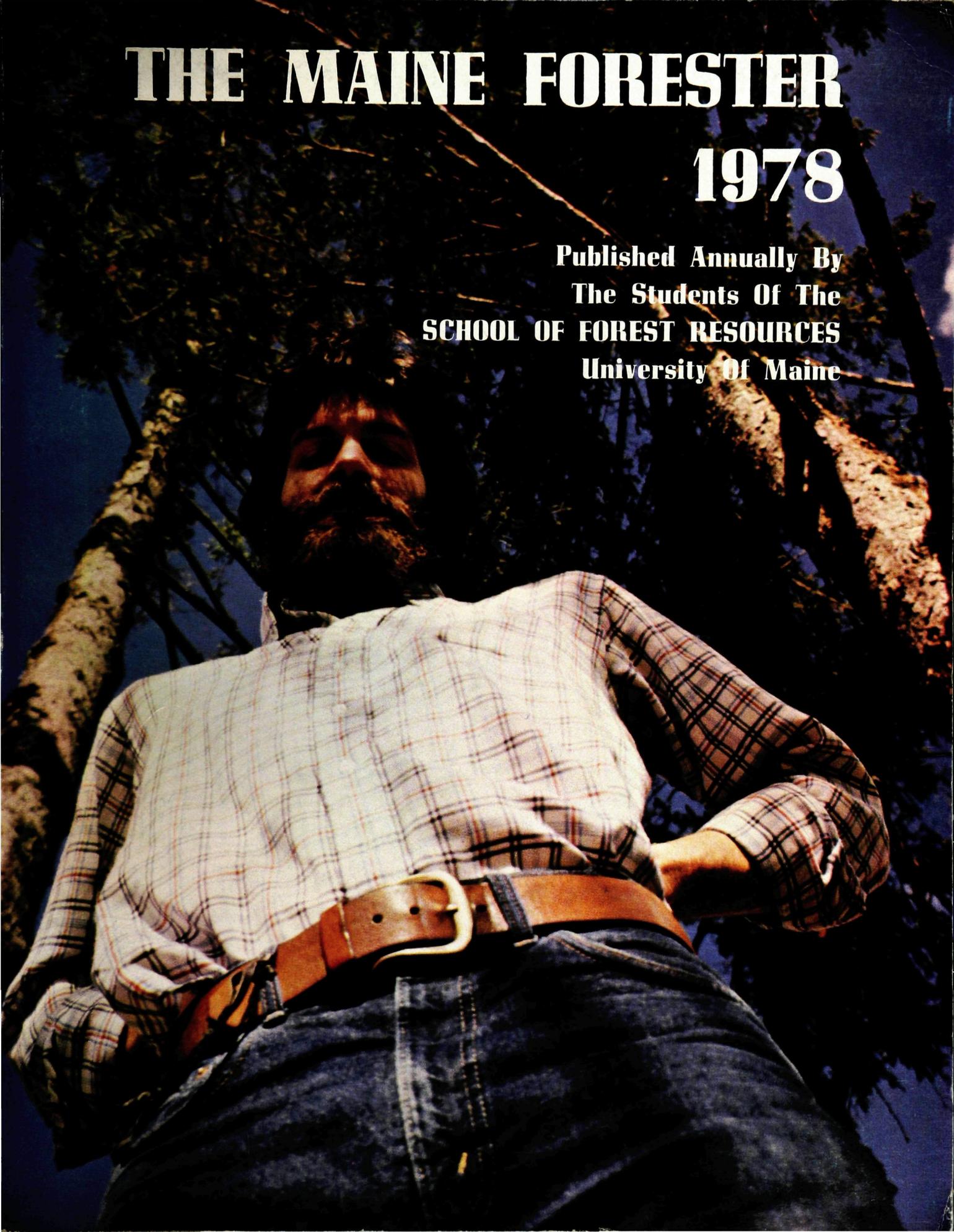


# THE MAINE FORESTER

1978

Published Annually By  
The Students Of The  
SCHOOL OF FOREST RESOURCES  
University Of Maine



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# THE 1978 MAINE FORESTER



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UNIVERSITY OF MAINE

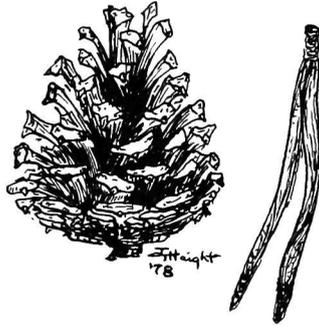
Cover photo by Roy W. Crowley. Subject: Patrick Bard



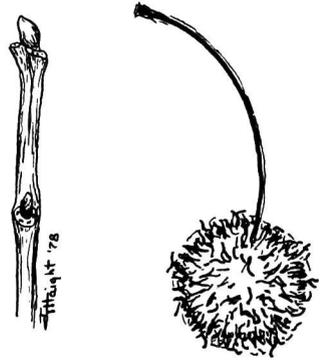
*Ulmus americana* L.



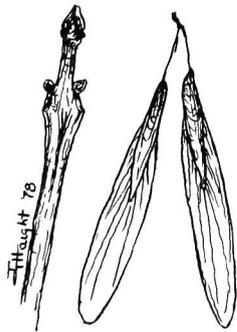
*Acer saccharum* Marsh.



*Pinus banksiana* Lamb.



*Platanus occidentalis* L.



*Fraxinus americana* L.

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# Greetings from the Director



Director Knight addressing the SAF New England Section at its 1978 meeting in Portland.

The yearbook for 1978 summarizes what has happened for the year 1977. Much of what may occur in 1978 will happen long after this one has gone to press. It is important that we do point out one fact about those graduating in the 1978 year because they do have the distinction of being graduates of the 75th anniversary of the School of Forest Resources. Some years from now when you have completed 25 years and are considering coming to Maine for a class reunion, you will come to celebrate not only the 25th for your class but the 100th for your School. Congratulations now to all of you 1978 graduates!



Each year as I write a bit about things that have happened during the previous twelve months I suppose the reader wonders how the story could be interesting to prepare. Could not one take last year's comments,

change a few names and have it typed again? There is some similarity, of course, but there are more differences and each year things happen which show us how people can work together and how various individuals will come through to make things better for everyone else. More often than not it is some one of our tragic events that truly shows how caring people may be.

The year 1977 was no exception, our near tragedy was to retiring Prof. Giddings who became critically ill in the spring. The students in the school who knew Prof. Giddings showed their deep concern for him and the many nice things done for him meant much to his recovery. He has spoken often of the kind thoughts from all of you and sends his thanks. Let's hope that 1978 will be an unusual year with no tragedies or near-tragedies to mar the record.

The number of applicants for admission to the School continued to be far above our quota for admission so many fine applicants continue to be turned away. Those here again provide us outstanding records. Our competitive teams whether based mainly on brawn (the Woodsmen's teams) or brain (the Wildlife conclave team) continue to win. I don't know what I will say the year the conclave team loses but we all wait for the news of the results with a little more anxiety each year. No team wants the distinction of being first in that dubious role.

The most significant occasion in 1977 from an educational standpoint was the process of accreditation that the School went through in March. This led to a final review and reaccreditation of the School in October for a five year period. This required much involvement of people and a considerable preparation. Students and

faculty worked together during the visitation to show the visiting teams that we have an outstanding professional school. Late in 1977 the School began a complete review of undergraduate sequences to assure ourselves that courses offered cover the materials needed for professional practice by forest and wildlife resource managers. The need for this review takes on special significance when one reviews the changes in faculty; at least half of them are new since the last complete review of course offerings in 1972.



Curriculum review in progress.

Staff changes have been significant during the past year. Three long term staff members have retired; Prof. E. L. Giddings, Prof. H. L. Mendall, and Prof. A. G. Randall. The students knew them well and gave them a fine tribute. We have welcomed new staff with the arrival of Prof. Hoffman to teach management and harvesting and Prof. Williams for the two year program and fire control. Both have much to offer and have excellent experience in the areas they are teaching. A wildlife unit leader had not been appointed by the end of 1977 to replace Prof. Mendall. Our administrative organization was completed with the appointment of Prof. Ashley to the position of Associate Director of the School. Dr. Ashley is working with student leaders of the School to involve students more directly in some of the policy decisions of the School.

