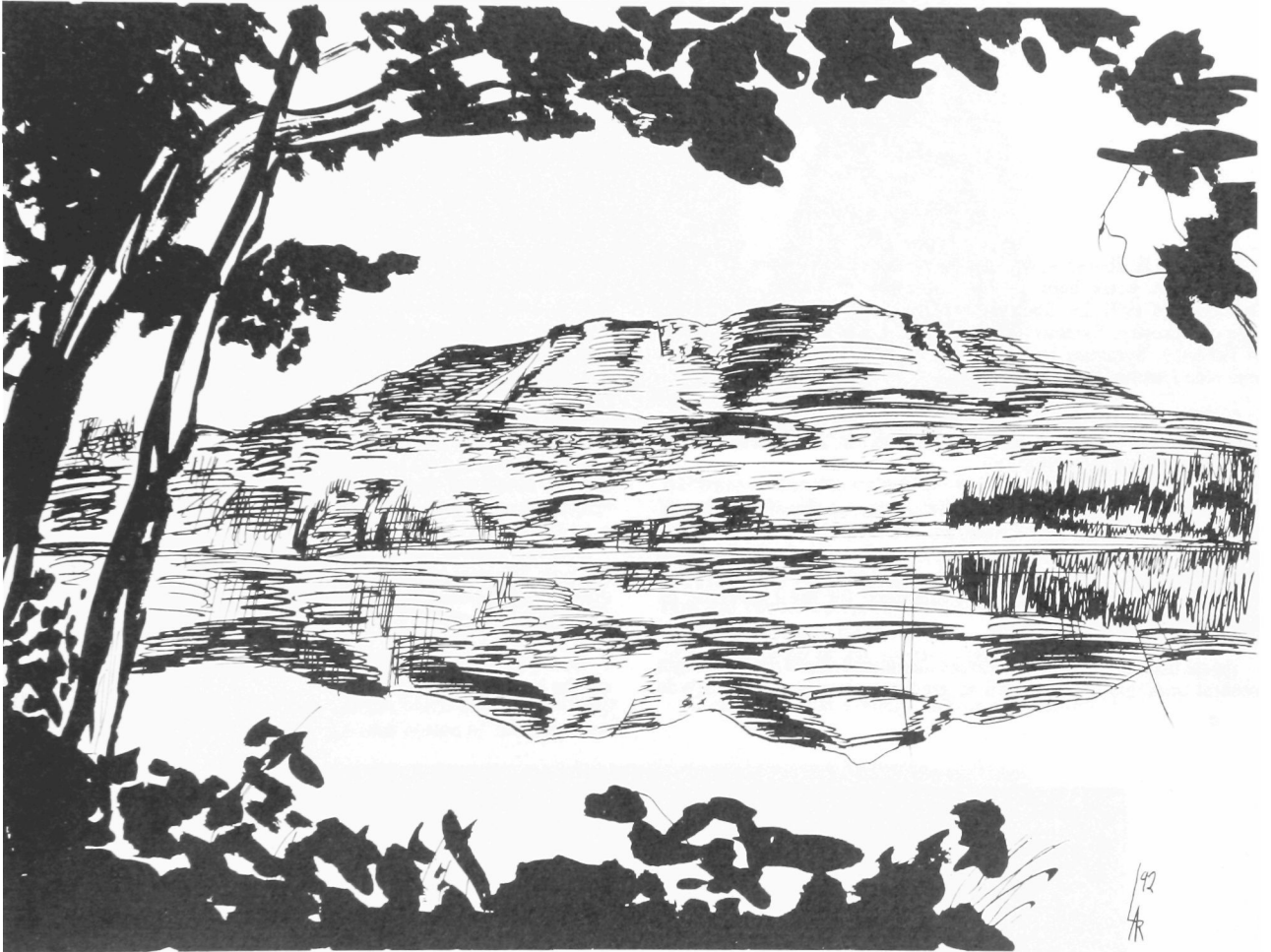




THE
MAINE FORESTER
1991-1992

Making A Difference



Published Annually by
The Students of the
College Of Forest Resources
University of Maine

Cover Photo by Tim Boyd

DEDICATION



James E. Shottafer

Dr. James E. Shottafer, who has been referred to by many as "Doc" over his 28 years here at the University of Maine, retired in December of 1991. Dr. Shottafer received his B.S. from SUNY College of Forestry, Syracuse in 1954, his M.S. from SUNY College of Forestry, Syracuse in 1956, and his Ph.D. in forest utilization and wood technology from Michigan State University in 1964.

Dr. Shottafer came to the University of Maine in 1964 as an associate professor of wood technology and later in 1970 became a full professor of wood technology.

Much can be said about "Doc's" career at the University of Maine's College of Forest Resources. "Doc" has been involved with presentations for the Cooperative Extension Service, the Professional Development Advisory Committee for the College of Forest Resources, The continuing Education Committee for the University of Maine and numerous others.

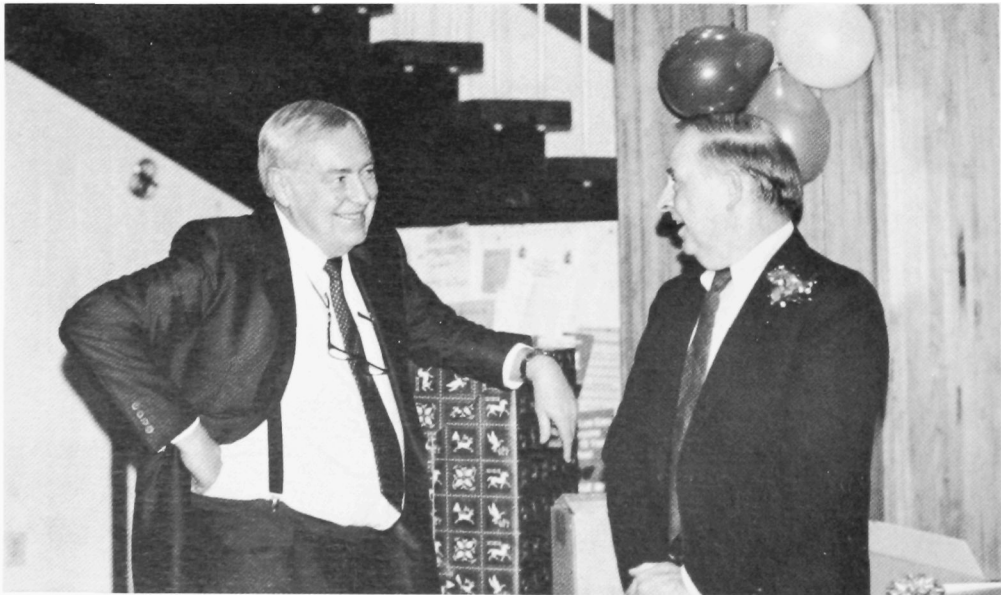
Aside from Dr. Shottafer's duties mentioned above, he has taught several undergraduate as well as graduate courses. These include

timber mechanics, process design in forest utilization, research methods in wood technology, and special problems in wood technology. Although many students within the College of Forest Resources have not had the privilege of Dr. Shottafer's teaching experience, no student who has crossed his path over the years ever forgets him. This was obvious from his retirement reception this past December.

Probably the most likeable trait which "Doc" possesses (from the students' perspective) is the care he exhibits towards his students and his desire for them to become knowledgeable professionals. "Doc" has always had time for his students and their concerns.

In recognition of the services that Dr. Shottafer has provided over the past 28 years to the University of Maine and the students of the College of Forest Resources, the 1991-92 Maine Forester is dedicated in his honor.

Doc -- Florida may not be the Bahamas, but -- have a good time on the beach.



NUTTING NEWCOMER

Joanne F. Tynon
Assistant Professor
Parks, Recreation, and Tourism



Joanne F. Tynon is the newest addition to the faculty of the College of Forest Resources. She has recently completed her Ph.D. program in resource recreation and tourism at the University of Idaho.

Professor Tynon has taught and lectured on several topics including "Leisure Services Research and Evaluation", "Recreation Operations and Facilities Management," "Fundamentals of Research", as well as numerous computer classes and labs.

Professor Tynon has been active in the Idaho statewide survey of travelers which assesses the scope and nature of leisure travel

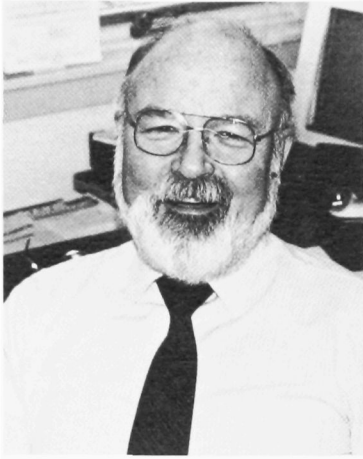
and recreation in that state. In addition, she was the conference coordinator and facilitator of the 1988 National Recreation Area Symposium.

