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Foreword

Much has happened this past year in the Michigan Tech Forestry Department. Accreditation at last, a new Forest Technology Program, our first Dean, and Tech's first awarded M.S. degrees in Forestry are but four of this year's "happenings" in Michigan Tech Forestry. We this year feature what we feel is an excellent example of wisely managed multiple use forest land here in the Upper Peninsula — the Ottawa National Forest. We this year proudly dedicate the Forester to the one man who is largely responsible for the great progress in Forestry here at Michigan Tech in the past few years — Dr. Gene A. Hesterberg.
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The “Forester” Salutes

Dr. Gene Hesterberg

The Department of Forestry at Michigan Tech has passed two major milestones during the past two years — completion in September, 1967, of the modern and spacious Forestry Building which now houses the Department of Forestry and the Institute of Wood Research; and renewal of accreditation by the Society of American Foresters, which occurred in October, 1968.

The man most deserving of credit for these accomplishments is Dr. Gene A. Hesterberg, Head of the Department of Forestry. After his appointment as Department Head in 1962, Gene determined that the securing of new facilities, and the regaining of accreditation, were the most urgent needs of the Department. He worked untiringly for these goals during the ensuing six years. Although Gene will insist that these accomplishments were the result of a team effort, and could not have succeeded without help from many sources, his leadership and persistent efforts provided the drive and inspiration which were vital to success.

As a token in acknowledgment of his unstinting efforts and accomplishments in behalf of forestry at Michigan Tech, the Forester salutes Dr. Gene A. Hesterberg.

From the standpoint of Michigan Tech, Gene’s career consists of two parts, with the year 1949 the dividing point. It was in 1949 that Gene came to Michigan Tech to teach in the Department of Forestry. He brought with him the Hoosier accents and colloquialisms which bear witness to his roots in the Ohio and Indiana country.
Gene was born in Cincinnati, Ohio, but spent most of his boyhood and high school years in Indianapolis, Indiana. He then enrolled in forestry at Purdue University, receiving his B.S. degree in 1941.

During World War II, Gene served in the U.S. Army, with duty assignments at Fort Sill, Oklahoma, Camp Cook, California, and Purdue University. During this time he advanced in rank from lieutenant to major.

Following his military service, Gene undertook graduate study at The University of Michigan, and received the M.S. degree in 1947. He then began a two-year period of employment with the Michigan Department of Conservation, before coming to Michigan Tech in 1949. Later he enrolled in doctoral studies at The University of Michigan, receiving the Ph.D. degree in forest pathology in 1955.

Fishing, hunting and other outdoor sports always have been of prime interest to Gene. As a natural consequence, hunting dogs occupy an important niche in his scheme of things. Labrador retrievers, affectionately and successively called "Suzie," seem to be his favorites. In recent years, a delightful cabin in the vicinity of Portage Entry has formed his headquarters for numerous forays into the realms of waterfowl, lake trout and coho salmon. And there have been few winters, indeed, when deer season has not brought venison to the Hesterberg menu.

Gene and his gracious wife, Margaret, reside in Lake Linden. Their family includes two sons, Bill and John. Gene has long been active in community affairs, and has served as a member of the Lake Linden Board of Education since 1964. He is currently president of the Board.

Among the awards Gene has received is the "Academy Citation," presented to him in 1962 by the Michigan Academy of Science, Arts and Letters, in recognition of his research.

For many years he has been an active member of the Society of American Foresters, and he currently holds the chairmanship of the Society's Upper Peninsula Chapter. He also is a member of the Michigan Board of Registration for Foresters.

Many a generation of Tech Foresters remember in vivid detail Gene’s concern for academic excellence, whether it be the mastery of dendrological nomenclature, familiarity with the life histories of wood-destroying fungi, or the behavior of fuels in the forest environment. His "lads" may suffer temporary distress, but they emerge a step further along the path on which Gene has always guided the Tech Forester — toward attainment of a heightened capacity "to develop and use his mind." Gene, as a teacher and leader, serves as an example for all who would aspire to these qualities.