Congratulations again to all of the people graduating in this class. The staff will look forward to reports of success in your chosen jobs. Good luck and best wishes to each one. Please keep in touch and remember that the School always needs you and your support.

Sincerely,  
Fred B. Knight  
Director



## School of Forest Resources Student Profile

Year	Four-Year Undergraduates			Two-Year Forestry	Graduate	Others	Totals
	Freshmen	Soph. Forestry	Jr. Wildlife				
1964	71	108	42	0	9	5	235
1969	104	95	92	63	25	2	381
1974	134	225	151	95	44	68	717
1975	147	247	196	111	53	114	868
1976	140	289	186	87	52	121	875
1977	187	265	123	89	60	117	841

# DEDICATION

## PROF. HOWARD MENDALL



Professor Howard Lewis Mendall has pioneered in the intelligent management of natural resources during a long and distinguished career as a research biologist, teacher, and author. A native of Augusta, Maine, where he received his early schooling and also developed a life-long interest in ornithology, he earned the B.A. degree in Zoology in 1931 and the M.A. in Zoology in 1934 at the University of Maine. His professional career began as a Wildlife Technician, among the first in the nation, with the U.S. Resettlement Administration. He was responsible for developing effective rehabilitation plans for impoverished lands in eastern Maine. In 1937 he joined the staff of his alma mater in the dual capacities as instructor in game management and Assistant Leader of the Maine Cooperative Wildlife Research Unit. He was named Leader of the Unit and Associate Professor of Game Management in 1942.

Professor Mendall taught the first course in ornithology at UMO. He also taught the first course in ecology and the early courses in game management. And in the days when we had a winter camp program, Professor Mendall was one of the active instructors who led his class by snowshoe over the hills in western Maine.

Although he did less undergraduate teaching after World War II when an additional wildlife instructor was added to the staff, he continued to lead one of the most active graduate programs in the College of Life Sciences and Agriculture.

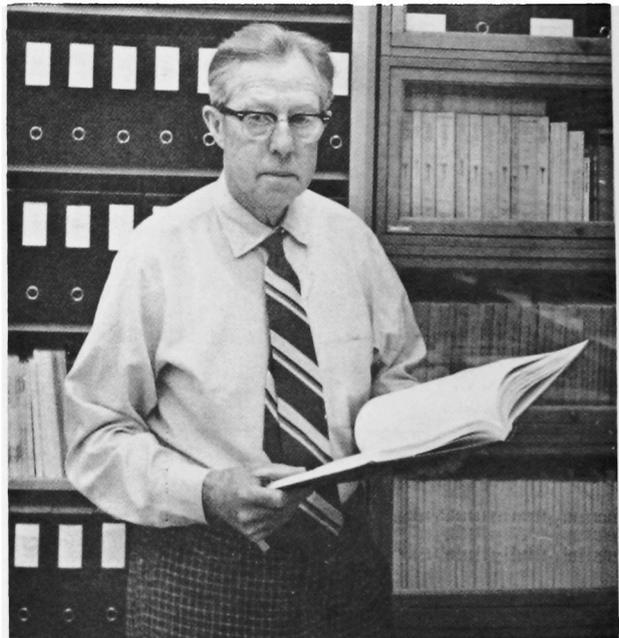
Professor Mendall's service has a long history: author of 62 publications, including two books and several lengthy bulletins; recipient of numerous professional awards and honors; teacher of scores of well-known biologists, among them directors of four state or pro-

vincial fish and game departments, more than a dozen professors, including five department chairmen, and several department heads in state and federal organizations; and, consultant to many federal, state and provincial conservation programs. His contributions to wise use of natural resources are reflected in conservation programs over the nation and in Canada.

Much of his research has been with species and environments (fresh water, terrestrial and marine) once threatened by the rush of civilization, but now regarded in an awaking conservation era as important to the enjoyment and welfare of mankind.

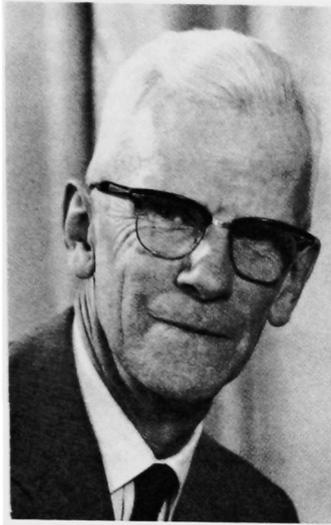
In 1966 his colleagues in the Northeast Section of The Wildlife Society bestowed their highest professional honor—The John Pearce Memorial Award—to Howard Mendall for his dedication in fostering sound conservation, his generous donation of time in serving and counseling fellow conservationists, and his scholarly contributions to resource management, especially with respect to wetlands and migratory birds. And in 1976 he was awarded the Distinguished Service Award by the Department of the Interior. Recently, he was named in an Award of Merit for his service to conservation from the Maine Department of Inland Fisheries and Wildlife.

On September 30, 1977, Professor Mendall was officially retired, but his 40 years of service at UMO have left a mark that will be felt for many years. Presently, Professor Mendall is continuing the summarization of his research on the eider duck, working out of his office in Merrill Hall.



# DEDICATION

## PROF. GREGORY BAKER



After a boyhood on a farm in Moscow, Maine, near Bingham, Greg Baker attended the University of Maine Forestry School and received his degree in 1924. For the next ten years he was employed in turn by Finch Pruyn and Co., by the Diamond Match Company, and by the Provincial Wood Products Company in Saint John, New Brunswick, in both woods and small mill operations. He joined the Forestry Department at the University of Maine as an instructor in 1935.

During his first years in the Department, Greg assisted in both winter and summer field camps for students, as well as teaching varied courses. He received his Master of Forestry degree from Yale in 1939, and by 1951 was appointed professor in the Department. During Prof. Robert Ashman's leave in 1955 and upon Ashman's retirement in 1957, Prof. Baker served as Acting Head of the Forestry Department. Baker retired as Emeritus Professor of Forestry in 1968, but continued to work part time in the Forest Products Laboratory at the School to augment the growing staff in Wood Technology.

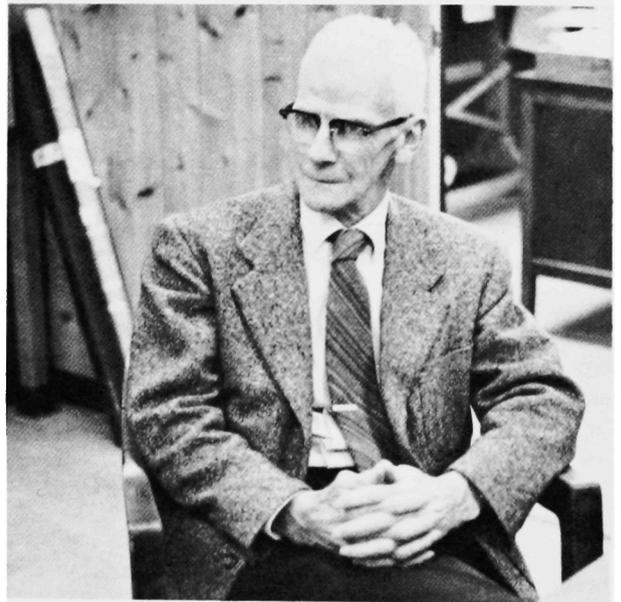
In present days of specialization, Greg Baker represents a breed of men of another period who could turn a hand at many tasks. Always accurate in his research and thorough in his teaching, he brought to his work a fund of practical knowledge which was invaluable to his students and colleagues. One of his specialties in the professional field is the kiln drying of wood. Baker participated in two dry kiln demonstrations in the late 1940's, and was a key instructor in dry kiln short courses during 1967, 1968, and 1969. He served as

consultant to many firms in the wood products industry when he could find time for the work, and he generally did. He has numerous technical publications to his credit in wood technology, kiln drying, and forest products marketing.

Retirement meant time for continued productive work for the School of Forestry and the University of Maine, but also more time for bird hunting, canoeing, photographing flowers and birds, and study of Canadian pioneers among other activities. In late 1969 Prof. Baker was made a Life Member of the New England Kiln Drying Association at the group's annual meeting and received a plaque noting the award. In early 1970, Baker was appointed Secretary of the University of Maine Foundation, the organization which handles many University endowment funds.

