

# MAINE FORESTER



1963



# *The* MAINE FORESTER



PUBLISHED BY

THE STUDENTS

OF

THE SCHOOL OF FORESTRY

UNIVERSITY OF MAINE

ORONO, MAINE

1963



### *Editor's Message*

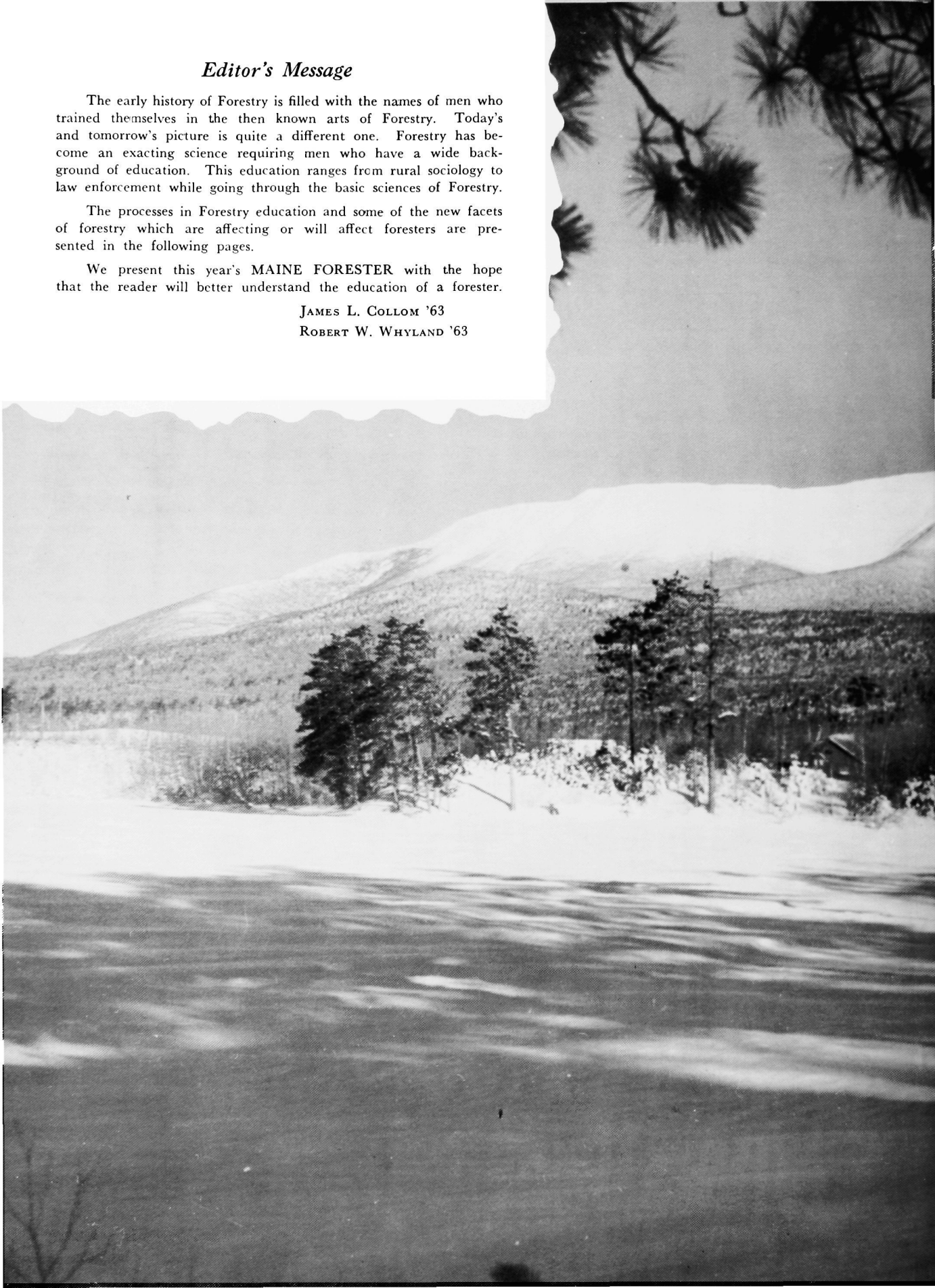
The early history of Forestry is filled with the names of men who trained themselves in the then known arts of Forestry. Today's and tomorrow's picture is quite a different one. Forestry has become an exacting science requiring men who have a wide background of education. This education ranges from rural sociology to law enforcement while going through the basic sciences of Forestry.