Gene’s interest in the Forestry Club has always been one of the club’s greatest assets. For many years he served as faculty advisor to the club, and his interest has not waned in succeeding years.

As the first faculty advisor to the Forester, Gene guided this publication through the years of its early development. Thus it is largely to his credit that the Forester has become the only departmental student publication successfully established at Michigan Tech.

In large measure, the strong position of forestry education today at Michigan Tech is the result of the devoted efforts of Dr. Gene A. Hesterberg, Head, Department of Forestry, to whom the Forester gratefully presents this salute.
Department of Forestry
Forestry Developments at Michigan Tech
By C. R. Crowther

The twelve-month period from June, 1968 to June, 1969 was another momentous time for the forestry program at Michigan Tech. The year was marked by five events of major importance to the Department of Forestry.

During 1968, as part of a general restructuring of Michigan Tech, the three forestry units of the University were joined administratively into the School of Forestry and Wood Products. The components of the school are the Ford Forestry Center, Institute of Wood Research, and the Department of Forestry. This grouping facilitates coordination of forestry efforts among the three components, and gives forestry a stronger voice in overall University administration. The School also advances the status of the Michigan Tech forestry program in its relationships outside the University.

The second major event occurred in December, when President R. L. Smith appointed Dr. Eric A. Bourdo, Jr., as Dean of the School of Forestry and Wood Products. Dr. Bourdo has been a member of the Tech faculty since 1946, when he joined the teaching staff of the Department of Forestry. Since 1955, Dr. Bourdo has been director of the Ford Forestry Center. He holds the B.S. Degree in Forestry from Mich. Tech, and the M.S. and Ph.D. Degrees from the University of Michigan. Until a successor is named, Dr. Bourdo continues as Director of the Ford Forestry Center in addition to his position as Dean of For. and Wood Products.

A third and equally notable event occurred in October, 1968, when the Society of American Foresters acted to accredit the forestry program at Michigan Tech. This long awaited event followed an inspection of the Forestry Department and University by a visitation committee of the Society's Committee for the Advancement of Forestry Education, during the spring of 1968. Their favorable report to the Council of the Society, which met in Conjunction with the national S.A.F. meeting in October, culminated in the action to accredit Michigan Tech.

The fourth milestone occurred in June, 1968, with the granting of Tech's first M.S. Degree in Forestry. Gary A. Simmons, of Belding, Michigan, was the first recipient of the M.S. Degree in Tech's new graduate program in Forestry. A 1966 forestry graduate of Michigan Tech, Gary conducted his graduate studies under the direction of Dr. Norman F. Sloan. Gary currently is enrolled in doctoral studies at the Univ. of Mich.

Activation of a two-year Forest Technician program at Michigan Tech constitutes the fifth major event of 1968. This program, designed to provide education and training for students desiring to become forestry aides and technicians, began with an enrollment of 18 students. The instructional schedule consists of one year enrollment in classroom and laboratory studies on the main campus, with the following summer and academic year spent at the Ford Forestry Center. The second year consists primarily of field work, augmented by applicable classroom studies. Two new members were added to the teaching faculty to conduct this instruction. They are Bernard Carr and William Bertie. Lorenz H. Rickert, who has been engaged in teaching special job retraining courses at the Ford Forestry Center since 1963, is senior instructor. The technician program is administered by Tech's Division of Public Services.

These accomplishments follow the equally significant year of 1967 during which the Department of Forestry and Institute of Wood Research moved into their newly completed, modern and spacious quarters. The year 1967 also marked the completion of the Forest Engineering Laboratory, a facility of the North Central Forest Experiment Station, U.S. Forest Service. This lab is located adjacent to the Forestry-I.W.R. building on the Tech campus.
Faculty

DR. GENE A. HESTERBERG, Professor and Head
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B.S., Michigan Tech. Univ.
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Instructor
B.S., M.S. Virginia
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Univ. of Minnesota
Michigan State Univ.