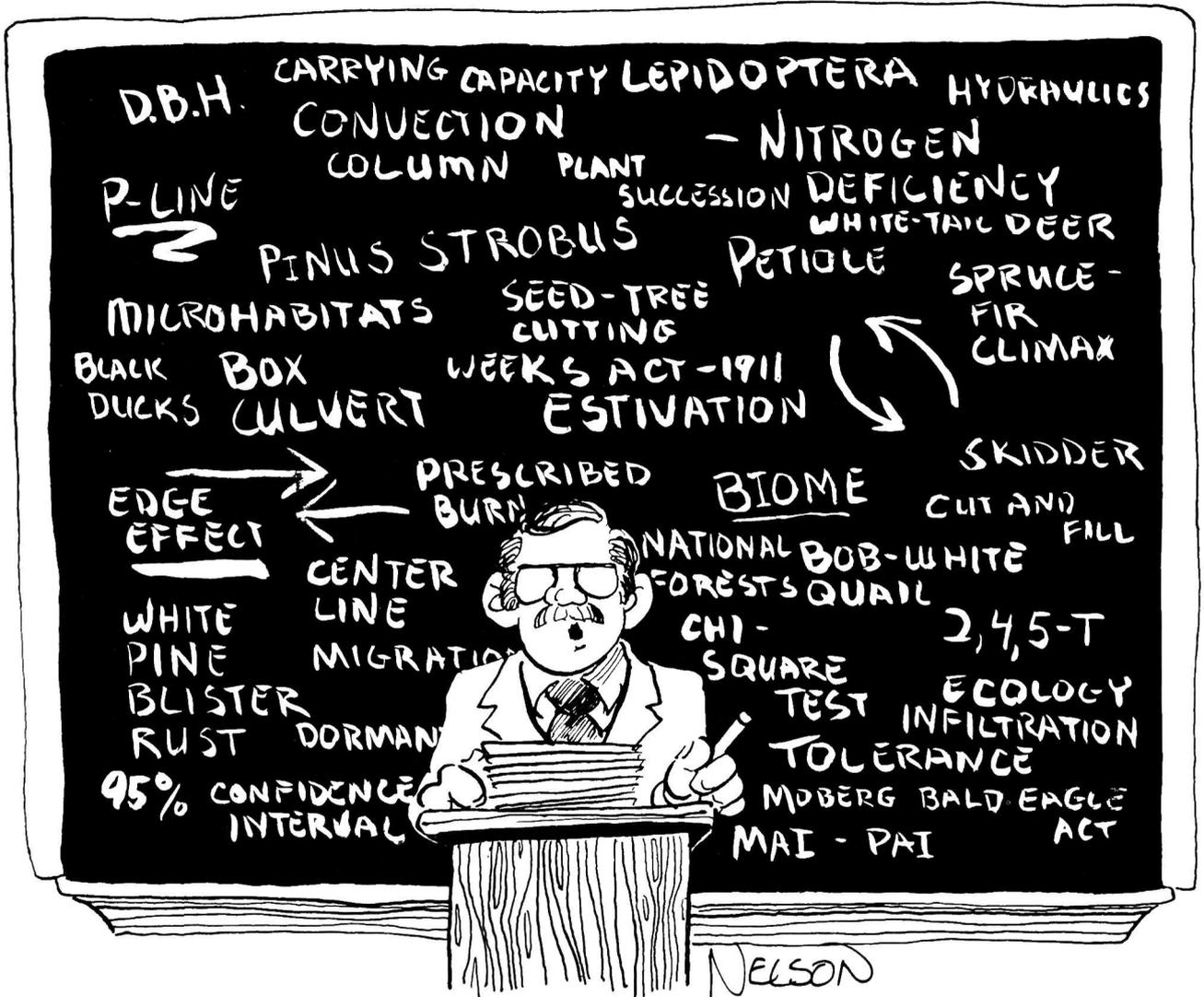
While always actively interested in the entire range of forest resources, Greg's research and teaching established and sustained the basis for the activity in wood science and technology at the School today. The botanically certified collection of domestic and foreign woods at the School's Forest Products Laboratory bears his name.

Always a gentleman, Greg Baker's influence over the years on students, foresters, and the industries has been notable and will be long appreciated.



**Greg Baker was the first editor of the MAINE FORESTER in 1923**

# FACULTY



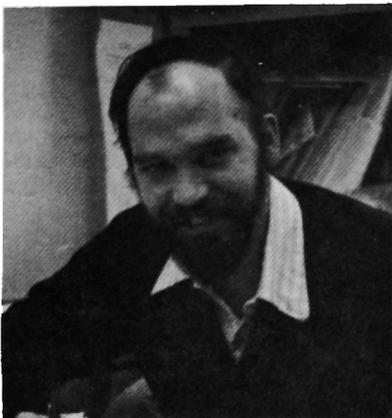
"I HAD MORE I WANTED TO COVER,  
BUT I'M AFRAID WE'RE OUT OF TIME.."

## Welcome — New Faculty

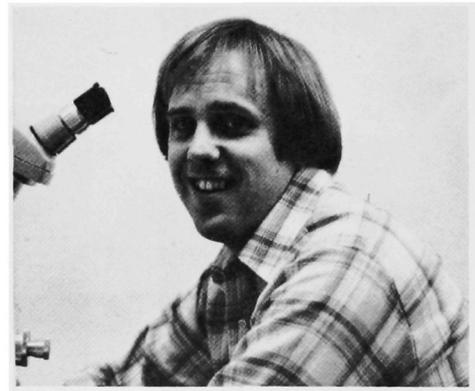
**Marvin W. Blumenstock** joined the School on May 1, 1977 as Safety Specialist in the Cooperative Extension Service. "Bud" provides us with a vast amount of experience in the logging industry including positions as mill manager, logging department manager, and area supervisor. He has a B.S. degree in agricultural sciences from Rutgers University, a Master of Forestry degree from Yale University and an MBA from the University of Maine. As Extension Safety Specialist, Bud will be working with people throughout the state in educational programs designed to improve safety consciousness on the farm and in the forest.



**John V. Litvay** is our Assistant Professor of Wood Technology. John is specialized in the wood anatomy area and provides us with an ability in the techniques of electron microscopy. John has a B.S. degree in forestry from Southern Illinois and Master of Science and Ph.D. degrees from Oregon State University in Forest Products. John is the newest member of our Forest Products Laboratory staff of five. His appointment includes a considerable time allotment for research. His course load will include Wood Anatomy, Introduction to Forest Resources, and Senior Seminar.



**Benjamin F. Hoffman, Jr.** is responsible for our courses in Forest Management and Harvesting and is interested in research in the harvesting field. Ben, also responsible for two of the senior seminar classes, joined us on August 14, 1977 as an Associate Professor of Forest Resources. His latest assignment prior to joining our staff was as Chief, State Land Management, Vermont Department of Forests, Parks, and Recreation. He has also worked for Weyerhaeuser Company as a Production Manager and Woodlands Manager. He has also worked in logging contracting and as a Forester in the U.S. Forest Service. Ben has a B.A. degree from the University of Virginia and a Master of Forestry degree from Yale University.



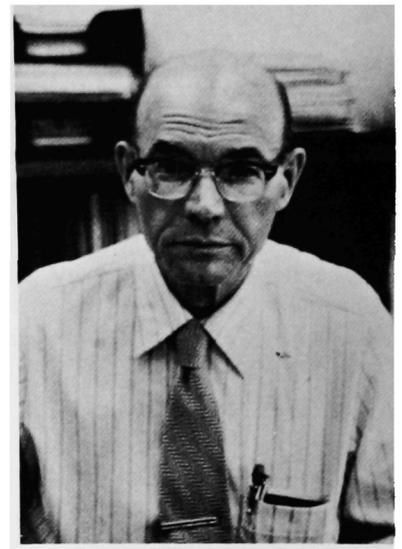
**Charles P. Williams** is our new Assistant Professor of Forest Technology. "Charlie" joined us on July 1, 1977 in time to teach in the Technicians summer camp and take part in control of the Baxter Park Fire. His course load will include Forest Fire Control, Forest Measurements, Forest Land Management, and Applied Silviculture. In addition to his teaching responsibilities in the Forest Management Technicians program he is also our fire specialist in the School. He has experience in the field with Weyerhaeuser Company in North Carolina and in Land Use and District forestry. Charlie received a B.S. in Forestry in 1969 from the University of Tennessee and a Master of Forestry degree from North Carolina State University.



