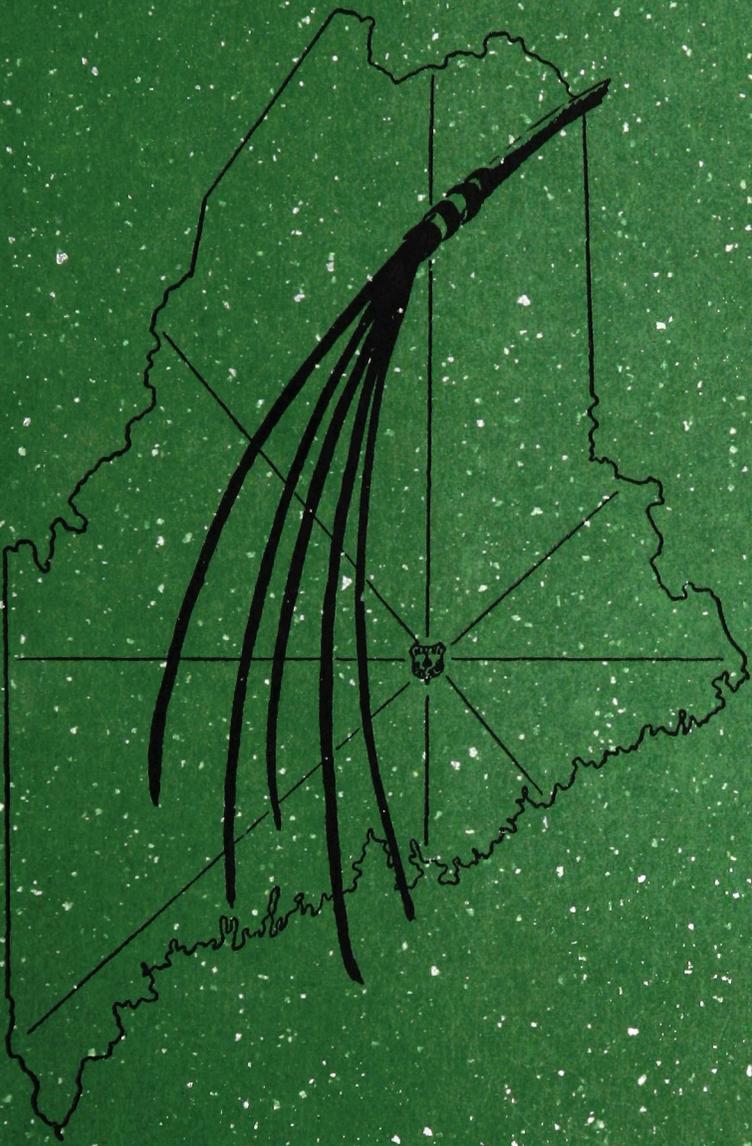


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THE
MAINE FORESTER

Annual Edition

March 1950



Published by

FORESTRY CLUB

University of Maine

ORONO, MAINE

This, the first number of the "Maine Forester" since World War II, is dedicated in Grateful Remembrance to the Alumni and Former Students of the Department of Forestry of the University of Maine who gave their Lives in Service of their Country.

In the Class of

1924	Tobias C. Eastman, Fryeburg, Maine
1936	Thomas Cabot Johnson, Natick, Massachusetts
1939	Philip Farnsworth Grant, Cherryfield, Maine
1939 (W.L.C.)	Weston Pike, Norton, Strong, Maine
1940 (W.L.C.)	Gerald Ellsworth Spofford, Kennebunk, Maine
1941	Fred R. Bucklin, South Warren, Maine
1941	Robert Colin Kinghorn, Fitchburg, Massachusetts
1942	Robert Loring Chick, South Berwick, Maine
1942	Clarence Pearl Dow, Charleston, Maine
1942	John Alexander Friday, Schenectady, New York
1943	Keith Leslie Grover, East Stoneham, Maine
1943	Charles Leslie Pfeiffer, South Natick, Massachusetts
1943	James William Russell, Gray, Maine
1943	John Merrill Wilson, Lynn, Massachusetts
1944	Theodore Ford Fettinger, Maplewood, New Jersey
1945	John L. Crockett, West Roxbury, Massachusetts
1945	Allan Ronald Robertson, Lewiston, Maine
1946	John Richard Shurtleff, Jackman Station, Maine

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STAFF

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ACKNOWLEDGMENTS

The Staff wishes to express its sincere appreciation to —

The ADVERTISERS, without whom this publication would not be possible.

The FACULTY, for their advice and guidance.

The CONTRIBUTORS, whose cooperation has been splendid. Walt St. Onge and the Prism.

The UNIVERSITY OF MAINE, and the MAINE FOREST SERVICE for their interest and loan of cuts.

EDITOR SPEAKS

PUBLICATION of the "Maine Forester" has been resumed in order to provide a record of the activities of the Forestry and Wildlife students here on campus. The accelerated wartime program and the rush of post-war years have prevented us from getting better acquainted. We have often lost sight of the fact that there is more involved in going to college than scholastic averages.

There has been a general indifference toward extra-curricular activities, partly because of scholastic difficulties and partly due to lack of enthusiasm. It is our sincere hope that, by enabling the undergraduates and upperclassmen to work toward the same goal, we have accomplished enough unity and understanding to foster better relationships in the future.

The 1950 "Maine Forester" is intended to provide the Forestry student and the Wildlife student with an opportunity to understand the background of his faculty, his organizations, his friends, and his work. We have done our best to fulfill these objectives.

ON CAMPUS

The armored knight on prancing steed
For ladies' smiles did battle.
These later days a knight has need
Of some tin can to rattle.

The Co-ed of our honored school
Does like all other ladies:
She plays a fellow for a fool
And then it's "Go to Hades!"

Bask but a moment in her smile,
Your heart is in her hand.
But what's her purpose all the while
You cannot understand.

An abject slave to her you are.
Her word is your command.
You take her riding in your car;
By rivals you are damned.

But what care you? You have the prize.
Let others go their ways.
And so says she, for she is wise
And knows her Z's and A's.

Another knight now comes along
Who drives a better car;
Whose money sings a sweeter song.
You're dropped! And there you are.

Do you take heed and stand aside
Because she played you false?
Some other babe becomes your pride,
And to her tune you waltz.

So life goes merrily all the while
With woman and tin can.
We lose each co-ed with a smile
And ever play the man.

Stevens



OUR FACULTY

ROBERT I. ASHMAN—A. B., Cornell University, 1913; M. F., Yale, 1929; Instructor in public schools in Puerto Rico, Alabama, and New York, 1915-18; Instructor in private military schools in Kentucky, Florida, and New York, 1919-26; Yale School of Forestry, 1927-28; Superintendent State Park, Ohio, 1929; Forester, G. N. Paper Co., 1929-30, summer teaching at Mississippi State Teachers College, CCC, Maine Forest Service, and University of Maine, 1930; Maine Extension Service, and Price Analyst with lumber branch of OPA, Washington, D. C., 1943-46; Professor and Head of Department of Forestry, University of Maine, 1946; Forester, Agricultural Experiment Station; Member of Graduate Faculty.

GREGORY BAKER—B. S., Maine, 1924; M. F., Yale, 1939; Finch, Pruyn & Co., Inc., Glens Falls, N. Y., 1924-29; Supervisor woods and small mill operations for Diamond Match Co. in Maine, 1929-33; Manager, Provincial Wood Products Co., Ltd., St. John, N. B., 1933-34; Berst-Forester-Dixfield Co., 1935; Instructor, University of Maine, 1935-40; Associate Professor, University of Maine, 1940; Associate Forester, Agricultural Experiment Station.

- HOWARD L. MENDALL—B. S., Maine, 1931; M. A., Maine, 1934; Assistant in Zoology, 1934-35; Chief Wildlife Technician, U. S. Resettlement Administration, 1936; Assistant Leader, Maine Cooperative Wildlife Research Unit and Assistant Professor of Game Management, 1937-42; Leader, Maine Cooperative Wildlife Research Unit and Associate Professor of Game Management, 1942.
- ARTHUR G. RANDALL—B. S., Yale, 1933; M. F., Yale, 1934; Field Assistant, U. S. F. S., Kane, Penna., 1934; Junior Forester, U. S. F. S., Allegheny Forest Experiment Station, Lebanon, N. J. and Philadelphia, Penna., 1934-35; T. S. I. foreman in CCC camps in Black Hills, South Dakota, and attended ranger training camp, Poptola, S. D.; On furlough from U. S. F. S., taught one semester at Colorado State College, Fort Collins; Returned to U. S. F. S., served as assistant on Boulder District of Roosevelt National Forest; Project Ranger on Laramie River tie sales; District Ranger on Washakie, Roosevelt, White River, and Harney National Forests; Resigned from U. S. F. S., 1946; Assistant Professor, University of Maine, 1946.
- HENRY A. PLUMMER—B. S., Maine, 1930; Forestry and Woods operations, Finch, Pruyn & Co., Inc., Glens Falls and Newcomb, N. Y., 1930-34; New York State Conservation Department—CCC, 1934-42; U. S. Civil Service Commission, New York City, 1942-45; Instructor, University of Maine, 1946-50; in residence Yale School of Forestry, February 1950-
- FRANK K. BEYER—B. S., Cornell University, 1929; M. S. in Forest Products, University of Wisconsin, 1930; Assistant track coach, Cornell, 1931; Junior Forester, Southern Forest Experiment Station, 1931-33; Instructor in Forestry, Cornell, 1933-35; Project Forester, Resettlement Administration, New York State, 1935-36; Assistant Professor of Forestry, Ohio State University, 1936-41; Technologist, Forest Products Laboratory, Madison, Wisconsin, 1941-47; Associate Professor, University of Maine, 1947; Assistant Forester, Agricultural Experiment Station, University of Maine.
- HARRY L. KUTZ—B. A., Syracuse, 1930; M. A., 1931; Ph. D., Cornell University, 1940; Laboratory Instructor, Syracuse University, 1929-31; Assistant Professor of Biology, Norwich University, 1931-36; Instructor in Zoology, Cornell, 1938-41; Research Investigator, New York State Conservation Department, 1941-46; Assistant Professor of Biology, Norwich, 1946-47; Assistant Professor of Game Management, University of Maine, 1947.

HAROLD E. YOUNG—B. S., Maine, 1937; M. F., Duke University, 1946; Ph. D., Duke, 1948; U. S. F. S., 1937-40; Employed by Duke Power Co. during summer of 1941; Served in U. S. Army, 1942-46; Assistant to instructor, Duke University, during summers of 1946 and 1947; Instructor, University of Maine, 1948-49; Assistant Professor, University of Maine, 1949.

GORDON L. CHAPMAN—B. S., Maine, 1939; M. S., University of Vermont, 1941; Yale School of Forestry, 1941-42; U. S. Geological Survey, Alaskan Branch, 1942-45; Yale School of Forestry, 1945-48; Instructor, University of Maine, 1948-49; Assistant Professor, University of Maine, 1949.

MALCOLM W. COULTER—B. S., Connecticut, 1942; M. S., Maine, 1948; Field Assistant, Connecticut State Board of Fisheries and Game, summer of 1941; Technical Assistant, Vermont Fish and Game Service, summer of 1942; Armed Forces, 1942-45; Project Leader, Vermont Fur-bearer Survey, Vermont Fish and Game Service, 1948; Assistant Leader, Maine Cooperative Wildlife Research Unit and Instructor in Game Management, University of Maine, 1948.

ROGER F. TAYLOR—Two-year Forestry course, University of Massachusetts, 1936-37; Northeastern Timber Salvage Administration, U. S. F. S., in Massachusetts, 1939-40; Lawrence and Klein Lumber Co., Fitchburg, Mass., working in Central New England, 1941-43; Superintendent, University of Maine Forest, 1946, and Assistant Supervisor, Maine State Forest Nursery, 1948.

In the land of rushing rivers,
When there's melting snow and rain,
There's a meeting of some wild ones;
They're the foresters of Maine.

Though they're woodsmen and not boatmen,
They've got paddles raised on high;
They're initiating new ones
To their clan, Xi Sigma Pi.

They're wild and woolly bruisers,
And their souls are steeped in sin;
But you'll find they're all good cruisers
When the final grades are in.

