

the Maine Forester



1989



Communications in

International Forest Resources

DEDICATION . . .

Over the years the *Maine Forester* has been dedicated to an individual or group that the staff feels has had a profound influence on the education and growth of each student in the college. This year we pay tribute to one member of the faculty who has consistently demonstrated such a positive influence during our tenure in the corridors of Nutting Hall. From the early days as wide-eyed freshmen in FTY 101 to the dawn of our careers, he has been a teacher, a counselor, and a friend to all of us. The 1989 *Maine Forester* is dedicated to J. Louis Morin, Instructor of Forest Resources.

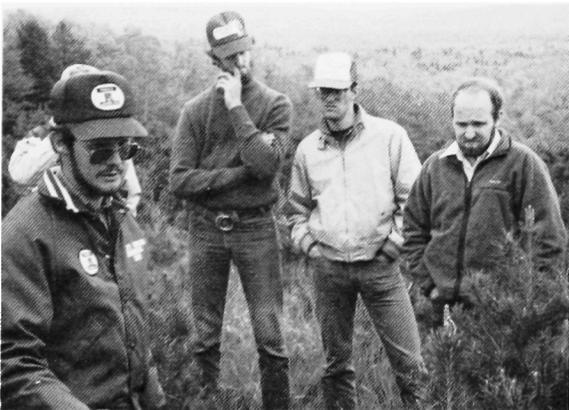
Louis arrived at the College in 1972 as a freshman himself, by 1978 he graduated with a B.S., and M.S. and a position as an instructor in the School of Engineering Technology. He returned to the College in 1981 as an Instructor of Forest Resources. His research activities involve developing and testing an in-house polygon-based geographic information system, known as MeGIS. In concert with this research, Louis has been instrumental in starting and operating the National Earth Science Information Center, an affiliate of the National Cartographic Information Center of the U. S. Geological Survey. Housed in Nutting Hall, the NESIC has established the University as a leader in cartographic information in the state. Louis' experience and endeavors in the field of cartography have prompted the National American Cartographic Society to name him as the cartographics specialist for the University of Maine.

Louis' discipline and excellence in the field of research carries over into his interactions with the student body. Whether it is as a teacher, employer, advisor or friend, Louis is open, honest and straight forward with all. As one of the first faculty members that students come in contact with, Louis is in a unique position of helping to form the very critical first impressions of a young student looking ahead to her or his chosen profession. Louis is gifted with the ability to use this position to pass on his love for forestry, his discipline in practicing his craft and his high, ethical standards for his profession to the student body.



In addition to his research, teaching and administrative functions, Louis has also found the time to be involved in a number of student activities. In an era of apathy on the part of both students and faculty, Louis sets the pace for those who are involved in the many clubs and activities in the College of Forest Resources. His guidance and advise as the faculty advisor to this yearbook has been instrumental in establishing it as a leader in forestry school student publications. Louis is an active participant in promoting academic excellence as the advisor to Xi Sigma Pi, the forestry honor society. His one failing is that he never comes to the annual Christmas party, but Santa Claus is always there. Due to his concern, his time and his commitment, we will leave the College of Forest Resources as good foresters and hopefully as better people.

Thank you, Louis!



TWO TIMES!

This year, *The Maine Forester* is doing something slightly unusual. Instead of dedicating it to just one individual or group, it is being dedicated to two separate individuals. This year's second dedication is to Katherine Weber, the Associate Dean of the College of Forest Resources.

In 1986 Dean Brown and Associate Dean Fred Knight decided that a person was needed to take care of the College publicity, publications, and to assist with recruiting and cooperative education. The search for such a person resulted in hiring Katherine Weber as Assistant to the Dean for Administration. She began working on November 1, 1986. On that same day, Greg Brown became the Acting Vice President for Academic Affairs, and left the College of Forest Resources.

Also, at the same time, Katherine was given the responsibility of the self-evaluation for SAF, which she did with her usual impressive efficiency. If you talk to Dean Knight about Katherine's arrival, he expresses nothing but appreciation and gratitude. "Her arrival was a lifesaver to me because I then had the job (Acting Dean) with no help."

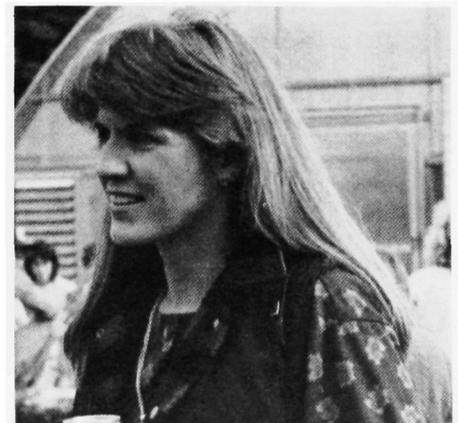
In January, when Mark Houseweart was hired, Katherine and Mark worked closely together and effectively as a team on academic duties and writing etc. They managed to accomplish many important jobs before the sad and untimely death of Mark Houseweart.

Last July, Katherine was given the additional title of Assistant Dean. Katherine has been a fine Assistant Dean and had done a tremendous job this year on the very large self-evaluation required for the Cooperative State Research Service review of our research programs. By the time this book is dedicated, this evaluation will have taken place.



Katherine is a valuable asset to the College of Forest Resources. She is very dedicated to the students and the College and has always gone out of her way to help the students. She is always open to any ideas that will improve their education and help make college life easier for them.

We are indeed fortunate to have Katherine Weber with us at the College of Forest Resources. For this we give you the well deserved dedication of *The Maine Forester*. Thank you for being here.



GREETINGS FROM THE DEANS

The 1989 Maine Forester has developed a broad theme appropriate to the times in which we live. It is fitting for all of us to talk about communication particularly as it relates to international cooperation. We have not seen a time in which there is a greater need and opportunity for people to work together toward a goal of world peace. If such could happen, more resources could go toward solving some of the very serious world-wide resource issues.

Your College of Forest Resources faculty are currently involved in a number of international projects that will facilitate both communication and cooperation. Planning efforts are also underway in the College to enhance opportunities for international trade. A number of our alumni are doing their part to promote international communication and resource stewardship through their work in the Peace Corps and Foreign Service. We expect that many of you will also be involved at some point in your career with the challenges of international resource management and conservation. Communications will be the tools for achieving results.

The challenges you will face in the years after graduation are immense and exciting. Communications will be a key to success as you attempt to deal with the questions presented by people from varying cultures around the world. We cannot predict the future, but we hope that your professional preparation has been thorough enough so that you may adapt to the challenges you will meet. We hope that you will continue to study and to strengthen your professional expertise in the years ahead.

The opportunities for professional employment have been very good for the past three years. We fully expect this trend to continue for the 1989 graduates. Demand is high because the need for good managers continues and the number of graduates has declined. It is expected that opportunities will continue to be available for significant numbers during the coming years. Only a very severe recession would upset this trend.

We know that you are ready to start your professional career. You will become the resource leaders of the states in which you live and possibly of the country in the decades ahead. We hope the lessons you have learned about resources will result in long-term benefits to our resources in the U.S. and perhaps the world. The idea of stewardship must be nurtured as you work with others in the conservation fields.

Since publication of the 1988 Maine Forester our College has seen several staff changes. The tragic death of Dr. Mark Houseweart marked the low-point for all of us last spring. Other personnel changes have been of a positive nature. We had one faculty resignation when Dr. Donald Spalinger accepted an excellent opportunity to work in Texas. We were sorry to see him leave and wish him the best in his new position. Two new faculty have joined us during the year. Dr. Brad Griffith joined the faculty in November as Assistant Professor of Wildlife and Assistant Leader of the Cooperative Fisheries and Wildlife Unit. Dr. Frederick Servello filled the position created by the resignation of Dr. Spalinger on January 1, 1989. He is an Assistant Professor of Wildlife. We welcome these latest additions to our College faculty.



We have also received news that the Forest Management Technology Program has again been officially recognized by the Society of American Foresters. This recognition will continue in force for a ten year period to 1998. An interim report on status is required at the end of five years. The program will be in good hands during the next several years with Professor Alan Kimball in charge. Professor Wallace Robbins retires at the end of this spring semester after a long tenure as the leader of the Forest Management Technology Program. We thank Professor Robbins for his years of dedicated service and wish him a long and happy retirement.

A new degree was added this year to provide an opportunity for professional graduate study in wildlife. The Master of Wildlife Conservation which is a non-thesis professional degree similar to the Master of Forestry degree established a few years ago. These two degrees will help fulfill our mission to serve the people of Maine and the region. Our research oriented Master of Science degrees are not affected by these additions.

Fred B. Knight
Dean

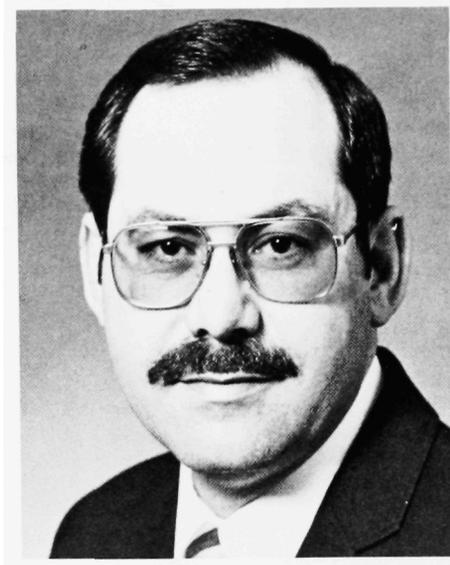
We are pleased that an addition has been made to the University tree farms managed by the College. The Stewart-Merrill tract of 95 acres in North New Portland was received as a gift from Mr. and Mrs. Merrill. The profits from stumpage sales on this attractive hardwood site will provide scholarships for undergraduates in the College. Our Forest Superintendent reports that the stands on this site contain a large number of yellow birch seedlings and saplings. Therefore, income for scholarships may not be realized for several years.

Each of you who graduate in 1989 can leave knowing that the College is moving forward in many areas. We will continue to provide a quality education for those who follow you and we intend to maintain our reputation as the most productive research organization on campus. We congratulate all of you for your hard work and for your demonstrated skills. We know some of you quite well while others are only acquaintances. We feel fortunate to have met each one of you. We hope you will join your many colleagues who support the College as loyal alumni of this great University. We wish for you the greatest success in your career and a lifetime of peace and happiness.