Professor Tynon's ambition for the future of the Parks, Recreation and Tourism program includes a greater number of faculty and departmental status for the program. She hopes to improve the image of this program in the tourism area.

Welcome to the College of Forest Resources!



NUTTING NOTES



Dr. Robert Forster

Dr. Forster returned to Canada in late January of this year. Dr. Forster served as Professor of Forest Economics at the University of Maine for four years (1988 - 1992).

Dr. Mary Ann Fajvan

Dr. Fajvan served as a replacement for Dr. Bob Seymour while he was on sabbatical leave. Dr. Fajvan taught FTY 408 and 409 (Silviculture) during the fall semester of the 1991-92 school year. Dr. Fajvan will be leaving the University of Maine this spring.

On behalf of the students and faculty of the College of Forest Resources, best of luck to both Dr. Forster and Dr. Fajvan.



This year the University of Maine dedicated room 100 Nutting, in honor of Dr. Fred B. Knight. Now known as Knight Auditorium, this room is the main lecture hall for Nutting Hall. It is only fitting that this room be dedicated in honor of Dr. Knight. He has led the College of Forest Resources proudly over many years. His service to the University community, the College of Forest Resources, and his relationship and identity among students has earned him this honor.

Congratulations, Dr. Knight!

GREETINGS FROM THE DEANS

Today's natural resources professionals are "making a difference". They are making a difference in the short-term through their day-to-day practices and in the long-term through their policies and plans. The challenge lies in coming to a consensus on future natural resources use and conservation in America and the international arena.

As a nation, we are in the process of redefining our "land ethic" and economic structure. The supply of rural land for commodity production and amenities is affected by land use controls, tax regulations and other institutional factors as well as physical and technological factors. The changing roles of federal, state and local governments will continue to influence natural resource use. The roles of private landowners will also influence the availability and accessibility of America's natural resources.

Resource professionals need to get involved in helping to shape America's new "land ethic" and the policies affecting its use. Now is the time for action. Resource management requires objectives, communication and a balancing of interests. As managers, educators and advocates for the natural resources, foresters, wildlife biologists, recreation and tourism specialists, forest engineers and wood scientists have a vested interest in and knowledge of natural systems to play key roles in the planning process.

The motivations of individuals within these professions may differ. The desire to maintain a viable resource base, however, is a unifying force among resource professionals. There are many interest groups today that want a say in how our nation's resources will be managed. Debate of the issues is essential for developing the most appropriate policies and practices. The voice of trained resource managers must be heard if sound decisions are to be made.

As students, you have the opportunity to develop strategies for your professional involvement in today's issues. The changing roles of resource managers are being debated in the professional organizations, accrediting bodies and in society at large. Your future is being discussed and your opinions are important.

* * * * *

Despite tough economic times this past year, the College of Forest Resources (CFR) has maintained its excellence in teaching, research and public service. College faculty, administrators and staff have worked hard to provide our students the quality education we are traditionally known for with fewer resources. The continuing recession will require that we carefully consider and plan for our College's short and long-range goals.

The College is in the process of major curricula revisions to update and enhance our undergraduate programs. Our Forestry, Forest Engineering and Wood Technology Programs will be reviewed for re-accreditation next year. You deserve the best education and the

best preparation for the natural resources challenges that face our nation. We need to hear what you have to say about your education at the University of Maine and your expectations for your profession and career. Please share your ideas with us.

The College welcomed its newest faculty member in September 1991. Dr. Joann Tynon joined our Parks, Recreation and Tourism Program as an Assistant Professor. Dr. Tynon came to us from the University of Idaho, filling the vacancy left when Dr. Paul Risk accepted a position at Stephen F. Austin State University in Texas. The College is pleased that Dr. Tynon has brought her expertise to the fastest growing program in the College.

Long-time faculty member James Shottafer announced his retirement from the College effective January 31, 1992. Dr. Shottafer dedicated 28 years of his life as a teacher, researcher and mentor in our wood technology and forestry programs. He and his wife will be starting a new "career" in retirement in Florida in the near future. Dr. Shottafer will be greatly missed. We are grateful for his years of dedication and service to the CFR; and we wish him much happiness in his new life. A search for Dr. Shottafer's replacement is now underway.

Several "friends" of the CFR are still in-town and continue to contribute much to the College. Dean-Emeritus Fred Knight is President of the **Forest Resources Alumni Association** and is active on numerous committees where he shares his wisdom and knowledge with us. On December 12, 1991, Room 100 Nutting Hall was formally dedicated as the "**Fred B. Knight Auditorium**" in his honor. Professor-Emeritus Richard Hale, who retired in 1990, can be seen in Nutting Hall on a regular basis. He is also active with the Alumni Association and in developments in the Wood Technology Program. Professor-Emeritus Wallace Robbins also participates in College activities throughout the year. We still see Drs. Griffin, Giddings, Randall and Coulter and Roger Taylor from time-to-time as well.

We congratulate those of you who will be graduating this year. We appreciate what you have given to us. We encourage you to get involved in your professions and in our College as alumni. You can "make a difference" by your participation. You have the opportunity to shape the natural resources future in our nation and the world beyond by your involvement. We challenge you to get involved and to be diligent in your careers. For those of you who will remain with us in 1992, we wish you continued academic success and personal enrichment at the University of Maine. We thank each of you for your contribution to our "tradition of excellence" which is entering its 90th year. We wish all our students good luck with your studies and career plans this year. May you find happiness and fulfillment of your goals and dreams.

Dean G. Bruce Wiersma & Assistant Dean Katherine Weber



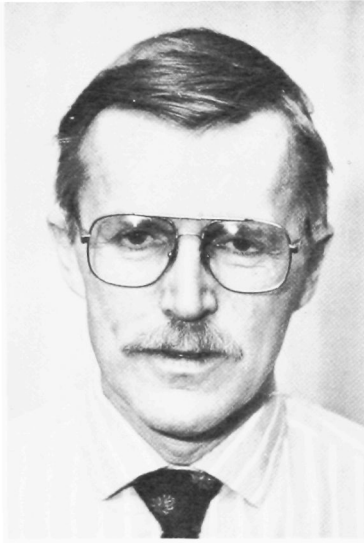


*Commercial timberland
can be used for growing and
harvesting repeated crops of trees.
But even in these forests, portions
are often permanently set-aside for
non-timber uses such as scenic protection,
recreation, streamside protection, roadless
assets, and wildlife.*

Faculty



ADMINISTRATION



BRUCE WIERSMA

Dean

*B.S., University of Maine, Wildlife, 1964
M.F., Yale University, Forest Ecology, 1965
Ph.D., SUNY College of Environmental
Science, 1968, Forest Ecology*



KATHERINE L. WEBER

Assistant Dean

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Natural Resources Management, 1976
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M.S., University of Rhode Island
Community Planning, 1987
(Environmental Planning)*



JANICE L. GIFFORD

Assistant to the Dean

*for Finance
A.S., ICS Center of Degree Studies
Business Administration, 1986*



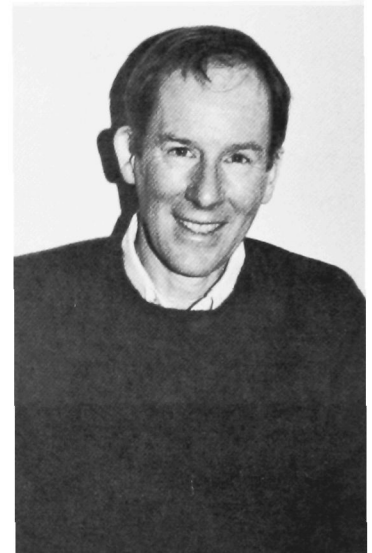
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Professor of Forest Resources
Professor and Co-Administrator of
Forest Engineering
B.S.F., Mich., Technological University,
Forestry, 1955
M.S.F., Purdue University,
Forestry, 1962
Ph.D., Purdue University, Economics,
Industrial Engineering Statistics, 1962
Engineering Economics*



MICHAEL S. GREENWOOD

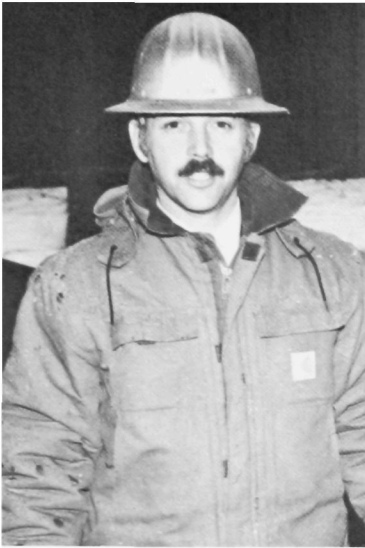
*Chair, Department of Forest Biology
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Professor of Forest Resources
B.A., Brown University, Botany, 1963
M.F., Yale, 1966
Ph.D., Yale, 1969
Tree Physiology*



RAY B. OWEN, JR.