Our fine secretary, Miss Judy Wuebben

Will it grow? Dr. Paul Johnson and students inspect experimental plantings on mine tailings waste.

Happy Birthday, Hammer!
In the fall of 1968, a new two year terminal degree forest technician program was incorporated into the Michigan Tech. curriculum with the Ford Forestry Center and Michigan Tech. each having a part. Beginning in September, the first three terms of classroom and laboratory study are held on the main campus in Houghton. In June the students then move on to the Ford Forestry Center at Alberta for one full year of practical field experience and more classroom work. This new two year course is designed to equip the forest technician with knowledge which will enable him to give field assistance to the professional forester.
Beginning with a nucleus of five students in the fall of 1967, the Forestry graduate program at Michigan Tech has shown signs of healthy growth. Under the guidance of the forestry faculty, the enrollment in the Masters Degree program has more than doubled in the last two years, and has resulted in the granting of four degrees. Initially research work was conducted in the fields of wildlife management and forest entomology under the direction of Dr. Norman F. Sloan. These studies have now culminated in theses on the white-tailed deer, Wilson’s snipe, and insect transmission of Scleroderris.

Further growth has been stimulated by the modern research facilities available in the new building, and the creation of the School of Forestry and Wood Products, resulting in a closer coordination of personnel and research objectives. Financial backing is provided by teaching and research assistantships, McIntire-Stennis grants, the Chapman fund, and private industry.

Now eleven graduate students are engaged in Forest Ecology, Wildlife Management, Forest Economics, and Forest Management work. To give a real idea of the graduate program, the interests and talent of the participants and its diversity, one must consider the specific studies now under way. Cooperative research between the Forestry department and the Ford Forestry Center involves the vegetation of mine tailings at Republic, and sugar maple and soil-site relationships; the goal here being the feasibility of fertilization. Students of economics are directing their efforts toward the marketing of hardwood flooring and the impact of the Sylvania Recreation Area on local economy. Forest Management studies include the use of computers in analyzing C.F.I. data, and the value increase of sugar maple in relation to diameter. Wildlife field work now involves the northern raven and its seasonal movements.

The program has grown, the interests remain diverse, and the quality of a forestry education at Michigan Tech remains high. The future of graduate studies is bright; for the student, the school, and the profession.
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Fire Marshalls.

ROBIN BERTSCH  
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CHRIS CHRISTIANSEN  
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GENE L. FRANCISCO  
Port Huron, Michigan  
Forestry Club.

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Silver Spring, Maryland  
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and President, Memorial Union Board, Inter-  
Residence Hall Council — V. Chairman, Blue  
Key, Am. Legion AROTC Silver Award.

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Forestry Club.

VERN KEESLER  
Lakewood, Wisconsin  
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Oscoda, Michigan  
Forestry Club, Daniell Heights Society.
CHARLES L. LIGHTFOOT
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Forester Staff, Intramurals, Beta Sigma Psi,  
MacArthurs Engineers, Pistol Club, Gamma Delta.

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Albion, Michigan  
Forestry Club, Conclave Team ’66 and ’68,  
Varsity Wrestling, Intramurals, Phi Kappa Tau  
— Rush Chairman.

THOMAS A. RIVARD  
Wolverine, Michigan  
Forestry Club, MTU Ski Club, Superior Seals Diving Club.

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McKinley, Alaska  
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Forestry Club — Secretary ’67, Conclave Team ’66 and ’68, Intramural Committee — Chairman, Varsity Track, Intramurals.

JON VAN TILBURG
North Olmsted, Ohio
Gymnastics Club, Copper Country Choral, Figure Skating Club, Intramurals.

CHARLES F. VERT, JR.
Mt. Morris, Michigan
Forestry Club, Intramurals, Otter River Camp Committee, Varsity Football.

JAMES D. VERVILLE
Hancock, Michigan
Forestry Club, Intramurals.