Malcolm E. Hardy



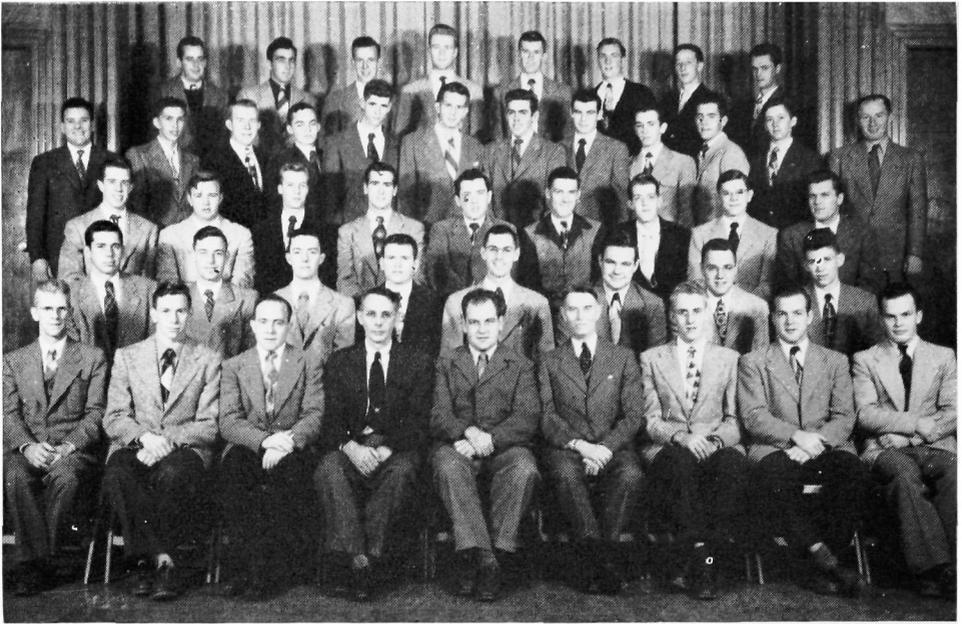
Xi Sigma Pi

By CHARLES K. SLEIGHT

XI SIGMA PI, forestry honor fraternity, was founded at the University of Washington on November 24, 1908. It existed as a local honor society there until 1915, when a new constitution was adopted which allowed the establishment of additional chapters. The fraternity today has sixteen chapters, stretching across the United States, and is truly national in character. National headquarters is located at the University of Idaho, Moscow, Idaho.

The fraternity has developed slowly and carefully, new chapters being added from time to time only after careful consideration for the general good of the fraternity. On March 31, 1917, Gamma Chapter, the third chapter to be established, was installed at the University of Maine.

The objects of Xi Sigma Pi are to secure and maintain a high standard of scholarship in forest education, to work for the upbuilding of the profession of forestry, and to promote fraternal relation among earnest workers engaged in forest activities. Its



The Forestry Club

By STEPHEN ORACH

THE objects of the Forestry Club are to promote interest in Forestry and Wildlife matters, foster better acquaintance among students and faculty, and sponsor such extra-curricular activities as Forestry and Wildlife students may wish to engage in as a group. The club meets twice a month in the Plant Science Building. Guest speakers, movies, and slides are some of the types of entertainment offered.

The club provides assistance in organizing planting crews for Maine Day, and has established a memorial area in the University forest in remembrance of Foresters who lost their lives in the war. The club has also purchased land at Davis Pond as a site for a cabin for use of the members and their friends.

President	Edward A. Stulpin
Vice President	Dwight B. H. Smith
Treasurer	Leo D. Lamond
Secretary	Stephen Orach
Faculty Advisors	Professor Robert I. Ashman Assoc. Professor Frank K. Beyer



Forestry Rifle Club

By BILL MOORE

THE Forester's Rifle Club, which has been functioning since the fall of 1946, was organized for the benefit of shooting fans in both Forestry and Wildlife. Any student from a freshman to a senior in the Forestry Department is eligible to join the Rifle Club. Those who are non-shooters, as well as those who are experienced marksmen, are welcome. Instruction is available for anyone not acquainted with the technique of target shooting.

The R. O. T. C. range has been available one night a week for practice, and matches have been scheduled with rifle teams from surrounding communities. Interest has been great in the Club, but it is felt that more shooters would increase the stability of the organization and promote more matches.

The first meeting of the year is for the purpose of electing officers who will serve until replaced the following fall. The President must be a senior, the Vice-president a junior, and the Secretary-Treasurer may be from any class. The officers for the current year are as follows:

President	William Taylor
Vice President	George Knight
Secretary-Treasurer	Robert Foster

Seniors



WILLIAM JOHN ADAMS
Forestry
Framingham, Mass.



HARRY E. ARADER, JR.
(Ox)
Forestry
Collingswood, N. J.
Sigma Nu, Marshall and
Steward; Maine Masque;
Football 3; Canterbury
Club.



R. W. ARSENAULT
(Dick)
Forestry Portland
Forestry Club 1, 2, 3, 4;
Dormitory Council 4.



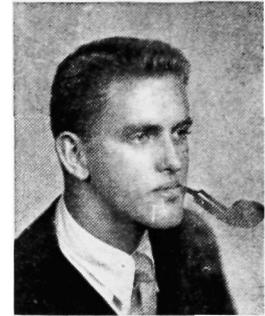
JAMES R. BAEB
(Jim)
Forestry South Portland
Xi Sigma Pi 4; Forestry
Club 1, 2, 3, 4, President
1; M. O. C. 3; M. C. A.
3, 4; Forestry Rifle Club
4.



DARRYL V. BEISEL
(Val)
Forestry Leighton, Pa.
Forestry Club; Forestry
Rifle Club; Football 3, 4.



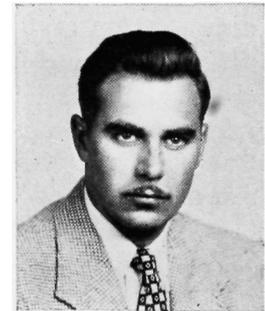
JOHN R. BENNETT
Forestry
Collingswood, N. J.



WALTER R. BISSET, JR.
Wildlife Bluehill



G. M. BLAISDELL, JR.
(Batese)
Forestry Rumford
Sigma Nu; Forestry Club;
Football 3, 4.





A. J. BUSCHENA, JR.
Forestry Winthrop, Mass.
Xi Sigma Pi 3, 4; Phi
Kappa Phi 4; Forestry
Club 3, 4.



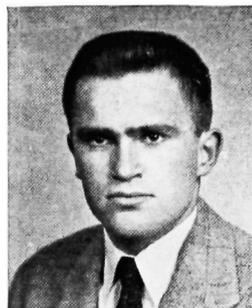
HENRY S. CARSON
(Hank)
Wildlife Ashland



EDWIN J. CATES, JR.
Forestry Machias



EDWARD E. CHASE, JR.
(Ed)
Forestry Cape Elizabeth
Alpha Tau Omega; P. P.
I. F.; M. C. S.; Forestry
Club.



FREDERICK C. DEAN
Wildlife Putney, Vt.
Forestry Club; Outing
Club; Square Dance Club;
Phi Kappa Phi 4; Proctor
4.



HOWARD L. DOW, JR.
Forestry Orono
Xi Sigma Pi 3, 4; For-
estry Club 1, 2, 3, 4.



STUART E. DeROCHE
Wildlife Lincoln
Football 1, 2, 3, 4; Intra-
mural Football; Intra-
mural Basketball; Sigma
Nu.



RUSSELL E. DOW
(Russ)
Forestry Dover-Foxcroft
Sigma Nu; Sigma Pi 4;
Forestry Club 2, 3, 4;
Track 1, 2, 3; "M" Club.





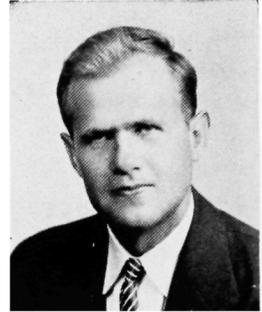
WILLIAM H. DRISKO
(Bill)
Forestry Columbia Falls
Xi Sigma Pi 3, 4.



JOHN R. DUNN
Forestry Gardiner



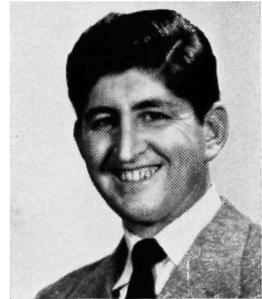
CARL N. FENDERSON
Wildlife Sanford
Phi Kappa Phi 4.



ARTHUR J. ELIAN
Forestry
Mexico, D. F., Mexico
Sigma Chi; Xi Sigma Pi
3, 4.



EDWIN W. FORSYTH
Forestry Addison



ROBERT H. ELLIOTT
Forestry Oxford
Delta Tau Delta; Intra-
mural Basketball and
Handball.



JOHN P. FOURNIER
(J. P.)
Forestry Sanford
Forestry Club, Treasurer
1; M. O. C.; Newman
Club.



PHILLIP M. GARDNER
Forestry Biddeford



DALE B. GIFFORD
Wildlife Bangor



ARNOLD G. GOLDING
(Bob)
Forestry Danforth
Xi Sigma Pi 4; Forestry
Club.



KEITH A. HAVEY
Wildlife West Sullivan



KENNETH Y. HODSDON
Forestry Dixfield
Xi Sigma Pi 3. 4.



LEO D. LAMOND
(Dannie)
Forestry Perry
Xi Sigma Pi 4; Forestry
Club, Treasurer 3. 4;
Dormitory Council, 4.



DONALD R. LARRABEE
Forestry South Windham



JOSEPH M. LUPSHA
Forestry
Bellaire, L. I., N. Y.



STUART W. MacKINNON
(Mac)
Forestry Yarmouth
Forestry Club, Vice Presi-
dent 1; Intramural Foot-
ball.



MALCOLM D. McLEAN
(Mac)
Forestry Rumford
Tau Kappa Epsilon; Forestry Club; Forestry Rifle Club; M. C. A.; M. O. C.; Maine Masque.



COLIN D. MacLEAN
Forestry Canton, N. Y.



DOUGLAS L. MARSTON
Wildlife Orono



KENNETH D. MASSE
(Ken)
Forestry East Vassalboro
Phi Eta Kappa.



HARRY W. MASTERS
Forestry Round Pond
Forestry Club; Order of the Temple.



GIFFORD C. MERCHANT
Forestry Winter Harbor



FORREST B. NELSON
Forestry Bangor
Xi Sigma Pi 3, 4; Ranger 4; Forestry Club.



RAFAEL E. NISKANEN
Forestry South Paris



STEPHEN ORACH
Forestry Lansford, Pa.
Forestry Club, Secretary
4; Xi Sigma Pi 3, 4, Assoc.
Forester 4; Forestry Rifle
Club, Secretary 4; "M"
Club; Track 2, 3, 4; Proctor 4.



PAUL C. PERKINS
(Perk)
Forestry Bangor
Xi Sigma Pi 4; Forestry
Club.



ROGER A. RACE
(Rog)
Forestry Guilford



LEROY F. RAND
Forestry Intervale
Alpha Gamma Rho.



CHARLES K. SLEIGHT
Forestry Lubec
Xi Sigma Pi 3, 4, Fiscal
Agent 4; Phi Kappa Phi 4;
Forestry Club.



ROBERT P. SPELLACY
(Bob)
Forestry Pomfret, Conn.
Forestry Club.



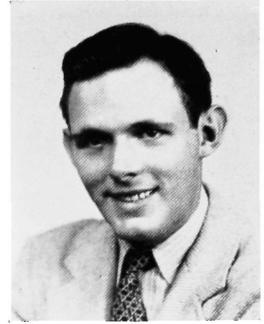
EARL E. STATLER
Forestry Brooklyn, N. Y.



EDWARD J. STULFIN
(Ed)
Forestry
Middleboro, Mass.
Xi Sigma Pi 4; Forestry
Club, President 4.



HENRY L. THIBODEAU
(Hank)
Forestry Howland
Theta Chi, Steward; For-
estry Club.



H. E. WAGONER, JR.
(Howie)
Forestry
Scotch Plains, N. J.
Lambda Chi Alpha; Xi
Sigma Pi 3, 4, Chief For-
ester 4; Forestry Club;
Campus Development Com-
mittee; M. C. A.



BAXTER C. WALKER
(Bax)
Forestry Peru
Alpha Gamma Rho; Ten-
nis 1; Forestry Club
Treasurer 1.



WILBUR C. WEEKS
Forestry Orono



NILES C. WILLIAMS
Forestry Waite
Xi Sigma Pi 3, 4.

OTHER SENIORS (Pictures not Available)

GEORGE D. AIKEN
Wildlife Brewer

JOHN S. BOYNTON
Forestry Windham
Forestry Club; Maine
Masque 1.

C. W. BROWN, JR.
Forestry Hingham, Mass.
Lambda Chi Alpha.

PHILIP L. BROWN
Forestry Bangor
Xi Sigma Pi 4.

ALLEN W. BURGESS
Forestry Kennebunk

WALTER R. BUCKLEY
Wildlife Gouldsboro
Forestry Club; Freshman
Football; Rifle Team 1,
2, 3, 4; Indoor Track 1,
2; W. L. C. Summer
Camp Horseshoe Team.