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Professor of Wildlife Resources
B.A., Bowdoin College, Biology, 1959
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Ph.D., University of Illinois,
Ecology, 1968
Wildlife Ecology*

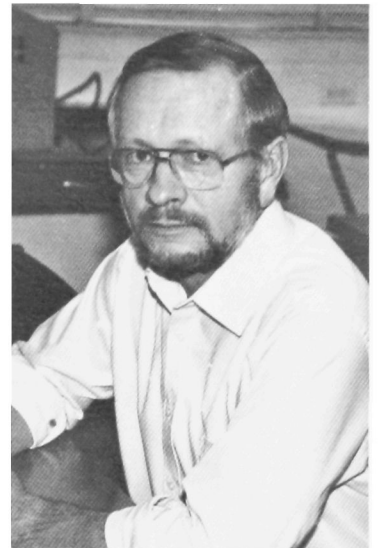
FOREST MANAGEMENT



ALAN J. KIMBALL
Associate Professor of Forest Technology
B.S., University of Maine, Wildlife
Management, 1972
M.S.F., University of Maine, Forest
Management, 1978
Biology and Integrated Management of
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B.S., Michigan State University,
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Ph.D., Yale School of Forestry and
Environmental Studies, Silviculture, 1980
Timber Management and Harvesting



STEVEN A. SADER
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B.S., Northern Arizona University,
Forest Resource Management
M.S., Mississippi State University
Ph.D., University of Idaho

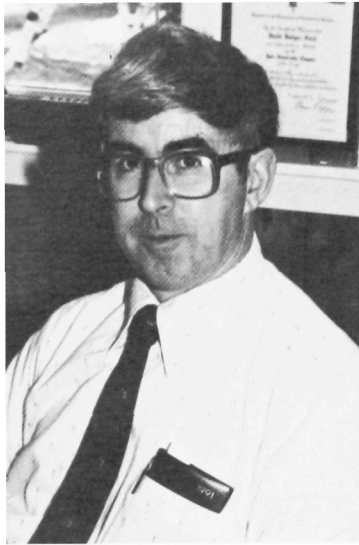


J. LOUIS MORIN
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M.S., University of Maine,
Forestry, 1978
Photo Interpretation and Remote Sensing

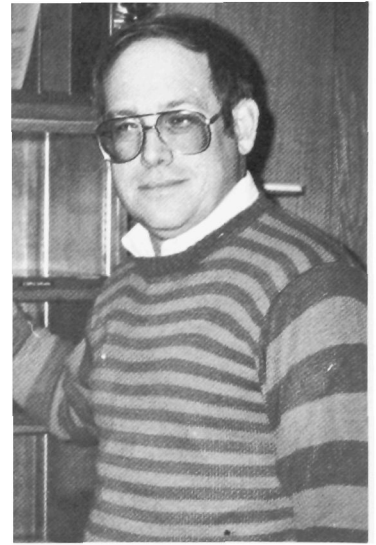
FOREST MANAGEMENT



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Head, Forest Products Lab
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Botany and Plant Pathology, 1976
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Forest Products, 1980
Ph.D., Oregon State University,
Forest Products, 1983
Wood Science and Technology



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B.S., University of Maine, Forestry, 1963
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Economics, 1974
Forest Policy



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B.S., University of New Hampshire,
Forest Management, 1969
M.S., University of New Hampshire,
Forest Management, 1974
Ph.D., Virginia Polytechnic Institute
and State University, Forest Biometry, 1979
Statistics and Computer Applications
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Syracuse, Wood Technology, 1954
M.S., State University of New York,
Syracuse, Wood Technology, 1956
Ph.D., Michigan State University,
Wood Science, 1964
Wood Properties and Processing

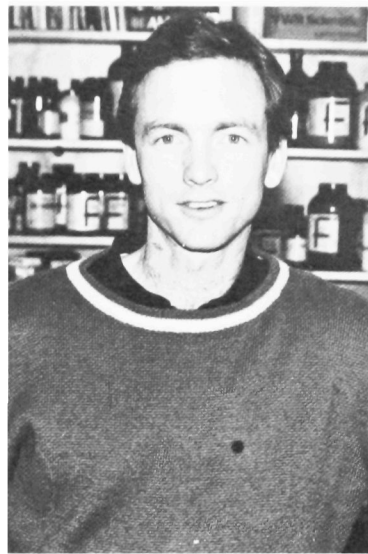


ROBERT W. RICE
Assistant Professor of Wood Science
B.S., University of New Haven, 1974
M.S., Virginia Polytechnic Institute
and State University, 1985
Ph.D., Virginia Polytechnic Institute
and State University, 1988
Wood Physics

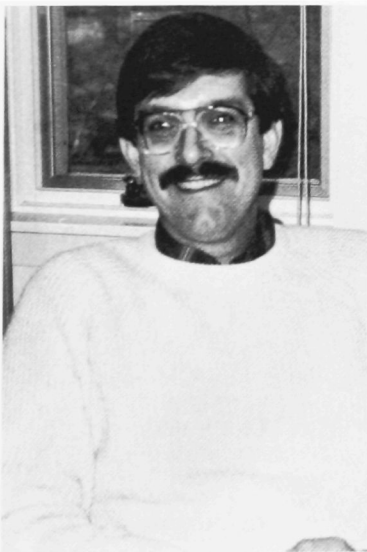
FOREST BIOLOGY



CHRISTOPHER W. MURDOCH
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and Assistant Professor of Forest Resources*
*B.S., University of Maine, Forest
Pathology, 1975*
*Ph.D., University of Maine, Plant
Sciences, 1981*
Forest Pathology



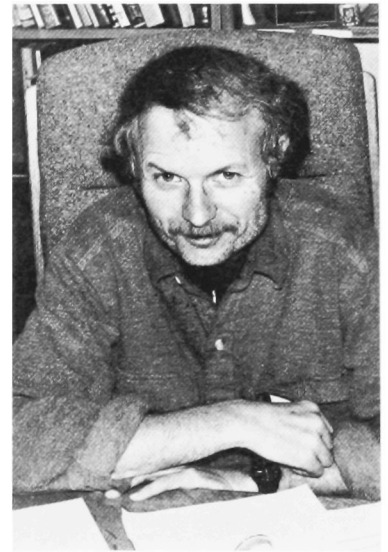
WILLIAM H. LIVINGSTON
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Forestry, 1976*
*M.S., University of Idaho, Forest
Science, 1978*
*Ph.D., University of Minnesota Plant
Pathology, 1985*
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ALAN S. WHITE
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Forest Ecology/Silviculture



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Biology, 1974*
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*Ph.D., West Virginia University, Forest
Genetics, 1980*
Forest Tree Improvement



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Wood Anatomy, 1962*
*M.S., Syracuse University, Forest
Pathology, 1965*
*Ph.D., University of Illinois, Structural
Botany, 1968*
Wood Anatomy