The processes in Forestry education and some of the new facets of forestry which are affecting or will affect foresters are presented in the following pages.

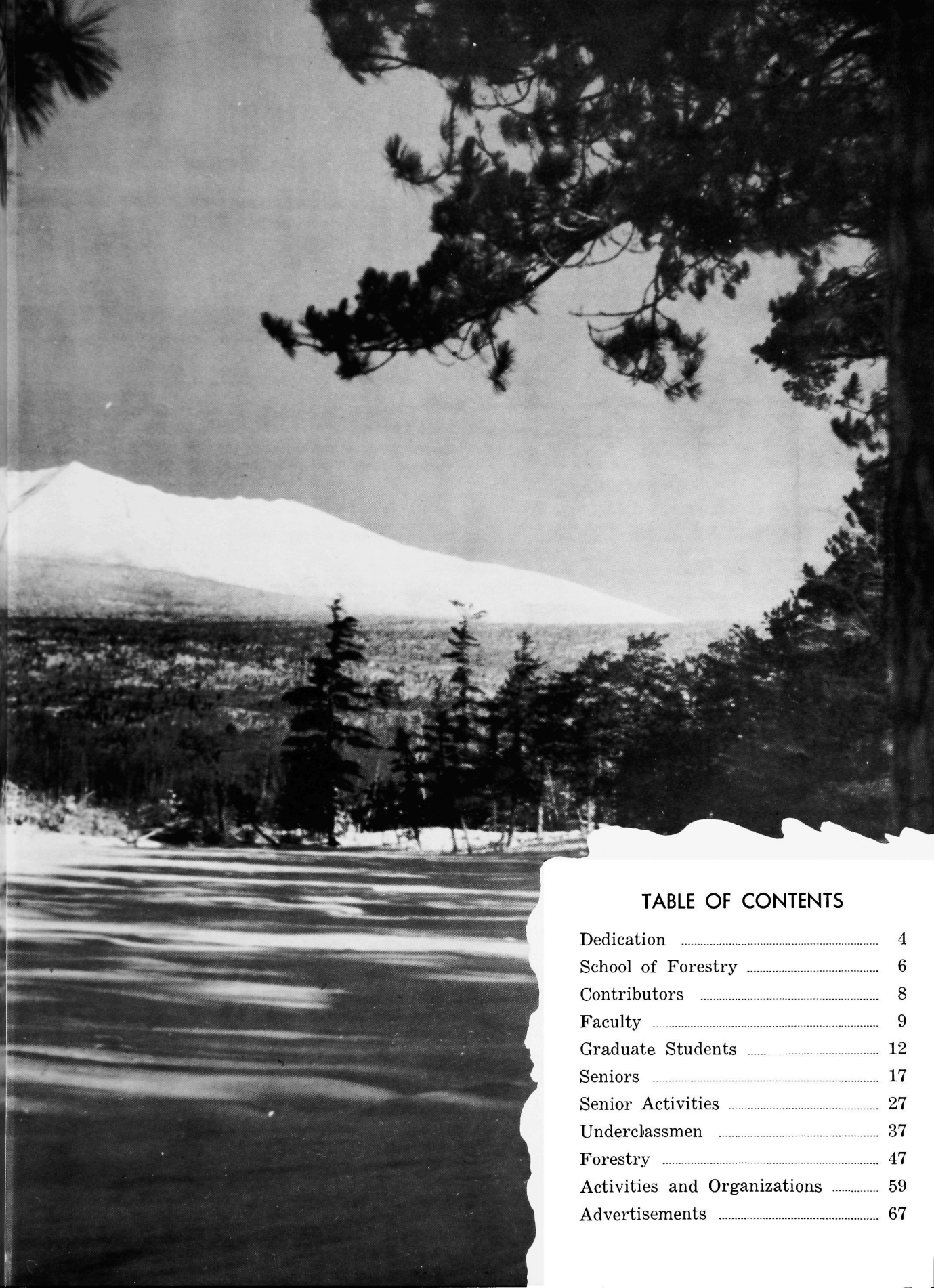
We present this year's MAINE FORESTER with the hope that the reader will better understand the education of a forester.

JAMES L. COLLOM '63

ROBERT W. WHYLAND '63







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# DEDICATION



It is with a great deal of pleasure and pride that we dedicate this edition of the MAINE FORESTER to Mr. Roger Taylor. We have found Mr. Taylor's considerable influence in every corner and activity of the School of Forestry, and have found this influence to be instrumental in the moulding and making of each student.