P. H. CUNNINGHAM
Forestry Forest City
Xi Sigma Pi 4; Forestry
Club; M. C. A.; M. O. C.

MILES E. DODGE
Forestry Orono

FORREST F. FOGG
Wildlife Saugus, Mass.

PETER F. FOLEY
Forestry Portland

SAMUEL E. FULLER
Forestry Long Pond
Lambda Chi Alpha.

EDWIN S. GERRY
Forestry East Vassalboro

LAWRENCE C. HADLEY
Wildlife Bar Harbor
Alpha Tau Omega.

W. F. HIBBARD, JR.
Forestry Bridgton
Forestry Club; Order of
the Temple; Sigma Chi.

Continued on Page 22

Swan Song of 1950

By RICHARD B. WHITNEY and LEO D. LAMOND

FOUR years ago we filled our registration cards and wrote Forestry on the dotted line for the first time. We were as bewildered as any other freshman class that ever walked onto the University of Maine campus, even though our average age was higher than most because our class was composed mostly of veterans. Part of our class was located at the Brunswick campus and the remainder was located on the Orono campus, in order to facilitate the large post-war enrollment. Both factions encountered the trials and tribulations of a freshman forestry class, battling their way through Chemistry, grinding out English compositions, cutting up fetal pigs, memorizing hundreds of scientific and common names, and cramming for the numerous quizzes, prelims, and final examinations that occurred throughout the year. Students and faculty members took part in Forestry Club activities and became better acquainted. Other diversions from studies consisted of various social activities on campus, athletics, and elbow-bending in the favorite local pubs. Taking all factors into consideration, our freshman year was quite successful, although a few fell by the wayside or transferred to other fields.

In the fall of 1947, we returned to the University of Maine campus as sophomore foresters. The college routine was nothing new to us and the formalities of registration seemed to be partially systematic. This was to be a memorable year at the University because of the great forest fires in the State of Maine. The summer had been exceedingly dry, followed by a dry fall; and finally the forest fires, which had been anticipated, broke out over various sections of the state. The call was sent out for help, to which the students of the University of Maine, and of the Forestry Department in particular, responded. Invaluable aid was given in suppressing fires in Cherryfield and Bar Harbor, and much valuable experience was acquired under actual field conditions by the students. Although we lost time from our regular studies, we found the instructors very sympathetic on our return; they gave us the opportunity to make up our prelims right away.

The remainder of our sophomore year was spent with our studies. We explored the mysteries of Physics and arrived at the startling decision that F equals MA . This was also the year we took up cross-country in Dendrology under the leadership of Professor Hyland. This put us in great physical condition and we also learned to identify a few trees. At the end of this year a great number of the fellows took summer jobs in forestry out West and in the state.

The fall of 1948 found us back at the University, eager to get back into the swing of things. This year was spent on subjects dealing mostly with forestry. Many hours were spent in the University forest during Mensuration and Silviculture laboratories. In pursuing the studies of Forest Mensuration, we took up Aerial Photography where we were astounded to find that the principal point wasn't "Pat's". In our study of Silvics, we discovered that Mychorrizas aren't something to cure a hangover. Fortified with this valuable information, we journeyed forth into the wilds of Indian Township for ten weeks summer camp.

Ten hot and hectic weeks were spent cruising, running section lines, surveying, and practicing forestry on Indian Township. We all survived summer camp, even though a couple of the fellows encountered Mrs. Bruin and her brood. Much practical knowledge of forestry was attained at summer camp and a good time had by all.

The fall of 1949 found us back on the University of Maine campus, tanned and fit from summer camp and ready to tackle any problems that might arise in our last year at school. Our anxieties are gradually shifting from the passing of our various courses to the acquisition of future employment.

The Spring of 1950 is nearly here and our prospective graduation is only a few months away. Impossible as it seems, time has passed faster than we could visualize. Hastily, reflections are cast over by-gones as we scrutinize our successes and failures, likes and dislikes, for a guide in our optimistic future.

OTHER SENIORS (*Pictures not Available*)

Continued from Page 20

- | | | |
|---|--|---|
| ROBERT H. JEWELL
Forestry Old Town | JOHN W. PARSONS
Forestry Weathersfield, Conn.
Sigma Chi. | WILLIAM H. TAYLOR
Forestry Guilford
Forestry Club 2, 3, 4;
Forestry Rifle Club 3, 4,
President 4. |
| JEAN P. LORANGER
Forestry Biddeford | EDWARD C. PENNIMAN
Forestry Riverside, R. I. | S. H. TIMBERLAKE
Forestry Turner |
| IRVING G. MARSDEN
Forestry Danvers, Mass.
Sigma Chi; Maine Masque;
Scabbard and Blade;
Bridge Club. | ALMOND S. PIERPONT
Forestry Rockland | JOHN S. WALKER
Forestry Agawam, Mass. |
| RALPH A. MOORE
Forestry Ellsworth | ROBERT R. RENDALL
Forestry Augusta
Phi Mu Delta. | KENDALL WARNER
Wildlife Freeport |
| R. H. MURRAY, JR.
Forestry Boothbay Harbor
Xi Sigma Pi 4. | ROBERT S. RUPP
Wildlife Springvale | RICHARD B. WHITNEY
Forestry Thomaston
Xi Sigma Pi 3, 4; Forestry
Club. |
| RODNEY B. MURRAY
Forestry Boothbay Harbor | E. C. ROCKWELL, JR.
Forestry Brandon, Vt.
Alpha Gamma Rho; For-
estry Club. | |



Climax Type

By FRED McLEARY

THE class of 1951 got off to a bad start by trying to burn down most of the woodlands of Maine. At that point, there were a total of eighty-two singed and smoked neophyte foresters, fifty-seven at the Brunswick campus and twenty-four at the Orono campus. The freshman year was relatively unblemished except for the forest fires, but actually the fires provided an excellent (but unfortunate) introduction to forestry first hand. Of course, there were the agonies of Freshman English and Chemistry to be contended with; but these were soon dispensed with and the year came to a close with many of the men going West to untangle the problems of the Forest Service.

The sophomore year commenced with the class of '51 being together for the first time at the Orono campus. The wails of those expressing a preference for the Brunswick campus were soon lost when the co-eds and stepped-up social life of the campus exerted their combined influences on the hardened foresters. Studies were a snap this year, with Physics leading the popularity list. The sweat expended on Physics would have floated the largest of Prof. Plummer's log rafts. Then there was Surveying. Our stars were Ingraham and Igallo with their rapid traverse of the Beta area—thirteen and one-half minutes from start to finish. There was considerable comment on the actions of the quiet, even-tempered George Knight when he was seen streaking across the greensward in pursuit of

the wily and dangerous Coccinellidae. At the end of the year the single men headed west, Bill Estes gave up the ghost and started down that long road of connubial bliss, while the rest of the married men, deprived temporarily of Uncle Sugar's helpful hand, got back to the business of earning the wherewithal to purchase large quantities of Pabulum and Dextrimaltose No. 2.

With the advent of the junior year, Moore, Knight, and Colson attested vociferously to the fact that Forestry was not all outdoor work by producing three bouncing baby girls. (It is the writer's prognostication that by the end of the senior year there will be as many young foresters and foresterettes as there are old ones!) Taylor and Tuttle started the year by unveiling their big contribution to wood utilization by their invention of the laminated bamboo watch spring. Our outstanding athlete, Fred Bigney, was incapacitated for part of the past football season by innumerable "charlie horses" received from the water bucket banging on his shins as he watered up the team during time-outs. Another outstanding contribution to the forestry field was the invention of the belt-loop hypsometer by Curran which received a severe test from Kilbreth.

All in all, the class of '51 stands out from the crowd. It has been proven the dumber—er—rather shall we say not the most intellectually endowed class of the ante-bellum period. They are definitely the best gripers to hit campus, and their wails and screams can be heard on any still, moonlit night. There is no doubt that they have wrangled more extra points from quizzes and prelims than Notre Dame has kicked extra points in the last twenty years. It is with eager anticipation that this writer looks forward to the remaining year and a half to see just what the class of 1951 will come up with next.

Class Of 1951 --- Juniors

Edwin R. Gove, Jr.	Bangor, Maine	Henry C. Dillenbeck	
Warren B. Alieff	Ashland, Maine		South China, Maine
Fred J. Bertoldo	Malden, Mass.	Malcolm Durward	Wakefield, Mass.
Frederick H. Bigney	Orono, Maine	Robert M. Eaton	
Vernon L. Bond	Stratford, Conn.		West Southport, Maine
Robert F. Bradford	Hebron, Maine	Willard H. Estes, Jr.	Stillwater, Maine
Roger W. Briggs	Oxford, Maine	Charles R. Foster	North Wayne, Maine
Arthur M. Burner		Robert W. Fuller	Orono, Maine
	Cornwall on the Hudson, N. Y.	David J. Gilmour	Rumford, Maine
Allison G. Catheron II	Eastport, Mass.	Elton R. Gosse	Stetson, Maine
Wilfred I. Colson, Jr.		Frederick K. Hussey, Jr.	
	Shrewsbury, Mass.		South China, Maine
John J. Curran	Mill, Maine	Joseph C. Iagallo	Worcester, Mass.

Robert C. Ingraham	Bangor, Maine	Robert W. Pidacks	Rumford, Maine
Leonard F. Keenan	Searsport, Maine	Howard A. Roberts	Dexter, Maine
Harold E. Kilbreth		Richard L. Sawyer	Auburn, Maine
	North Turner, Maine	Dwight B. H. Smith, Jr.	
George T. Knight			Lewiston, Maine
	South Portland, Maine	Lauriston S. Taylor	Bethesda, Md.
George A. LaBonte	Waterville, Maine	Harmon F. Thurston	
Abbott B. Ladd	Stillwater, Maine		Rumford Point, Maine
Vaughn F. McCowan	Orono, Maine	Clinton E. Tripp	Fryeburg, Maine
Fred J. McLeary	Farmington, Maine	Orville K. Tripp	Poland, Maine
Elwin E. Macomber		Kenneth O. True	Mercer, Maine
	Dover-Foxcroft, Maine	Stuart M. Turner	Buckfield, Maine
Antonio I. Malva-Gomes		Richard A. Tuttle	
	Arlington, Mass.		South Deerfield, Mass.
Jackson B. March	Middleboro, Mass.	Charles W. Walls	
William B. Moore	Bangor, Maine		Newton Highlands, Mass.
Harold C. Nelson	Vassalboro, Maine	Harold E. Whitney	Salisbury, Vt.
Eben A. Osgood	Bangor, Maine	Robert W. Wright	Bangor, Maine
William L. Philbrick			
	Skowhegan, Maine		

Wooden Engineer Cont.

The forester is a hardy lad,
 And he comes from a hardy race;
 The dung is thick upon his heels,
 And so are the whiskers on his face.

When in spring, sweet field work is the cry,
 He comes with transit and with chains;
 He parks his can upon the grass,
 And hopes to hell it rains.

But up goes his transit, nearly level,
 A few signals, and he squints his face;
 Then checking again—it's the wrong location,
 He knew darn well it wasn't the place.

That part done, he sights a tree,
 But the wind still blows his plumb-bob string;
 He tries again, and succeeds at last,
 Will that four o'clock bell never ring?

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Life Cycle

By PETER MOUNT

THROUGH the long winter nights the midnight oil burns low in the lamps which are found in the rooms of the sophomore foresters. Gazing at the textbooks, the thoughts of the class members wander to the many hours of class—*Gaultheria procumbens*, FMA, Law of diminishing returns, and “raise for red”.

This wandering of mind brings some pleasant memories to view—pulling ribs in California with Swenson, Colter, Moreshead, Crockett, and Burk—fire lookout in Montana with McBride, Magalis, and Reynolds—cruising in the Maine woods with Prue and Gregory—counselor at a Maine camp with McLennan—and other pleasant experiences of the past summer.

The trend of thought deviates to bring the shining athletes to view. Representing our class on the gridiron were Easton, Burk, and Smith; while on the butt-end of the rifle stands sharpshooter McBride; and wildly roaring up and down the basketball court are Donovan and Leathers. Intramurally, the class of '52 foresters seems to be represented very well with class members in almost every field of sport.

Remembering former classmates demonstrates that the class has fallen from the original seventy-four members to the fifty-three present members. About twenty-five former foresters were lured away by the women of the Arts and Crafts course. Trying to count the Annex members of the class, the number thirty-one

constantly reappears. The remainder of the class is divided between commuters and transfers.

Suddenly the mind clears and again the printed words of the text jump into focus. The competition for good grades in the race for knowledge is great. Striving to exceed each other in the absorption of formulae and names are Connolly, Donovan, McLennan, and Bilbruck. Then wearily the books are closed, the bed draws us into its folds, and sleep overpowers the class of fifty-two foresters.