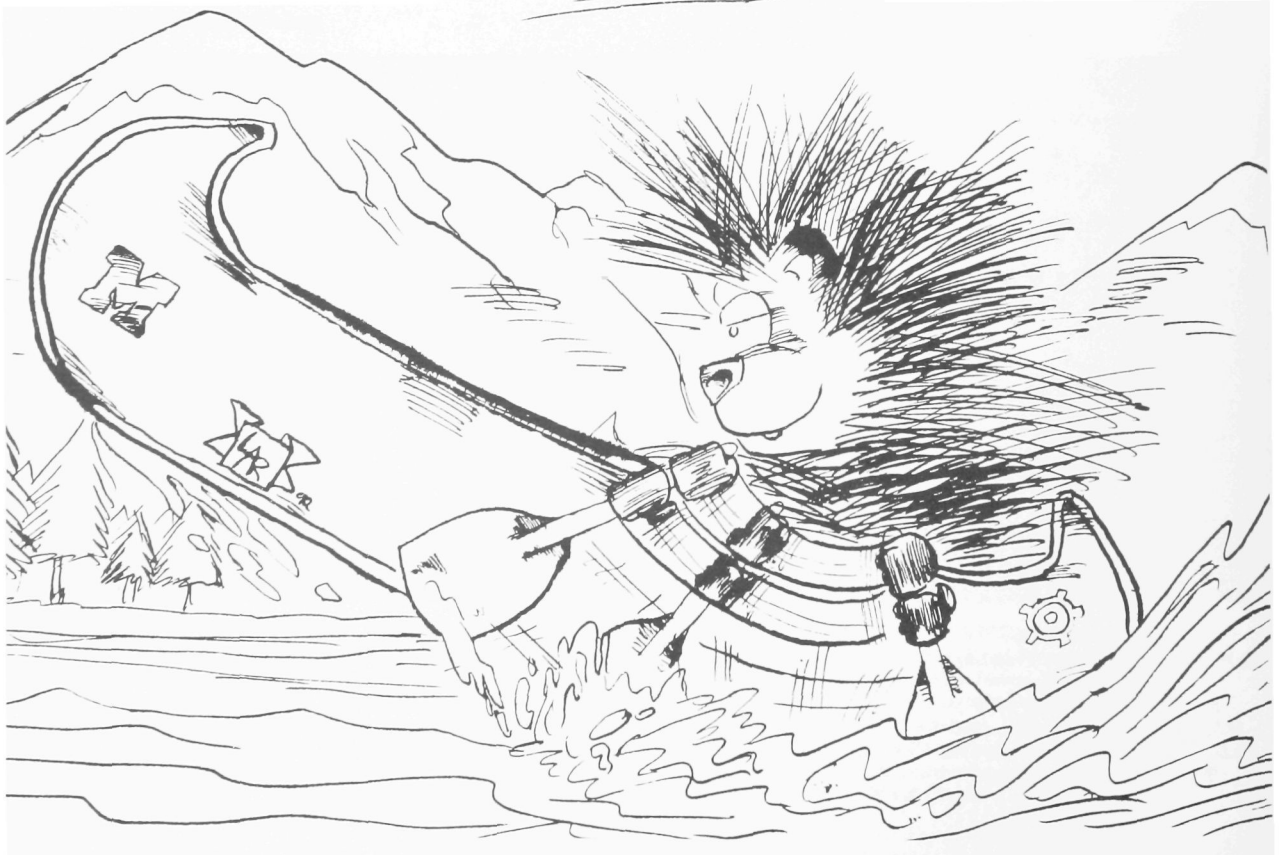
RECREATION AND PARK MANAGEMENT



FLOYD L. NEWBY
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B.S., Utah State University,
Forestry, 1964
M.S., University of Michigan,
Forest Recreation, 1966
Ph.D., University of Michigan,
Forestry, 1971
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JOANNE F. TYNON
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Chemistry, 1979
B.S. University of Idaho, Wildland
Recreation Management, 1984
Ph.D. in progress, Resource Recreation
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WILDLIFE



MALCOLM L. HUNTER
Professor of Wildlife Resources
B.S., University of Maine,
Wildlife Science, 1974
D.Phil., Oxford University,
Zoology, 1978



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JAMES R. GILBERT
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M.S., University of Minnesota, Ecology, 1970
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Science, 1974
Population Dynamics



FREDERICK SERVELLO
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University, Wildlife Management, 1981
Ph.D., Virginia Polytechnic Institute and State
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Wildlife Management, 1980
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Management, 1982
Ph.D., University of Maine,
Wildlife, 1985



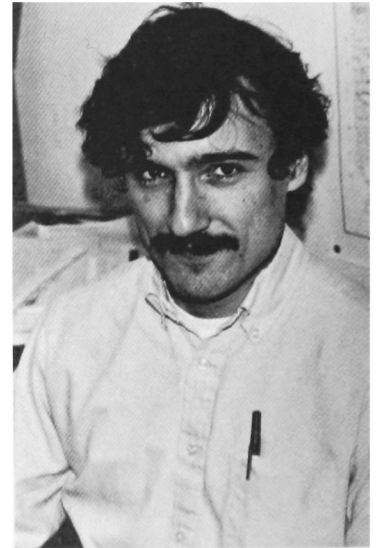
THE COOPERATIVE FORESTRY RESEARCH UNIT



MAXWELL L. McCORMACK, JR.
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M.F., Duke University, Silviculture, 1959
D.F., Duke University, Silvics, 1963
Silviculture

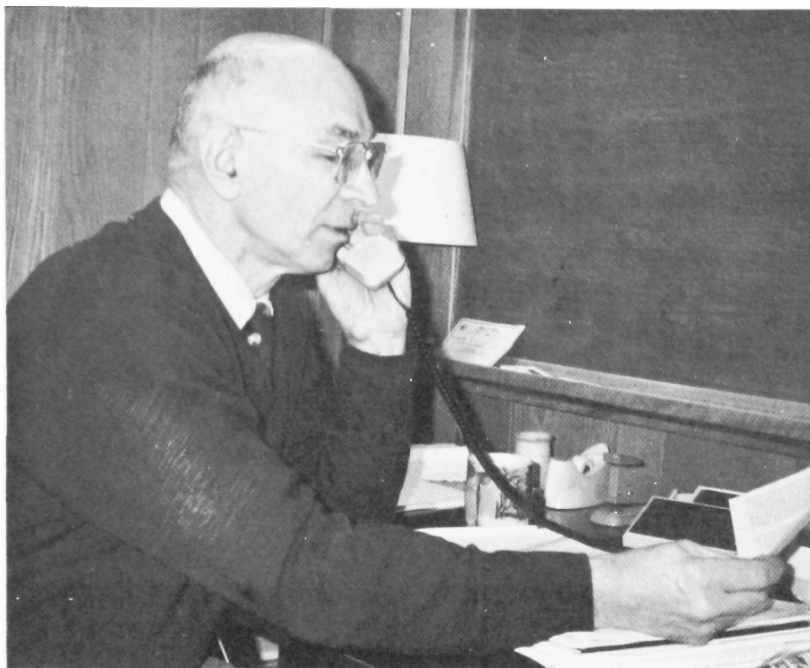


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Forestry, 1970
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Forestry, 1973
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Forest Pathology



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Science and Forestry, Forest
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M.S., SUNY College of Environmental
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Silviculture and Forest Biometry, 1982
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Science and Forestry,
Silviculture and Forest Soils, 1985
Forest Soils

COOPERATIVE EXTENSION SERVICE



BUD BLUMENSTOCK



WILLIAM LILLEY

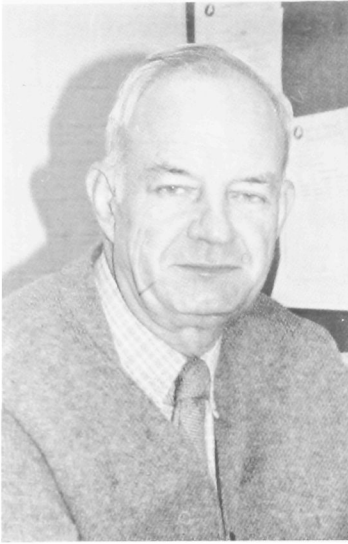


JAMES PHILP

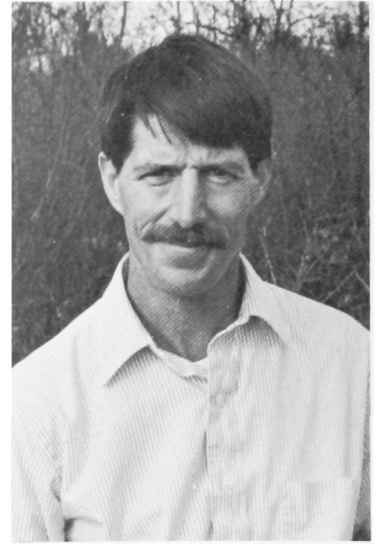


CATHERINE ELLIOTT

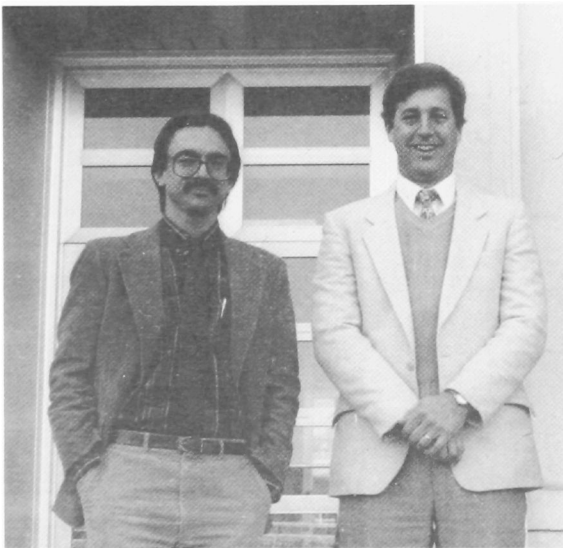
COOPERATING FACULTY



HAROLD GIBBS
*Professor of Animal
and Veterinary Sciences
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CHRISTOPHER CAMPBELL
*Associate Professor of
Plant Systematics*



IVAN FERNANDEZ
Assistant Professor of Soil Science

WILLIAM MITCHELL
*Associate Professor of
Landscape Architecture*

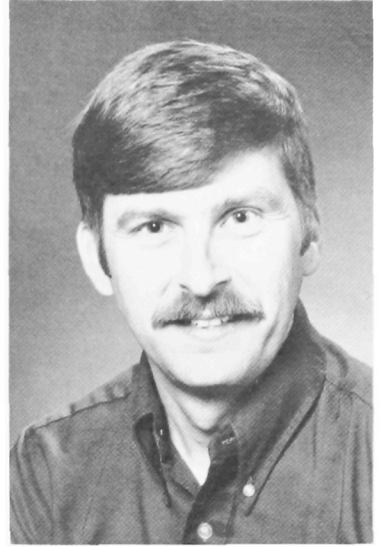


WILLIAM B. KROHN
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B.S., University of Alaska,
Wildlife Management, 1968
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NORMAN SMITH
Dean of Engineering