**FRED B. KNIGHT**  
 Director of the School of  
 Forest Resources  
 Dwight B. Memeritt Prof. of Forestry  
 B.S., Univ. of Maine, 1949  
 M.F., Duke Univ., 1950  
 D.F., Duke Univ., 1956  
 Senior Seminar  
 Management Problems  
 Honors Courses



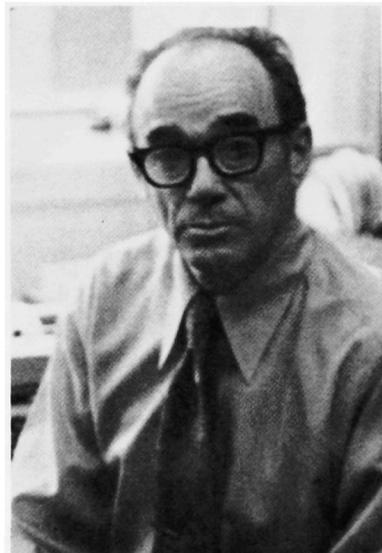
**MARSHALL D. ASHLEY**  
 Assoc. Director for Administration  
 Assoc. Prof. of Forestry  
 B.S., Univ. of Maine, 1965  
 M.S., Purdue Univ., 1966  
 Ph.D., Purdue Univ., 1969  
 Photogrammetry and Remote  
 Sensing of Natural Resources  
 Director-Forestry Summer Camp



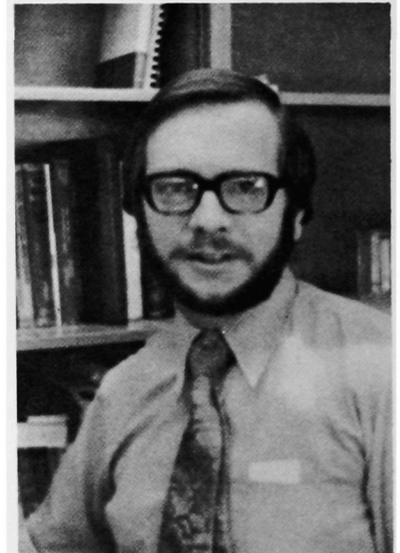
**RALPH H. GRIFFIN**  
 Prof. of Forestry  
 B.S., Virginia Polytechnic Institute,  
 1943  
 M.F. Yale, 1947  
 D.F., Duke, 1956  
 Silvics-Forest Ecology  
 Silviculture  
 Advanced Silviculture  
 Forest Influences



**DAVID STEVEN CANAVERA**  
 Assist. Prof. of Forestry  
 B.S., Michigan Technological  
 University, Houghton  
 Forest Management  
 M.S., Michigan State University  
 Forest Tree Improvement, 1967  
 Ph.D., Michigan State University  
 Forest Tree Improvement, 1969  
 Statistical Inference in  
 Forest Resources  
 Forest Planting



**HAROLD E. YOUNG**  
 Prof. of Forestry  
 B.S., Univ. of Maine, Forestry, 1937  
 M.F., Duke Univ., Biometrics, 1946  
 Ph.D., Duke Univ., Biometrics and  
 Tree Physiology, 1948



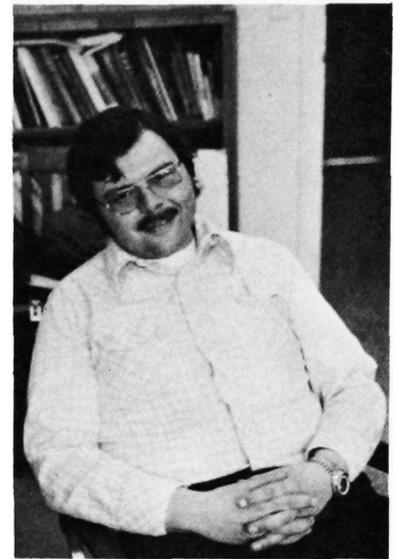
**ROBERT KENT SHEPARD**  
 Assist. Prof. of Forestry  
 B.S., Univ. of Michigan, Forestry,  
 1963  
 M.S., Duke Univ., Forest Entomol-  
 ogy, 1964  
 Ph.D., Univ. of Michigan, Forest  
 Ecology, 1970  
 Watershed Management  
 Senior Seminar  
 Statistical Inference in Forest Re-  
 sources Lab



**THOMAS J. CORCORAN**  
 Prof. of Forest Economics  
 B.S., Michigan Technological  
 University, 1955  
 M.S., Purdue Univ., 1960  
 Ph.D., Purdue Univ., 1962  
 Forest Economics  
 Production Analysis in Forestry  
 Planning and Control of Forest  
 Operations  
 Research in Forestry Economics



**WALLACE C. ROBBINS**  
 Assoc. Prof. of Forest Technology  
 B.S., Univ. of Maine, 1954  
 M.S., Univ. of New Brunswick, 1956  
 Director-Two Year Program  
 Two-Year Summer Camp  
 Intro. to Forest Technology  
 Aerial Photo Interpretation  
 Wood Products Utilization  
 Forest Protection  
 Wood and Tree Identification



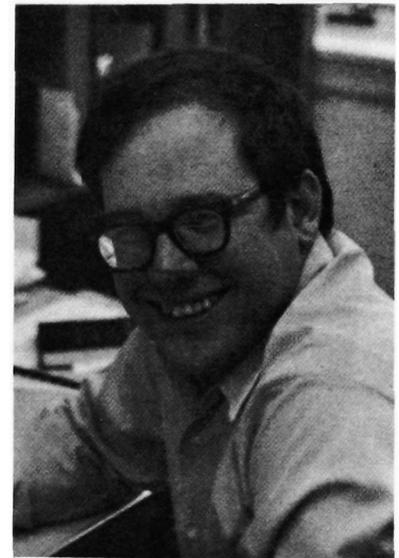
**WILLIAM D. LILLEY**  
 Instructor in Forestry  
 B.S., Univ. of Maine, 1970  
 M.S., Univ. of Maine, 1975  
 Introduction to Forest Resources Lab  
 Statistical Inference in Forest Re-  
 sources Lab  
 Forest Biometry Lab  
 Photogrammetry and Remote Sensing  
 of Natural Resources Lab  
 Practice of Forestry



**FLOYD L. NEWBY**  
 Assoc. Prof. of Forestry  
 B.S., Utah State Univ.  
 M.S., Univ. of Michigan, Forest Rec-  
 reation, 1966  
 Ph.D., Univ. of Michigan, Forest  
 Recreation, 1971  
 Forest Recreation Management  
 Introduction to Forest Resources Lab  
 Recreation and Park Management  
 Forest Policy and Administration



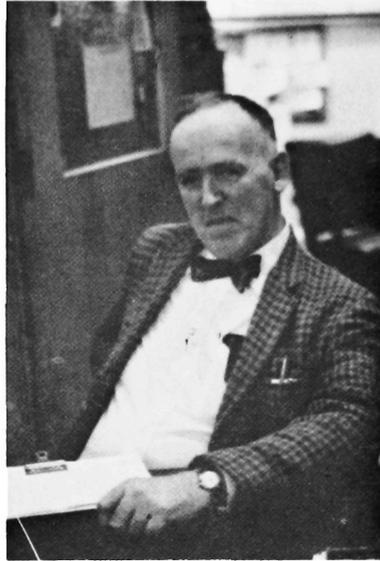
**ROGER F. TAYLOR**  
 Superintendent of Dwight B. De-  
 meritt and Harold W. Worthen  
 Forests  
 Univ. of Massachusetts