Class of 1952 -- Sophomores

Frank S. Beal	Phillips, Maine	Girard F. Laurin	
Clare F. Beames	Hartford, Conn.		South Portland, Maine
James D. Bilbruck		John O. Leathers	Guilford, Maine
	Kittery Point, Maine	Henry N. LeClair	Orono, Maine
Paul R. Bodurtha	Worcester, Mass.	John K. McBride	Gloucester, Mass.
Carl F. Brenner	Washington, N. J.	Bruce H. McLennan	
Roger W. Briggs	Oxford, Maine		West Hartford, Conn.
James W. Buchanan	Guilford, Maine	Wesley C. Magalis	Dayton, Ohio
William F. Buck	Clinton, Mass.	John V. Mahoney	Clinton, Conn.
Marshall F. Burk	Lynn, Mass.	Wesley L. Marple	Liberty, Maine
Edwin S. Carlson	Cranston, R. I.	Ephraim N. Martin	Belmont, Mass.
Donald D. Collins	Farmington, Maine	Harold D. Moir	Magnolia, Mass.
Richard A. Connolly		Edmund J. Moreshead	Gardiner, Maine
	South Portland, Maine	Peter R. Mount	Fairfield, Conn.
John S. Colter	Marblehead, Mass.	Robert W. Muttu	Bangor, Maine
Herbert L. Crafts	Sangerville, Maine	Lennart N. Nelson	Maplewood, Maine
Ray V. Crockett	Hampton, Virginia	Dorice J. Ouellette	Brunswick, Maine
Robert B. Donovan		Allan R. Preble	Waterville, Maine
	East Braintree, Mass.	Francis P. Prue	Orono, Maine
Fred A. Dovhaluk	Lincoln, N. H.	Arthur W. Reynolds	
Harry Easton	Winchester, Mass.		South Portland, Maine
Norman D. Erickson	Worcester, Mass.	Walten G. Rockwell	
Robert E. Fales	Fairfield, Maine		West Hartford, Conn.
William G. Gove	South Bristol, Maine	Llewellyn E. Rose	North Leeds, Maine
Augustus Gregory	Bucksport, Maine	Donald E. Smith	Bar Harbor, Maine
Richard J. Hayes	Lewiston, Maine	Clifford L. Swenson	Belmont, Mass.
Edward B. Hayward		David R. Tibbetts	Pittsfield, Maine
	South Easton, Mass.	Herbert E. Wave	Farmington, Maine
Sterling Holway	Arlington, Virginia	David F. Wentworth	Holden, Mass.
Alvin E. Ingalls	Surry, Maine	Richard Young	Bar Harbor, Maine
Alfred M. Johnson	Winthrop, Maine		



Class of 1953

By WILLIS A. GETCHELL

THERE have been many changes on the campus here at Orono this year. One of these changes has been the presence of freshmen on campus at Orono for the first time since the end of the war. We of the freshman class appreciate this chance to get to know the upperclassmen, instead of being separated from the University by being at Brunswick.

It has been said that you can always tell a college freshman by the bewildered look on his face as he wanders about the campus. This is (or was) more or less true with us. College is a great change for most of us; but with the careful guidance of the faculty and upperclassmen, it will not be long before the looks of bewilderment are replaced by the looks of worry and preoccupation which characterize the upperclassmen.

This year has been the first year that freshmen were allowed to attend summer camp before the beginning of their freshman year. Eleven took advantage of this opportunity and went to Princeton in August for a busy two weeks of learning, fun, and companionship.

The freshmen have been extremely interested in activities re-



lated to forestry. There are many of us in the Forestry Club, a few belong to the Forestry Rifle Club, and several of us are on the staff of the "Maine Forester".

Our freshmen have also been strong in the field of sports, with Burchard, Butterfield, and Everhart on the football team. Also there are a number of foresters representing us in basketball. Many other freshmen foresters, although not out for the freshman teams, have been active in the intramurals.

This is the freshmen foresters', class of '53, class history. It isn't very long for our history has been brief; but when our class history is written for the '53 edition of the "Maine Forester", you may be sure that it will be a long and distinguished record.

Class Of 1953 --- Freshmen

George H. Allen	Ellsworth, Maine	Lawrence R. Bailey	Orono, Maine
Richard C. Allen	Norwood, Mass.	John N. Beeckel	Woodcliff Lake, N. J.
Robert E. Armitage	Springvale, Maine	Daniel R. Bennett	Wilson's Mills, Maine

Albert H. Bishop	Lagrange, Maine	Robert M. Kellogg	Millington, N. J.
Donald M. Bouchard	Millinocket, Maine	James S. Kilburn	Buckfield, Maine
Norman C. Bourget	Augusta, Maine	John S. McKenney	
Richard G. Brubaker	Maplewood, N. J.		Livermore Falls, Maine
William A. Bunter	Hempstead, N. Y.	Blynn D. Merrill	Poland Spring, Maine
Donald B. Burchard	Woodbine, N. J.	Archie S. Milliken	
Carl W. Buschner	Teaneck, N. J.		Center Lovell, Maine
David Butterfield		Landall H. Nevens	Bethel, Maine
	Middletown Springs, Vt.	Alanson B. Noble	South Paris, Maine
Duncan M. Cameron, Jr.	Derry, N. H.	Robert G. Osborne	
Paul E. Choiniere	St. Johnsbury, Vt.		South Deerfield, Maine
David A. Chute	Osterville, Mass.	Bruce E. Parkhurst	Bangor, Maine
Harley Clark, Jr.	Milltown, Maine	Arthur D. Partridge	
David T. Crosman	Brooklyn, N. Y.		Douglaston, L. I., N. Y.
Kenneth S. Cummings	Camden, Maine	Frederick V. Perkins	Ellsworth, Maine
Richard E. Cutting	St. Johnsbury, Va.	Warren L. Peterson	Orleans, Mass.
Randall R. David	Hoboken, N. J.	Richard F. Phelon	
Thomas L. Dickson, Jr.			Newton Highlands, Mass.
	Ridlonville, Maine	Raymond R. Powers	Bath, Maine
Charles B. Donahue, Jr.	Calais, Maine	Cecil M. Roberts	Wakefield, Mass.
Philip G. L. Doyle	Woodland, Maine	Richard K. Robinson	Abington, Mass.
Joseph E. Dumont	Fairfield, Maine	Hans J. Schirrmann	
Arthur L. Dutton, Jr.	Oakfield, Maine		U. S. Zone, Germany
Lehan A. Edwards	Monmouth, Maine	William K. Sewell	
Wesley Y. Ellsworth			East Lebanon, Maine
	East Wilton, Maine	Peter Shumway	
Robert S. Everhart	Pittsfield, Mass.		Lynnfield Center, Mass.
Robert P. Ford	Staten Island, N. Y.	Harry L. Simpson	Bar Harbor, Maine
William A. Getchell	Newport, Maine	Philip W. Solenberger	Winchester, Va.
George C. Grant	Brewer, Maine	John L. Tamboer	Woodbridge, N. J.
Winfield E. Grant	Portland, Maine	Charles L. Toothaker	Phillips, Maine
Victor L. Grover	Maplewood, N. J.	John W. Tyack	South Hamilton, Mass.
Robert J. Hampson	Pleasantville, N. Y.	Alan M. Walden	Ridgewood, N. J.
Roy T. Haskell	Needham, Mass.	Kenneth B. Ward	Trenton, N. J.
Richard W. Hess	Augusta, Maine	Gordon S. Webber	Sanford, Maine
John M. Jewett	Laconia, N. H.	Richard H. Wheeler	Westfield, N. J.
Stanley L. Jones	Waterville, Maine	Roman A. White	Augusta, Maine
John W. Kelly	Hallowell, Maine		

Wood Engineer (Continued from Page 25)

As a rule, his line is never true,
 Still, this wee trifle doesn't daunt him;
 He merely whistles and tries to sing,
 Gosh, could any woman want him?

The bell rings out; he retraces his steps;
 It warn't so bad—indeed, lots o' fun;
 Yet, more field work still remains,
 But "geekers crum", today's work is done!

John B. Quinn '34

-Wheels-

Big wheel - "Smiley" ⚡

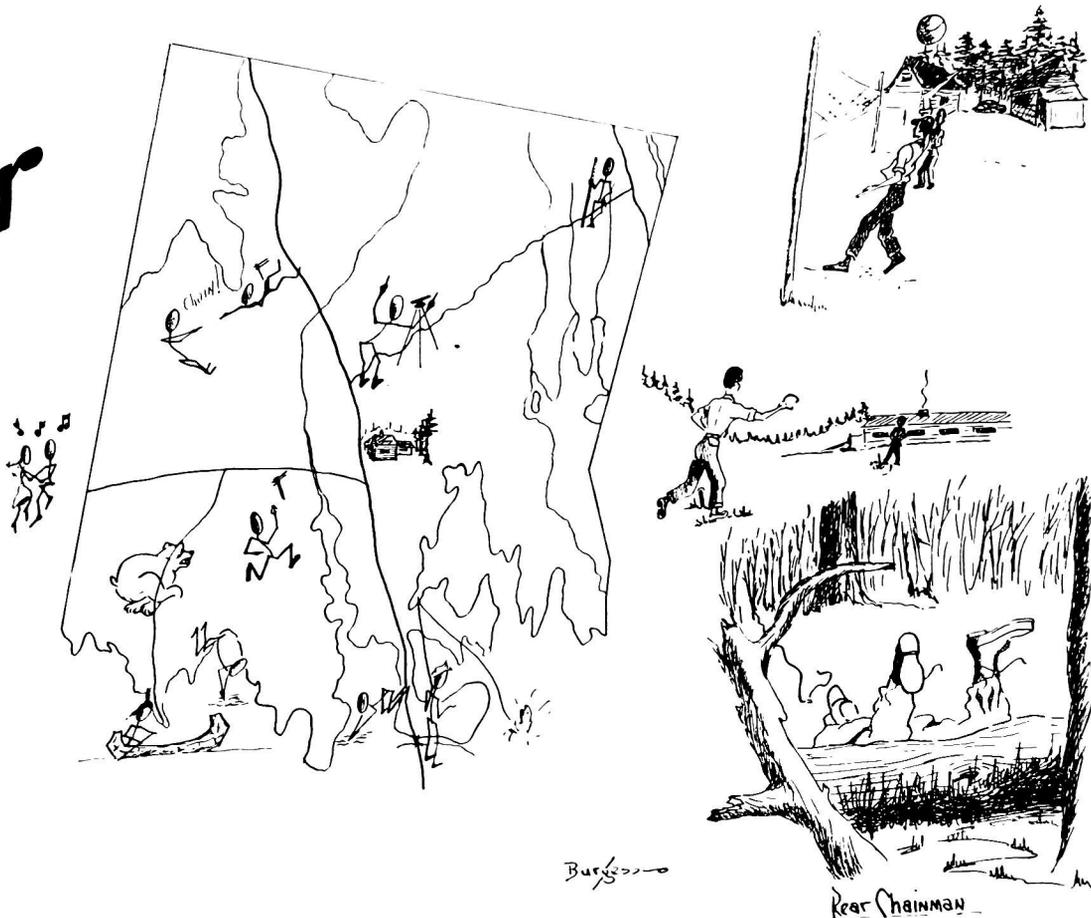
Lesser wheels -

"Skippy" ⚡

"Hank" ⚡

"Chappy" ✖

Summer Camp



Burgess

Rear Chainman

Going Native

By PETE FOLEY

FIFTY-FOUR embryonic foresters arrived at the U. of M. forestry camp at Princeton, Maine on or about June 15. We all had a vague notion of what we would do for the next ten weeks and the outlook was anything but promising. Our mental observations ranged from the ridiculous to the sublime . . . some of the boys dreaded a daily battle with the famous "Maine Black Fly" . . . others were morose over the apparent lack of recreational facilities . . . more of us abhorred the thought of a dry peanut butter sandwich every noon while we were in the woods . . . others were disgruntled over the idea of losing ten pay-checks . . . and many of us were just disappointed to be away from the girlfriend for such a protracted period, or at missing seeing the Red Sox games, playing golf, traveling out West, and many other actual and fanciful activities that we were more interested in at the time.

However, it didn't take long for us to forget the above-mentioned grievances and get into the spirit of things. Some of the boys began getting "woody" right away, as was evident in John Parsons and George Blaisdell raising "chin ornaments", Jim Babb carrying his trusty hunting knife, Harry Masters with his caulked boots, and Don Larrabee with his "Bat Masterson" hat.

A few of the highlights of the summer included trips to fire towers, pulp mills, saw mills, hardwood and softwood cutting operations, a dam site, and the Moosehorn Refuge, where we were privileged to meet Bert Smith and spend a day with him. He described his work on the refuge to us and spoke of his hopes and his expectations of experiments to increase the woodcock population. He also regaled us with anecdotes from his variegated experiences.