JOEL W. WAGENAAR
Arlington, South Dakota

JOSEPH T. WEBER, JR.
Milwaukee, Wisconsin
Forestry Club, Forester Staff.
On December 12, 1963, President Smith appointed me to the new post of Dean, School of Forestry and Wood Products, at Michigan Tech. Last winter Gene sent one of his Newsletters to notify our Forestry Alumni of this new assignment, and I thought you would be interested in learning more about the new position and my responsibilities to the new School.

The function of the Dean is to plan, organize and direct the operations of the School of Forestry and Wood Products. The unit comprises the Department of Forestry, the Ford Forestry Center, and the Institute of Wood Research. One of my important jobs is to secure a replacement for my old post as Director of the Ford Forestry Center. We have been actively seeking a man, and I hope to announce his appointment before the summer is over.

The Dean of the School of Forestry and Wood Products is responsible to two of the President’s key men. For the academic functions of the School, he has authority from and responsibility to Dr. Dean Stebbins, who is Vice-President of Academic Affairs. With respect to research in Forestry and Wood Products, however, he receives authority from and is responsible to Thomas P. Evans, who is Director of Research. In short, the Dean’s new assignment concerns the full spectrum of activities — educational, research and demonstration — which relate to the new School of Forestry and Wood Products.

Although a short phrase, the last phrase, the last statement in a memo originating with Dr. Stebbins, “...all functions of the School...,” carries a lot of responsibilities. Here are a few of them:

The Dean’s New Job
by Eric A. Bourdo, Jr.

1. Develop and recommend academic standards and procedures for students that are consistent with the general University standards;
2. Encourage the development of appropriate academic programs within the Department of Forestry and cooperate with other departments in the development of programs of joint interest;
3. Coordinate the graduate program in the School with the Dean of Graduate Studies;
4. Promote research activity within the school in cooperation with the Director of Research.

The list includes many other items that the new School must accept as its goal. It will eventually achieve them. Our first job is to develop a long-range (five-year) plan for orderly growth and development of the School. We know the undergraduate enrollment has increased 70 percent over the last three years, and Gene tells me we will have over 120 new students in the Fall of 1969. This calls for the preparation of plans to expand the current academic program and its faculty. Gene is already at work on that. There also is need for plans better to coordinate research activity among the Institute, the Center, and the Department. We also want to establish very close liaison with the Forest Engineering Laboratory of the U.S. Forest Service, which is located just up the hill from our School.

When President Smith gave me “orders” for this new position, his list contained 18 items of functions, activities, and responsibilities. It will be a tough job for me to measure up to these 18 requirements, but I am certainly going to try. And with the help that all people in the new School of Forestry and Wood Products have given during this first six-month period, I know we will succeed. I know, also, that our Forestry Alumni will be proud of the direction your School of Forestry and Wood Products has been given as it continues to move forward as one of the foremost schools of forestry in this country.
It was a bright fall day when President Smith notified our students and faculty of our renewed forestry accreditation. Recollecting back to early May, 1962, the Society of American Foresters Accrediting Committee voted to withdraw our program from the list of accredited schools. During 1968 a three man review committee worked two full days to give our entire forestry program a most intensive examination. Everyone on the University team gave us a lot of help. I think the forestry alumni would be interested in learning some of the remarks of the accrediting committee about the way our operation now is conducted.

In earlier years the Committee was concerned about the quality of our professional program. Today, we have more than adequate quality for first-class undergraduate instruction in forestry. Another favorable factor was the doubling of the Biological Sciences Department faculty during the seven year period. Ecology, in particular, has been strengthened more than any of the other elements in their field of science. We require our foresters to schedule the ecology course and they receive excellent instruction under Dr. Brown and Dr. Janke.

Our recent move to a new 1.4 million dollar forestry building, completed in 1967, certainly afforded us an ideal setting for the accreditation visit. If any of our alumni have not seen the new forestry building, be certain to pay us a call when you are in the Keweenaw Country.

When accrediting problems first arose years ago I proposed the development of an improved organization combining our three forestry groups — the Institute of Wood Research, Ford Forestry Center, and the academic Department of Forestry. My first proposal was to form a forestry council of the three units. But this lacked obvious administrative unity and was never very effective. One of the recommendations of the accrediting committee was that the three separate forestry and wood groups be united. With President Smith’s appointment of Dean Bourdo, a signal improvement in the administration and operation of our combined forestry function was completed.