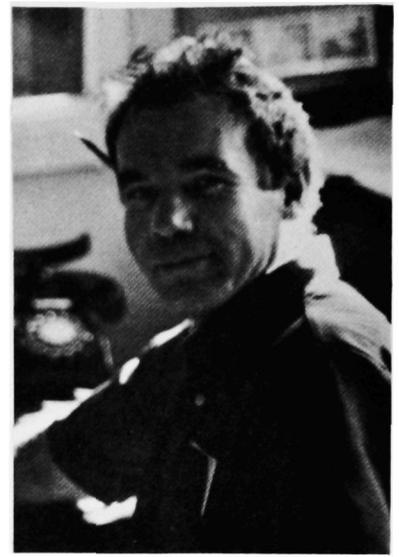
**THOMAS B. BRANN**  
 Assist. Prof. of Forestry  
 B.S., Univ. of New Hampshire  
 M.S., Univ. of New Hampshire  
 Ph.D., Virginia Polytechnic  
 Institute and State University  
 Statistical Inferences in  
 Forest Resources  
 Forest Biometry  
 Forest Summer Camp



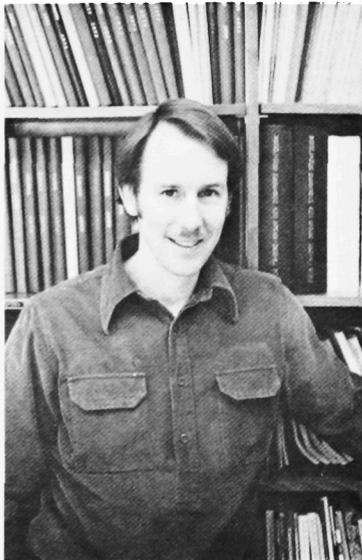
**JAMES E. SHOTTAFAER**  
 Prof. of Wood Technology  
 B.S., State Univ. of New York, 1954  
 M.S., State Univ. of New York, 1956  
 Ph.D., Michigan State Univ, 1964  
 Analysis in Forest Utilization  
 Wood Technology II  
 Research Methods in Forest  
 Utilization



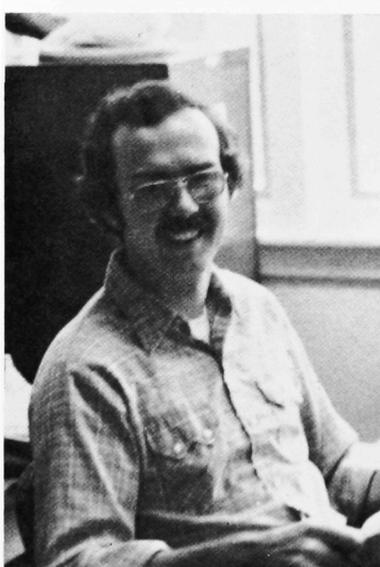
**RICHARD A. HALE**  
 Assoc. Prof. in Wood Technology  
 B.S., Univ. of Maine, 1949  
 M.F., Yale, 1950  
 Primary Wood Processing  
 Wood Preservation and Drying  
 Senior Seminar



**CRAIG E. SHULER**  
 Assoc. Prof. of Wood Technology  
 B.S., Colorado State Univ., 1960  
 M.S., Colorado State Univ., Radiation  
 Biology, 1966  
 Ph.D., Colorado State Univ., Wood  
 Science, 1969  
 Wood Technology I  
 Wood Physics  
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 Freshman Seminar  
 Sophomore Seminar



**RAY B. OWEN, JR.**  
 Assoc. Prof. of Wildlife  
 B.A., Bowdoin, 1959  
 M.S., Univ. of Illinois, 1966  
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 Ecology  
 Senior Seminar  
 Ecological Energetics



**TERRY A. MAY**  
 Assist. Prof. of Wildlife  
 M.S., Colorado State Univ., 1970  
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 Biological Characteristics of Game  
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 Director-Wildlife Summer Camp



**CHESTER F. BANASIAK**  
 Assist. Research Prof. of Wildlife  
 B.S., Michigan State University  
 Forestry, 1948  
 M.S., University of Massachusetts  
 Wildlife, 1952  
 Ph.D., University of Maine  
 Forest Resources, 1974



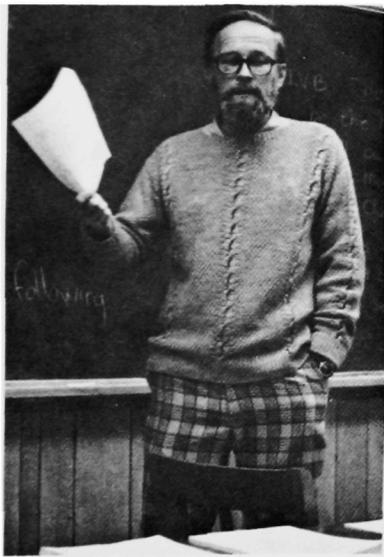
**MALCOLM W. COULTER**  
 Assoc. Director of Wildlife  
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 B.S., Connecticut, 1942  
 M.S., Univ. of Maine, 1948  
 Ph.D., Syracuse, 1966  
 Ecology  
 Wildlife Management  
 Senior Seminar  
 Graduate Seminar



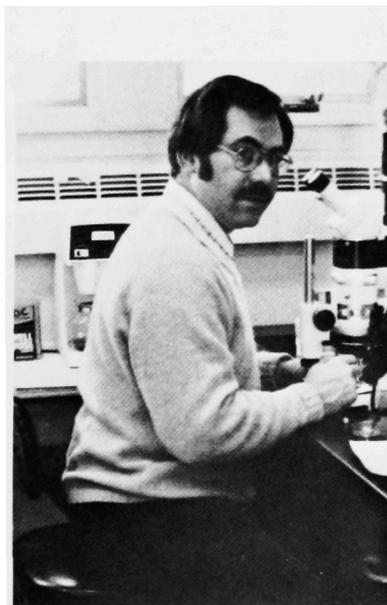
**JAMES R. GILBERT**  
 Assist. Prof. of Wildlife  
 B.S., Colorado State Univ., 1968  
 M.S., Univ. of Minnesota, 1970  
 Ph.D., Univ. of Idaho, 1974  
 Principles of Wildlife Management  
 Senior Seminar  
 Biological Characteristics of Game  
 Birds and Mammals



**VOIT B. RICHENS**  
 Assoc. Prof. of Wildlife  
 Acting Leader, Coop. Wildlife  
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 B.S., Washington State, 1957  
 M.S., Utah State Univ., 1961  
 Ph.D., Utah State Univ., 1967  
 Wildlife Management  
 Wildlife Graduate Seminar



**MAXWELL L. McCORMACK, JR.**  
 Research Prof. of Forestry  
 Coop. Forestry Research Unit  
 B.S., Univ. of Maine, 1956  
 M.F., Duke Univ., 1959  
 D.F., Duke Univ., 1963



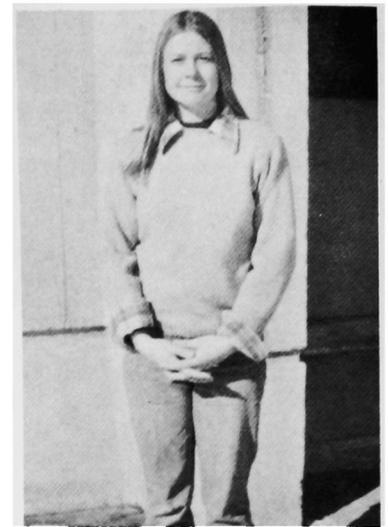
**MARK W. HOUSEWEART**  
 Assist. Research Prof. of Forestry  
 Coop. Forestry Research Unit  
 B.S., Kansas State Univ., 1969  
 M.S., Colorado State Univ., 1971  
 Ph.D., Univ. of Minnesota, 1976



**THIMOTHY GERALD O'KEEFE**  
 Extension Forestry Specialist  
 B.S., New York State Univ.,  
 Syracuse, Forest Products  
 Engineering, 1955  
 M.S., New York State Univ.,  
 Syracuse, Forestry, 1957  
 M.A., Northern Arizona Univ.,  
 Psychology, 1973



DAVID B. FIELD  
 Assoc. Research Prof. of  
 Forestry  
 Coop. Forestry Research Unit  
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 M.S., Univ. of Maine, Forestry  
 Ph.D., Purdue University