An interesting phase of our summer camp was the two-week course we had with "Chappie" on road surveying. We laid out roads with and without curves and ran level lines over various roads in the Township.

Mr. Ralph Bagley, supervisor for the St. Croix District, Maine Forest Service, with headquarters at Princeton, explained to us his fire fighting system with its lookouts, trails, and telephone lines. He also took some of the boys fishing in his "yacht" and helped us in other ways.

The big task of the summer was our management plan and forest type map. Under the supervision of Mr. Randall and Dr.

Young, we were assigned sections of Indian Township in two-man parties. We spent about a month running a 2.5% cruise of our sections, pooled our data, and made a management plan and a forest type map. An interesting sidelight that occurred during this work was the time a mother bear and her two cubs passed between the head and rear chainmen when the Murray brothers were running their cruise lines.

We gained experience doing many things that a tyro must learn in any field of endeavour on his own initiative. We marked timber, brushed lines, practised fire control methods, tried various silvi-cultural techniques of thinnings, tried rapid cruising methods, cleared roadsides, improved a campground, painted signs, and ran plane table surveys. After several of the boys "burned the pole", the rest of us rapidly learned to climb telephone poles with climbing spurs.

We were fortunate in having an excellent cook; and, although his cuisine wasn't "a la carte", George prepared many gastronomical treats, as was proven by the increased poundage most of the boys put on.

To while away a few hours in the evening, Mr. Plummer rounded up our best baseball talent and we played the local teams, including the Indians at Peter Dana Point. Volleyball and horse-shoe pitching also helped to pass a few desultory hours after supper every evening. A few of the boys, piscatorially inclined, had many opportunities to try their luck fishing the local streams and lakes. After finishing one of these past-times, swimming was the vogue, usually followed by a movie at Princeton.

In this manner passed the summer. The long ten weeks staring us in the face in June dissipated like a mist over Grand Lake Stream on a summer morn; and, ere we knew, we were nostalgically bidding adieu to Indian Township.

Woodman's Weekend

By AL CATHERON

THE annual Dartmouth Woodsman's Weekend has become increasingly important in competitive outdoor sports between the colleges of the Intercollegiate Outing Club Association. New England and Canadian colleges, such as Williams, Norwich, Kimball Union Academy, Maine, and McGill, send teams to Dartmouth each spring for the three-day competition. It is the hope of Dartmouth

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Wildlife Summer Camp

By DAN AIKEN

EACH summer a crop of Wildlife majors of the junior class attend an encampment. The encampment is for the express purpose of putting into practice some of the theory which they have absorbed in the previous three school years at the emporium of knowledge known as the University of Maine. The encampment this year was held at the Moosehorn National Wildlife Refuge, which is located at Baring in Washington County.

The report of the activities of the summer should be taken in chronological order; but, so much time having passed, the sequence is somewhat hazy. As a matter of fact, the sequence was oftentimes hazy when the events occurred. It is for this reason that items will be brought up as they spring to mind. Some of the projects that took up the campers' time are as follows:

A duck census—A census, under the capable direction of Dr. Lee Kutz, was made of the Maguerrewock marsh. Dr. Kutz said that our technique seemed to be in order, but that we were the only group under his direction ever to end up with a minus total number of ducks as a total marsh population.

Ecology trapping—Trapping was done to determine the effect of mice on the surrounding area. A grand total of 126 mice was collected and the better trophies mounted into round skins under the direction of "Professor" Forrest Fogg. During most of the pro-

ject, we were without the assistance of Bob Rupp who had left to investigate the advantages of the University of Massachusetts. He later returned and carried out a project of his own of the same type on starlings and mice. Rupp gave as the reason for his speedy return, nostalgia for the camp "Kitty".

Beaver pond investigation—There is little in the way of description to be said for this project. It will be enough to say that if any information is wanted about any phase of beaver life, from their hobbies to their sex life, any member of the camp can give it to you in detail.

The Kent's Island trip—A sea voyage to Canadian soil was undertaken under the direction of Dr. Kutz. Our destination was a rocky portion of heaven called Kent's Island by the geographers and many other names by its few inhabitants. A boat was hired to make the twenty-mile sea journey and we all proved to be good sailors, even though the ground swells were sometimes as much as a foot from trough to crest. We arrived at the island about 2:00 P. M. We observed, on the beach, about thirty-five lovely young ladies; but, to our dismay, they were leaving the island. Our sorrow at losing the girls of the Boston Chapter of the Appalachian Mountain Club was balanced by the joy encountered when we saw the other visitors on the island. These transients were right up our alley. They were wildlife. What a break! One hundred and twenty-three thousand sea-gulls, plus their darling offspring. The sun was obscured, and Walt Bisset is still picking calcium carbonate out of his hair.

It would take too much space to describe all the amusing occasions that took place during the summer. Rather than try to, I shall pose a few questions to be answered and to offer a few answers myself so as to give the reader an insight to the tempo and "feel" of the camp.

Q. Why was it that every one of the so-called "stand-and-look-at-yous" CARRIED field glasses and resembled Professor Beyer?

A. They carried field glasses because they were all the better to observe Rupp and Fenderson's tallying technique.

Q. Why did the water at Reynold's Beach never feel cold at midnight and after?

A. Because the swimmers were always warm inside at that time of the evening.

Q. Why was Keith Havey called the Camp Bugler?

A. Ask Havey! (Maybe his wife should get a Hillson Award.—Ed.)

Now for last things last. Commencement should be described. Three of our members were eligible for graduation at the end of summer camp. Naturally we couldn't allow them to leave us without holding appropriate exercises, and hold them we did. How we held them! Jim Reardon claims to have been three nights catching up on his sleep.

The baccalaureate address was delivered by Keith Havey, but only after forcibly ousting Bob Rupp from the speaker's platform. It was well that Havey could give the address during the first fifteen minutes of Commencement, for he didn't last much longer than that. He and our excellent cook, Hermie, took upwind courses to their sacks at an early stage in the exercises. The remainder of the program was taken up with song, as will be verified by the afore-mentioned Reardon who was trying to sleep some distance away in his cabin. The cares and trials of the summer were put behind and forgotten. All was happiness. Joe Tyler removed an obstruction to our movements after said obstruction and the writer

The exercises lasted two hours, or maybe three, (or maybe had met in a head-on collision. more?); after which DeRoche was observed asleep on the lawn, Bisset by the spring, and others just not observed.

I would finish this tale with a description of the next morning which was spent finishing the final map of the area. However, I'm afraid that Bert Libbey could not stand the memory if he chanced to read this, so we'll cut it off here while pleasant memories still remain.

Freshmen Forestry Camp

By BILL BUNTER

The Sunday after the Juniors left Princeton, the freshmen moved into camp to begin a two-week course designed to broaden our knowledge of forestry; and also to give us some experience in the woods. Another reason for the camp was to help us decide if we were suited for jobs in forestry.

On Monday morning, we were awakened at 6:30. Right after the best breakfast I had ever eaten, Mr. Randall and Mr. Plummer told us of the history of Princeton and Indian Township, and enlightened us on how much forestry was being practiced on our seventeen thousand acres. In the afternoon we toured the township, stopping off to meet Mr. Bagley, the local fire warden, and visiting the Indian reservation at Peter Dana Point.

During the rest of the two weeks, we visited the Nason lumber mill in Princeton, a pulp camp on Tomah Stream. We then wrote reports on each of these trips. We also spent an afternoon with Mr. Bagley and he gave us a detailed explanation of the fire protection in his district. He showed us how to use fire fighting tools, including a gas-powered fire pump, which each of us took turns operating.

Mr. Plummer taught us some surveying, map making and dendrology; but don't get the idea that we worked all the time. There was always swimming at the end of each day, movies in Princeton; and we were able to attend a carnival in Woodland.

If some of you freshmen that didn't go last year plan to go next August, I suggest that you see one of the Foresters who was there to get a different viewpoint on the camp. In lieu of the above-mentioned information, I will list those who were present at the camp in 1949: Norm Erickson '52, Orville Tripp '51, Pete Edwards, Pete Schumway, "Doc" Chute, Dave Butterfield, Bill Bunter, Archie Miliken, Gordon Webber, Dick Phelon, and "Tip" Doyle, all of '53.

Forestry Exhibit

By PETER MOUNT

THE Forestry Club and the Forestry Department of the University of Maine in cooperation with the Agricultural Club helped to present the third annual Aggie Fair. On Friday, November 12, 1949, a committee from the Forestry Club erected a booth to house its exhibits. The foreman, D. B. H. Smith, was ably assisted by Wes Magalis, Robert Kellogg, and George White. In the meantime, the committee on the woodsman contests began to prepare for the tests of skill. Al Catheron, Dick Phelon, and Roger Taylor, Superintendent of the University Forest, obtained the logs which were to be used. After supper, others showed up with advice, suggestions, and assistance. About nine o'clock, the booth was set up to the full satisfaction of all concerned.

The next morning the exhibits were arranged and a booth in which movies were to be shown was hastily constructed. The exhibits included model bridges and fire towers, aerial photographs, a wood identification board, mensuration instruments, trapping methods, fire fighting tools, and posters. A representative of the Disston Chain Saw Company was on hand to give demonstrations and answer questions about his products. A pine board, which had

been cut on the University forest and had dimensions of 26' x 18' x 2", was also on display.

In the afternoon, the sawing and chopping contests were run off under the watchful eye of Charley Brown, who was general chairman for the Forestry Club. Students in the department of Forestry walked away with the bucksawing, chopping, and cross-cut sawing contests. When the crowd started to thin out, the exhibits were put back in mothballs and the booths were dismantled.

WOODSMAN'S WEEK

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that the other colleges will sponsor the event in various parts of the Northeast in the near future.

Some of the outdoor skills covered by the event include: tree felling and skidding by a six-man team, crosscut and bucksaw contests, pulp-throwing against time and for accuracy, splitting, chopping, fire-building, pack-board races, one-man canoe races including portage, two-man canoe races, rescue races in which a man goes over the side of a canoe, woodsman-naturalist test, and fly- and plug-casting for accuracy and distance.

Although Maine has been hampered by inadequate practice facilities, it has finished third and fourth in the past two years. The Maine Outing and Forestry Clubs sponsor the team from the University of Maine. Members of the 1949 team were Al Catheron, Al Burgess, Phil Brown, Walt Buckley, Red Coffin, and Phil Cunningham.

Practice for the 1950 team will be started soon after the beginning of the spring semester. All those students who are interested are invited to participate. Let's have a good showing because this year we want it to be Victory for Maine.

Departmental Affairs

By ROBERT I. ASHMAN

MANY changes have occurred in the Department of Forestry since the spring of 1943 when the student body decreased nearly to the vanishing point because of enlistments in the armed services. A few Freshmen came in each fall and enlisted or were drafted during the school year. Professor Demeritt was given leave of absence to work with the War Production Board and the writer worked successively with the Maine Forest Service, the Maine Extension Service, and the OPA (in Primary Forest Products). Professors Baker, Curtis, and C. W. L. Chapman did some teaching during the war period but spent most of their time in research.

Professor Demeritt resigned in January, 1946 to head up the forestry work of the Dead River Company, "Chappy" died very suddenly in May of the same year, and Jim Curtis left in 1947 to take a position with the U. S. Forest Service in Idaho. In August, 1948 Jay Gashwiler, Assistant Leader of the Wildlife Unit, resigned to join the U. S. Fish and Wildlife Service in Utah, accompanied by Melva Horne Gashwiler who had been our secretary for seven years. Only three of our pre-war staff are now with the Department: Greg Baker, Howard Mendall, and the writer. A complete roster of our present staff will be found in the "Maine Forester", page ??????

Enrollment—

Immediately following the war former students and transfers were enrolled in September, February, and July, and nine weeks' summer sessions were held. In the fall of 1946 the Brunswick Annex was opened and all Freshmen entered there with the exception of those who lived within commuting distance of the Orono campus. Our enrollment reached an all-time high in September, 1948 with 296 students registered, most of whom were veterans. Now, just after February graduation, we have 220 students, distributed as follows: 63 Freshmen, 48 Sophomores, 49 Juniors, and 60 Seniors.

Summer Camp—

Confused schedules forced us to eliminate our Senior Winter Camp held on Indian Township prior to the war and also the Sophomore Camp formerly conducted in Orono. We have substituted a short Freshman Camp for students who have not spent at least one summer in the woods and a Junior Summer Camp for

foresters on Indian Township, with a branch for wildlife students on the Moosehorn Wildfowl Refuge in Meddybemps. These camps cover the work of the old winter camp, plus the courses in Highways and Railroads (Forestry) and General Ecology (Wildlife) formerly given at Sophomore Summer Camp.