For several years I have tried to strengthen our program in the sciences basic to forestry. Our present program at Tech permits us to have special strength in chemistry, biology, mathematics, statistics, and forest measurement. The accrediting committee noted this and commended our faculty for this foresight. We plan to provide more work in advanced forestry management and the work Professors Vernon Johnson and James Meteer are doing will help this in many ways.

During the accrediting visit the team asked to meet with six of our forestry students. Their interview which lasted for over an hour impressed the committee with the caliber of our students. Our foresters are well motivated and the best of them are encouraged to develop their talents in special areas of interest. We encourage our top students to think on graduate studies and our graduate program is beginning to attract more and more of them.

In general, the remarks of the accrediting committee suggested we are on the right track. The committee concluded that our program is a strong one and provides a rigorous study in forestry and in the sciences basic to this profession.

If any of our alumni are aware of young people keenly interested in sound forestry education, I would like to have their names and addresses. Be assured I will write them promptly and see that they are well informed about our work here in Michigan’s North Country.
The Ottawa and Multiple Use
by Bill French in cooperation with the Ottawa National Forest

The name of the game is Multiple Use Forestry, and the nine hundred thousand acres constituting the Ottawa National Forest is setting the standard for the continuing development in all fields from recreation to wildlife management. The Forest Service, U.S. Department of Agriculture, strives to perfect this principle of multiple use management of the forest resources of our nation for sustained yields of wood, water, wildlife and recreation. Basically this multiple use principle means using the renewable surface resources to their greatest ability from both an economic and a recreational standpoint.

For purposes of efficiency and decentralization the all-encompassing multiple use principle is broken down into five major divisions: Timber Management, Recreation, Wildlife Management, Watershed Management and Forage and the service functions of Lands Use, Fire Control and Engineering. These various agencies are not independent but provide mutual help to promote a smooth running, progressive organization for the economic benefit of the people of the upper Peninsula and Michigan as a whole through employment of local residents and timber sales to jobbers. Considering the more recent problems mining in the Upper Peninsula is causing money through timber could take on a greater burden of economic responsibility.

RECREATION
In our day of expanding populations, city pressures, and travel, the recreational use of our forest lands is requiring a major part of the Forest Supervisors attention. For example, over the decade from 1953 to 1963 recreational visits on the Ottawa have increased 161%. To meet the demand of five hundred thousand visitors a year the Ottawa now provides camping facilities for more than 500 families at a time, picnic facilities for over 100 families, and 43 various recreation sites. An example of provision for the nature seeker are hiking trails provided with signs to increase the visitors' understanding of important aspects of the areas' history and ecological relationships. These marked trails provide favorable influences on people both young and old. To meet the needs of the increasing number of winter sports enthusiasts, permanent snowmobiling trails have been constructed providing miles of scenic panoramas for those hardy outdoorsmen who are a part of this rapidly expanding cold weather activity. In accordance with National Forest policy, fishing and hunting are allowed on the lands in accordance with the state rules which apply. This recreational aspect is improved due to the efforts of the people concerned with wildlife management on the Ottawa National Forest, an aspect which will be discussed later.
TIMBER MANAGEMENT

Cooperation to meet the demand is the story of management on the Ottawa. The cooperation occurs among those people involved in the harvesting of upwards of fifty million board feet of timber a year including sawtimber and pulpwood, those people from the J. W. Touney Nursery near Watersmeet who supply over five million trees for reforestation of cutover or burned over lands, and those people involved in pruning and thinning which releases thirty-six hundred acres of trees a year. The J. W. Touney Nursery, serving the Nicolet and Chequamagon National Forests in Wisconsin and the Ottawa National Forest here in Michigan’s Upper Peninsula, is now in its thirty-fourth year and is an integral part of the research and reforestation program being carried on by the Ottawa in cooperation with some of the other research agencies.