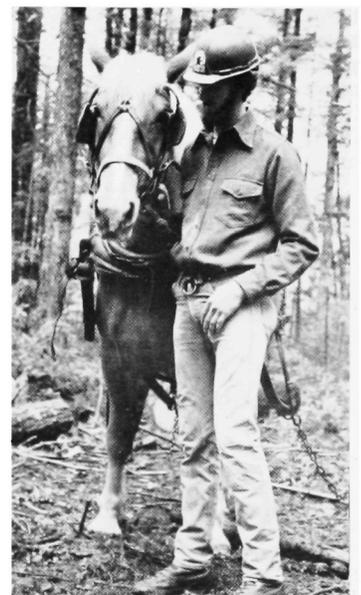
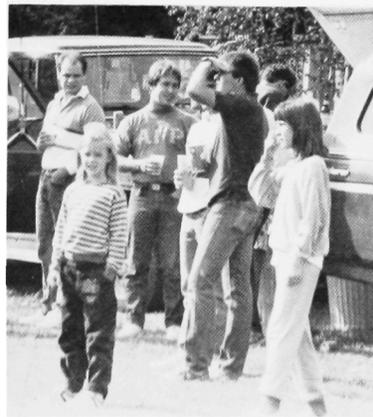
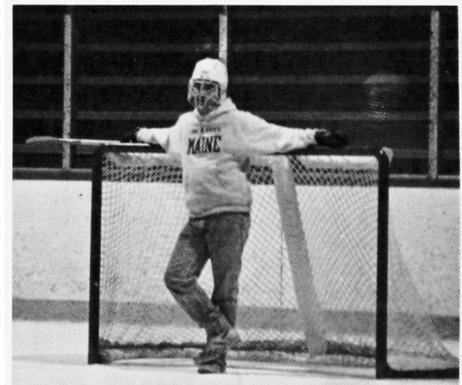
Katherine L. Weber
Assistant Dean



In Memory of Mark W. Houseweart



The students in the College recall with sadness the untimely death of Dr. Mark W. Houseweart on April 8, 1988. Dr. Houseweart was a good friend to all of us and we appreciated his willingness to help us whenever we asked. We miss him and provide this as a reminder to everyone of his service to the College.



INTERNATIONAL COOPERATION WITH THE PEOPLE'S REPUBLIC OF CHINA

The development of international cooperation between the College of Forest Resources and the Chinese Academy of Forest Inventory and Planning has been in progress for several years. The early contacts were made during Dean Knight's 1981 visit to China where he met members of the Academy and developed a friendship with Mr. Deyou Guo who was then serving as interpreter for the American group.

During the years since 1981 cooperation has developed and was enhanced in 1982 during a visit by a Chinese group of scientists from the Academy. Interest in the Geographic Information System developed by Dr. Thomas Brann became an important link with the Academy. Mr. Guo maintained his contacts with Dr. Knight and eventually applied for and entered graduate school at the University in September 1987 as a candidate for the Master of Science in Forestry.

One of Mr. Guo's assignments from the Director of the Academy of Forest Inventory and Planning was to make arrangements for a visit to China by several members of the College faculty. The purpose being to develop closer relationships between the University of Maine and the Academy and Beijing Forestry University. The Academy was specifically interested in advancing their technology through faculty lectures and demonstrations in the specialties of Forest Economics, Remote Sensing and Geographic Information Systems. Dean Knight was requested to accompany the group to discuss cooperation and to prepare and sign agreements with the Academy and University. The visit marked the official beginning of a cooperative exchange program between the University and the Ministry of Forestry: The Academy of Forest Inventory and Planning and Beijing Forestry University are organizations in The Ministry.

The Maine delegation was in China from July 7 thru July 27, 1988. The temperatures during working hours were very hot through most of the trip. Dr. David Field, forest economist; Dr. Steven Sader, remote sensing; and Dr. Thomas Brann and Mr. Louis Morin, Geographic Information Systems provided lectures and equipment demonstrations at the Academy and University. These lectures were presented during the first two weeks of the visit and were often a full day in length in lecture rooms without air conditioning at temperatures in the high 90's. The efforts of our faculty were appreciated by the Chinese faculty, scientists and students.



Dean Knight provided introductory comments on the University of Maine at each location visited and worked with officials in preparing agreements. During the two weeks the group was in Beijing, Dr. Knight left the others for a few days to meet with faculty at the Nanjing Forestry University. One day during his visit there the temperature reached 107°F. Nanjing is called one of the "furnaces" of China. The famous Yangtze River flows beside this old former capital of China.

The Dean signed agreements of cooperation with the Academy of Forest Inventory and Planning and with Beijing Forestry University before the group left Beijing for Xian. Both agreements are significant and enhance the international status of the University of Maine. The topics to be emphasized in current and future exchanges include management, inventory, economics, policy, law and administration, recreation, silviculture, protection, and resource information systems. There will be a continuing exchange of faculty, professional staff and students during the next several years.

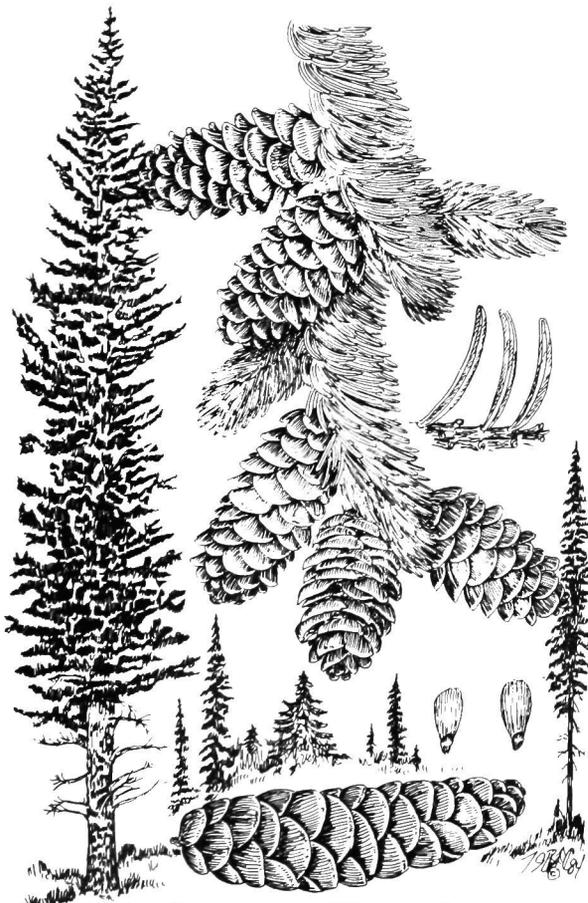
The College has two graduate students and three scientists from the Academy in residence for the 1988-89 academic year. In addition there are other Chinese graduate students from the Forestry Universities at Nanjing and Harbin. This spring another delegation from the University of Maine will travel to China. President Lick and Vice President Brown will meet with Mr. Zhou, Director of the Academy while visiting China to talk to officials at several Chinese Universities. Dr. Floyd Newby of our College will assist the Ministry of Forestry in planning recreational use in areas surrounding Xian.

We look at our relationship with China as a tremendous opportunity to become involved with a country having immense problems brought on by past neglect and severe population pressures. We can learn from the Chinese and can help them at least to a limited extent. Forests in China cover an area of 115 million hectares which is about 12% of the land area. There are many barren mountains, large tracts of wasteland, and examples of severe erosion, the need for reforestation and land stewardship is apparent. China's forest vegetation ranges from cold-temperate coniferous forests, temperate coniferous and broadleaf mixed forests, warm temperate deciduous broad leaf forests, subtropical evergreen and deciduous forests to tropical monsoon and rain forests. China is rich in forest species with over 7000 species of woody plants of which more than 280 are trees.

China has been doing some effective work to improve the situation through their own initiative. In 1949 only 8.6% of the land was forested; today the figure is 12%. The expansion continues but the demands are great on the forest so continued progress is slow. A good example of the work accomplished is in the use of shelterbelts. Since 1978, shelter belts have been planted in Northwest China, North China and the western part of Northeast China. This effort is described as the "Green Great Wall" to protect the country from the movement of sands from the north and west. This is but one example among many of the efforts being made in this vast country.

The objectives are to raise the forest acreage to 20% of the land area, to double the timber output and to quadruple the output value. The goal is ambitious but the Chinese people are industrious, a large labor force is available and examples of success provide incentives. The Chinese expect to achieve their goals within a reasonable time period.

It is our opportunity to be a small part of these efforts by the Chinese people. It is a pleasure to work with these very warm and generous people as they work toward a better life for the people of their very old civilization.



White Spruce - *Picea glauca*



CZECHOSLOVAKIA AND ITS FORESTRY

By Vaclav Hromas

I would like to familiarize you with a small country in the heart of Europe - Czechoslovakia and its forestry. Although I live at this time in the U.S.A., that country is still near to my heart.

Czechoslovakia has been a part of the block of socialistic countries for the last 40 years, and its government is one of the Soviet Union's closest allies. It is about the size of New York State - almost 50,000 square miles, located on approximately 50°N latitude (further north than New Foundland), between West Germany and the Soviet Union. Its climate, however, is generally milder than that of the State of Maine. The winters are warmer, summers cooler. Further East, in the Hovak part, the climate is more continental, with greater extremes. The climate varies also depending on the elevation. Highs in January are usually slightly above the freezing mark, the lows slightly below. Highs in July are 75-80°F and lows between 50-60°F. The precipitation is anywhere between 15 inches in Southern Hovakia and Moravia to 40 inches and more in the mountains and western Bohemia. Most of the precipitation is in the form of rain and wet snow.

Czechoslovakia is a federative republic, consisting of two republics, Czech and Hovak socialist republics. They are called Bohemia and Hovakia in English. Then I must not forget a small part in between them called Moravia. People there speak like people in Bohemia - Czechs, and they are part of the Czech republic. However, they have different customs. People in Hovakia are called Hovaks. They have different languages and they have kept their old customs. Their country is mountainous and more rural.

Terrain in Czechoslovakia changes every couple of miles. Elevation varies from 400 to 8500 feet in Tatra mountains of Hovakia. Mountains form the natural border of Czechoslovakia. However, there are mountains and hills inland as well. The hills and mountains are usually forested; lowlands and acceptably fertile uplands were deforested a long time ago, serving to agriculture.

In total, 34% of the land in Czechoslovakia represents forest land. That doesn't mean, however, that its covered entirely with forest. Large areas of forest land are covered with dying or dead forest - victim to air pollution.

