Michigan State University, where the team hopes to do still better in competition.

by Tim Webb
One of the biggest events on the calendar of the Forestry Club is the biannual red pine pulp cut. It is important because it is the largest money making activity of the club.

The Copper Range Company red pine plantation west of Atlantic Mine is the place where the cuts take place. The object of the day's activity is to thin the plantation of undesirable trees. These trees are then cut to eight foot lengths which the Club sells for pulp wood.
After a hard day of cutting, limbing, and carrying red pine poles, the club treats for refreshments. Hot dogs, potato chips, and beer or soft drinks are the usual fare.

For some reason, the owner of Al’s Halfway Bar, the usual watering hole after past pulp cuts, decided he did not want to host the event any longer. Schmidt’s is not the largest building in the world, they allowed us to take over the lawn outside. This proved to be good because foresters are just as liable as anyone to get rowdy after a few beers. Where else but Michigan Tech would you find a telephone pole climbing contest, complete with climbing spikes?

Pulp cut day is looked forward to by many because of the chance to help the club raise money, and by others because it is a chance to work off their frustrations on a few red pines. But whatever the reason, all who attend a pulp cut have a good time.

Allan Magsig  
Treasurer  
Forestry Club
SUMMER CAMP "78"

Since it has been said, “A picture is worth a thousand words,” instead of trying to tell you what summer camp is all about I hope these pictures will do it better.

— G. Glaus

Some of our staff: Sneezy, Happy, Grumpy and Sleepy.

A common version of the U.P.'s Veneer Grade Sugar Maple. (*Acer pretzelus*)
Let's see, that's 124.846936 degrees, give or take 2 degrees.

Basic equipment for the log scaler.

Now let's see, what did Crew 4 get for this?

One of those veneer hardwoods we hear so much about.
XI SIGMA PI

The Alpha Eta chapter of Xi Sigma Pi is now in its tenth year at Michigan Tech. The objectives of the society are to work for the improvement of the forest resources management profession and to promote a fraternal spirit among those engaged in activities related to the forest resources. High scholastic achievement is a basis for membership, however, increasing concern over a quality membership is causing greater emphasis on an individual's personality and character as a final induction concern.

Reflection upon the past years has indicated one of the changes including the addition of a new faculty advisor, Dr. Johann Brunn. The chapter has also expanded its fund raising activities over the standard fall and spring pulp cuts, to selling coffee and donuts during the morning hours in the forestry building. The undertaking has retained a duel role offering an added income for the society, but more important, it has provided a service to the faculty and students of the forestry department.

A more active chapter was sought this year and in some respects attained through increased membership participation in chapter activities.

I would like to express my sincere appreciation and thanks to a most outstanding group of officers, friends, and active members this year.

Dan Bailey - President

XI SIGMA PI SYMPOSIUM

On April 26, the Michigan Tech Chapter of Xi Sigma Pi, honorary Forestry society, sponsored its annual spring symposium. Held in the Memorial Union Ballroom, this year’s theme was “The Role of Soil Survey in Forest Management.”

The symposium is based on the Accelerated Soil Survey Act, Act 268 (1977). It specifically identifies the soil survey as an integral part of managing the forest resources of Michigan. It will ensure a soil survey that is most useful in forestry management, as well as other uses. The Michigan Department of Natural Resources shall develop standards and guidelines for the adequate soil mapping of forest areas. The Michigan Department of Agriculture is assigned the task of carrying out this Act.

The first speaker was Dr. Eric Bourdo, Dean of the School of Forestry and Wood Products, Michigan Tech. He gave the background information on the process necessary to get the bill passed by the Michigan House and Senate. Throughout the process, it stressed the need for better classification of non-agricultural soils. Dr. Bourdo was instrumental in helping the bill to be enacted.

Following Dr. Bourdo was Mr. Loren Berndt, a Soil Scientist with the Soil Conservation Service and in charge of the Baraga County Soil Survey. He discussed the “Mechanics of Soil Mapping.” Utilizing two flow charts, he was able to explain the program steps for a Project Soil Survey and the approximate time period involved. Mr. Berndt considered the published soil survey the most important document in a county.

Dr. Don Mader, Professor of Forestry, University of Massachusetts, was the next speaker. He presented the “Relations Between Soil and Site Productivity.” He stated that the soil survey can be interpreted for a wide variety of uses. But much research must still be done since many problems still exist. Dr. Mader suggested that new soil phasing criteria need to be established to eliminate the inconsistent predictions made from soil series with wide variations.

After the luncheon, Mr. Jim Jordan, a Forest Soil Scientist on the Ottawa National Forest, presented the “U.S. Forest Service Perspective” on the soil survey.

The final speaker was Mr. Art Abramson, a Resource Analyst for Champion Timber Lands. He presented the forest industry standpoint of the “Detailed Soil Survey: Opportunity For Better Understanding Forest Soils Capabilities.” Mr. Abramson saw the soil survey as a means of solving forest land management problems, now and in the future. Some of the most immediate improvements cited were to refine estimates of potential productivity and more specific operability limitations.

Each speaker answered questions after their presentation and a short question and answer period was held after all the speakers were through.