Mr. Taylor was born in 1918 in Amherst, Massachusetts, and prepared for his career at the Stockbridge School of Agriculture in Massachusetts. Mr. Taylor brought to the University of Maine experience in timber salvage, lumber operations and farming, as part of his background. All of these have served to stand him in good stead in the performance of his duties as Superintendent of the University Forest. During the early years, beginning September 1, 1946, Mr. Taylor participated in the operation of the State Forest Nursery which was then located at the University. Since that time the duties on the University Forest have involved every phase of forestry, including: silviculture, logging, sawmilling, engineering of roads and bridges, building construction and even the recreational phase found in the handling of "The Ledges." Each of these has been handled under the supervision of Mr. Taylor. Several recent accomplishments have been the construction, this fall, of a 40 ft. by 60 ft. pole building for machinery storage, and Mr. Taylor's participation in the training of Peace Corps Volunteers in bridge and road construction.

It should be noted that in addition to the previously mentioned activities Mr. and Mrs. Taylor have raised a fine family of three boys and one girl, and have both been active in clubs and organizations associated with the University and the School of Forestry. Mrs. Taylor is a member and dedicated attender of the Forestry Wives' Club, while Roger finds time to be the University Fire Chief, a regular supporter of the Forestry Club, a member of the Society of American Foresters and a member of the Eastern Maine Forest Forum. Both Mr. and Mrs. Taylor also find time to raise forest and ornamental nursery stock.

It is in connection with these types of activities where Mr. Taylor's influence may be most plainly felt. Everyone who has been connected with a Woodsman's Weekend, a Farmer's Fair exhibit or other such event will be sure to remember that there was no one more willing to cooperate and lend a hand or just advise than Mr. Taylor. The success of every such venture has been enhanced by his participation.

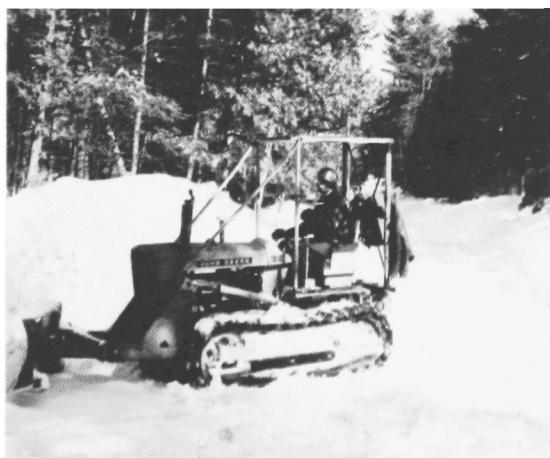


Another area of influence, which is not very apparent, is understood very well by those who have worked on the University Forest under Roger's direction. None of these people will forget the patience with which he turns fumbling, green handed recruits into efficient forest workers. The better understanding of how forests are turned into money and men into good workers may be of great importance to these students in the days to come.

In Mr. Taylor's sphere of influence the most important is in his maintenance of the University Forest as a laboratory and a practical example for the education of the student. The University Forest achieves its greatest value when it is used as the focal point for demonstrations of the theories brought out in most of the forestry courses. The fact that such varied subject material is successfully taught on the relatively small area of the University Forest is due, in part, to Mr. Taylor's ability to manage the area for these uses. His ability to get along with and meet the desire for forest use of faculty members, with varying needs, and students alike, plays a great part in the value of the forest.

The tendencies of our time toward specialization, as expressed in the varying sequences studied in the School of Forestry, are well balanced by the practical applications which are studied in the University Forest. Mr. Taylor has demonstrated the ability to coordinate the staff requirements in a way which enhances the training of each student.

The Staff of the MAINE FORESTER is happy to be able to dedicate this 1963 edition to Mr. Taylor, who exemplifies, to us, "dirt forestry" on its highest level.





# SCHOOL OF FORESTRY

1903-1963

This year the school celebrates 60 years of forestry training at the University. A good record has been made. Student numbers have grown from 4 in 1903 to 225 in 1963. Today a large percent of the forest land managers and forestry leaders in Maine are graduates of the School. Many of these forest leaders first came to the State to take forestry at the University. In this way the School has helped provide able leaders as well as opportunities for its graduates. Successful Maine foresters can be found most anywhere in the world where there are forests. We are proud of our record which provides us with encouragement and background for a greater future.