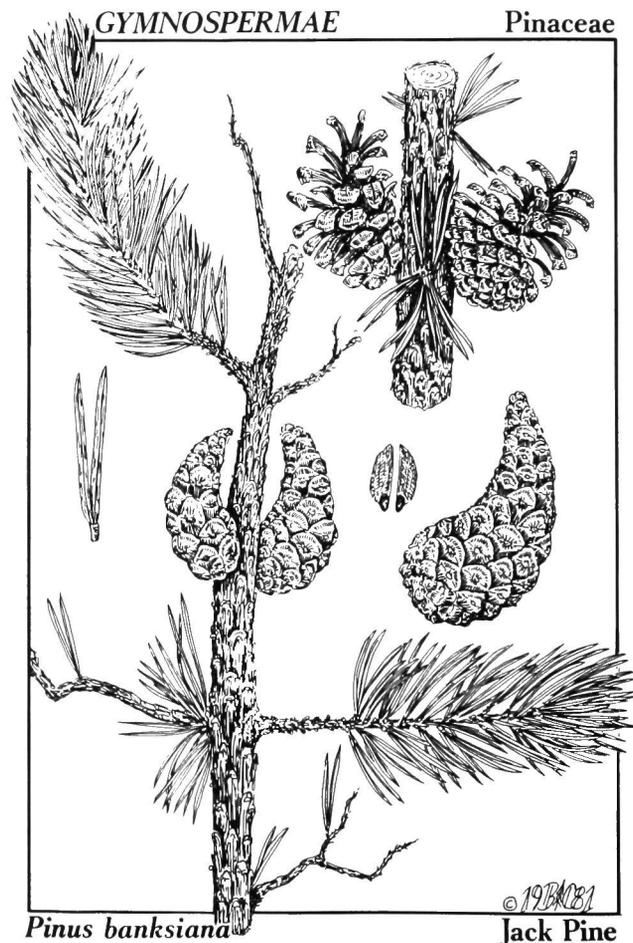
In some areas it might be just one or two species, elsewhere just about every tree dies sooner or later - especially in the industrial area of Northern Bohemia by the border with East Germany and Poland. Also, clearings don't regenerate very well, so that thousands of acres of clearcuts are covered with raspberries and elderberries (*Sanbucus nigra*; *S. ruba*).

I worked for the Czech State Forestry for about a year after I graduated from a forestry technical school. The school, in Trutmore (Eastern Bohemia), had a four-year program preparing future technicians and for higher education at the University.

We studied mostly the theory of forestry, but one day every 2 weeks we would practice technical and labor work in our school forest.

Also we spent many weekends planting trees by hand in the adjacent Krkonose mountains. We planted mostly Mugo pine (*Pinus mugo*) on the ridge crests to prevent erosion. I'm not sure if they survived as air pollution in that area is growing progressively worse.

When I began my work in forestry, I was 22 and had completed a year of vocational school for lumbermen, 4 years of technical school, and 2 years of service in the military - which is mandatory.



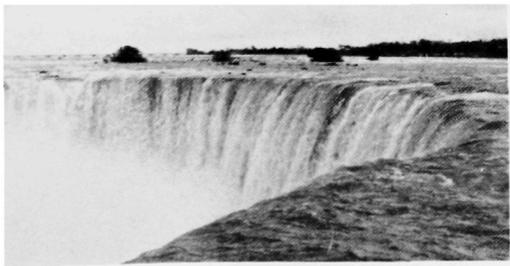
I worked in a forestry region 40 miles north of Prague in a beautiful, but badly pollution affected area of extinct volcanic hills covered by a mixed forest.

The Forest Service is, with some exceptions, state-run and strictly centralized. Every subregion and region submits its plans for future projects to the Secretary of Forestry and Water Resources. The plans may be for a period of 1, 5 or 10 years. The State Department might approve or disapprove them, depending on financial or human resources and other conditions.

If approved, every region must do what is called for in the plan. If circumstances changed or something goes wrong, the written plan must still be carried out. Acute problems represented were the lack of labor and parts for our machines.

There are only a few large harvesting machines in the entire country of Czechoslovakia compared to thousands of horses, used individually or in pairs. They prove to be efficient, and certainly, unlike machines, they don't break down so easily and work well especially in selective cutting. There is a dense system of forest roads, so they don't have to pull the logs very far to a skidder or a truck.

The most common conifer is Norway spruce (*Picea abies*) growing naturally in the mountains. Widely planted elsewhere are Scotch pine (*Pinus sylvestris*), European larch (*Larix decidua*) and white fir (*Abies alba*) (very sensitive to pollutants). Among the most common hardwoods are English oak (*Quercus robur*), European beech (*Fagus sylvatica*), ash (*Fraxinus excelsior*), maple (*Acer platanoides* and *A. pseudoplatanus*), Linden tree (*Tilia coulata* and *T. platyphyllos*), birch (*Betula verrucosa*), black poplar (*Populus nigra*), and others.



Many imported trees are planted as well. Species from Eastern United States include hemlock (*T. canadensis*), white pine (*Pinus strobus*), and red oak (*Quercus rubra*). Western species include Douglas fir (*Pseudotsuga taxifolia*), Grand fir (*Abies grandis*), and yellow pine (*Pinus ponderosa*).

The woods are managed just about everywhere, with the exception of wilderness areas. They are easily accessible and open for public use. There are no "NO TRESPASSING" signs with the exception of military zones.

Wildlife management is well developed as well. It was the traditional role of foresters to take care of the wildlife in their region – to feed it as well as hunt it. This role is now changing. More and more people from other professions now associate in clubs, with each club taking care of a certain region. Many young foresters, on the other hand, now specialize in only forestry, myself included.

Forestry in Czechoslovakia represents an important part of its economy – about 10% of Gross National Product. Unfortunately, its future is very uncertain. I believe that Czechoslovakian foresters, as well as people from other professions, are very able, but under the current conditions their abilities are often wasted. Graduates of forestry schools, soon frustrated, leave for work in other professions.

The forests are being destroyed by pollutants including acid rain, and there is no opposition to massive industrial output. The lumber is sold cheaply abroad, rather than processed at home. The economy is not flexible enough to give a chance to most people with good minds and skills.

However, I do believe that changes are on the way. Hopefully, it won't be too late.



TROPICAL DEFORESTATION RESEARCH IN THE COLLEGE OF FOREST RESOURCES

By
Steven A. Sader

Information about forest clearing and forest regeneration is lacking for many regions and countries throughout the world. The problem is particularly acute in tropical regions experiencing high rates of forest change.

Remote sensing techniques within the framework of a Geographic Information System (GIS) is a powerful tool for studying the current condition and changing uses of forest ecosystems. For example, the process of deforestation was examined for the country of Costa Rica. Forest and road locations were entered into the computer through a procedure called "digitizing". At the national level, tabular summaries of the total extent of forest area were obtained at five reference dates. These data indicated that total primary forest remaining in 1940, 1950, 1961, 1977, and 1983 was 67%, 56%, 45%, 32%, and 17%, respectively.

Road development that improved access to the forest was an important agent associated with change in all reference periods. The forest change between 1940 and 1983 and the spatial relationship to roads is depicted in Figure 1. These relationships (deforestation and road construction) are difficult to quantify visually or through measurements on paper maps, however the task is simple within the framework of a computerized geographic data base. The mean distance from the nearest road to forest in 1977 was 14.2 kilometers and the mean distance to non-forest locations was 5.5 km. If road building is a factor that can be directly or indirectly linked to tropical deforestation then environmentally sensitive zones and national parks might be better protected by controlling road access.

Satellite change detection techniques may offer the best opportunity to monitor tropical deforestation and regeneration patterns for extensive land areas. Two dates of Landsat multispectral scanner data (80 meter ground resolution) were analyzed using computerized image processing techniques to access forest change in the vicinity of La Selva Biological Reserve in Costa Rica. This study indicated a 12% gross reduction in primary forest (forest land converted to pasture and perennial crops). Approximately 5.5% of the area represented second-growth or regenerating forests. Therefore, net forest clearing was approximately 6.5% between 1976 and 1984 or 0.8% per year. The change detection image is shown in Figure 2. Point A and B were regeneration zones between 1976 and 1984. If the regenerating forests were excluded from this forest change estimate, the loss rate would have appeared to be nearly twice as high at 1.5% per year. The difference between land cleared of trees and land where trees are regenerating is a more meaningful assessment of forest change, but both figures should be reported as they represent forests of different composition and structure.

At the time of this writing, the fifth Landsat satellite is transmitting data from its sun-synchronous polar orbit to earth receiving stations. Landsat-5 contains a new and improved earth resource sensor called the "Thematic Mapper". The Thematic Mapper data, with 30 meter ground resolution, approach the quality and resolving power of small-scale aerial photographs. This sensor is the focus of a new research project in the College of Forest Resources to assess habitat available for migratory birds in Costa Rica (at the La Selva site) and in southern Belize. The project is supported by the U. S. Fish and Wildlife Service -Patuxent Wildlife Research Center in Laurel, Maryland.

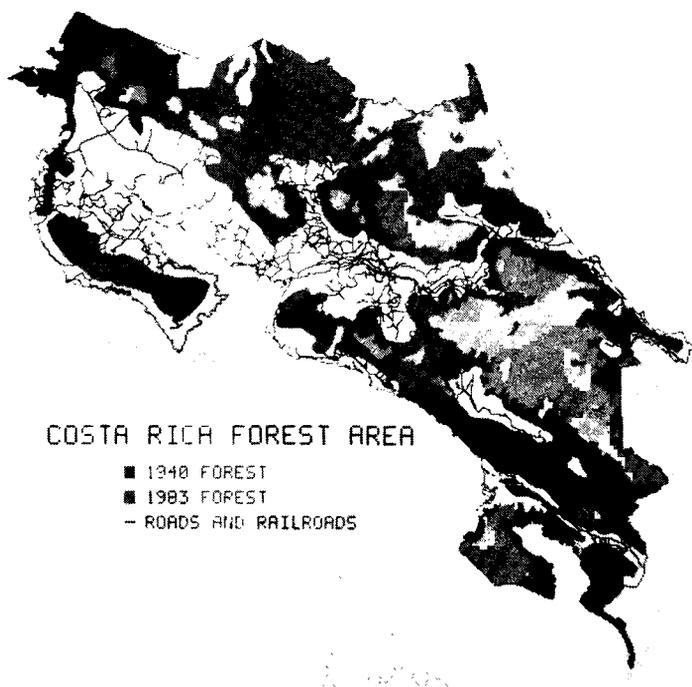


Figure 1.

Migratory birds that winter in the tropics use a variety of habitats but many species are dependent on forest habitats. Habitat modification by man may be one of the most significant agents of bird population change. Species that are most likely to be affected by winter habitat loss appear to be those that are essentially restricted to the wet, lowland forests of the Caribbean slope of Central America. For these species, the rapid rate of forest destruction may pose an immediate threat to their continued survival.

Evaluation of habitat availability and use by wintering species in the neotropics is costly to apply on a regional level using ground based methods. However, ground based sampling results (bird species use of habitat) can be extrapolated to extensive land areas if remote sensing techniques are combined with representative field data. This two-stage approach reduces survey costs and it allows a method to estimate broad geographic trends in bird/habitat associations at more meaningful scales, as compared to local area field survey.