Laurie Fenwood  
 Assistant Wildlife Technologist  
 B.S. Biology, Stephen F. Austin State  
 University, 1973  
 M.S. Wildlife Management, West  
 Virginia University, 1978



ELLIS B. SPRAGUE  
 Assistant Forest Technologist  
 New York State Ranger School 1964  
 B.S. Forest Management, University  
 of Vermont 1976



JAMES C. REA  
 Assistant Forest Technologist  
 B.S., Mechanical Engineering N.C.  
 State 1966  
 M.S., Forestry U.M.O. 1976  
 Chief Pilot, School of Forest Re-  
 sources

**Cooperating Faculty with Joint Appointments**

- John W. Butzow, Associate Professor of Environmental Education (College of Education)
- Richard J. Campana, Professor of Forest Pathology (Botany & Plant Pathology Dept.)
- John B. Dimond, Professor of Forest Entomology (Department of Entomology)
- Harold C. Gibbs, Professor of Wildlife Resources (Department of Animal and Veterinary Sciences)
- Roland A. Struchtemeyer, Professor of Forest Soils (Dept. of Plant & Soil Sciences)

**Faculty Associates**

- Barton M. Blum, Project Leader, U.S. Forest Service
- Hewlette S. Crawford, Research Wildlife Biologist, U.S. Forest Service
- Robert M. Frank, Research Forester, U.S. Forest Service
- Lloyd C. Irland, Forest Insect Manager, Maine Forest Service
- Jerry R. Longcore, Biologist, U.S. Fish & Wildlife Service
- Gordon D. Mott, Research Forester, U.S. Forest Service
- Ralph S. Palmer, Retired from New York State Museum & Science Service; Current Lecturer in Zoology Dept., UMO
- Howard E. Spencer, Jr., Leader, Migratory Bird Project, Maine Department of Inland Fisheries and Game
- Charles D. Webb, Manager, Northern Forest Research Center of International Paper Company

**Professors Emeritus**

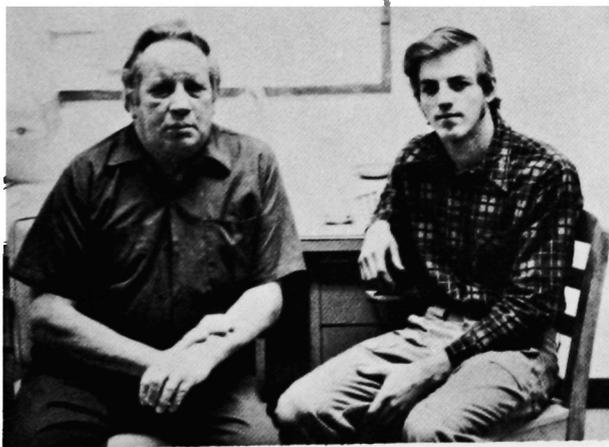
- Robert I. Ashman, Professor Emeritus of Forestry
- Gregory Baker, Professor Emeritus of Forestry
- Frank K. Beyer, Associate Professor Emeritus of Forestry
- Lewis P. Bissell, Extension Forestry Specialist Emeritus
- Edwin L. Giddings, Associate Professor Emeritus of Forestry
- Howard L. Mendall, Professor Emeritus & Leader of Cooperative Wildlife Research Unit
- Albert D. Nutting, Director Emeritus
- Henry A. Plummer, Associate Professor Emeritus of Forestry
- Arthur G. Randall, Associate Professor Emeritus of Forest Technology

**SECRETARIES**

- Top Row, l to r:**
- Susan Phelps
- Missy Harris
- Regina Pelletier
- Janice Gifford-Adm. Asst.
- Bottom Row, l to r:**
- April Colburn
- Kathy Alexander
- Amy Morin
- Maxine Horne



**AND JANITORS**



**George MacLeod and Harvey C. Holmes, Jr.**



**Al Robichaud**



**Photo Courtesy of Northeast Archives of Folklore and Oral History (NAFOH)**

# Eastern Coyote: That Canid in Evolutionary Perspective

By

Beth Parks

“Coyote!” Just mention that word and you’ll draw a response from all within earshot. Ask a hundred folks for their concept of that controversial canid and you’ll be showered with a hundred varied opinions of its characteristics and role in the ecosystem. Here in Maine, where the coyote is considered a newcomer, the general response often is not one of welcome.

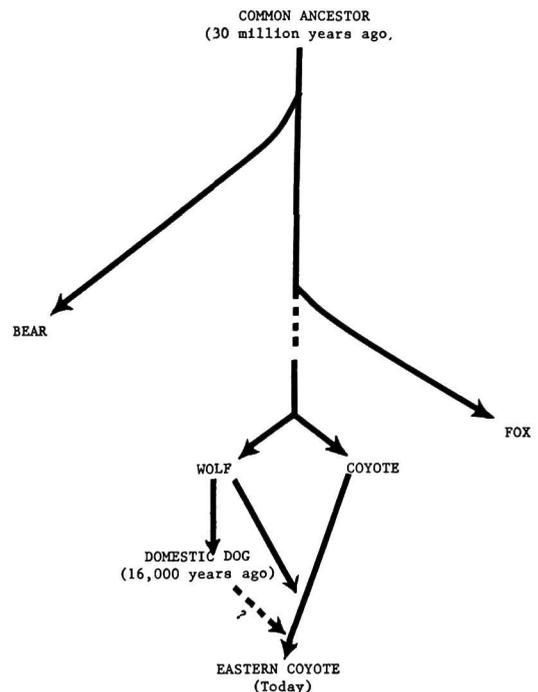
The hostile attitude of many Mainers lies deeply rooted in fear. Fear of competition for that deer that promises to fill the freezer. Fear of livestock losses that further threaten to pinch the farmer’s pocketbook. Fear of potential carriers of rabies or other dread diseases. Indeed, fear of direct attacks on man himself. Real or imagined, these and other anxieties have led many to prejudge the coyote and even to demand its eradication from the state. And it seems for each person who prefers to “wait and see” what the coyotes’ impact in Maine will be, two others stand poised, ready to fast-draw an “I told you so” at the first indication of trouble.

Despite the general lack of funding for studies of nongame wildlife, concerned researchers at UMO and other New England Universities are determined to replace speculation with facts about the eastern coyote. Taxonomic status, distribution, physical characteristics, and food habits comprise the core of recent research at the University of Maine. The current study, my Master’s project, examines growth and behavior of pups in a captive litter.

But these investigations have scarcely begun to scratch the surface. We must continue to expand our

knowledge in the areas already explored. In addition, we must begin to examine all other facets which contribute to the eastern coyote’s ultimate role, including habitat preferences, home ranges and movements, reproductive capabilities, parasites and diseases, relationships with other wildlife, and so on. Plans for these projects are being prepared. Nevertheless, if we are to appreciate the results of these studies, we first need to place the coyote in its proper perspective. A thumbnail sketch of its history will help set the scene.

A common ancestor some 30 million years ago gave rise to two families commonly seen today: the Ursidae, or bears, and the Canidae, to which foxes, jackals, wolves, dogs, and coyotes belong. Departing rather recently from this evolutionary mainstream, the foxes developed distinct differences which warranted their classification as separate genera. Similarities between the remaining canids allowed them to be lumped into a single group, the genus *Canis*. Of these, wolves and coyotes remained close cousins.



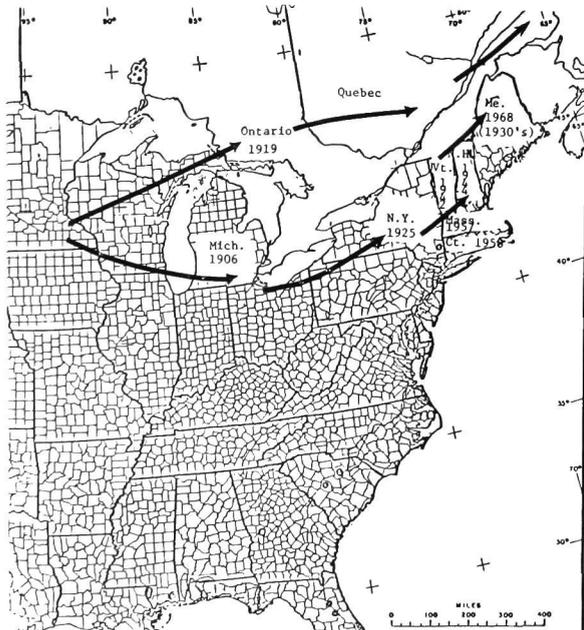
The author with 10 month old eastern coyote pup

Then some 16,000 years ago, man dipped his hands into the canid evolutionary pie, selectively breeding wolf and perhaps jackal stock to produce what we now know as the domestic dog. Man’s genetic manipulation over successive centuries spawned the myriad dog breeds we see today. Which brings us down to the eastern coyote, that wild canid whose ancestry has baffled scientists since its arrival in New England.