The editors of this yearbook said they were interested in why we have a forestry school and what some of its aims and hopes for the future are .

My opening statement indicates past success is one good reason for having our forestry school. It is needed to train professional foresters who will become leaders in forest policy and forest land management in the years ahead. Back in 1903 training forest leaders was given as a principal reason for establishing a forest training program at the University. It was logical that Maine should have been one of the first states to provide training in forestry as its economy then, as now, was based on the products of its forest land. Most foresters are dedicated to their profession. A good forester must have a "feel" for the trees and the land. He wants to leave the forest he has managed in a more useful and productive condition than when he took it over. This is another good reason for a forestry school, so that men with a natural interest in forest land and its products can obtain training from men with an intense interest in forests, timber, wildlife and out-of-door recreation. Growing timber is one of the great resources of Maine and of the nation. I believe training in forestry is important background for all persons connected with forest use development and protection. They need to acquire and maintain a "feel" and knowledge of the forest as a whole whether they become land managers or highly specialized in pest control.

As world populations increase and competition for land intensifies, persons with knowledge of trees, how to grow and harvest them, and their



From the Class Building to the near by University Forest



effects on other resources such as wildlife, water and recreation will be in increasing demand. Persons trained in forestry schools will be the best qualified individuals to answer this need.

Our School, located in one of the most forested states in the nation, has an ideal setting for the training of foresters and wildlifers, which makes it possible to tie field observations in closely with academic training. The School's 1700 acre forest within ten minutes driving time from the campus, plus several managed and research forests nearby, provide many opportunities for field laboratory trips.

The University of Maine wants the School to continue to have a leading role in forestry training. This will require good students, staff, and facilities. Intent has been indicated by two School staff members being added during the past 3 years, and a new summer camp site and building. A new forestry building has been requested from the State Legislature as part of the University's facility requirements. Plans are underway for new staff members in forest recreation, genetics and plant physiology. As staff members are added, more emphasis will be placed on graduate programs to meet the increased training required for foresters in specialized areas of work. The School desires to expand its research program to meet state and national forestry needs, and to provide staff and advanced student training and experience. The McIntire-Stennis legislation passed by Congress in 1962 offers good possibilities for a greatly improved school research and graduate student program in both forestry and wildlife. The quality of our under-graduate program will be maintained and should be improved by a stepped up research effort which will provide added staff in specialized areas.

The School of Forestry at Maine intends to provide foresters and wildlifers with background training needed to manage and harvest forest land and wildlife crops for present and predicted future needs. In addition, it plans to train foresters who want to engage in products and businesses closely allied to forest crops.

The staff looks forward to the future with the opportunity to maintain the good record of the past 60 years through continuously improving School programs and facilities.

*A. D. Nitting*

## *Thanks . . .*

to all those, who by their generous contributions have made this edition of the Maine Forester possible.

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The paper used in this yearbook is the generous contribution of the **S. D. Warren Company**, makers of Warren's Standard, Cumberland Mills, Maine.

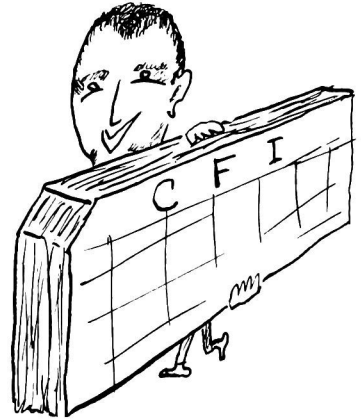
Pictures donated by Maine Forest Service, Georgia-Pacific Corporation, students and faculty have contributed much to this year's publication.



# FACULTY



...TCH...



...SAFTY...



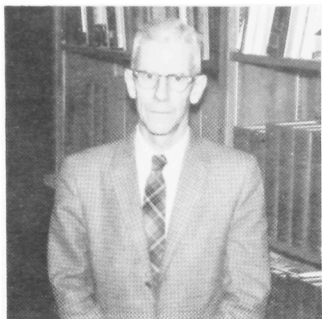
...LET ME ASK...



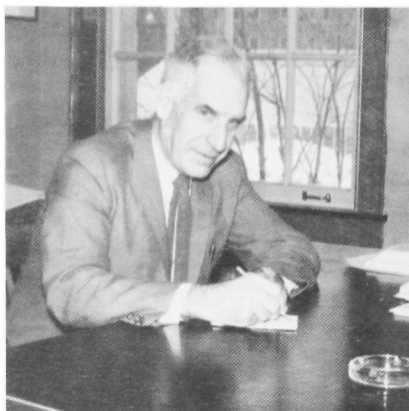
...WARM SNOW...