The Maine Image Analysis Laboratory (MIAL) in the College of Forest Resources (260 Nutting Hall) is responsible for developing the vegetation habitat maps through computer analysis of Landsat Thematic Mapper data. Co-investigators at Patuxent, National Audubon Society, and Texas A and I University (Caesar Kleberg Wildlife Research Institute) are conducting the bird population sampling of representative habitats identified on the Landsat images. Determination of which species can use human-altered habitats and which are dependent on old growth forest may help them to establish conservation priorities in favor of the species most vulnerable to tropical deforestation.

These are examples of how remotely sensed data and GIS can be used as practical inventory tools in forest and natural resource monitoring. It is quite likely that the use of these tools will form the basis of a global forest monitoring system in future years.

LA SELVA STATION

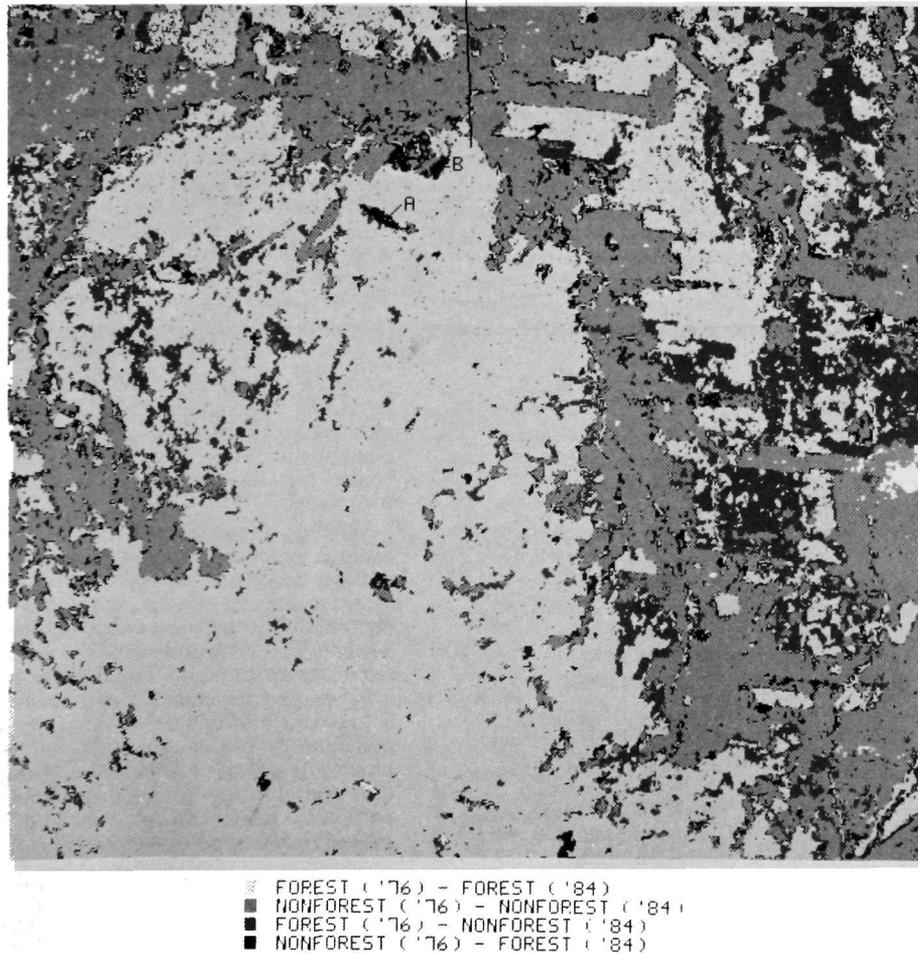


Figure 2.

NICARAGUA, HAITI, AND THE WORLD BEYOND ORONO

by Malcolm L. Hunter, Jr.,
Associate Professor of Wildlife



“MAINE IS NOT THE UNIVERSE; IT’S ONLY THE CENTER OF THE UNIVERSE”

Would there be as many illegal immigrants from Haiti in the United States, if Haiti’s hillsides were covered with forests instead of rocks and sparse patches of corn?

Would the US government be trying to suppress a left-wing regime in Nicaragua if the country’s previous leaders, the Somoza family, had not owned a quarter of the country’s agricultural land, thus forcing peasant farmers to occupy lands better left as forest?

Is it morally defensible that during the last forty years one-third of Costa Rica has been deforested to create cattle ranches, while during the same period the average Costa Rican’s consumption of beef has declined 40%, to a point where they eat less beef than the average American house cat?

Is the loss of tropical forest linked to the 1988 drought? If there is another drought in 1989 how will global food supplies and prices be affected?

These are troubling questions. They speak to social, economic, and political problems of overwhelming magnitude. They speak to problems that may seem limited to our newspapers and televisions, but which are inexorably affecting our lives more and more as the global economic network becomes tighter and tighter. It is a depressing prospect. But it is not a prospect without glimmers of hope and opportunity.

To the optimist every challenge presents an opportunity and problems such as those cited above present a special opportunity for natural resource managers. Indeed, issues of natural resource management lie at the heart of many of the world’s most pressing concerns. Traditionally natural

resource management has been deemed an important activity, but by no means critical – a poor cousin to medicine, agriculture, and other essential endeavors. This view is changing and it is reflected in the changing priorities of the United Nations, the World Bank, and other global forums for change.

How do these grand-scale activities affect individual natural resource managers, how can you pitch-in? For natural resource managers who are still students, the world is waiting at your doorstep. With a foundation of international experience, easily obtained in the Peace Corps, a whole career in international natural resource management can be pursued. For the less adventuresome, books, courses, and occasional forays to distant lands can provide a foundation of understanding from which you can direct poignant letters to your elected representatives. Your university provides a wealth of resources you can use to this end: foreign students and staff with overseas experience, thousands of relevant books and journals, courses addressing international issues, even a fund for international conservation issues that you can donate to as an alumnus.

The world is large; its problems even larger. However, the problems are soluble if enough people contribute to the solutions instead of wringing their hands as the situation deteriorates, and natural resource managers have a special responsibility to be among those who join the ranks of the problem-solvers.

Forestry in a Land Without Forests

by Thorester

Someone who's been there might remark; "Forestry in Iceland? There aren't any forests in Iceland!" True, Iceland is better known for other things; fish, getting around the whaling ban (although many of us would like to see an end to whaling), sweaters and the old sagas. True also, compared to Maine's 90% forest cover the amount of forested land in Iceland is small indeed. Only about 20% of Iceland's land area could support forests, the rest is either too high, covered by glaciers or on exposed peninsulas. Of this 20%, only 5% is actually forested, the rest being farmland and rangeland grazed by sheep.

When the first settlers came to Iceland in the 9th century, they found the lowlands covered with forest. These were forests of downy birch with a sprinkling of rowan (European mountain ash), the only 2 native species. Through the following centuries, the woods were cut down, mostly to make charcoal (needed for making iron tools), and the sheep kept them from growing back. By the turn of the 20th century only a few small pockets of birch woods survived.

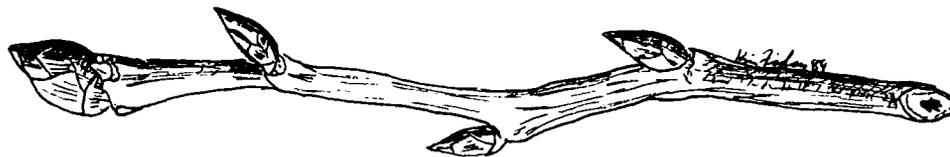
In Iceland, forestry means planting trees - reforestation. But the native birch is not always the best species to plant. It grows slowly, tends to be crooked and doesn't get very big. Starting in the 1930s, Icelanders began looking abroad for sources of forest trees. Iceland's climate is very similar to that of central Norway and the south coast of Alaska, both heavily forested regions, so it made sense to try to obtain seed from these areas. World War II put all such attempts on hold for a decade, but in 1946 contact was reestablished with the Norwegians, and an expedition was sent to Alaska in 1947 to collect seed. Since then, contacts have been made with forest services and foresters in the other nordic countries, the Soviet Union, British Columbia, Alberta and Colorado and many more trips have been made to Alaska. Icelanders depend on foreign seed sources for about 90% of the trees planted in Iceland; the native birch makes up less than 10% of the planting stock. Eleven exotic species make up the bulk of what is being planted in Iceland, the most important being Siberian larch from the U. S. S. R., lodgepole pine from B. C., Sitka and white spruce from Alaska, Norway spruce from Norway and Engleman spruce from Colorado.

The best way to maintain good contacts and make new ones is in person. Each year, the Icelandic forest service sends several foresters to meetings with their colleagues abroad, and each year several foreign foresters visit Iceland to gain a better understanding of the problems and prospects of establishing forests in a "treeless" land far to the north. In this way, those who supply us with seed gain a first hand knowledge (or at least second hand) of what seed sources will best suit our needs.

Education is an essential aspect of the afforestation attempt in Iceland. The University of Iceland offers a B. S. program in biology but no forestry education is available. Icelandic foresters have been educated in Norway, Sweden, Scotland, Canada and the U.S. The few forest scientists (with graduate degrees) in Iceland have been educated in Sweden, Denmark, Canada and the U.S. The fact that Icelandic foresters have been educated in several countries is very positive, both because of the various contacts made and because of exposure to different viewpoints.

Communicating information to farmers and other individuals who are planting trees is also very important. To this end, a yearbook is published by the forest service, relating information about such things as site preparation, the silvics of the exotic species and people's experiences in many parts of the country.

Most of the tree planting in Iceland to date has been for experimental, recreational or land reclamation purposes. There is no doubt, however, that commercial forestry is part of Iceland's future. Without communication with foresters in foreign lands, this would not be possible.



COMMUNICATION IN SCOTLAND

Scotland is a country of about 5 million people. It is located on the north end of the British mainland just off Europe and includes several smaller islands. The land area is just over 30 thousand square miles (roughly the same as the State of Maine). Of this area, about 13% is forested, compared with 90% in Maine.

The history of Scotland is checkered with periods of instability caused by various factions vying for control of the land. Pressure to control the land has been in existence since the return of survivable climate conditions following the Pleistocene ice age. The ice retreated around 100,000 B.C., and there is evidence of the land being inhabited from around 50,000 B.C. to present. The struggle for control has involved numerous groups of people including the Romans, the Celts and the Norsemen, to name a few. The influences of other countries and peoples has played a big role in the forming of the language presently used in Scotland.

There is a saying in Europe, that the Scots are the Danes who swam. The claim that both countries host the most tight-fisted people (economically, if you're from the areas in question) may be true. There is no doubt, however, a similarity in the language that goes beyond common English roots.