-- Chuck Percy --
Foresters Active In Varsity Sports

Jerome Perez, wrestling; Greg Stone, football; Tom Morgan, wrestling.

Sandra Green, volleyball.

Jeff Cunningham, swimming; Ken McLellan, wrestling; Barbara Bonefeld, basketball.

Amy Spence, tennis.

Craig Amey, football; Cathy Bowers, skiing; Phil Loffman, wrestling.

Scott Stevens, football.
Conclave Hosted by MSU

Conclave was hosted by the Michigan State Foresters at the William Kellogg Experimental Forest. Accommodations were better than expected, as we were based in the Kellogg Mansion. Unfortunately that was one of few high points.

If points were given for determination we would have toppled the Missouris dynasty. Outnumbered by most of the teams, we took points in five events. Some members competed in two strenuous events back-to-back. Our special event team exemplified our drive by sending four climbers up our pole.

We may have gotten disqualified, but we got our number tag! For all our efforts we finished sixth with 12 1/4 points.

Things are looking up for next year, though. Student Council will be helping to fund the team. Tryout rules have been revised to stimulate active participation from club members. And most importantly, the 1980 Conclave Committee is determined to combine fine competition with a good time.

On to Minnesota!

Gail Simonds

Foresters Placing In Events

<table>
<thead>
<tr>
<th>Name</th>
<th>Event</th>
<th>Place</th>
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<tbody>
<tr>
<td>George Kapolka</td>
<td>Tobacco Spit</td>
<td>First</td>
</tr>
<tr>
<td>Ed Berger</td>
<td>Chain Throw</td>
<td>First</td>
</tr>
<tr>
<td>Steve Clark</td>
<td>Chopping</td>
<td>Fourth</td>
</tr>
<tr>
<td>Dar Garrett</td>
<td>Match Split</td>
<td>Tie Fourth</td>
</tr>
<tr>
<td>Garrett &amp; Simonds</td>
<td>Two-Woman Buck</td>
<td>Fourth</td>
</tr>
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</table>

Heir apparent to the tobacco spit crown.
The short half of the team.

The team's utility forester.

What? No polka rendezvous?

The team's Macho Man.
Dean's Award

Stacey Ault and Barbara Wade were the recipients of the Dean's Award for 1978-79. Their names have been engraved on a plaque in the main hallway of the Forestry Building, along with the award winners from previous years.

Stacey achieved a superior grade-point average of 3.94 during his years as a student in Forestry. His Option was Wildlife Ecology. He was an officer and active member of the Wildlife Club, and served as chairman of the club's annual Wild Game Smorgasbord. Stacey taught a continuing education course in Taxidermy, and served as a student assistant to faculty members. He also worked in the Computer Center, helping to organize data on wildlife research projects. He currently is a graduate student at Texas Tech University, Lubbock.

Barbara achieved a grade-point average of 3.36. She majored in Wood and Fiber Utilization. Active in the Forest Products Research Society, she served as the group's membership chairman. She also was an active member of Xi Sigma Pi, honorary forestry society, and assisted with the 1978 Symposium sponsored by that organization. Barbara also served as a laboratory instructor in Dendrology, and assisted other Forestry Department faculty members. During her undergraduate years, she participated for one year in the U.S. Forest Service Co-op program, working as an extension specialist with the Division of State and Private Forestry. She attended short courses and seminars held to assist small companies in forest industries in solving technical problems. She now holds a career appointment with the Forest Service, in State and Private Forestry, at Morgantown, W. Va.


Don Anderson, building superintendent.
WHAT IF WE HARVESTED FOOD LIKE WE HARVEST TIMBER?

Consumers wouldn't stand for it. They would see that heads rolled in Washington. Why, if we managed our agricultural crops as ineffectively as we manage our national forests, this country would no longer be the world's breadbasket. Not by a long shot.

It's time we Americans asked our President, senators and congressmen, to take a look at the huge potential of our woodlands. We should point out that the economic and environmental benefits of the forest can be enjoyed at the same time without conflict.

It's time we said-look, there's over six billion board feet of timber going to rot out there every year. We could take that material and build 400,000 new homes. Create $600,000,000 in local tax revenue.

If we got serious, we could make our national forests far more productive. Already private industry has shown how intensive forest management can double, in some cases even triple, the amount of wood grown on a piece of land. What the Forest Service needs most is money-the funds to get the job done right. It's up to us to remind congress that every dollar invested in the Forest Service yields a profit to the U.S. Treasury. We must let it be known that this country deserves a progressive National Forest Management Act which will see to it that:

1. Timber production goals be established consistent with the nation's anticipated need and with the capability of the national forests to meet that need.
2. Timber be sold in volumes sufficient to meet the established production goals.
3. Funds be provided for intensive management.
4. Over-age timber be harvested before it decays.

Write today. A little yelling could do us all some good.

For more information on the need for a national timber policy, write Louisiana Pacific, Seaway Division, P.O. Box 766, Escanaba, Michigan 49829.

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For more information on the managed forest and Georgia-Pacific's supertree program—write "Managed Forest," Dept. YB-79
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