## FORESTRY



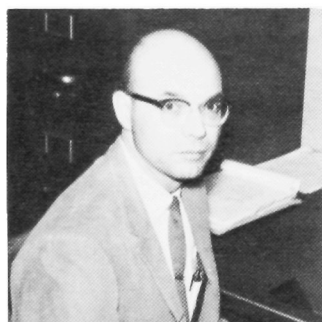
**Gregory Baker**  
Professor of Wood Technology  
B.S., Maine, 1924  
M.F., Yale, 1939



**Director A. D. Nutting**  
School of Forestry  
B.S., Maine, 1927



**Dr. Harold E. Young**  
Professor of Forest Mensuration  
B.S., Maine, 1937  
M.F., Duke, 1946  
Ph.D., Duke, 1948



**Ralph H. Griffin**  
Assoc. Prof. of Silviculture  
B.S., Virginia Polytech. Inst.,  
1943  
M.F., Yale, 1947  
D.F., Duke, 1956



**Arthur G. Randall**  
Assoc. Prof. of Forest Mgt.  
B.S., Yale, 1933  
M.F., Yale, 1934



**Roger Taylor**  
Superintendent of Univ. Forest



**Frank K. Beyer**  
Assoc. Prof. of Forest Products  
B.S., Cornell Univ., 1929  
M.S., Univ. of Wisconsin, 1930



**Thomas J. Corcoran**  
Assist. Prof. of Forestry  
B.S., Mich. Col. of Mining  
and Tech., 1955  
M.S., Purdue, 1960  
Ph.D., Purdue, 1962



**Henry A. Plummer**  
Assoc. Prof. of Forestry  
B.S., Maine, 1930  
M.F., Yale, 1950



**Samuel M. Brock**  
Assit. Prof. of Forest Economics  
B.S., Univ. of Michigan, 1956  
M.F., Univ. of Michigan, 1956

## WILDLIFE AND RELATED FIELDS



**Howard L. Mendall**  
Professor—W. L. Mgt.  
Leader Coop. W. L. Research  
Unit  
B.A., Maine, 1931  
M.A., Maine, 1934



**Sanford D. Schemnitz**  
Assistant Professor of  
Wildlife Mgt.  
B.S., Univ. Michigan, 1952  
M.S., Univ. Florida, 1953  
Ph.D., Oklahoma State,  
1958



**Chester Banasiak**  
Assistant Professor  
Dept. of Inland Game  
B.S., Michigan State U., 1948  
M.S., U. of Mass., 1951



**Richard J. Campana**  
Professor—Forest Pathology  
B.S., U. of Idaho, 1943  
M.F., Yale Univ., 1947  
Ph.D., Yale Univ., 1952



**Fay Hyland**  
Professor—Dendrology  
B.S., Michigan State U., 1925  
M.S., Maine, 1929



**Roland A. Structemeyer**  
Professor—Forest Soils  
B.S., U. of Missouri, 1939  
M.A., U. of Missouri, 1941  
Ph.D., Ohio State U., 1951



**Mrs. Cleale, Miss Gifford**  
Office Staff



**George R. Cooper**  
Professor—Plant Physiology  
B.A., Colo. State College of  
Education, 1942  
M.S., Iowa State U., 1948  
Ph.D., Iowa State U., 1950



**John B. Diamond**  
Assistant Professor of  
Entomology  
B.S., U. of Rhode Island, 1951  
M.S., U. of Rhode Island, 1953  
Ph.D., Ohio State U., 1957



**Charles D. Richard**  
Associate Professor—Taxonomy  
B.A., Wheaton College,  
Illinois, 1943  
M.A., U. of Michigan, 1947  
Ph.D., U. of Michigan, 1952



# GRADUATE

## GRADUATE PROGRAM OF BENJAMIN DAY

I am presently finishing the second year of a study on winter behavior of white-tailed deer. Each winter the deer relinquishes nine-tenths of his summer range and retires to softwood cover along water courses to escape deep snows and chilling winds. These winter ranges—deer yards—must be managed to provide adequate food and cover for a population that has suddenly increased tenfold if large scale winter loss is to be avoided.

To manage a game species effectively, its minimum survival requirements must be determined. My project is designed to further the knowledge of the winter requirements of whitetails, particularly by observations of their behavior as influenced by climate and cover.