An example of this is the use of the word "Kirk" which of course, means church. Anytime you have the opportunity to get into a conversation with a Dane and a Scot, you should try to spot the similarities in their native tongues (make sure the Scot comes from the northeast of Scotland).

You may question why from the Northeast? The reasons are that although the many dialects of Scots may sound the same to the American ear, with training it is possible to identify the different regional accents.

The amount and diversity of these regional accents exclude me from describing them all in this paper. They can, however, be grouped into four major categories.

I'll start with the accent that I've been exposed to the most, that of northeast Scotland. This is a very down to earth language. The words used tend to be a bit old fashioned. Examples are the Dorric and the Brough that are spoken by the fishing and farming communities.

A second language is the Teuchter of the highlands and islands. In this region the locals sometimes intermingle English with Gaelic, especially if they are trying to be ornery. It has been said that the people of this area speak the most perfect English. This might have been true in the aftermath of the 1745 Jacobite rebellion that led to the banning of Gaelic, but cannot be said to be true now. This tongue does have a lovely sing-a-long nature and can be a joy to listen to. I am told that more than a trace of this accent can be heard in Nova Scotia, a landing place of many west coasters during the "Highland Clearances".



The Lallans of the central belt is now most easily characterized as being the Glazweigen tones. This accent is probably the most likely to be heard abroad because of the large number of immigrants from this area. This accent can lead to quite a hard and aggressive tone, especially if used during a tense meeting of Glasgows "old firm" soccer teams.

Last, but by no means least, is the language of the southern upland, a tongue that I personally have had no great experience with, but would suggest you might use a sheep to translate for you, should you come across a local of that region in full swing.

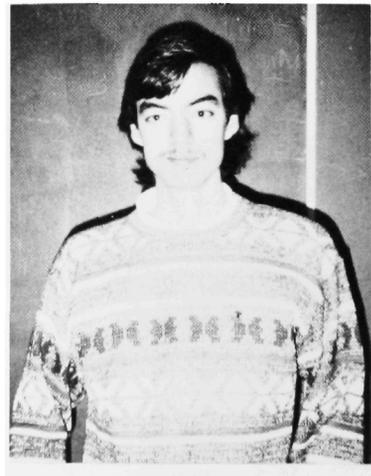
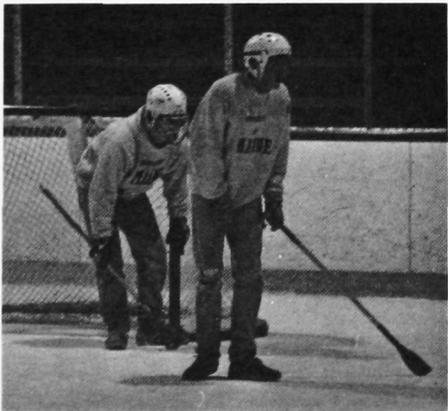
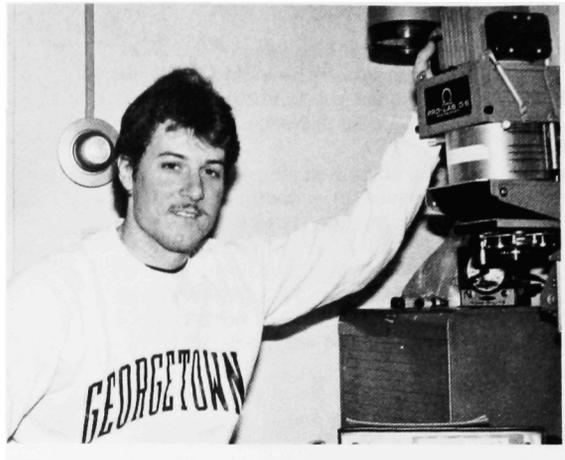
Various accents can lead to some amusing incidents. As a young forester recently arrived to a southern forest, I once was in the position of radioing into my boss to see if he thought conditions were all right to carry out a prescribed burn. The reply came back, "No problem, but get back to the office as soon as you can". I promptly got the operation under way, left the men to get the last few lines lit, and I hurriedly got back to the office to see what was up.

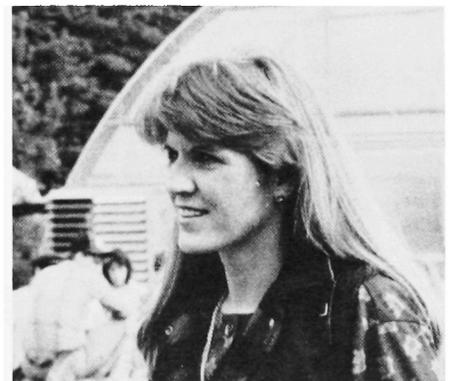
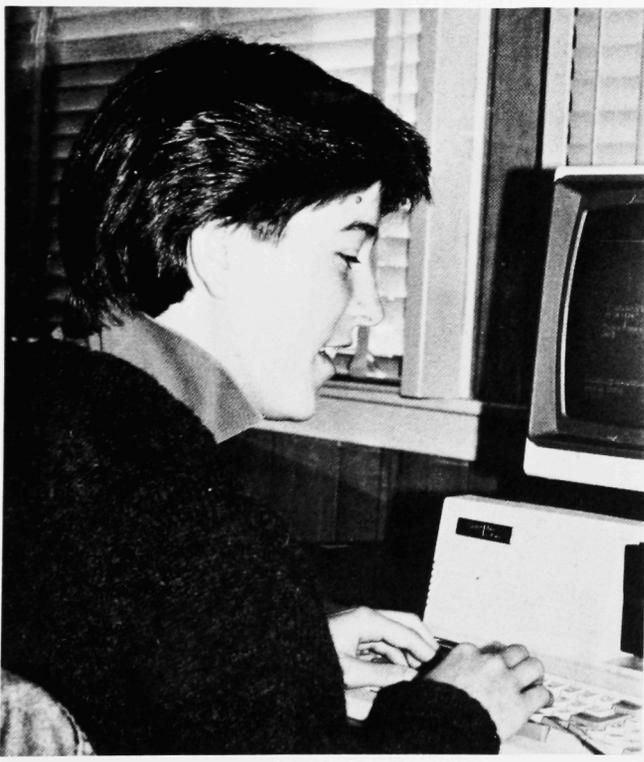
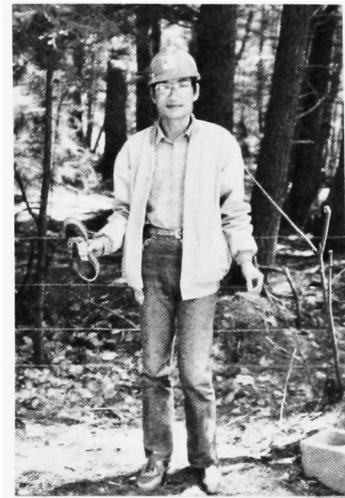
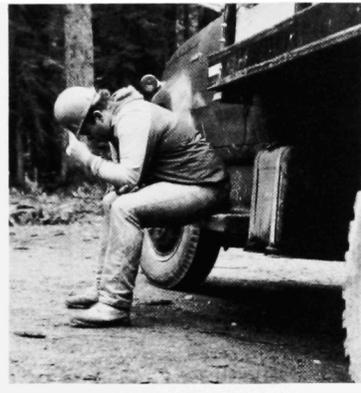
As it turned out, my boss had misunderstood my message due to a difference in word use and accent, and was most anxious for me to return to the fire site as he **did not** consider the conditions to be 100%. At least it resulted in a good burn on a backlogged area, so all's well that ends well. It also resulted in the adoption of the Kings English on the radio for quite a while until we were both satisfied that we clearly understood each other's language.

The regional breakdown into different tongues has been eroding in Scotland. This process has gone on for quite a while. The advent of radio and television has increased this merging of accent by exposing everybody to outside sources. It is natural for youngsters to imitate their heroes, by going around speaking like Kojak. On this note, I would like to finish by urging all readers to petition the makers of Star-Trek to request the reenlistment of Scotty. This would assure the vernacular heritage of Scotland well into the future.

Kenny Ferguson

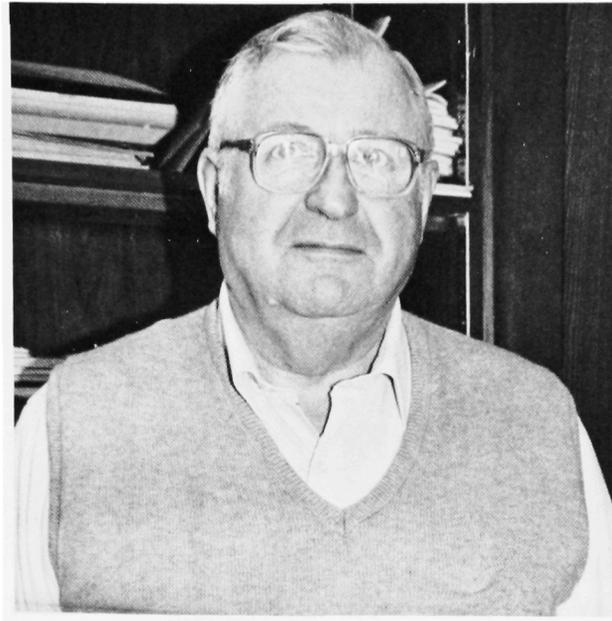








FACULTY



WALLACE C. ROBBINS

Professor Wallace C. Robbins will retire from the University of Maine at the end of this academic year. Mr. Robbins has been on the faculty of the College of Forest Resources since August of 1965. He has been one of two professors in the Forest Management Technology program since its inception in 1968 and has served as program leader since 1976. He was promoted to Associate Professor of Forest Technology in 1975.

Mr. Robbins received his B.S. degree in Forestry at the University of Maine in 1954 and completed his M.S. at the University of New Brunswick in 1956. He worked as Forester for the Eastern Corporation from 1955 to 1965.

He has been active in his profession and in the community in which he lives. Professor Robbins has been a long-term member of the Society of American Foresters having served in many positions. He is currently a member of the SAF committee on "Recognition of Associate Degree Programs." He is a Registered Professional Forester, a Licensed Wood Scaler and a Registered Land Surveyor. He has served as Secretary of the Maine Society of Land Surveyors.

His community involvement includes fifteen years as Commissioner of the Brewer Housing Authority. He has also served on the Board of Directors of the Brewer Housing Development Corporation. Wally and his wife, Beverly, are residents of Brewer, Maine where they plan to spend their retirement years.

Mr. Robbins has given the students in Forest Management Technology his full attention for many years. We wish him much happiness in the years ahead.