Other Changes in the Curriculum—

In the Forestry curriculum Forest Accounting, Land Surveying, Range Management, and Forest Influences have been added as electives. Photogrammetry has been added to the course in Mensuration. Geology and Physics are now required. A course in Conservation of our Natural Resources, open to the University, is given by members of the Forestry Department and guest speakers from other departments and from outside agencies.

We have changed the Wildlife curriculum somewhat by streamlining Mensuration for Wildlife majors, and adding Personnel Management, and additional courses in Botany and Zoology.

Research—

The Cooperative Wildlife Unit is now housed in the East Annex with large offices and a laboratory. The leader, assistant leader, and two graduate assistants are doing an excellent job in research.

Two of the forestry staff are on half-time and one on one-third time with the Maine Agricultural Experiment Station. Although handicapped by heavy teaching and administrative burdens, work in the seasoning of woods and in studying forest plantings and the production of white pine are being carried on.

University Forest—

Roger F. Taylor was appointed Superintendent of the University Forest in 1946. He is a graduate of the two-year course at the University of Massachusetts and has been taking some surveying and forestry courses at Maine. In addition to his work on the Forest, Roger assists in some of the field work and has charge of the Forest Nursery during the summer.

Cutting on the Forest has been light since the war.

Indian Township—

There was a heavy cut of pine on the Township during the war, most of the lumber going to Aroostook County for the construction of air base facilities and potato houses. Since the war by an agreement with the Eastern Pulpwood Company of Calais, pulpwood has been marked for cutting and is removed as market conditions warrant. The summer meeting of the New England Section of the Society of American Foresters was held on Indian Township and many of our alumni occupied their old quarters at Camp.



In The Field

There stands a kingdom yet untouched
By the ruthless hands of man.
Where nature still does reign supreme
And follows God's own plan.

For deep within the virgin wood
Man's saw is yet unknown.
The lofty pine and soaring elm
Still rule the land alone.

The mighty oak is guard of all
That comes within its range.
It watches o'er all forms of life
Which slow but surely change.

Each season leaves its own imprint
Upon the wooded glen.
Each springtime all the birds return
From the robin to the wren.

The bear stalks forth from winter home;
The wolf looks for his prey.
The trees come out with fresh green leaves
And hide the sky-blue jay.

And thus life flows from year to year
In a ceaseless, endless chain
Within this kingdom free from man
Where the pine and elm do reign.

Myers

“Management in Maine”

By T. F. McLINTOCK, Northeastern Forest Experiment Station

LET'S start with a simple and not unreasonable premise: the ultimate, basic objective of forest management is to control the development of the forest so as to earn the maximum financial return that the land can produce. There are two key or pivotal thoughts in this premise which must be given equal consideration if forest management is to be successful: (1) Control; i.e., intelligent application of silvicultural techniques; (2) Financial returns; i.e., the cost of those silvicultural techniques in relation to the increased yields resulting from them.

As a wood manufacturing plant, the average forest in Maine is grossly inefficient. Stand structure—composition, density, and size class distribution—is nearly always unbalanced and full of holes. In the spruce-fir region the poorer sites are producing most of the merchantable material, whereas the better sites with deeper and more fertile soil too often support mixtures of poor softwoods, defective hardwoods and weed species. The forest cannot be expected to attain and maintain good stand structure without control any more than a vegetable garden planted and abandoned can be expected to yield a bountiful harvest to the negligent gardener. Control!—the conscious and deliberate manipulation of growing stock with the objective of improving the forest—is essential to the attainment of maximum yield.

The silviculturist will do well, however, to think of his maximum yield as something of a dual personality. Maximum wood production does not always bring the highest rate of interest, and highly intensive forestry does not necessarily mean the best practical forest management. A one-year cutting cycle may permit the most rigid and efficient control over stand structure and produce the largest volume of wood, but while such a policy is ideally suited to the farmer with a 40-acre woodlot, it is obviously impractical for a pulp company owning half a million acres scattered all over the state. A 150-year rotation for white pine might give a higher per-acre yield than a 100-year rotation, but may represent less efficient long range management because of declining growth rate after the first 100 years. The extent to which silvicultural tools—selective cutting, pruning, thinning, planting, short cutting cycles—can be used effectively to produce the highest rate of interest will vary with ownership, accessibility and market conditions, as well as with site and type.

WHY SHORT-TERM PLANNING FOR LONG-TERM INVESTMENTS?

One of the strangest elements in the timber management picture in Maine has been the general lack of concern on the part of most owners over the low yields they are getting. While most of them are aware that present stands cut out far less than they did 30 years ago, owner attitudes range from lack of understanding of the values involved ("Yes, my pine's a little small, but I can clear-cut it now for pulpwood.") to complacency ("We have all the wood we need."). Only occasionally is there the feeling of anxiety expressed recently by the forester for a paper company: "As cellulose farmers, we're doing a pretty poor job."

This lack of interest is especially surprising among industrial owners considering that, far from pursuing the old "cut out get out" philosophy, they represent the most stable segment of forest ownership. They regard their forest holdings as permanent assets, as protection for their tremendous plant investments. They are definitely committed to long-term production, yet in most cases they make little conscious or deliberate attempt to improve or even maintain the current productivity of their holdings.

What effort is expended in that direction is largely preventive in nature: fire protection and occasional desultory efforts to reduce unnecessary logging damage. To many, good forestry consists of making sure that every tree of merchantable value is cut. Some large owners protest that they are leaving three and four cords of spruce and fir per acre on much of their land. In a relative sense, compared with usual methods, this is good, but it loses some of its force when it is realized that such stands usually result from failure of the jobber to "clean up" the stand rather than from any preconceived plan or earnest desire on the part of the owners to improve cutting practices.

Some progress is being made, however. Several large owners, solely in the interest of better management and increased production, have established higher diameter limits. Unfortunately, such policies frequently lose their effectiveness because of lack of adequate supervision, with the result that operating considerations too often continue to control cutting practices. There is a growing trend on the part of all large owners to prohibit "stump cutting", a highly destructive system employed in cutting pulpwood. Another indication of interest in better management has been the fine cooperation given by land owners to the research program of the Northeastern Forest Experiment Station. This has ranged from turning over small tracts of land for experimental purposes, to

the recent joint effort by nine companies to provide the North-eastern Station with an experimental forest. The current collaboration with the Experiment Station on a long-range growth study is another manifestation of desire to learn more about better forest land management.

NOW IS THE TIME—

Perhaps owners fail to realize one very important fact: in most cases it is only through the medium of the logging operation itself that positive action can be taken to build up growing stock and make the land produce as it should. Very often the best possible management in young stands is to stay out entirely, even though an operable cut could be made, until the immature growing stock has had a chance to attain the maximum rate of interest of which it is capable. Once the operation is completed the only means for improving growth on the cutover tract are cultural measures such as thinning or planting. The forest—once cut—can only develop at its own rate, and that rate is largely governed by its condition following cutting. If the management of a tract, whether a woodlot or a township, is planned and executed with equal weight given to operating costs and subsequent stand development, the future will bring improved composition, better stocking, adequate reproduction and increased rate of growth. Too often the time that a stand is cut and the manner in which it is cut, hence its future growth, are governed entirely by operational considerations.

There is little justification for the argument that improved cutting practices are not financially profitable. There is a wealth of experimental data which indicates strongly, if not conclusively, that lighter and more frequent cuts judiciously applied, combined with a careful culling-out process, almost invariably result in greater yields. There is more justification to the claim that no one knows what the best cutting practices are, or how much greater the yield—in either wood or dollars—could be.

Here, then, is the number one research problem affecting the future of Maine's timber resource: To be able to prescribe for any stand the cutting practice which, considering class of ownership, accessibility and available markets, permits a profitable cut and at the same time leaves a residual stand which will yield the highest possible rate of interest. We need to test, on a small but practical scale, the costs and returns of different cutting cycles, different intensities of cut, different silvicultural methods, and of thinnings and prunings and planting. Those costs and returns must be integrated with ownership objectives and with operating costs to determine the overall effects of different grades or levels of cutting

practice upon the entire economic complex of growing, harvesting and reproducing the timber crop.

THE HARDWOOD PROBLEM—MANAGEMENT AND MARKETS

The present condition of some five million acres of northern hardwoods could have been an economic catastrophe. That it was not is due to the same combination of factors which brought it about. The demand for pine in the early days of logging in Maine, and later on for spruce, permitted the natural development of waterways as arteries of transportation. Softwood logs were driven and towed from the remote forested areas to coastal seaports or scattered sawmill towns strategically located with respect to water-power and log holding grounds. Men and equipment travelled into and out of the forest over snow in the winter, and over water—or not at all—the rest of the year. There was no market for hardwoods then, and if there had been, a gigantic road construction program would have been necessary to haul the logs to it.

The decline of the lumber industry and the rise of the pulp and paper industry in the period roughly between 1910 and 1925 coincided with a shift in the timberland ownership pattern in central and northern Maine. Pulp and paper company holdings were extended until now they cover about 40 percent of the forested land in the state. Another 20 percent is controlled by large non-industrial owners more or less dependent upon the pulp mills for a market. The demand for spruce and fir has completely dominated the forest economy in 80 percent of the state. Except in the more heavily settled portions where a market for fuel wood existed and where white birch and, to a lesser extent, oak and yellow birch were of economic importance, there was neither incentive nor opportunity for owners to try to market hardwoods. The country was not opened up and the critical problem of transporting hardwood logs remained.

The bulk of the virgin northern hardwood stands have reached over-maturity and are rapidly deteriorating. Beech, birch and maple have been weakened not only by old age, but also, in the mixed-wood types, by heavy cutting of softwoods, and are currently under heavy attack by insects and diseases. So heavy has this attack been in the case of beech and birch that many young and middle-aged stands have been killed, even where there has been no interference by man in many years. Hard maple is less seriously affected than its companion species, but the usable portion of its standing volume is rapidly being reduced by wind shake, cankers and borers. As a group, the northern hardwoods are sustaining an annual mortality greatly exceeding growth.

Belatedly, timberland owners are attempting to realize some profit from the rapidly diminishing hardwood stumpage. Expanded road construction programs in the remote portions of the state are making thousands of acres of hardwoods accessible which have never before been within economic reach of logging operations. Two paper companies have increased mill facilities to permit utilization of hardwoods. Although the development of semi-chemical pulping of hardwoods is still in its experimental stages, results have so far been encouraging and other companies are considering plant expansion so as to utilize more fully their wood resources. There has been an increased interest in stumpage sales to lumber and veneer mills, and manufacturers of small articles have been experimenting with beech and maple as possible substitutes for white birch.

Future research should be carried out along two lines: (1) Further experimentation with the pulping qualities of hardwoods, as well as their adaptability to other uses; and (2) Study of the development and growth of young hardwood stands. There is much we need to know about the seeding characteristics and seedbed requirements of beech, birch and maple. Adequate information is lacking as to the conditions under which they make their best early development as well as to the cutting practices which will maintain the highest level of productivity. Our hardwood resource, long neglected, can be made to greatly strengthen our wood economy if we can learn how best to handle it, and apply what we learn with judgement and regard for the future.

THIS IS TOMORROW'S TIMBER

There are roughly nine million acres of unoperable forest land in the state, divided about equally between land containing varying amounts of merchantable species in sapling and pole sizes, and land supporting only reproduction, brush, or weed species. In the first category, the majority of the stands are badly understocked and are making a fraction of the growth that the sites could support. Even in apparently well-stocked stands close study usually reveals little uniformity of stocking, with stagnating thickets in some places, sparsely stocked patches dominated by wolf trees in others. A considerable proportion of the total basal area is often made up of defective, deformed, suppressed or otherwise poor risk trees. Scattered openings occur where brush, alder thickets or blow-down occupy growing space.

This inadequate or irregular stocking is the principal cause of slow growth in most immature stands, although site deterioration

and poor size class distribution also contribute to low productivity. Poor cutting practices have, for the most part, been responsible for the slow recovery of the forest and there has been almost nothing that could be done about such stand conditions until the time of the next cut.

These immature stands are the operable stands of tomorrow; they can be left alone and allowed to develop naturally, reaching maturity with far less merchantable volume than they could and should be supporting. Or some type of improvement measures can be used to shorten the interval until the next cut and increase the ultimate yield. If the expenditure of a dollar an acre would bring maturity ten years closer and increase the yield by ten percent, it should be a matter of real concern to the owner to know whether or not that dollar will have earned one percent, or six percent, or will have been a net loss. So far, the only thing we know for sure is that it costs money to make a thinning or a release cutting, but that if intelligently applied they will result in a definite stand improvement. Future research must tell us where, when and how to apply cultural measures in order to insure a reasonable rate of return on the investment.