To study areas were chosen to represent different principle cover types of North-central Maine.

To assemble a picture of winters accumulating severity, periodic observations were made of fallen snow, and cross sections of snow cover and continuous readings of temperature were obtained. This information was recorded in each forest type and density throughout the yarding period.

To measure activity of the deer herd, two miles of cruise lines were established on each study yard and all signs of deer movement intercepted were recorded by cover type following each storm. Deer bedding was studied to determine the reason for site selection and to gather information on numbers of deer using the bedding areas, timber volume of each site, slope, and other site factors.

I would like to express my appreciation to the many forestry and wildlife students who aided me in gathering field data.



Benjamin W. Day, Jr.  
B.S. Wildlife Management  
University of Maine

Robert D. Greenleaf  
B.S. Forestry  
University of Maine



## GRADUATE PROGRAM OF ROBERT DEAN GREENLEAF

### *The Integration of Year Round Recreation and Timberland Management in the Passadumkeag Mountain Region of Eastern Maine*

There is little need for planned resource allocation when a small number of people are relying on a relatively large resource base. However, when a rapidly expanding population is dependent on an unchanging or diminishing resource base, then allocation of resources among uses must be planned to assure maximum benefit. Such is the case in the United States today. Multiple use of forest land is a partial solution to the problem.

This study is an analysis of the allocation of forest land among two uses, recreation and timber, on the Passadumkeag Mountain Region in Eastern Maine. The study area contains approximately 100,000 acres of forest land.

The objectives of the study are: (1) to develop some of the concepts and problems in the integration of recreation and timberland management and (2) to derive cost figures for different types of facilities, which might be useful to forest land owners contemplating recreational development.

The method of study employed is the development and coordination of separate recreation and timber management plans.

# STUDENTS



Edward Heath

B.S. Forestry

University of New Hampshire

## GRADUATE PROGRAM OF EDWARD I. HEATH

An increasing population, more income, and more leisure time are just a few of the factors creating the present demand for recreation. This demand is not only being felt in regions close to metropolitan areas but also in resource-oriented areas such as our wilderness tracts. My thesis, entitled "An Assessment of Internal and External Recreational Development Plans for a Large Wilderness Tract," involves assessing the impact of recreational development on a wilderness environment.

The study area contains approximately 500,000 acres within which is centered Baxter State Park. The area is divided into three major areas for the purpose of the study; A 108,000 acre tract in the central portion of Baxter State Park called the internal zone, a 93,000 acre tract called the peripheral zone, and a 300,000 acre tract called the external zone.

Four major plans are being assessed. An internal development plan, peripheral development plan, external development plan, and a combination of the three. Two alternative plans will be analyzed under each major plan. These alternatives will be compared in terms of development cost, acreages involved, roads required, campers per acre, sites per acre, etc. All plans will be designed to accommodate the projected use in the years 1976 and 2000.

## GRADUATE PROGRAM OF RUSSELL R. HYER

### *Classification of Intertidal Habitats in Maine*

The 1963 winter waterfowl inventory of the Maine Department of Inland Fisheries and Game reported over 57,000 waterfowl, including 20,000 black ducks in the coastal waters off Maine. Many of the birds, especially the black ducks, depend on the intertidal zone for food. To maintain or increase the present population, good habitat must be retained by an understanding of the environmental requirements of waterfowl.

One of the first steps in achieving an understanding of waterfowl habitat requirements is the formation of a classification which would point out ecological differences between the various environments. If the ecological differences are known, a relationship between the differences and waterfowl useage might become evident.

The specific objective of the present investigation was to devise a classification scheme for the intertidal habitats occurring in Maine. The scheme was to meet the following requirements: (1) ecological differences between the various habitats must be reflected, and (2) the terms of description must be clear and distinct so that the field biologist with limited experience in coastal habitats might use the scheme.

An attempt was made to select representative study areas of each habitat type. Emphasis was placed on the study of the unvegetated flats and beaches rather than on the vegetated marsh area. This was done because previous classifications of flats and beaches have been limited in number, scope, and application, but existing marsh classifications were believed to be adaptable to the requirements of the present study.

Russell R. Hyer

B.S. Wildlife

Purdue University





Richard A. Kennedy  
B.S. Forestry  
University of Maine

#### GRADUATE PROGRAM OF RICHARD A. KENNEDY

##### *The Relationship of Maximum Peat Depth to Some Environmental Factors in Bogs and Swamps in Maine*

Maine is endowed with numerous lakes, swamps, and bogs. These poorly drained depressions are characteristic of glaciated regions. The development of a peat deposit creates a bog or swamp from a lake, and requires several thousand years. Peat is formed from the remains of plants which are incompletely decomposed.