ADMINISTRATION



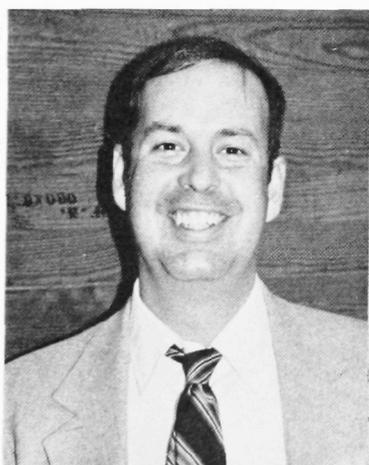
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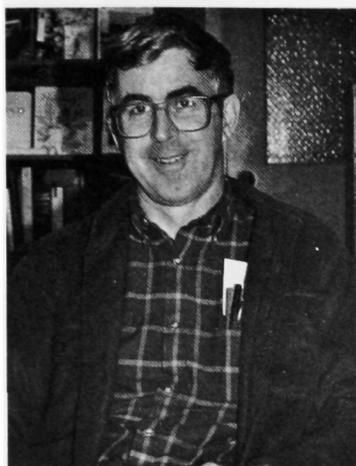
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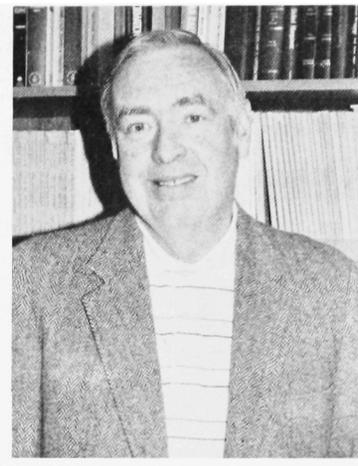
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A.S. ICS Center of Degree Studies
Business Administration 1986*

FOREST MANAGEMENT



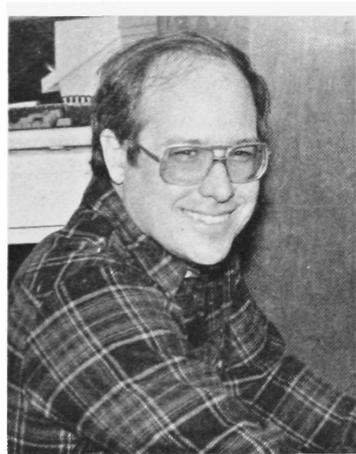
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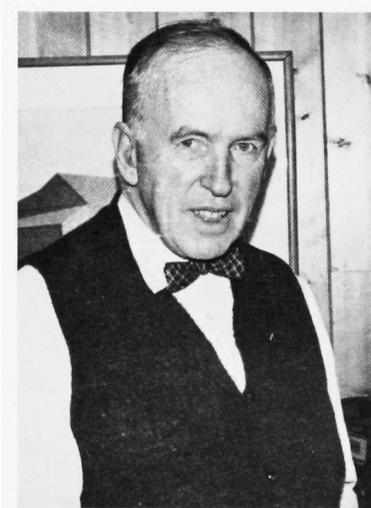
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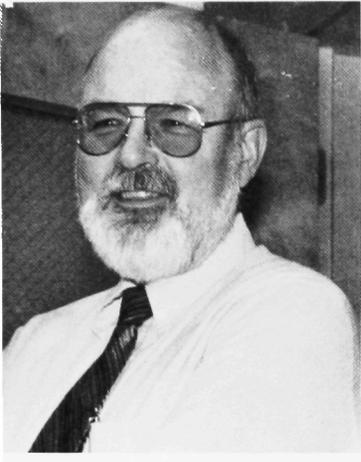
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Primary Wood Processing*

FOREST MANAGEMENT



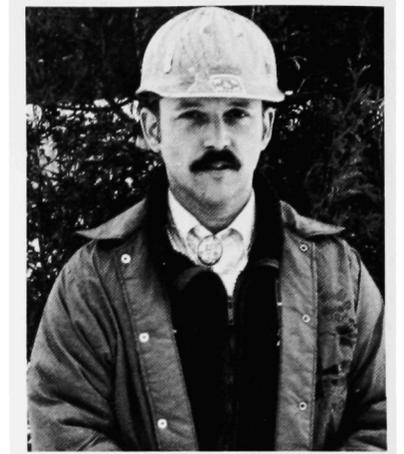
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Forest Economics 1963
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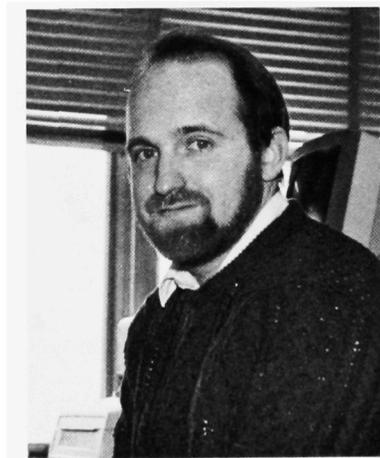
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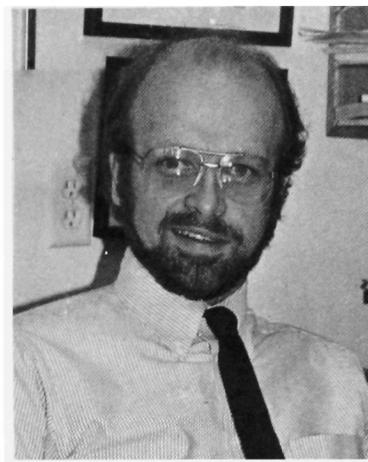
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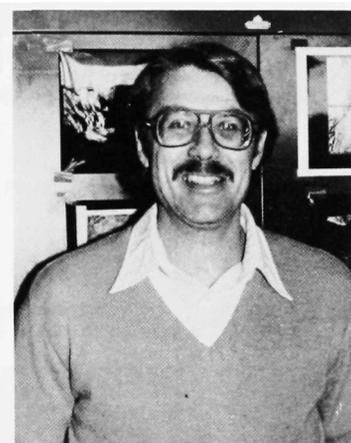
FOREST MANAGEMENT



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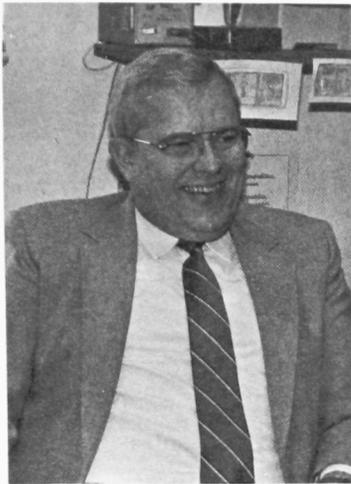


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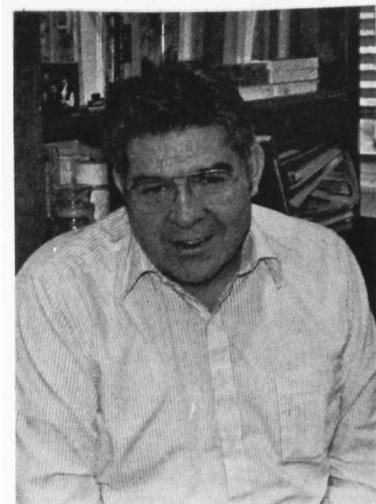
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FOREST BIOLOGY