WARREN HEDSTROM
*Associate Professor of
Forest Engineering*



JODY JELLISON GOODELL
*Assistant Research Professor
of Molecular Plant Pathology*

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Chester F. Banasiak Associate Research Professor Emeritus of Wildlife
Frank K. Beyer Associate Professor Emeritus of Forestry
Lewis P. Bissell Extension Forestry Specialist Emeritus
Richard J. Campana Professor Emeritus of Forest Pathology
Malcolm W. Coulter Professor Emeritus of Wildlife Resources
Edwin L. Giddings Associate Professor Emeritus of Forest Resources
Ralph H. Griffin Professor Emeritus of Forest Resources
Richard A. Hale Associate Professor Emeritus of Wood Technology
Benjamin F. Hoffman Associate Professor Emeritus of Forest Resources
Fred B. Knight Dean Emeritus
Howard L. Mendall Professor Emeritus of Wildlife Resources
Arthur G. Randall Associate Professor Emeritus of Forest Technology
Roland A. Struchtemeyer Professor Emeritus of Forest Soils
Roger F. Taylor - Forest Superintendent Emeritus
Wallace C. Robbins Associate Professor Emeritus of Forest Resources
Harold E. Young Professor Emeritus of Forest Resources

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Barton M. Blum, Project Leader, USFS
William C. Bragg, Assistant Professor, Paul Smith's College, NY
Michael Coffman, Champion International Corporation
Patrick Corr, Maine Inland Fisheries and Wildlife Department
Hewlette S. Crawford, Research Wildlife Biologist, USFS
Richard Dressler, Maine Inland Fisheries & Wildlife
Kenneth Elowe, Maine Inland Fisheries & Wildlife
Robert M. Frank, Research Forester, USFS
David Gimble, Forest Entomologist
Alan Hutchinson, Maine Inland Fisheries & Wildlife
Lloyd C. Irland, The Irland Group
Oliver Larouche, Hirundo Wildlife Refuge
Jerry Longcore, Biologist, U.S. Fish and Wildlife Service
George Matula, Maine Inland Fisheries and Wildlife Department
Thomas B. Saviello, Research Forester, International Paper Co.
Dale S. Solomon, Research Forester, USFS
Bret P. Vicary, James W. Sewall Co.
Bradford S. Wellman, Attorney, Pingree Associates (retired)

Staff



ADMINISTRATIVE STAFF



BRENDA ASTBURY



SHERRY LADD



HELEN BELYEA



ELEANOR HEINZ



LISA LYONS



CINDY PASCHAL

ADMINISTRATIVE STAFF



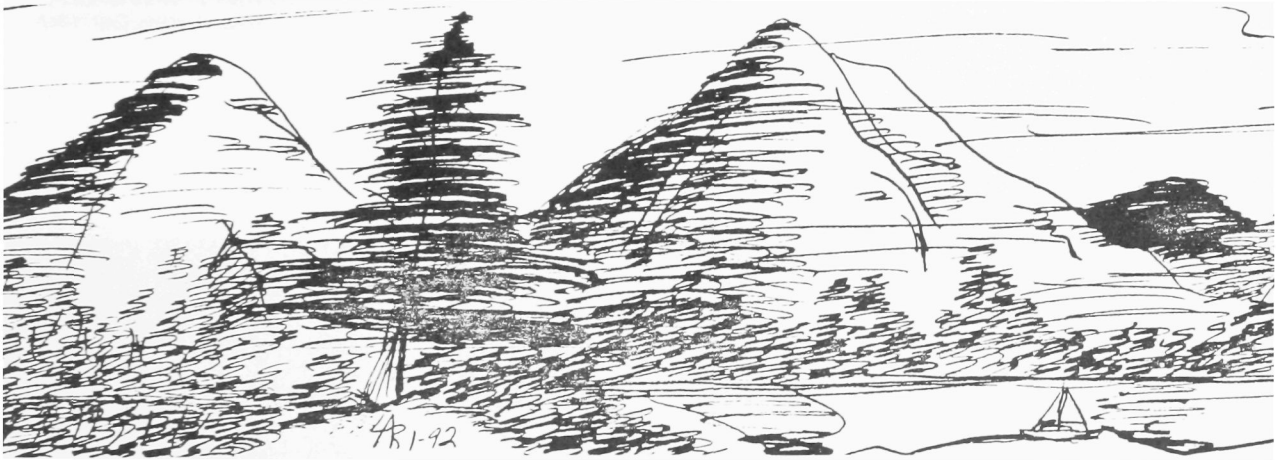
DOLORES STONE



GINA PELLETIER



PEGGY SMART



SHIRLEY MOULTON

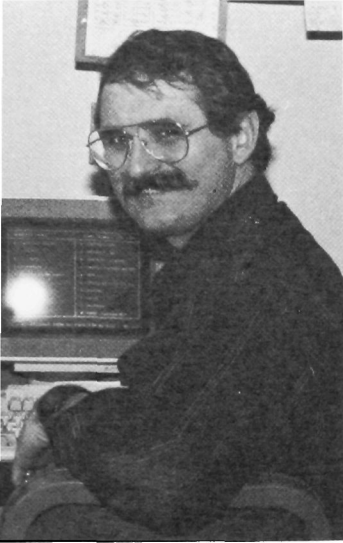


MAXINE HORNE

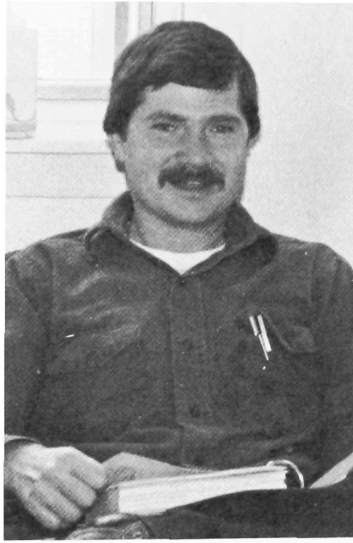


TRACEY B. NELSON

PROFESSIONAL STAFF



JERRY LONGCORE
U. S. Fish and Wildlife Service



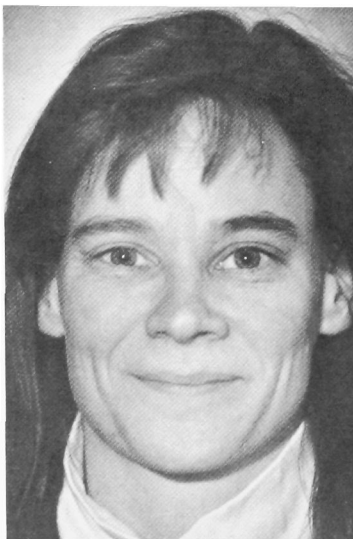
DAN McCAULEY
U. S. Fish and Wildlife Service



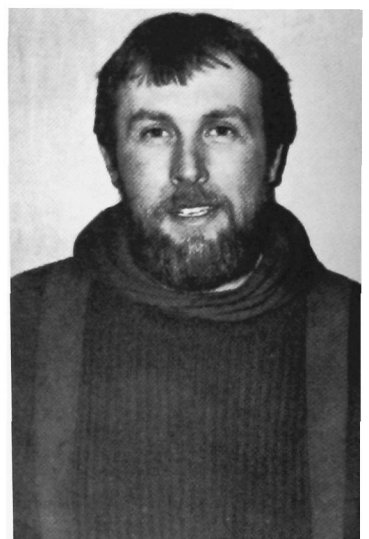
THOMAS P. HODGMAN
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MARYELLEN CHILLELLI
Assistant Scientist



SARA CLAPMAN
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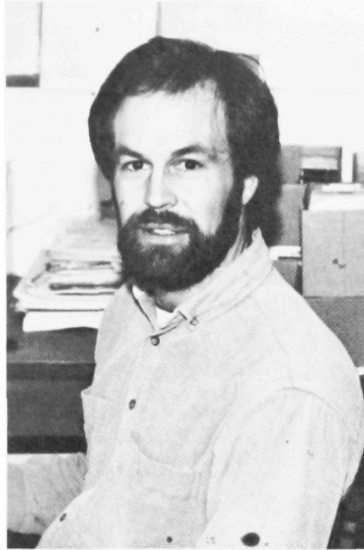