WILDLIFE MANAGEMENT

Wildlife management is a cooperative effort between the Forest Service and Michigan Department of Natural Resources, which is responsible for the regulation of seasons and limits to preserve our wildlife for the benefit of future generations as well as our own. Forest Service wildlife biologists (as shown in the picture below) also help in conducting of research, surveys, and other activities which will benefit the sportsman of tomorrow. These surveys and research programs include those of both the aquatic and the terrestrial environments. The fisheries division works in cooperation with the Michigan Department of Natural Resources to improve fish habitat. Programs initiated by the Forest Service vary from seeding of old logging roads to provide forage for the abundant wildlife to the stocking and restocking of the Ottawa’s numerous lakes and streams.

WATERSHED MANAGEMENT

Improvements in the lakes and streams by the wildlife division are also of beneficial value to the management of the watersheds on the Ottawa. Abundant clear, pollution free, healthful water is as important to the aesthetic value of the land as it is to the wildlife species inhabiting the sparkling waters. The Ottawa has initiated a monitoring system to detect any undesirable changes in the water. In this day of increased recreational pressure and varied lands use the pollution of water is becoming a problem of national importance. Studies are constantly being made on the water as an aid to developing a proper over-all management plan for the forest.
FORAGE

The emphasis on forage on the Ottawa is minimal but nevertheless, even though there is not the demand for this type of service on the forest lands, this aspect must be considered when long range development and land and watershed management plans are laid as this possibility cannot be ruled out in the future of the forest. Even today some grazing is allowed and does take place on the lands although it is still quite insignificant when it is compared with the very extensive grazing practices being carried on by the multiple use national forests in our American west and southwest lands.

CONTRIBUTING SERVICES

*Fire Control:* Recreation, timber management, etc., are only possible because of the fast, efficient organization and available manpower of the Fire Control Service Division providing excellent fire protection on the Ottawa, despite greatly increased recreational use. The fire control aspect has now gone to the air as aircraft are presently being used efficiently, effectively and economically in forest fire control. Cooperation here is involved with the Job Corps building action roads and providing some of the manpower needed on the fire suppression crews. The major sector of the manpower force, however, is provided by local cooperators such as wardens, etc., and by the regular Forest Service personnel who are always on call.

*Land Use:* The efficiency of the multiple use program and its agencies of Fire Control etc. are highly dependent on the service function of Land Use, the purpose of which is primarily directed toward the consolidation of land ownership providing for a more efficient management. This division is responsible for land acquisition and exchange, and puts high priorities on land with high recreational potential. Lands donated are handled in this department, and the public has gained a great deal due to these donations.
Engineering: Finally we must have the service function of engineering, for without access the facilities provided would be aesthetically beautiful but practically useless. This department is responsible for the construction of buildings at the Ojibway Civilian Conservation Center, bridges such as that across the Little Presque Isle River and the construction, improvement and maintenance of the roads which weave their efficient pattern throughout the forest. A road system such as this is essential to the effective multiple use management of the forest resources, especially fire control and timber management, now being carried on by the Ottawa.

REMARKS

The Ottawa as a national forest was established in 1931 in the western end of Michigan’s Upper Peninsula. This was at about the same time that the Chequamegon and Nicolet National Forests in Wisconsin were established. The major problem at the time of its establishment was one of fire control and its prevention through education of the people using the lands. This problem has to a great extent been cleared up and the efforts of the staff are being directed toward reforestations and improvements of the existing vegetation program.

The administration of the fields involved in this overall land improvement program followed by the Ottawa is handled by the Forest Supervisor who works with a specialist in each of the five mentioned fields to promote both decentralization and organization at the same time. Thus through forestry research, cooperation with the states and private forest owners, and management of the National Forests and National Grasslands, they dedicate themselves to providing increasingly greater service to a growing nation.