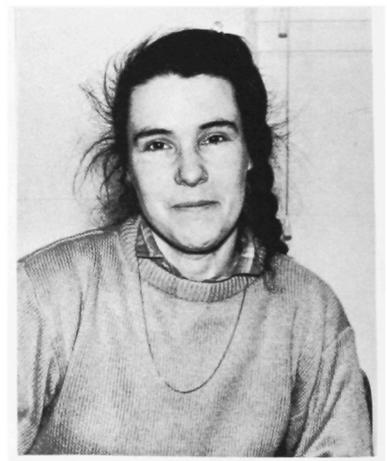
MICHAEL S. GREENWOOD

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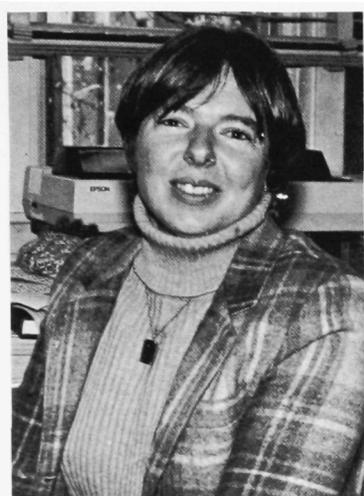
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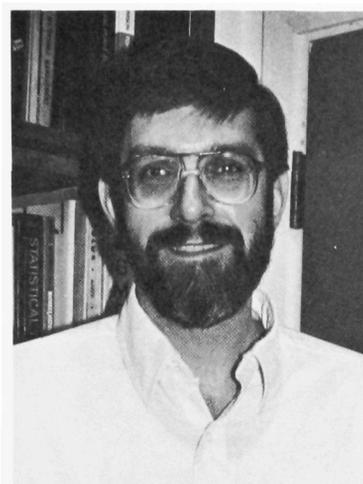
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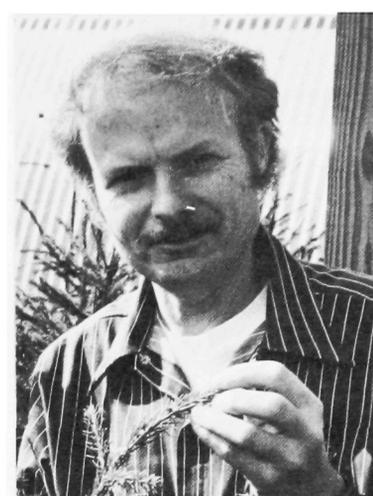
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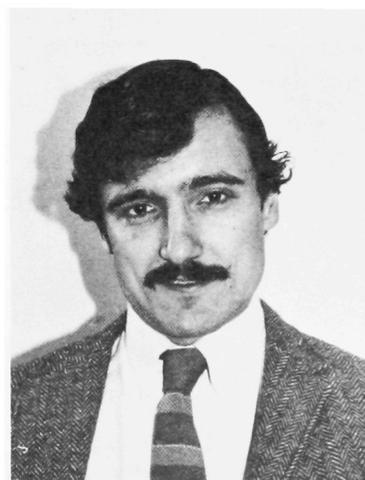
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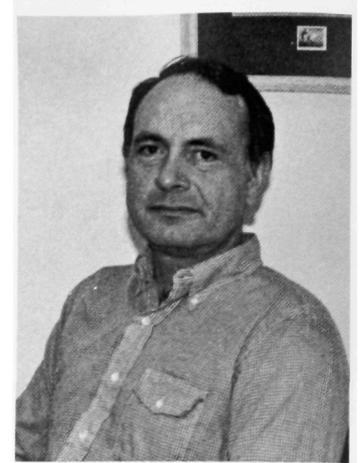
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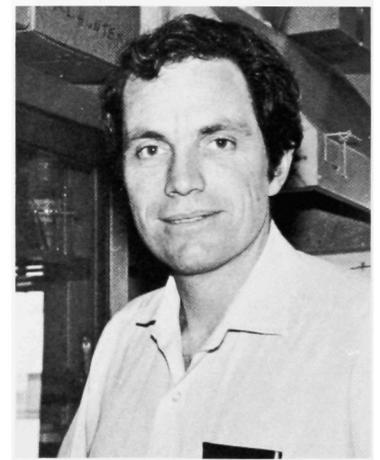
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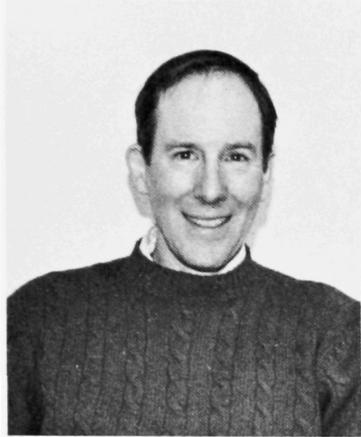
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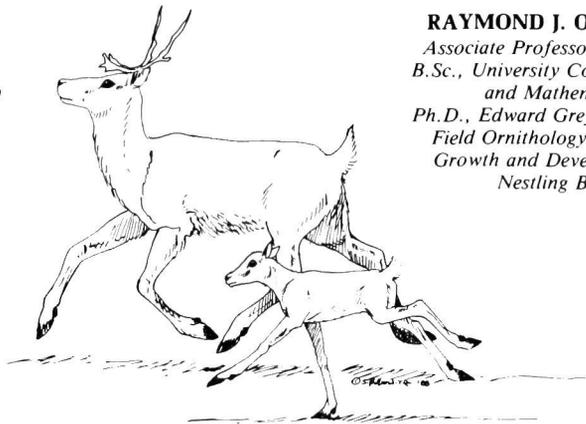
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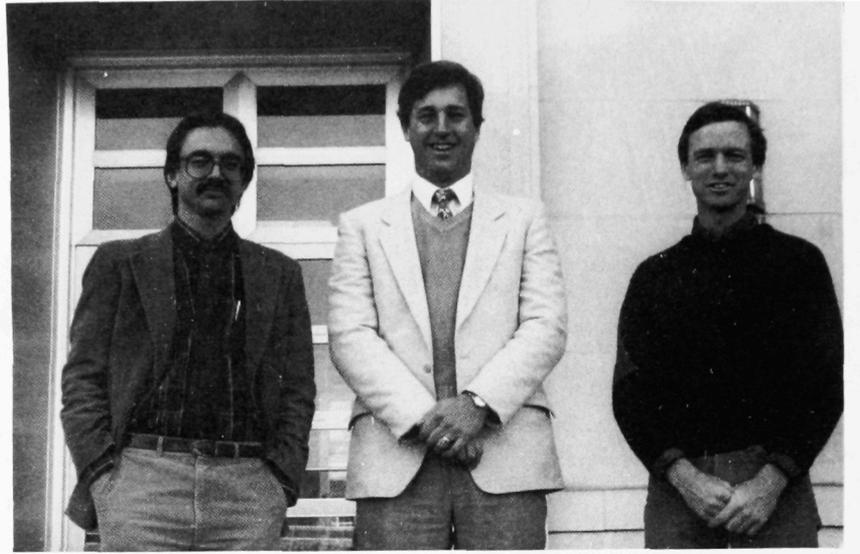


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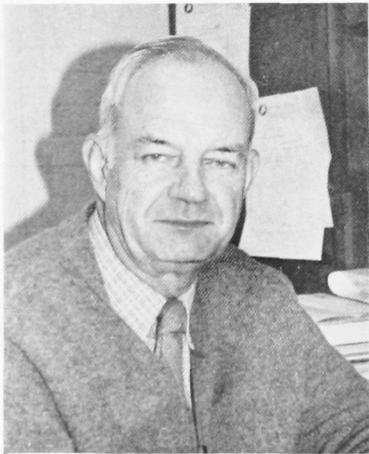
COOPERATING FACULTY



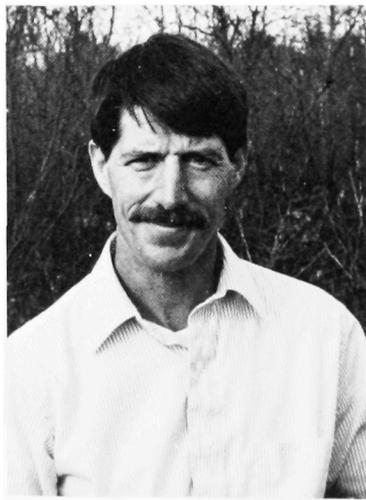
IVAN FERNANDEZ
Assistant Professor of Soil Science

WILLIAM LIVINGSTON
Assistant Professor of Forest Pathology

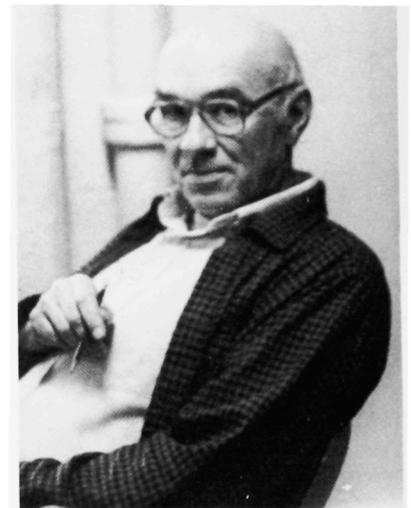
WILLIAM MITCHELL
Associate Professor of Landscape Architecture



HAROLD GIBBS
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and Veterinary Sciences
and Wildlife Resources*



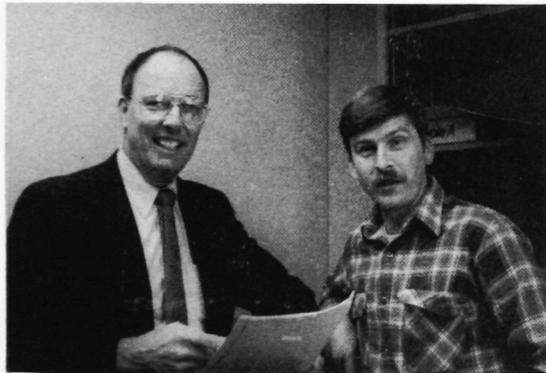
CHRISTOPHER CAMPBELL
*Associate Professor of
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JOHN B. DIMOND
Professor of Entomology



NORMAN SMITH
Dean, Engineering and Science



HAYDEN SOULE, JR. **THOMAS CHRISTENSEN**
*Associate Professors of
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*Professor of
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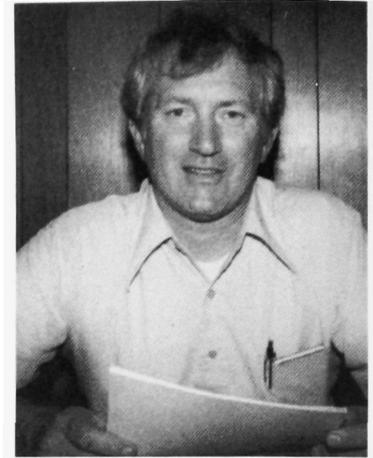
COOPERATIVE EXTENSION SERVICE



BUD BLUMENSTOCK



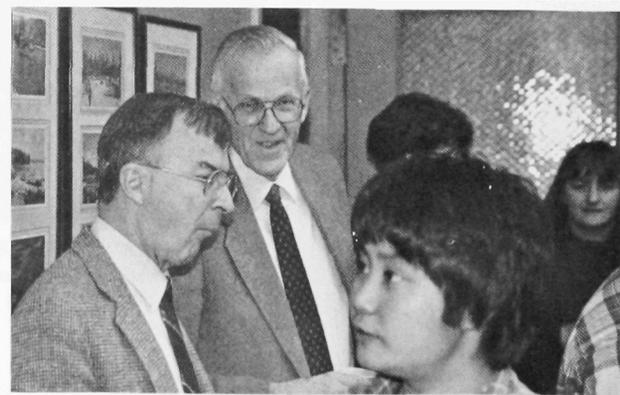
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Assistant Scientist



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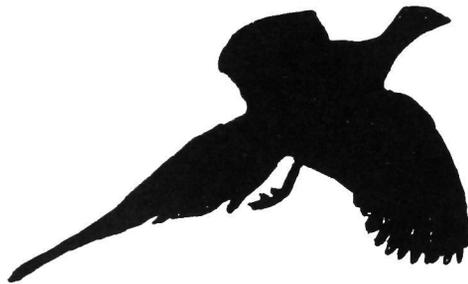
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CAROLE HALSTED



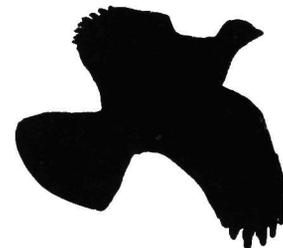
PEGGY SMART



NORA ACKLEY



ELEANOR HEINZ

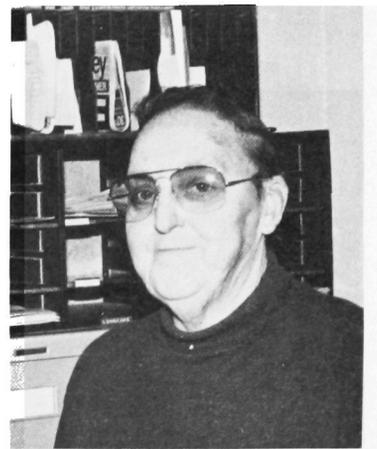




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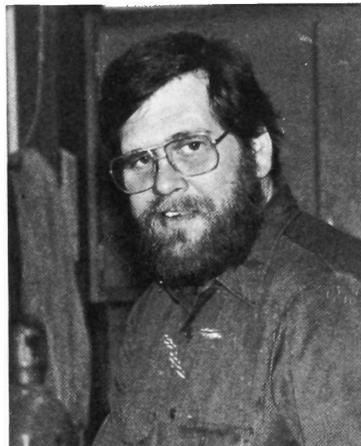
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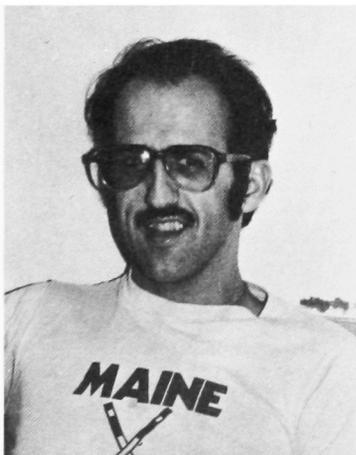
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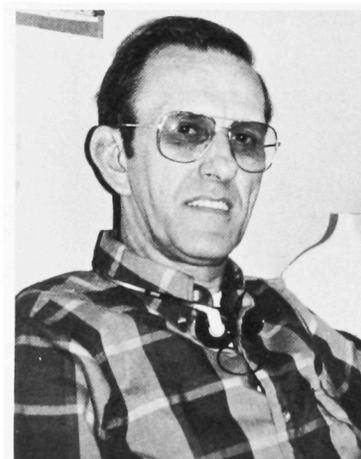
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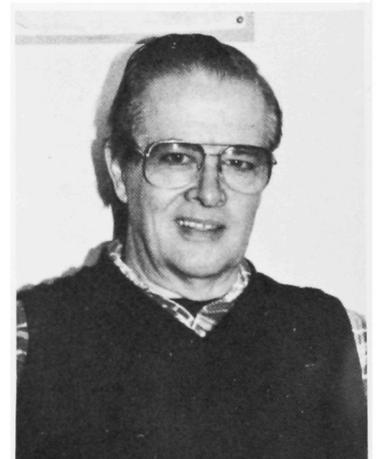
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ARTHUR JOAQUIN