The alignment of modern highways makes it impossible to avoid all bogs and swamps. The question is: Where shall the proposed highway cross them? Peat deposits deeper than five feet present complicated, and therefore costly, engineering problems.

Airphotos are used in the preliminary planning phases of highway construction. They furnish valuable information about the vegetation, soil types, drainage, and topography of an area when viewed stereoscopically by an experienced airphoto interpreter. The problem confronting the airphoto interpreter is to estimate the depth of peat at any point within a bog or swamp.

This study was initiated and sponsored by the Maine State Highway Commission and the U. S. Bureau of Public Roads to increase the accuracy and confidence in estimating peat depths from aerial photographs, and reduce the amount of costly field checking. An attempt was made to find relationships between the maximum depth of peat and some environmental factors (many of them visible on airphotos) in a bog or swamp.

The extreme variability of bogs and swamps, and the complexity of factors affecting peat development limit the possibilities of finding relationships useful to airphoto interpreters. However, twelve radiocarbon dates, indicative of the maximum ages of those bogs, have supplied information about the glacial geology and postglacial climate of Maine.

#### GRADUATE PROGRAM OF JOHN M. LANE

The primary objective in managing balsam fir, *Abies balsamea* (L.) Mill., for pulpwood is to attain maximum production by maintaining the stand in a healthy, rapidly growing condition. Balsam fir is a prolific species and a rapid grower under favorable conditions. However, it is also susceptible to decay, insect attack, and windthrow, especially under poor growing conditions such as exist in very dense stands. If these dense stands, or "fir thickets," are not treated silviculturally, undesirable conditions such as deteriorated growing stock and low increment rate will become dominant. It is imperative then, that overstocked stands of balsam fir be put into the best possible growing condition. The purpose of this study is to reduce the density of fir thickets by using herbicides. The objectives of the study are to find:

1. The most effective herbicides.
2. The minimum concentrations at which the herbicides will be effective.
3. The season of the year when the herbicides should be applied.
4. Any effects weather, root structure, soil moisture, and physiological conditions of the tree will have on the toxicity of the herbicides.

All data will be analyzed using statistical methods.

The area in which the study is being conducted is owned by the Penobscot Development Company of Great Works and is located off the Old County Road in Milford.

The proposed title of the thesis is *The Effect of Selected Herbicides on Young Balsam Fir With Particular Emphasis on Their Possible Use to Control Stand Density*.

John M. Lane  
B.S. Forestry  
University of Maine







Daniel Schroeder  
B.S. Forestry  
Michigan College of Mining and  
Technology 1962

Dan came to the University in the summer of 1962. He worked for the summer as one of the summer camp staff and is now here at school getting his work with Forest Economics under way.

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## DR. H. E. YOUNG RECEIVES FULBRIGHT SCHOLARSHIP



Just before going to press we received word that Dr. Harold Young had been granted a Fulbright Scholarship for studies in Norway. We wish to express congratulations and best wishes from the students of the School of Forestry.