The other half of the nine million acres of unoperable forest presents an entirely different situation. For the past 25 or 30 years we have been cutting close to 300,000 acres annually. Cutting practices have been generally unfavorable to the thinly scattered residual growing stock in the one- to five-inch diameter classes which suffered severely from exposure to wind, sun and frost. Where there had been a good stocking of advance reproduction the rehabilitation of the site has been reasonably good, providing logging damage was not too heavy. In the pine types, however, or where the combined effects of logging and unfavorable site conditions caused virtual extinction of advance reproduction, the land has come back to ferns, assorted herbaceous plants, wild blackberries, hazel, alder, gray birch and other undesirable growth. Conditions for germination of seed of desirable species were not good, and where scattered seedlings did get started they were soon smothered by the brush thickets.

This is the critical situation that exists on more than two million acres of cutover and burned land, with more than 100,000 acres being added to this total yearly. Allowing Nature to take her course—which is sure, but terribly slow—it is estimated to require from 75 to 100 years for desirable species to become established, overcome competition, and reach merchantable size on denuded areas. Whether or not anything can be done to improve conditions

on such land and so reduce the long interval between cuts should be a matter of careful research. Here again, the problem will be not only to find out what cultural treatments will be effective, but of equal importance will be the cost of such treatments and whether the costs will be justified.

ACCESSIBILITY AND A CROP OF RASPBERRIES

In a special category and deserving of particular attention is the small woodlot. While the management—or lack of it—on the large industrial holdings is fair to poor, the status of the average small holding is nothing short of deplorable. Furthermore, while there is some economic justification for the failure of paper companies to apply good cutting practices to inaccessible timber, there is scarcely any justification for a great proportion of the mismanagement of the woodlots. To be sure, the tax burden is a heavy one for non-farm owners of small woodlots in some organized towns, and is a real and serious problem in itself. Then too, ownership of the small woodlots is much less stable than is the case with larger holdings. Many fine woodlots, left to children by parents who had taken a deep interest in the forest, have been sold or cleared, often necessarily to meet expenses. But no lasting benefit is derived by the woodlot owner, the buyer of his stumpage, or the community when the stand is mercilessly and successively assaulted for veneer logs, saw logs, pulpwood, fence posts, fuel wood, and finally bean poles. Ready accessibility, which should be a factor favoring good management, is instead the excuse for repeated cutting for smaller and smaller material, culminating at last in the annual production of a second-rate crop of wild raspberries.

Perhaps the primary problem is one of education, since we have at hand a considerable store of unused technical information which could be put to work. A fair number of excellent examples of what can be done with the small holding exist throughout the state and should be utilized as demonstrations. But more conclusive evidence is needed as to the relative costs and returns of various degrees of intensity of forest management, and the conditions under which each is most applicable. Economic studies should show the farmer how to manage his woodlot as part of, and as efficiently as, the rest of his farm enterprise. The non-farm or absentee owner should have at his disposal specific recommendations for proven management practices, supported by actual records showing results, in dollars and cents, of good forestry.

CEILING? — UNLIMITED!

A popular pastime frequently indulged in by foresters in Maine is to reflect enviously upon the fast growth of the southern pineries.

"If we could get growth like that," we assure each other, "forestry could be profitable here too." A more realistic view would be: "If we can learn to use wisely all that our forest lands are capable of growing, we can attain yields that compare favorably with those in the South." Have we any convincing evidence to the contrary? We know that we can grow more trees per acre than can be grown in southern pine stands. We can maintain our forests continuously productive with small trees coming into merchantability yearly. Under reasonably good management we can grow 500 board feet of white pine per acre per year, and that is not the ceiling.

In the northern hardwood and spruce-fir types we have only a vague notion of potential yields, partly because throughout most of our ten million acres of wild lands only four or five out of more than a dozen merchantable species are commonly used. The opportunity for intensified management is equalled by the potential market: both are practically unlimited. For the timberland owner responsibility for the future success of his forest investment is divided equally between the research man, who must provide him with facts, and his own acceptance of a simple and not unreasonable premise: The ultimate, basic objective of forest management is to control the development of the forest so as to earn the maximum financial return that the land can produce.

Photogrammetry In Forestry

DR. HAROLD E. YOUNG, Assistant Professor of Forestry, U. of M. A hundred years ago investigations were instituted to determine whether or not photographs could be used to improve map-making procedures. The invention of the airplane in 1903 gave such an impetus to this work that it soon became recognized as a science. Today photogrammetry is the science of map-making by means of measurements on aerial photographs.

The two world wars brought about rapid development of the airplane, and highly correlated with it was the improvement in aerial cameras and photogrammetric equipment used in map making. Today instruments and techniques are available, in sufficient quantity, so that maps of a high degree of precision can be turned out that are highly competitive with maps based solely on ground work. Since 1939 all U. S. Geological Survey topographic maps have been made by use of aerial photos (multiplex process), and contour maps with a two foot interval can be made by several different instruments employing aerial photos.

Our Canadian neighbors started using aerial photos for forestry purposes in the decade following the first world war. Aerial photos were used in this country prior to the second world war but on a comparatively small basis. Since the war aerial photos have become an essential tool for all government, state and private agencies responsible for the administration and management of timberland.

It is an accepted fact today that a forest type map made by use of aerial photos costs less and is more accurate than one made solely by ground methods. Photo interpretation has developed to the point where reasonably accurate estimates of the timber volume on a tract of timber can be made. Aerial photos are used in forestry now for such things as determination of logging chances, location of logging roads, measurement of burned areas, determination of planting sites, and the location of recreational areas, etc.

In the fall of 1946 Professor E. L. Giddings incorporated photogrammetry into the second semester of forest mensuration, and at the same time offered a service course in photogrammetry to the geology students. The latter course emphasized geological considerations rather than tree and stand measurements. The writer teaches the foresters now and Professor Chapman teaches the geologists.

Initially the department purchased a multiscope and a mirror stereoscope. To this fine beginning have been added a Lazy Daisy (mechanical triangulator), and Abrams Contour Finder, A Ryker Sketchmaster, numerous small mapping aids and the beginnings of an aerial photo library. Sets of photos have been obtained by exchange with other universities, from government agencies and by purchase. Aerial photos of all the forest regions of this country are now on hand, and it is hoped that they will be useful to forestry students in such courses as logging, regional silviculture, management, and forest protection.

At the present time the winter half of the second semester of forest mensuration is devoted to photogrammetry and its applications to forestry. In this relatively short time the fundamentals of photogrammetry are presented to the student so that he is able to make a planimetric map by several different methods. Each student is required to start with a set of (16) photos of Marsh Island on which the University is situated and from them to construct a map of the Island, differentiating forest types, heights, age classes, and density on the University Forest. Considerable time is necessary to become an expert photo interpreter. Methods and techniques are presented in the course to enable each student to teach himself

how to interpret an aerial photo. The student learns how to measure and estimate tree characteristics, how to estimate stand volume and how to identify tree species and forest types.

Eastman Kodak Co. of Rochester, New York furnished the necessary film and James W. Sewall Co., Consulting Foresters, Old Town, Maine did the necessary flying and processing so that John Walker and Miles Dodge, seniors in forestry, could investigate the accuracy with which tree counts can be made on photos at different scales. At the same time a comparison is being made of counts on color film as compared to infra red film. It will be possible for other students to work on special problems of such a nature whenever suitable material is available.

In a relative sense, the use of aerial photos in forestry has only reached an early adolescent stage. Many research workers are trying to determine the limits of aerial photos, as well as the many ways that aerial photos can be profitably used. Today the possibilities of color film are scarcely known at all. Aerial photos will never completely replace field observations and investigations. The goal is to reduce the costs of many kinds of forest work, and at the same time to increase the efficiency of that work.

Maine's Fresh-Water Fishing Resource

By DR. W. HARRY EVERHART, Assistant Professor of
Zoology, University of Maine

MAINE fishermen have cause to be thankful for the natural fresh-water fishery resource available to them. Maine fishermen are still concentrating their angling efforts with success on such desirable game fishes as the trouts and the landlocked salmon. Anglers in other states, as their trout and bass fisheries decline, are being "educated" to seek such questionable prizes as the bluegill sunfish. Maine has scarcely begun to tap her smallmouth bass fishery; and the pickerel, a prized and protected game fish in many states, is still considered an undesirable fish by the majority of Maine anglers.

Much is being done at present towards exploiting the fishery resource of Maine. Recreational interests, bemoaning the fact that fishing is declining, stand back of a program of high-powered advertisement designed to increase the number of out-of-state anglers which in turn increases the pressure on angling in the state. Cer-

tainly no one can blame those whose livelihood depends on the tourist trade. Their problem only makes the situation more grave for Maine.

Fishery biology or management is new. Many years must pass before the fishery biologist can provide the facts and answers in the manner of the physicist or the chemist with centuries of investigation and research to draw from. In the last 25 years fishery biologists have been furnishing, in ever increasing amounts, the results of their research which indicate that the policy of directing all expenditures towards raising fish artificially should be questioned. The use of hatchery fish as a "sedative" for all fishery headaches is now old-fashioned and ridiculous. In spite of extremely heavy expenditures for the rearing of hatchery fish, the angling continues to decline. Millions of fish are wasted each year because of the lack of facts on how best to utilize properly the product of our hatcheries. Once fishermen become acquainted with the basic economics of hatchery operation, such as costs, successes, and failures, the field of fishery management will move ahead again. Hatcheries never have and never will be the complete answer to the problem of the declining fisheries. Artificial propagation must be relegated to a position as a part rather than the whole if any modern fishery program is to be successful.

The University of Maine cooperating with the Department of Inland Fisheries and Game should play a major role in the future fisheries of this state. The available laboratory facilities and library combine to make the University the logical place from which to direct and carry out the fishery research so necessary at the present time. Once these cooperating agencies embark on an overall fishery program, graduate students in fisheries, furnishing enthusiastic and skilled personnel, can be expected to solve many of the smaller problems of the program.

Maine like many another state has been the victim of certain unwise lumbering methods in the past which have served to lower the water table and caused unnecessary erosion which in turn have destroyed many vitally necessary spawning areas and productive food zones. Obstructions in the outlets of coastal streams destroy the runs of anadromous fish and prevent the alewives from reaching the fresh-water lakes where they must spawn and where their progeny make up an important part of the food chain. Water levels in our streams and lakes are being tampered with without regard for the results, both directly and indirectly, on the fish and other fauna in these waters. The littoral zones, so important since they produce most of the fish food in the oligotrophic lakes which pre-

dominate in Maine, are in some cases subject to alternate periods of drying and flooding. These same periods of drying may well expose spawning areas and destroy the natural reproduction.

The fishermen of Maine must be acquainted with the problems and encouraged to understand the role of the University and research if any fishery program is to be successful.

Maine's 1949 Forest Fire Program

By A. D. NUTTING, Forest Commissioner

THE forest fires of 1947 cost Maine a great deal in losses and hardships, but taught people a lesson which in part is reflected in the 1949 forest fire program. This is well illustrated by the change in authority and funds provided for forest fire control. It was probably fortunate that there was a period of a year between the fires and the convening of the legislature. This gave the Maine Forest Service and the people interested in the forest fire program an opportunity to thoroughly consider and review what a working forest fire program for the state should be. Hundreds of meetings and a number of conferences were held during 1948 to arrive at the program proposed to the 1949 legislature.

There were two different organizational areas that had to be considered:

1. The northern and eastern sections, made up largely of unorganized territory.
2. Organized towns and cities of the state.

In the first area, known as the Maine Forestry District, the state has had authority and responsibility of forest fires since 1909. The program has been financed by a special forest land tax. Since 1921 the income was derived from a 2 1-4 mill tax on the valuation of all property in the Maine Forestry District. This proved to be sufficient through the 20's and 30's. As early as 1942 it became difficult to carry on the work of the Maine Forestry District with the funds provided. This resulted in a growing deficit which reached \$360,000 on July 1, 1949. Payment of the deficit, better forest fire equipment, and a wage increase for personnel was assured by the passage of an 8 mill tax in the Maine Forestry District for 1949 and 1950, and 4½ mills thereafter. A significant fact is that the change was requested and sponsored in the legislature by the landowners who pay the tax. This made it possible to purchase in 1949 much needed replacement equipment and add some of the new and improved forest fire tools.

In the organized towns a much greater problem existed. Responsibility for handling forest fires rested with the towns. A very small amount of state money had been going into towns for forest fire work, although the state had been cooperating by providing the services of wardens, lookout watchmen, and forest fire equipment for a number of years. The state had also, since 1945, paid one-half the suppression costs up to 1 percent of the town's valuation. The 1947 fires brought out the need for centralized authority on fires in the organized towns, perhaps more than any other one thing. The Maine Forest Service was asked to take over the management of the forest fires during October 1947, but did not have personnel trained to do such a job because previously, in many quarters, there had been opposition to the need for state authority.