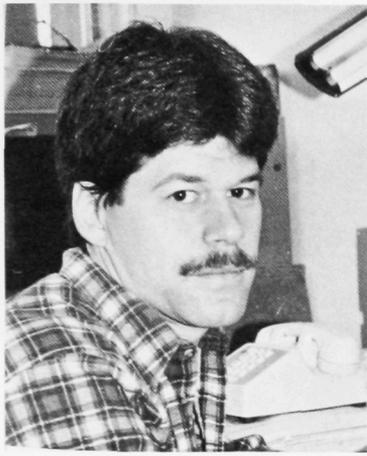


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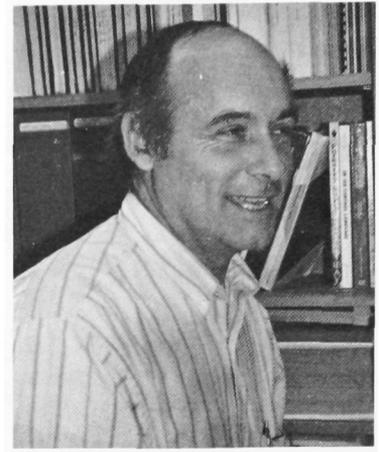
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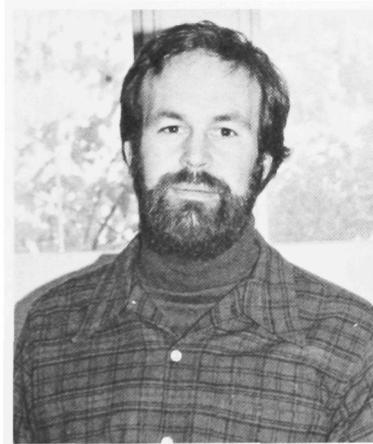
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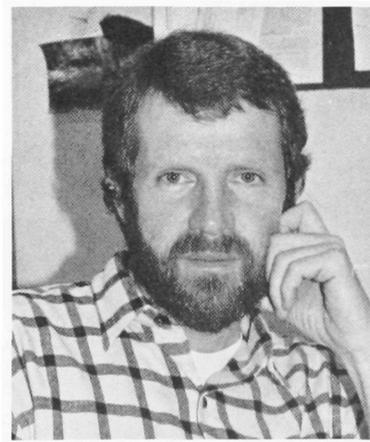
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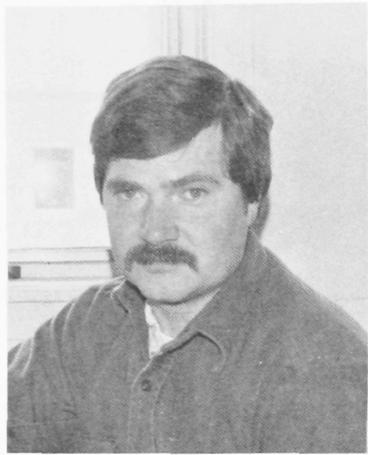


JONATHAN CARLISLE
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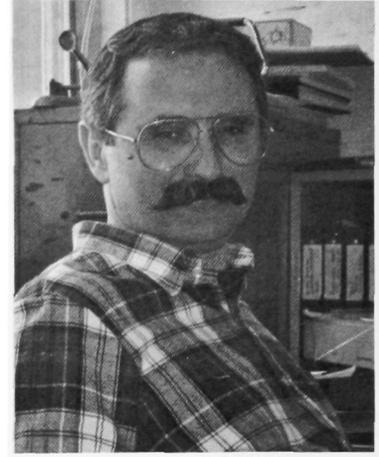
PROFESSIONAL STAFF



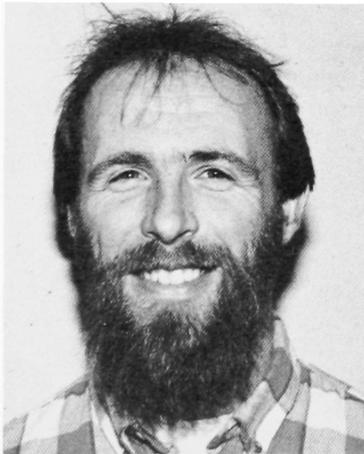
DAN McCAULEY
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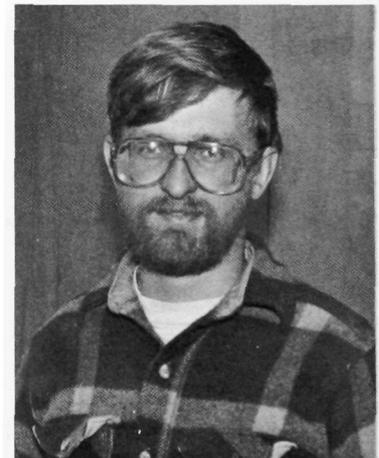
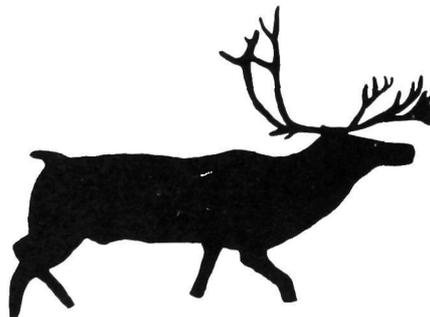
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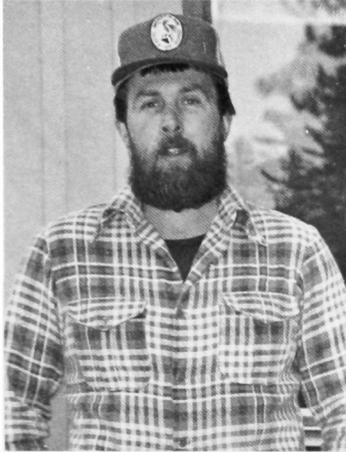
JERRY LONGCORE
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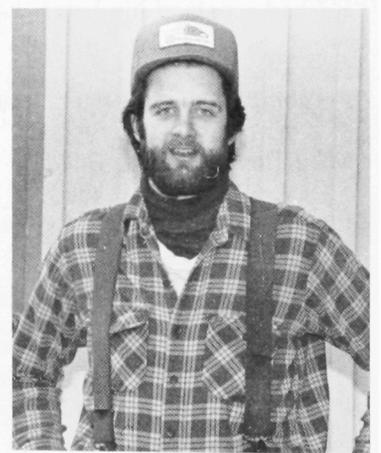
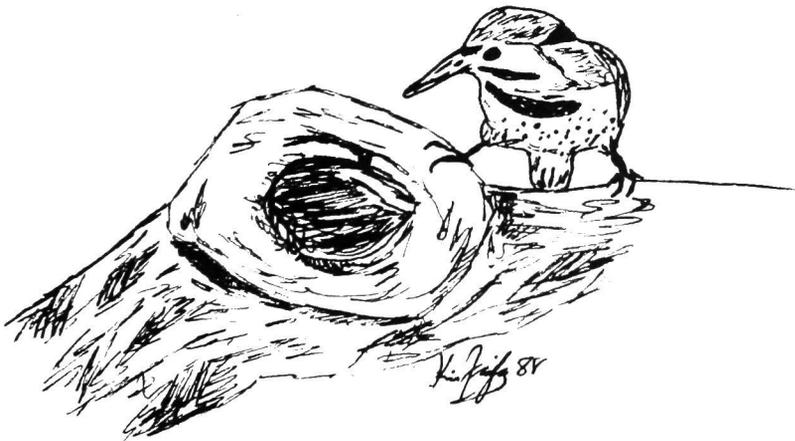
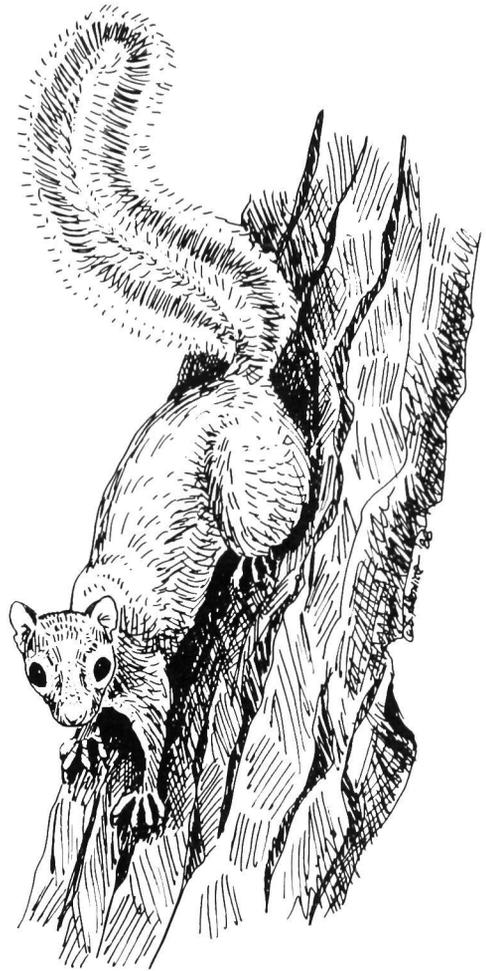
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MARK McCOLLOUGH
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STEPHEN FOLLETTE
Scientific Technician
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