## A FULL DAY AT SUMMER CAMP



Early morning shave



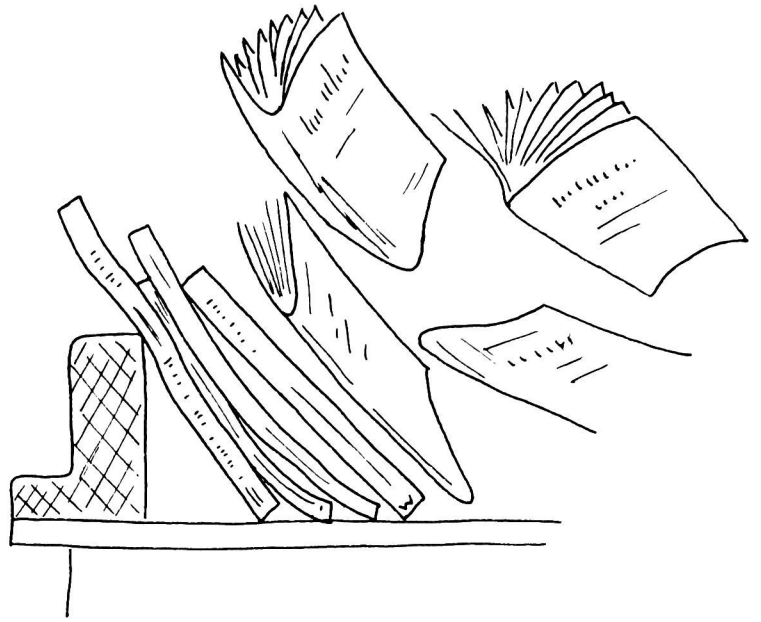
Morning visit to a local sawmill



Practice before supper



Afternoon mapping



SENIORS



# CLASS OF 1963

by BRIAN T. SWEET

The forestry class of 1963 is composed of 44 students, 38 of whom are enrolled in forest management, forest utilization, the five-year pulp and paper program, or forest science. The remaining 6 are in either of the wildlife sequences, wildlife management, or wildlife science.

The objective of this article is to give the reader a brief outline of the various courses taken by seniors in the forestry and wildlife sequences. The article is also an attempt to point out what a senior in either of the sequences can be expected to be studying in his final year of undergraduate study.

Let's first explore the various courses taken by seniors in the forestry sequences, management, science, and utilization.

The courses taken by students in management are designed to put the finishing touches on the college training of future forest land managers. Among the courses taken by seniors are business accounting, forest administration, forest valuation, forest pathology, forest policy, forest economics, and wood technology. These required courses are augmented by various electives selected by the student in relation to his particular interests.

Students are encouraged to select electives from a list of suggested courses. These electives are suggested for their value to the student in his future work as a forest land manager, and which offer the best opportunity to obtain a well-rounded education. This is true in all the sequences in the selection of electives. However, the student has the final say as to the electives he wishes to take.

The forest utilization sequence is not radically different from the management sequence, and is centered around developing interest in forest harvesting and the manufacturing of forest products. In gen-

eral, courses taken by seniors in forest utilization include: business accounting, forest administration, forest valuation, forest products, lumber manufacturing, personnel management, forest policy, forest economics, wood technology, and forestry seminar. All of these are designed to train the student for the utilization field.

For those students interested in research, or those planning to do graduate work, the forestry school offers a sequence in forest science, which is designed to train men for further study in the fields of wood technology, or tree growing. Basic similarities exist between the courses in the sequences, and in the electives suggested to the student.

In the forest science-growth sequence, the prescribed courses for the senior year include: forest products, forest administration, wood technology, forest policy, forest economics, and forestry seminar. This is the same schedule of courses being taken by seniors enrolled in the technology sequence with the exception of: forest administration, forest policy, and forest pathology.

Something ought to be said about the five-year pulp and paper program offered at the University. This program is designed to train those students interested in the manufacturing of paper. Students desiring to enroll in this program, after receiving their undergraduate degree in forestry, generally enroll in the forest utilization sequence.

This concludes the brief run-down of the required courses during the senior year in the forestry sequences. The titles of these courses are somewhat descriptive of the material covered in the course, therefore, due to space limitations in an article of this nature, it is not feasible to







explore the specific material covered in each course.

Having just finished briefly describing the course requirements in forestry during the senior year, let's now turn to those courses which students enrolled in wildlife are required to take in their senior year.

Wildlife management is designed to train the student in land and game habitat management, thus preparing students to assume responsibility in the field of wildlife conservation, including fish and game management.

Game management, fish management, photogrammetry, disease and parasite control, forest economics, and wildlife seminar are the primary courses required during the senior year in the wildlife management sequence. Electives are directed toward supplementing the student's understanding of forestry and conservation practices.

As in the forest science sequence, the wildlife science sequence is directed toward preparation of the student for graduate work. Specifically, wildlife science is designed for students interested in pursuing a career in wild animal research.



Emphasis is placed on electives during the senior year with game management and wildlife seminar being the only two required courses. Electives may include such courses as design of experiments, advanced mathematics and chemistry, a foreign language, or a course in logic.

Following graduation in June, the men of the Class of 1963 will be turning to their fields of endeavor to continue learning by practical application of the theoretical tools provided them through their years of study at the University. Many will be seeking employment with the Federal Government and private companies. Some will desire to fulfill their obligation for military duty before entering their chosen fields. Further study through graduate work will be undertaken by some, in various colleges and universities throughout the country.

Whatever the individual interests may be, and wherever they may take us, the members of the class of 1963 will always be thankful for the training provided them by the School of Forestry and other departments of the University of Maine.