The 1949 legislature passed an act known as "State Forest Fire Prevention and Control in Organized Towns." This law placed the final responsibility for forest fire control with the Maine Forest Service, but at the same time left as much responsibility and authority as possible with local communities. It provided funds for the establishment of 7 major forest fire control districts with year around men in charge, 24 sub-districts with seasonal wardens in charge, 7 additional lookout towers, making a total of 30, and a modern two-way radio hook-up.

Another act provided for the appointment of town forest fire wardens by the Forest Commissioner with approval by local municipal officers. This ties them directly into the state organization. A yearly fee of \$50.00 is paid to them for attending training schools and preparing fire plans for their towns.

A third important law passed by the 1949 legislature is the payment of fire fighters. The old law provided that the town be responsible up to 1 percent of its valuation for payment of forest fire suppression costs, with one-half reimbursement by the state. The new law provides that the town is responsible up to 2 percent of its valuation, with one-half reimbursement by the state. A very important feature of this law is that the state is responsible for all costs beyond the 2 percent, which assures everyone working on forest fires that they will be paid. In 1947 many fire fighters were unpaid because towns had reached the legal amount they had to pay, or for lack of funds. A continuance of such a practice would have made it difficult to get forest fire fighters.

Several laws dealing with slash and brush disposal, etc. were revised in 1949, providing teeth to make them enforceable.

The state appropriation for forest fire work in the organized towns was increased from about \$50,000 to nearly \$350,000 for

1949-50 and to \$325,000 for 1950-51. This perhaps is the best illustration of the thinking of Maine people on the need for a good forest fire control program.

The income from the Maine Forestry District was increased from approximately \$135,000 to \$480,000 for 1949-50, and \$270,000 thereafter.

An important part of forest fire control funds comes from federal sources. Maine received \$154,000 federal aid in 1949-50. This amount will probably be increased through the stepped-up state program. Federal money is allocated to bring about improvements in state programs. Even with greatly increased funds Maine still has next to the lowest cost program per acre of the 14 North-eastern States.

The accompanying chart illustrates that the present program provides for a chain of command for the entire state, from town warden to Forest Commissioner, as well as the number of state personnel and those on call. This will provide authority on fires, and training which is essential to any good program.

The basic feature of the program passed by the 1949 legislature was placing the responsibility for forest fire control in one department for the entire state, and providing the funds to make it operate.

It was especially pleasing that the people and the legislature of 1949 recognized the need and were willing to put through a program which will cost the people of the state real money in comparison with past programs. This is significant as the legislature was very hesitant to pass any programs of expansion. The leaders of the legislature and the Governor gave full support in the closing days of the legislature to make the program possible.



About the Authors

W. HARRY EVERHART

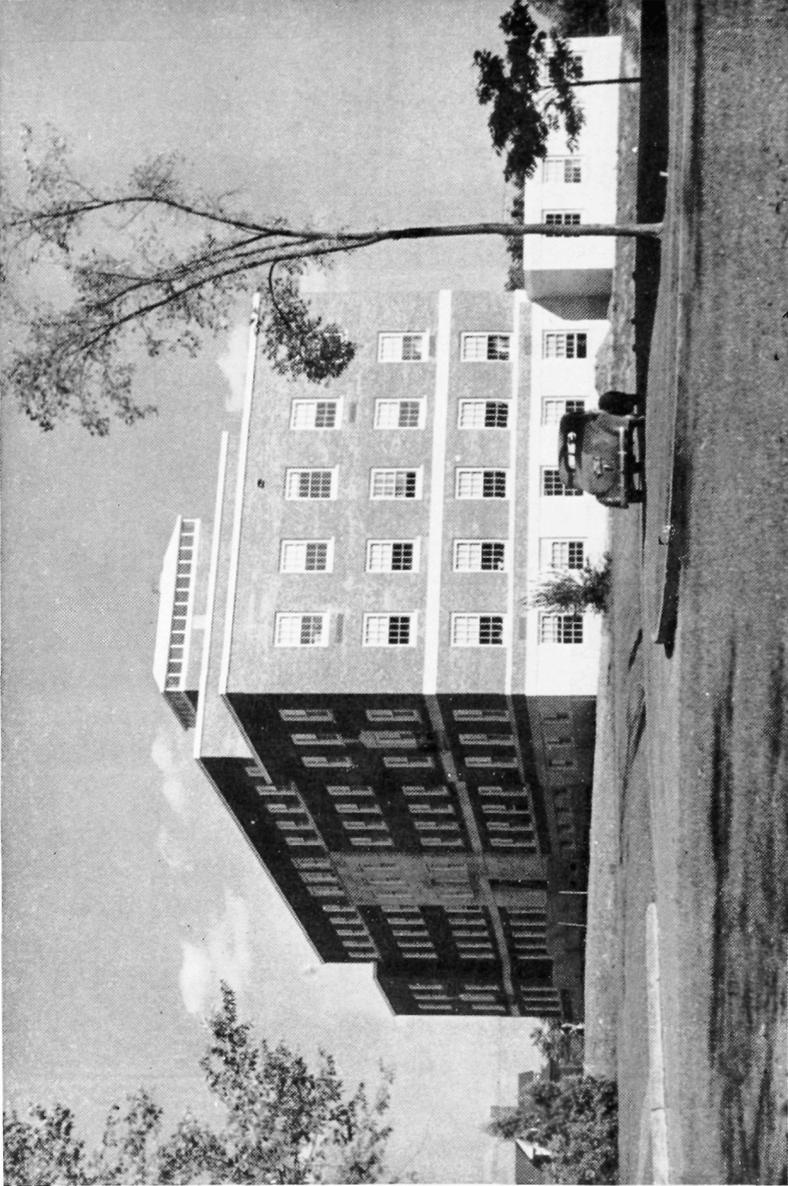
Attended Washington and Jefferson University from 1936-38; Received B. S. at Westminster in 1940; Received M. S. from University of Pittsburg in 1942. Served in U.S.A.A.F. from 1942-45. Received Ph. D. from Cornell in May 1948. Became Assistant Professor at University of Maine in 1948. Associated with Department of Inland Fisheries and Game, State of Maine, and is a collaborator with the Atlantic Salmon Restoration Program.

THOMAS F. McLINTOCK

Born in Mamaroneck, N. Y. 1912; Attended Iowa State College, 1933-38; Received B. S. in 1938; Received M. S. in 1939 from same institution. Employed in Branch of Research, U. S. F. S. at Central States Forest Experiment Station, 1939-40. Employed on Wayne National Forest, Ohio, 1941. With Central States Station, 1942-44. Transferred to Northeastern Forest Experiment Station, October 1944. Headquarters at Orono (later at Bangor) with primary assignment to study forest management as possible means of controlling spruce budworm. Primary job now is the organization and conduct of research program on the recently acquired Penobscot Experimental Forest.

ALBERT D. NUTTING

University of Maine, Forestry, 1927. Forester for Finch-Pruyn and Company, Glens Fall, New York, 1927-31. Extension Forester, University of Maine, 1931 to 1948. State Forest Commissioner, 1948.



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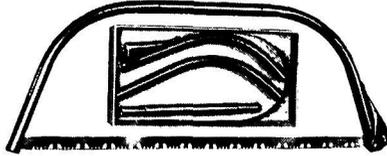
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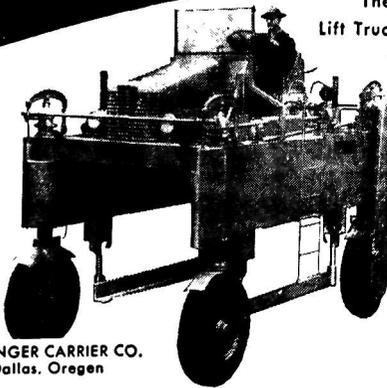
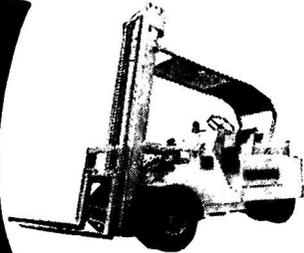
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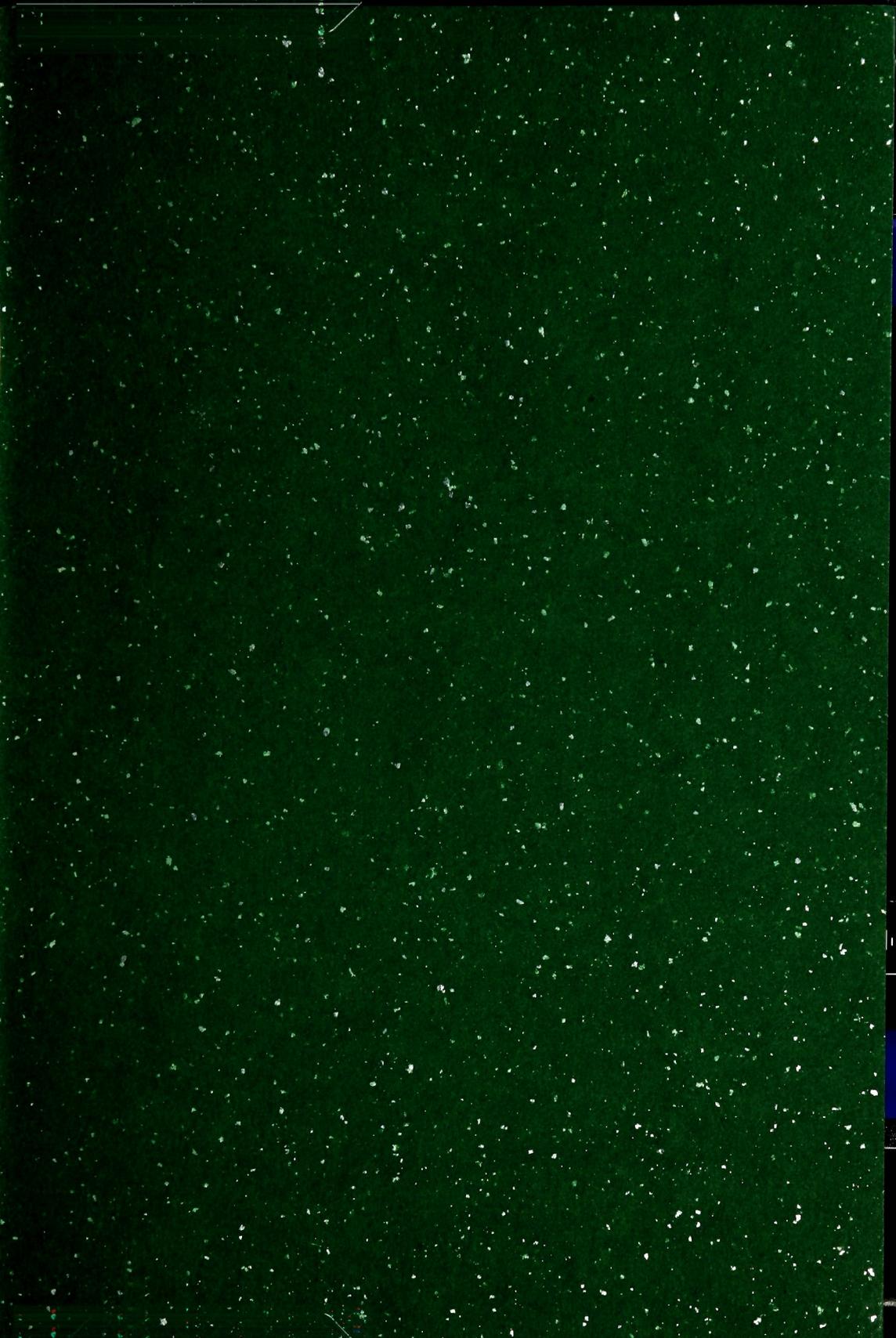
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Supervisor	Supervisor	Supervisor	Supervisor	Supervisor
6 Chief Ward.	7 Chief Ward.	7 Chief Ward.	6 Chief Ward.	7 Dist. Ward.
18 Patrolmen	15 Patrolmen	21 Patrolmen	12 Patrolmen	
10 Watchmen	24 Watchmen	25 Watchmen	12 Watchmen	24 Seas. Ward.
6 Tel. Op.	5 Tel. Op.	7 Tel. Op.	3 Tel. Op.	27 Watchmen
33 Dep. Ward.	89 Dep. Ward.	125 Dep. Ward.	125 Dep. Ward.	437 Town Ward.

Total Forest Area Protected

Maine Forestry District
10,262,455 A.

Organized Towns
6,429,783 A.

235 State Employed

437 Town Wardens

372 Deputy Wardens on call