“Pshaw!” explodes from the lips of some readers. “Who gives a damn what its ancestors were? We simply want to know what the coyote is doing here and how to control it.” But that’s precisely why researchers seek to trace the newcomer’s roots. For with a knowledge of its relationships comes an understanding of its habits, an insight into its needs, and clues to its chance of survival in a region it has not known before.

Or has it? A single ancient coyote skull recently unearthed in New Brunswick lies silent testimony to a population of forgotten times. Or perhaps that deduction itself is wrong. Perhaps some long-forgotten traveler transported the beast’s head for a motive now whispered only by the wind. Until more facts are known, however, most researchers consider the coyote to be a recent invader rather than a species reintroduced to eastern North America.

Back to the question of heritage. Coyotes hold the scientific name *Canis latrans*, translated literally as “barking dog.” They were native to our western plains and, historically, they clashed with man whenever the two happened to meet. The reason was simple. Indians and subsequent plains settlers genetically engineered their livestock, using the same selective breeding methods their forefathers had used to domesticate the dog. In this case, however, they selectively bred for fat, sleek, relatively docile animals that were easy to herd and made for good eating. In so doing, they bred out the wariness and other wild traits that enabled those individuals to detect and escape the attack of natural predators. Moreover, ranchers found that protecting stock by manpower or predator-proof fencing was an expensive proposition, and most opted to graze their animals on unguarded open range.



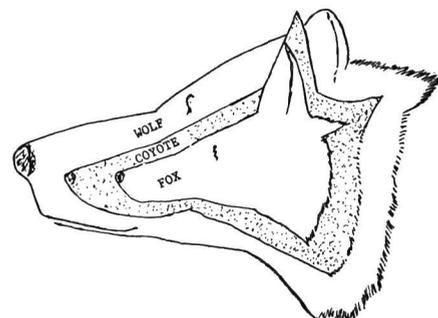
The coyotes’ eastward trek, dated by first positive identification of specimens.

Enter coyote. One easy meal for that eager opportunist and the war was on. To escape persecution, coyotes expanded their range much like an inkstain spreads on a blotter. They diffused eastward at a rate of about 16 miles per year, following a mosaic of tracts opened up by fires and changing land-use practices. Somewhere along the line, they apparently interbred with *Canis lupus lycaon*, the small Ontario wolf. Perhaps an element of dog (*Canis familiaris*) was also introduced into the stock. As a result, when they arrived in New England some 40 years ago, the coyotes differed somewhat from their western counterparts. Citizens who collected occasional specimens received identification reports of “coy-dog” and “coy-wolf.” Not until the late 1960’s did researchers systematically begin to identify the strange intruders.

Subsequent studies of the New England wild canids confirmed that the animals were predominantly coyote. Because they did not appear sufficiently different from the western stock to warrant calling them a separate species, scientists agreed they be named *Canis latrans* var., the eastern coyote. They bred true, producing offspring like themselves, rather than dog- or wolf-like. They were, however, larger, darker, and more powerful than coyotes of the western plains. And when their skull measurements were computer-compared with those of western coyotes, dogs, and wolves, the relative strength of those relationships emerged. Preliminary studies of other physical and behavioral characteristics reinforced the conclusions.

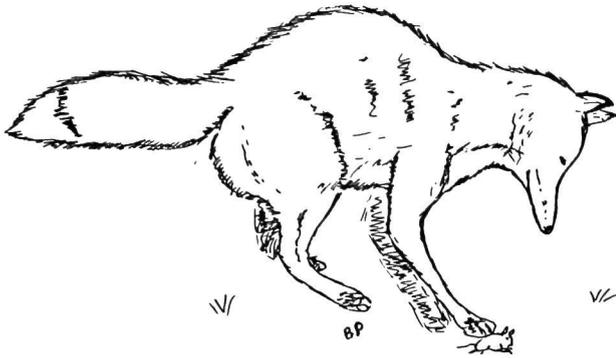
In any given ecosystem, animals assume the roles for which evolution prepared them. Each of their characteristics, whether physical, physiological, or behavioral, must be superbly adapted to existing conditions if the creatures are to survive. In any given animal group, these features interact to permit that species to occupy a single niche. This holds true, of course, for the various canids. While bearing a striking resemblance to each other in many respects, they exhibit pronounced differences which allow them to coexist within the same geographic locale.

To focus the eastern coyote’s image more clearly, let’s briefly compare the North American canids: foxes, wolves, dogs, and coyotes.



Relative size of the Wild Coyotes. Note the similarities between fox and coyote. From Seagers in the N.Y. State Conservationist.

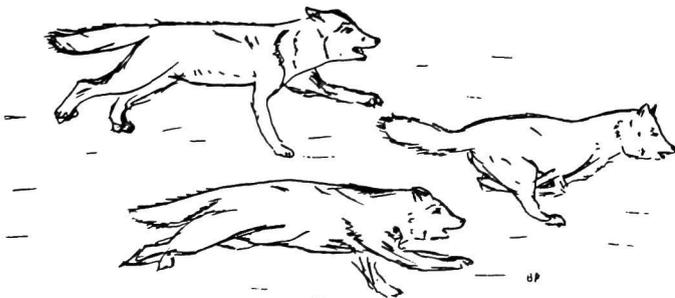
Foxes rate distinction as the smallest canids, often weighing 15 pounds or less. They occupy both forest and field. Their small size and delicate bone structure essentially restrict them to feeding upon such small game items as rabbits, mice and birds. In addition, insects, fruit, and fresh carrion round out the foxes' seasonal fare.



**Fox performing "mouse pounce"**

To obtain these foods, the fox needs no help and can well afford to be a loner. But for this solitary hunter to successfully perpetuate his species, he must quickly and clearly identify himself to a potential mate when the breeding season arrives. To this end, his coloration tends to be bright and distinct; his social behaviors are few, exaggerated, and stereotyped. He wastes little time with vague or ambiguous movements. His entire being seems geared to exude one single message: "I am a fox. If you are a fox of the opposite sex and we find each other acceptable, let us get on with the business of passing on our genes." Male foxes, incidentally, breed once a year and assist in rearing their young.

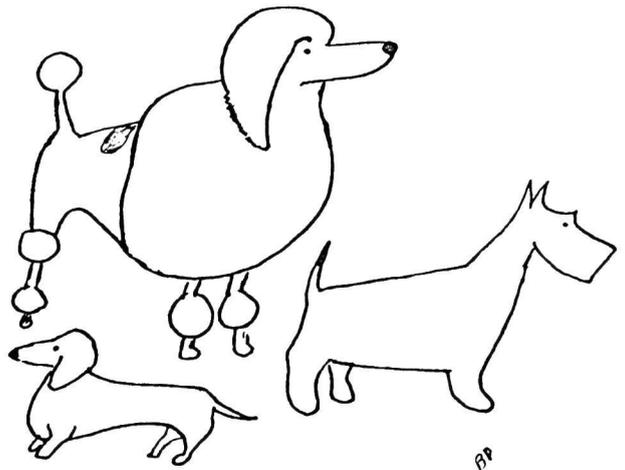
Wolves, those dwellers of tundra and wilderness forests, stand out as the largest of the wild dogs. Some weigh as much as 120 pounds. In addition to their massive jaws, these sizable carnivores boast powerful muscles attached to a rugged skeletal frame. These attributes enable wolves to bring down large ungulates in addition to their more standard diet of smaller prey and carrion.



Tied closely to predation on large game is the wolf's highly-structured social organization. Cooperation between pack members strengthens the chance of a successful kill, with minimal energy being expended by each participant. When times are tough, only the top-ranking "alpha" male and female may breed, with the male and other family members assuming active roles in care of the pups.