CHUCK SIMPSON
Forest Superintendent

PROFESSIONAL STAFF



DAN GILPATRIC
Assistant Forest Superintendent



JONATHAN CARLISLE
Assistant Scientist



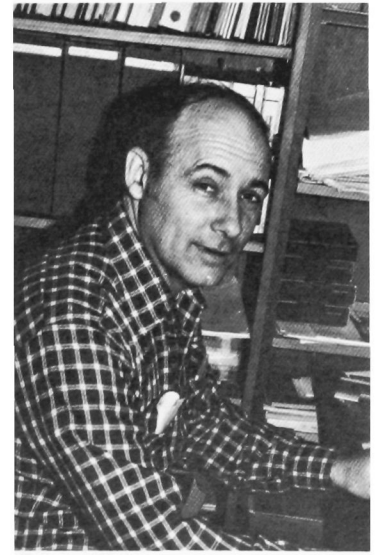
JACK WITHAM
Research Associate



RONALD LEMIN
Assistant Scientist



JILL WEBER
Assistant Scientist



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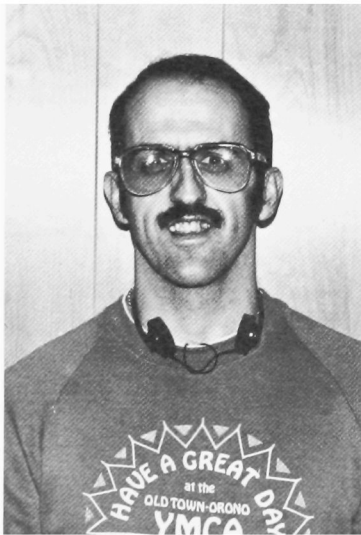
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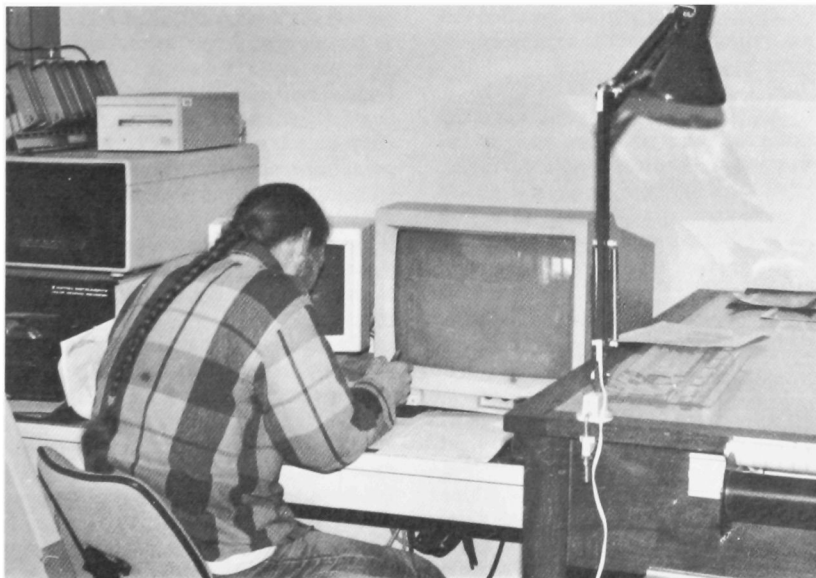
SPACE GRANT PROGRAM AT UMAINE

The fall of 1991 marked the beginning of the University of Maine's involvement in the Space Grant Program Consortium. Through a planning grant from the National Aeronautics and Space Administration (NASA), UMaine has joined forces with ten other institutions in an effort to increase aerospace education and research opportunities for students, teachers, and researchers in Maine. Located in Nutting Hall at the University of Maine, the Maine Image Analysis Lab Space Grant Program supports six undergraduates, a graduate student and a research associate. The undergraduate Space Grant students include: Jeff DeRuyscher (WL), Sarah Dooling (WL), Stuart Gardner (FTY), Peter Halloway (FTY), Michael Howie (FTY), and Robert Roy (WL). Suzanne Noble is the graduate student (FTY) and Sarah Clapham is the research associate who, in conjunction with Dr. Steve Sader, coordinates the Space Grant student activities.

Initial training involved grasping fundamental concepts pertaining to spatial analysis (image classification, signature training/editing, classification evaluation, and image generalization). The different software packages used in the training process included Micropips 1.0, pMap, and ROOTS. Although not sophisticated programs, they provided the conceptual understanding and thought process required in the higher-end GIS software, ARC/INFO. ARC/INFO is utilized for the storage, integration, manipulation and final output of data pertaining to objects or phenomena that can be observed from satellite imagery. Maps are digitized into the computer or, when applicable, satellite imagery is converted and made available for use. Different coverages for the project parameters are then generated. These coverages can be edited and manipulated in ARC/INFO resulting in a polished final map that allows users to quickly identify relationships among wildlife and forestry resources that are not easily discernable through conventional mapping techniques.

Currently, students are undergoing the tutorial program in ARC/INFO and are branching into independent projects. Suzanne Noble has begun her master's project. She will be working with Dr. Dan Harrison of the Wildlife Department studying coyote movements and habitat analysis in Acadia National Park. She and Robert Roy are also involved in the mapping of the Allagash Waterway. Jeff DeRuyscher is digitizing and analyzing maps he worked on last summer with Dr. Owen of the Wildlife Department evaluating the effects of beaver activity on black duck populations in Maine wetlands.

It is hoped that the Space Grant program provides opportunities that will aid students in gaining practical experience working with the latest GIS technology.



LIFE AS A VISITING SCIENTIST IN JAPAN

by
Barry Goodell
Associate Professor and Head
Wood Science and Technology
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During the spring semester of 1991, we (my wife, Jody, and our two boys) spent six months in Japan on a National Science Foundation (NSF)/JISTEC sponsored visit. JISTEC is the Japanese equivalent of NSF and I can provide any students or faculty with more information about the procedures for getting support, if you are interested in this type of visit. We were based in Tsukuba, a city about an hour north of Tokyo where the Japanese have relocated many of their national laboratories and institutes to. These institutes, some 40 in number, range in focus from agriculture to aeronautics. The one Jody and I spent most of our time at was the Forestry and Forest Products Research Institute (FFPRI) which houses 450 scientists. Tsukuba is considered to be a rural area by most Japanese, and is even the butt of some jokes by the "more cosmopolitan" city dwellers in Tokyo; however, I think most Americans would find it to be a fairly urbanized community. Although we were a little worried at first to how we would adapt to local culture, the Japanese made it very easy for us. Our hosts, Drs. Koichi Yamamoto and Mitsuro Ishihara were very helpful in arranging everything from childcare to an apartment, and everyone we met at the Institute was just great to us.

Both Jody and I worked at the Institute on different aspects of wood deterioration. It was a great experience to work in a facility as well equipped as the FFPRI. We both feel we got a lot accomplished in a short time, and would have welcomed a longer stay. Although we devoted most of our time to research, I'll leave the details of that for the end of this note and first concentrate on some of the cultural experiences we had.

It took us a few weeks to get settled in but after we got comfortable driving on the left and deciphering Japanese traffic signs, and adapted to the very efficient Japanese train system, we were able to get out and experience more of the country and meet more people. We were impressed by the hospitality of the Japanese wherever we went. In general, the Japanese people seem to be very fond of young children, and when travelling with ours on trains, people would often try to talk with us or help us with the kids. On more than one occasion a person whom we had never met would hop off the train at a station stop, and come back with a treat for the kids they had purchased from a station vendor. The kids, as well as ourselves, had some difficulty in adapting to treats like dried fish and bean paste, but hey, we went there in part to experience the culture and the food is definitely part of it.

In addition to travel in Kyoto, Nara, Tokyo, Sapporo, and many other cities for research meetings, I also got to see many of the famous shrines and temples as well as the natural wonders of Japan. The list is too great to recount here but even six months wasn't enough to see it all. We did get to climb (part-way) up Mount Fuji though, see many of the ancient Buddha statues, visit Nikko, the area containing the shrine built for Ieasu Tokugawa which houses the famous carving of the three monkeys - see no evil, speak no evil, hear no evil - as well as seeing active volcanoes in Hokaido, not to mention the great experiences we had in the cities of Tokyo and Kyoto.

In addition to visiting in Japan, I also had an opportunity to spend one week in Korea on a lecture tour, which also included some sight seeing; this was thanks to my host, Dr. Yoon Soo Kim. I also was invited to speak at meetings in the People's Republic of China (altogether I gave 10 invited lectures during my tour through Asia) and I spent some additional time in southern China touring and seeing the sights. Before my arm gets twisted again to write about

these places though, I think I'd better stop and focus on my research experiences.

I conducted my research in two different areas of the wood deterioration field. The first project related to how enzymes from a fungus called *Leptinus edoides*, penetrate into the structure of wood causing the softening of wood tissue known as decay or rot. Although I studied the decay process inside wood specimens at the microscopic level, the *L. edoides* fungus is also cultivated widely on oak logs in Japan, and now the United States, for food. The fruiting body of the fungus is the "Shitake" mushroom and is the most commonly cultivated mushroom in Asia.

Results from my study indicate that, even though cell wall deterioration of the wood was occurring, the enzymes from the fungus did not penetrate into the wood cell wall. This means that another metabolite produced by the fungus must be responsible for the penetration and degradation of the wood. This is a new finding because fungal degradation of cell walls (whether on crop plants or wood) has traditionally been assumed to be enzymatically mediated. This finding challenges that of traditionally held theories but it is an idea that is growing in acceptance based in part on the pioneering work that several of us at the University of Maine have been conducting over the last few years. The conclusions from this study in Japan give us insight not just into how wood decays (and therefore how it might be better controlled in the future) but also into the growth requirements needed for Shitake mushroom production.