Because wolves in a pack spend a great deal of time together, they communicate with far more subtle changes in posture, expressions, and vocalizations than do foxes. This isn't surprising when we think of ourselves. Strangers and relatives who meet infrequently tend to take few chances in making themselves understood. In effect, they are inclined to be rather demonstrative in their introductions and are likely to employ those stereotyped niceties we refer to as "manners." On the other hand, people who spend a great deal of time in each other's company usually need only subtle gestures to relate their intentions and are far more apt to abandon formalities.

The wolf's role as a large predator and its gregarious pack nature have hardly endeared that animal to man. On the contrary, both features have served to threaten that canid's survival. Man has failed to appreciate the coevolution of predators with their prey or the intricate feedback mechanisms which regulate their populations. As a result, dwindling numbers of wolves have found themselves banished to remote regions and national parks.



Domestic dogs defy all but the most general description. Selective breeding down through the centuries has produced everything from pocket-sized Chihuahuas to enormous Newfoundland Retrievers, with personality traits varying almost as greatly as their physical form. While some dogs can and do exist in the wild, most enjoy free meals and shelter at the expense of an owner. Left to their own devices, however, they delight in chasing wildlife or will scavenge whatever alternate food sources exist.

No distinct social structure characterizes the dog, for they have been programmed to redirect their allegiance from their own kind to man. Unsupervised, they will together join to form loose packs. Females come into breeding condition twice a year, while males conversely, are quite willing and able to sire puppies at any given time. Males assume no responsibility in caring for young.

Coyotes fall intermediate to foxes and wolves in many respects. Ranging from 20 to 50 pounds, their medium size permits them to take some large prey. However, these opportunists are known for their catholicity of tastes. Birds, insects, fruit, vegetation, garbage, carrion, mammals large and small — the coyote will scavenge or prey upon whatever is abundant and easy to get. Found in every conceivable habitat from cedar swamps to blueberry barrens, he often occupies cover type edges which offer a wide variety of food sources. Indeed, the coyote's ability to generalize probably contributes the most to his continued success. For in this age of endangered species, he not only survives, but thrives in proximity to man.

Considered semi-solitary, the coyotes' social structure lies between that of the generally lone foxes and the gregarious wolves. All aspects of coyote social behavior reflects this intermediacy. Coyotes do *not* form packs. Parents and their young of the year comprise the family, or basic social unit. Folks who report hearing 20 or 30 coyotes howling together are shocked to learn a mere half-dozen animals produce that cacophony.



**Female coyote pup at 10 months**



**Adult male eastern coyote**

Coyotes, like foxes and wolves, come into breeding condition only once a year and males assist with care of the young. And while all the canids are capable of interbreeding, they rarely do so in the wild. In fact, nature has provided both behavioral and physiological safeguards against the formation of hybrid populations.

This brief review was intended to place the coyote in perspective with the other wild canids. Eastern coyotes retain many characteristics of the western stock, yet subtle changes are reflected in their physical, physiological, and behavioral differences. It is these differences which we must continue to define and explore if we are to understand and predict the newcomer's role in Maine.



# The Songs of David Ingraham

By

James W. Knight

This article is based on an assumption. I am assuming that a few of you took the opportunity to see David Ingraham perform some of his songs at one of our Forestry Club meetings. David is a Maine satirist and balladeer who grew up in Washington County, Maine. At present he is a part-time minister, a taxi cab driver, a collector of folklore, a commentator on music for the Maine Public Broadcasting Network, a songwriter, and a folksinger. David has the uncanny ability of transforming the issues of the day into witty folksongs. Some of the topics include: the Baxter State Fire, the 200 mile fishing limit, the wood cutter's union, the blackfly menace, and the saga of Harry and Jack—two old Mainers who hate out of state tourists. Somehow I wish there was a way that we could also include David's voice and guitar playing along with the two songs written below. But unfortunately, we do not have the funds to include a cassette for your enhancement and enjoyment. Therefore you have two alternatives; you must either use your imagination and add your own music or else you must see David in concert sometime in the future.

When I first decided to write this article it seemed appropriate to me that a song about the Baxter State Park fire should be included in the Maine Forester. But because of its length and the subject's treatment elsewhere in this edition, I decided that the following two songs show David's diversity better anyway. This first ballad concerns the Maine woods cutter. The song is extremely political as are many of his songs. But no matter what the statement, it is the rhythm and the warmth of these ballads that makes them so memorable.

*We harvest the forest with skidders and such  
We handle the saws with a masterful touch  
One day we discoverd we weren't making much  
So we joined the wood cutters union.*

*Through splinters and sawdust a living we meet  
We're covered with pitch from our head to our feet  
We work through the cold and we work through the heat  
We're the men of the wood cutters union*

*We struggle with wood forty weeks of the year  
To Bucksport and Lincoln and Old Town we steer  
To the mills of the North Woods and mills far and near  
We're the men of the wood cutters union.*

*They put us on quotas and limit our pay  
And then bring in men from up Canada way  
And when we protest they haul us away  
We're the men of the wood cutters union.*

*American dollars from state of Maine trees  
Are crossing the border in spite of our pleas  
A two fisted rebel is what you must be  
If you join the wood cutters union.*

*United we stand and united we fight  
The State Legislature the companies' might  
We may be at home in the slammer tonight  
We're the men of the wood cutters union.*

*Your savings are spent and your credit is gone  
Your payments are due and your life must go on  
And in case you should think that you're starving alone  
Come and join the wood cutters union.*



(NAFOH photo)

With this song David connects with a subject that haunts us all, the blackfly.

*Since the dawn of history, we have plagued society  
We've been slapped, abused and swatted and maligned  
We've been caught and we've been sprayed  
So we fought and even prayed  
And we now propose to say what's on our mind. (Chorus)*

**CHORUS:**

*We plan to take the matter Well in hand  
We're sharpening our weapons for attack  
In those coming warmer days dressed in kelly green berets  
Every black fly in the land is fighting back.*

*Now we think it's such a sin, that the color of our skin  
Should evoke such awful feelings, but it's true  
So your heart is filled with hate  
And we must retaliate  
So we plan to make pin cushions out of you. (Chorus: Yes. . .)*

*Thus in multitudes and swarms, when at last the weather warms  
We'll be crossing from New Hampshire into Maine.  
And while crossing o'er the line, we'll destroy the welcome sign  
And they'll never want to put it back again. (Chorus: Because. . .)*

*So with Portland left behind, then Augusta we must find  
And it's northward up the turnpike we must go  
In the buzzing of our wings, you may think you hear us sing  
That famous song that everyone should know.*

*Way down upon the Kennebec River  
See the capitol dome  
That's where we plan to sink our stingers  
Into the old folks at home. (Chorus)*

*Now you can't eliminate every blackfly from the state  
For the pendulum of nature you'll have swung  
Fish and birds will have to go, for they'll starve to death you know  
So which ever way you turn you will be stung.*

*Now we've made an awful threat, and you ain't heard nothing yet  
But we're hoping it's a peaceful way you choose  
You must tell them on the hill, to be careful what they kill  
For if it's us then everyone will lose. (Chorus)*

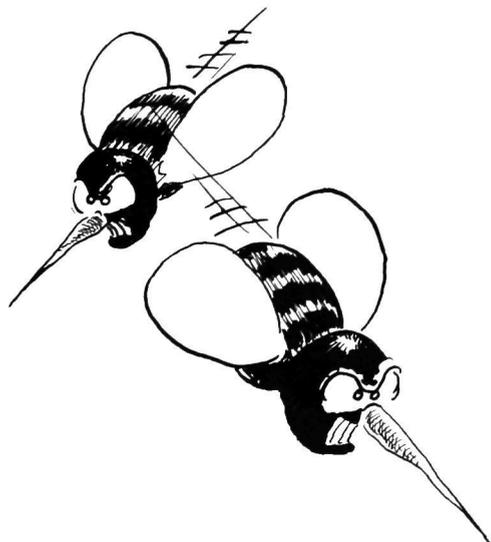
DAMN!!



David Ingraham



(NAFOH photo)



If you didn't see David this spring then I hope you will get the chance some other time.



**Photo courtesy of Maine Department of Conservation**