The second research project I worked on was in collaboration with Jody and our two Japanese host scientists. It concerned the function of "siderophores" (metal-chelating compounds) produced by certain microorganisms. We have proposed that the siderophores produced by wood decay fungi, play a key role in the breakdown of the wood cell wall in advance of enzymes. Since this is a new and somewhat radical break from more accepted ideas of how siderophores function, our ideas were initially treated with some skepticism in Japan. It took several months working on Japanese equipment in their laboratories before we convinced them that siderophores could break down components of the cell wall. By the end of our six-month stay, however, some scientists were actually pretty excited about our work; all of which made our research experience there more rewarding. Our results provided strong evidence that siderophores play a direct role in the process of wood degradation by fungi. This is important from the standpoint of developing commercial processes such as new biopulping methods which could allow for less polluting methods of breaking wood chips down into pulp for paper production and also simply from the standpoint of understanding how carbon, fixed in woody materials, is cycled to the atmosphere (as CO₂) by the action of microorganisms. This information could help to improve our understanding of how our global ecosystem functions, which of course is an important goal of scientists both in the U.S. and Japan.

The bottom line on our visit, whether working or seeing the sights, is that we had a great experience in Japan. The research experience was top notch, and the people could not have been friendlier or more helpful to us. I think there are always problems that arise when visiting an unfamiliar place and, although we did have some problems, these were very minimal in contrast to the good experiences we had. If I have any advice to potential travellers in Japan, I would say simply to travel with an open mind and remain at least somewhat flexible and you'll have just as rewarding an experience there as we did.

WHAT'S IT LIKE IN THE "REAL" WORLD?

That was a question I often asked myself when I was an undergraduate forestry student fourteen years ago coping with exams, papers, and a rigorous course schedule. Did I want to work for industry, the U.S. Forest Service, the Maine Forest Service, or did I want to go into consulting? I was somewhat interested at that time in becoming a consultant forester, but didn't know exactly what it entailed. My classmates and I did not have much exposure in our course work to management of small non-industrial private woodlands.

As it turned out, my career path took me with the U.S. Forest Service, the Maine Forest Service, a forest products cooperative, and a county conservation district. I've been involved in consultant work on private woodlands for about the last twelve years, and am very happy with this aspect of forestry. This article is based on my own experience, and other foresters, even other consultants, may have a very different story to tell.

What kinds of jobs do I do, exactly? My clients are professionals, farmers, retired people, "back-to-the-land" people, working people, and more. They may own as little as twenty acres or up to several hundred acres of woodland. I help them define their objectives for managing their property, and guide them towards achieving those objectives. This may involve writing a management plan, conducting a timber inventory, marking and supervising a timber harvest, tree planting, timber stand improvement, boundary work, and more. It's general practitioner work. Some consultants specialize in areas such as Christmas trees, real estate, or taxation.

If you work for yourself, as I do, the job doesn't end at 4:30 p.m. There's phone calls to make in the evening or early morning, meetings to attend, current literature to keep up with, continuing education courses, and the ever-present paperwork of all sorts.

Do you like to hunt or fish or hike in the woods? That's great, but you must also be able to work and communicate effectively with a variety of people, from loggers to town planning boards to other foresters to media representatives and to landowners who may or may not know anything about the woods. Psychology and politics are intertwined with the practice of forestry.

Forestry is both an art and a science. I'm very conscious of this when marking timber. We learned the science well in school: type of harvest, residual tree spacing, regeneration establishment, which trees should be cut from a silvicultural standpoint. However, when you're standing in the woods with a paint gun, it is also important to consider these questions. What are the landowner's objectives here? Can I market this wood? Is it economically feasible? How can we yard it out? Can the logger actually cut the way I've marked and still make a living and minimize damage to residual trees?

Much of the bottom line of forest management happens at the stump, with the person with the chainsaw in their hands. The best plans of a forester are realized or broken here, or between here and the landing. The experience and education (yes, education) loggers acquire from working in the woods is very valuable and shouldn't be underestimated. The quickest way to alienate yourself from these people responsible for carrying out your management plans is to come across with a "holier than thou" attitude because of your education. There are good loggers, and there are loggers who give all others a bad name. The same can be said of foresters.

If you can get some experience in cutting wood yourself, you will probably be a very effective forester since you will have both the academic training and practical knowledge of how to get the job done. Try cutting wood that you've marked yourself. Whether you just cut part time on your own or on your family's or neighbor's lot, or whether you work for a logging contractor, you will

have a greater appreciation for the practical side of forest management. Along a similar vein, if you supervise tree planters, try planting trees yourself -- for a living, as they do.

What aspects of my education have been helpful to me as a consultant forester today? The well-rounded curriculum, including substantial amounts of field work, formed a solid foundation. Public speaking and accounting were courses which seemed unimportant to me as an undergraduate, but have proven to be essential.

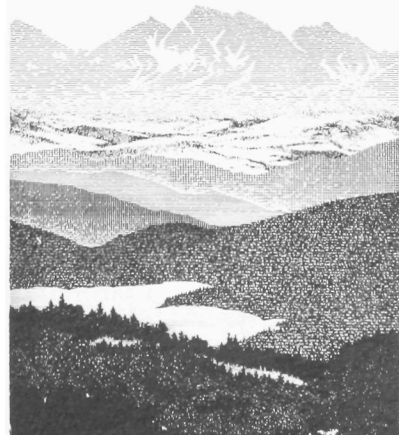
What could UMaine have done to better prepare me for being a consultant forester? There could have been more exposure to this aspect of forestry in various classes, including guest speakers (practicing consultants), articles by/about consultants as reading assignments. Perhaps there could be an upper level seminar focusing on aspects of consulting including running a small business, client relations, legal/financial issues, etc. More public speaking experience, uncomfortable though it might be, is always helpful to prepare you for the numerous times you're requested to do it when you've left school and begun working.

What recommendations would I make for students interested in becoming consultant foresters? Get some experience before you hang out your shingle. Work with several different foresters, and learn from all of them. Get some hands-on experience cutting wood, even if it's on a small scale or a temporary basis. Get involved with the Small Woodland Owner's Association of Maine (SWOAM) or other landowner association in the state where you live. Ask for more focus on consulting work in your classes, or even suggest a new course.

In Maine, you must have a license in order to practice forestry as determined by the Maine State Board of Licensure for Professional Foresters. There are education, internship, and examination requirements which must be met. Many of the full-time consultants in Maine are members of the Association of Consulting Foresters of America, Inc. This is a national organization with high standards of training and professional ethics for membership.

I'm glad I chose to become a consultant forester. The hours are irregular, as can be the income when you work for yourself, but the rewards are there in working with both the people and their woodlands.

Barrie Brusila
Licensed Professional Forester #590
B.S. Forest Management 1978,
M.S. Forestry 1983
University of Maine



PREPARATION MAKES THE DIFFERENCE

By Nancy E. Smith

Life is full of surprises. This is one of the things we all learn eventually. When I graduated with a degree in Forestry 11 years ago, I "knew" that one job I didn't want was to work for an industrial landowner. So, as you guessed, I have worked for a large paper company for 10 years now, and I really enjoy it.

I began with this thought, simply to make a point. There are some things which seem crystal clear as you enter a new phase of your life; only to become confusing, and then to take a 180 degree turn. I believe this is the case when you look at the course work college requires of you. There is no such thing as useless information. You will be surprised by the value you will gain from some of your more "extraneous" courses.

One of the best ways to prepare for success, in any venture, is to become exposed to a wide variety of viewpoints, ideas, and facts. Persuing a career in forestry is no different. The courses which may now seem irrelevant, may well prove invaluable to your career. In practice, forestry is no longer exclusively the management of trees. Although silviculture, dendrology, and mensuration are still essential to a forester's education, so are courses in public speaking, writing, basic computer skills, and economics.

Forestry is now a mix of forest management and people management. There are few careers in which you will be allowed to serenely ply your craft without first considering the impact of your plans on dozens of different "special interest groups" There will be times when you will feel that the trees are outnumbered by people: sportsmen, adjoining landowners, legislators, preservationists . . . the list goes on. All will have opinions on how the forester, you, should manage the forest. Most will be articulate and persuasive. Their goal will be to influence the general public, and in that way, change the nature of our profession to better suit their needs. If the profession of forestry is to continue, we foresters must be articulate and persuasive as well. This is where courses in public speaking and writ-

ing skills will benefit you. The practice of forestry will become more politically charged during the next decade, and into the 21st Century. It is essential that we take a pro-active stand whenever possible. The future of forestry will depend on it.

There is another group of people I deliberately left out of the first list of interested parties. These are accountants, the business leaders; the MBAs and CEOs of the world. Unless you have the financial resources to underwrite your own management plans, you had best be prepared to speak the language (and anticipate the questions) of these people. Remember, the finance expert who decides the direction and fate of your management plans may never have seen a harvest operation, a vigorous young forest, or even a black fly. As a forester, you should be comfortable with several computer skills: data base management, word processing, and spreadsheets. You must also know the meanings and uses of ROI, NPV, discount rates, and cash flow. These are as much a part of contemporary forestry as soil quality, tree vigor, and D.B.H. classes.

I strongly believe that it is possible to remain true to your own ethics and standards while being open to different perspectives and opinions. This trait is an essential quality for a forester, or any professional. Honorable and proper management of people, all kinds, will make a substantial difference in the course of your forestry career. It is the so-called irrelevant and bothersome courses you are studying now which will prepare you for these challenges.

Nancy E. Smith received her Associate Degree in Forest Technology from the University of New Hampshire in 1981. After five years of night school, she received an Associate Degree in Business Management from the University of Maine in 1987. In addition to being a licensed wood scaler, Nancy has been a licensed forester since 1987. Nancy is currently working for International Paper Company managing a recreation program for 600,000 acres of land in central Maine.



WINTER CAMP

For the current generation of students making their way through the forestry program of the College of Forest Resources, the incredible history of our College is known by few of them. A small, but invaluable piece of this history belongs to winter camp. It was here that our current summer camp program began its evolution.

Winter camp was first brought to my attention by Professor Richard Hale (retired). After presenting me with *The Northern* (the journal published by Great Northern Paper Company during the 1920's), it was obvious that this subject had merit. The articles within *The Northern* described winter camp as it existed at Rainbow Lake, Grindstone, and Cooper Brook.

As is true when speaking of times long ago, this cliché holds true - "those were different times then." Many of the functions performed during winter camp were the same as in today's world, but without the advantage of technology as we know it. Practical woods experience was gained through forest management, timber cruising, mapping and lumbering.

In its infancy, the "camp" program session was held during the summer (as is the case with the present summer camp program). The first camps were located on the East Branch near the mouth of Wassatoquoik Stream. Because the logging was done during the winter and the University of Maine did not wish to give students credit for summer work, the camp program was dropped for a time.

Due to the invaluable practical experience provided by a camp program, arrangements were made between the forestry department of the University of Maine and Great Northern Paper Company to hold a camp during the second half of the fall term. This first winter camp began in the early 1920's. Students left for camp before Thanksgiving and did not return until early January. Rainbow Lake became the scene for the first winter camp, followed by Grindstone, Cooper Brook and Princeton.

The following notes and memoirs were compiled from various alumni of the University of Maine who participated in the winter camp program from the late 1920's to the early 1970's.

* * * * *



It was the fall of 1942 and all of my forestry and wildlife classmates were very war-conscious as we headed for Winter Camp. Our forestry faculty consisted of Dwight Demeritt, Dept. Head and Professors Ashman, Baker, Chapman and Curtis.

Jim Curtis taught silviculture and was the youngest and newest of the faculty having replaced Paul Stickel who left Maine to teach at the University of Massachusetts. In 1942, I certainly never imagined that I would replace Stickel 11 years later and remain there for 33 years.

I remember well my ride from Orono to Princeton that fall day nearly 50 years ago. I accompanied Professor Curtis who drove a truck containing most of the department's paraphernalia needed for the anticipated nine-week instructional period.

I recall that we had some very cold weather early that winter and that I nailed a blanket on the wall of our cabin surrounding my bunk to keep the wind out.

One of the things I missed most at camp was the luxury of taking a bath and did not share in the pride of my classmates in going unwashed. One day I found an old washtub, heated some water on the box stove and enjoyed a bath. This was an unusual event at Winter Camp which attracted spectators, one of whom took my picture which was later included in the Maine Prism.



One of the students, Joe Young I believe wore an old green felt hat, of which he was very proud. He challenged the pistol-shooting skill of a fellow classmate one day by placing it on a stump for a target. He wore the hat even more proudly, thereafter, because it had a bullet hole in it.

This gunman entertained us another time when he emptied his gun at a porcupine perched in a tree near camp without bringing the animal to earth. I can't recall whether any bullets hit the target but it's somewhat irrelevant because the porcupine was dead when some of us tied a small line to it and hoisted it high into the tree well in advance of the shooting.

One day when Prof. Ashman led a group of us on an instructional tour through the woods, we encountered an Indian tending his beaver traps set under the ice in a beaver flowage. We stopped and chatted with this trapper for a while during which time the conversation touched upon the edibility of beaver meat. The Indian especially loved the delicacy of the beaver's tail. He ended by stating that "he always like his tail" This elicited much laughter from the students and even a broad smile on the generally stern face of Bob Ashman.



I remember that we were given a few days leave of absence at Thanksgiving and that some of the students, who had cars, went home for the holiday. None were going near my home at Bryant Pond but I did get a ride to Bangor to visit my fiancée. It was a damned cold trip riding back to camp in the rumble seat of a Model A Ford. Gasoline rationing became effective before or during our winter-camp session. Professors Ashman and Curtis, who were in charge of the camp, were concerned that students with cars might not be able to buy enough gas to get back to Orono if we stayed in Princeton the full nine weeks. A vote was taken among the students to see how they felt about returning to the University a few weeks early. This was a tenable solution to the problem for the weather was quite cold and our field work was finished. Some of us felt that the "inside work" yet to be done could be accomplished better at school than at Princeton. A majority of us voted to return but some were sorry to be leaving camp, which was in its 6th week. One champ, I believe John Hunt, a wildlife major, expressed his displeasure as follows:

"When you are in Orono, you ain't nowhere and when you are in Princeton, you ain't nowhere but it ain't quite so obvious.

Although his was not a very literate expression for a college student approaching graduation, Professor Ashman took pleasure in it and I heard him quote it many times thereafter.

These are but a few memories of an old Maine graduate who enjoyed forestry winter camp a half-century ago.

-Herschel Abbott
Class of 1943





The request to write my recollections of the early days of the University of Maine Winter Forestry Camps for this Maine Forester issue presents quite a challenge. Especially when one has to think back sixty-five years ago as an undergraduate of the Forestry Class of 1926 followed a few years later (1931-33) as a camp faculty instructor representing the State Forestry Department.

The realization came to me that it was a good opportunity to explain the concept and establishment of winter forestry camps, the field work classes, camp instructor faculty and the importance for a learning experience in the woods for forestry students.

In these recollections I shall attempt to provide a historical background and my personal experiences at two separate winter camps.

As an introduction it is well to explain that at one time it was evident that too much stress was laid on actual classroom book learning in forestry without the student having an opportunity of seeing the application of his knowledge in the woods.

This changed in 1923 when Mr. Fred Gilbert, Manager of the Spruce Woods Department of the Great Northern Paper Company, offered the use of camps and equipment on their lands for student experience in the woods. The University of Maine Forestry Department (now the College of Forest Resources) gladly accepted this offer and added an eight-week winter forestry camp course to the University curriculum. This became a senior year requirement for a degree.

This program established for the first time the requirement that a student to spend a certain amount of time in the woods under faculty supervision. The eight-week winter camp course ran from mid-November to mid-January with no interruption for the Thanksgiving, Christmas and New Year holidays.

The work classes were divided into: cruising and mapping, forest management and logging engineering. The facilities and forest lands of the Great Northern Paper Company provided an excellent oppor-

tunity for a woods training experience as an adjunct to classroom studies and lessons at Winslow Hall on the University campus. It also helped the student to become more "woods-wise" on terminology used on operations by loggers: some humorous - some serious.

The original teaching staff at winter camps were Earnest Jones and Lloyd Houghton '12, of Great Northern Paper Company and Professor Dwight B. Demeritt, '19, of the University.

With the number of forestry students attending the winter camp it was soon apparent that this was too much for one instructor (paper company people were not always in attendance). To meet this situation Forest Commissioner Neil L. Viollette, '03, provided the services of one of his Augusta office staff foresters. Supervisor George Gruhn, '25, served at the Grindstone camp in 1926 and Austin Wilkins, '26, served at the Indian Township camp (1931-33) with Professor Robert I. Ashman.

It was inevitable that a change in holding winter forestry camp each year from one Great Northern Paper Company operation to another had to be made. The time had come to consider establishing a more permanent winter camp location.

In 1931 Forestry Commissioner Neil L. Viollette, '03, offered the opportunity of a permanent site on Indian Township with Governor and Council approval. The University Trustees accepted and

Under the **Logging Engineering** class we had the opportunity to see all the phases of the Great Northern Paper Company's 5,000 cord pulpwood operation near our Grindstone winter camp. Of particular interest for study were the many types of transportation systems in operation: driving by water, hauling with horses, tractor and stream log-haulers - all in progress.

We observed cribbing and trestle work for bridge construction, sluicing of pulpwood sticks, use of sprinklers to ice the roads for hauling, haying on curves and slopes to slow down log and pulpwood sleds.