From recreation to engineering, timber management to watershed management the key word is cooperation; the plot is efficiency and the game is complete use of our available natural resources through Multiple Use Management such as that being practiced on the Ottawa National Forest.
The Ford Forestry Center continues to expand its three-fold program of research, education and demonstration. Basic to the Center’s program is its research forest, now comprising over 4,000 acres. In addition, inventory control plots are established and maintained on several times that acreage. Inventory, management, and harvesting on the research forest is the responsibility of Prof. Jim Johnson. Continuous Forest yield valuable volume and value growth information since their rediscovery in 1958. Thus, the total inventory for 1969 requires the remeasurement of approximately 400 plots.

Several management studies will receive their second harvest this year. Studies conducted on the research forest show increased diameter growth of 53 percent and volume growth increase of 32 percent on the managed stand over the unmanaged stand. Annual harvests on the Center’s Small Woodlot Demonstration Area over a 9 year period have yielded a net average annual return of $3.43 per man-hour worked. Through successive cuttings the woodlot will greatly increase in value. Correspondingly, the dollar return will greatly increase in subsequent cuts. The fruits of good forest management will be evident in the second cuts that will be made this year and in succeeding years to come.

Investigations into soil-site problems at the Ford Forestry Center have expanded from developing productivity data for northern hardwoods by soil taxonomic units based on continuous forest inventory plot data, to soil physical and chemical property studies and their effect on tree growth. A Forestry Department graduate student has begun research into the nutritional status of sugar maple on selected soil taxonomic units. This study is supported by a fellowship from Connor Forest Industries and is an important first step in developing fertilizer specifications for forest trees. Another graduate student is working with Prof. Shetron on a research project involving the revegetation of tailings at the Cleveland Cliffs Iron Company’s mine near Republic, Mich. Other studies include stem analysis and specific gravity determinations of sugar maple on several soils, investigations into water soluble plastics for dust control, and a climate-sugar maple growth stimulation study.

Prof. Jim Meteer’s project involving the application of advance computer techniques towards more efficient and complete analysis of CFI data is seeing wide acceptance from industry. Many companies have requested the use of his program. Among these are: Mead, Kimberly-Clark, Mosinee, Copper Range Co., Gogebic County, Menominee Enterprises, and the Bureau of Indian Affairs. In addition, work is continuing in the area of hardwood tree evaluation; work which is a necessary prelude to meaningful economic analysis of hardwood timberland management alternatives.

In the past four years nearly 400 technicians have been trained for the forestry and wood using industry in skills varying from forestry aides to lumber graders and saw filers. Demonstrations of forest management techniques, tours conducted at the Center, and casual tourist visits result in several thousand visitors viewing activities at the Center each year.

Inventory plots on the Center’s Baraga Plains land are scheduled for a second 5-year remeasurement this summer, together with several experimental study areas. In addition, C.F.I. plots established in 1938 by Cal Stott, working for the U.S. Forest Service, will be again remeasured. Though retired, Cal will join us in the woods to assist in remeasuring these, probably the oldest C.F.I. plots existing anywhere. These plots have
Wood for Paper in the U.P.

A Project of the Institute of Wood Research

Forest managers are naturally interested in markets for timber. This brings many of them in close contact with the pulp and paper industry which consumed 54.9 million cords of pulpwood in 1967 in the United States. The market is projected to grow to 119 million cords in 1985.

That the Upper Peninsula of Michigan might share in this market, the Institute of Wood Research has, for some time, been engaged in a program of acquainting pulp and paper manufacturers with its timber resources. The objective is to assemble data that would justify investment in pulping facilities in Northern Michigan. The project was, for a number of years, under the direction of the late Walter H. Koeppe, and since 1966, by Harry S. Olson.

The program is implemented by bringing to the attention of corporate planners a comprehensive IWR report, "An Expanding Wood Resource for Expanding Paper Markets" which is supplemented with an economic study of pulp and paper manufacture from Michigan woods by A.D. Little Inc. of Cambridge, Massachusetts. Nearly all paper manufacturers in the United States and Canada have a copy of this report as a result of personal contacts made by Messrs. Garland, Koeppe and Olson with the cooperation of personnel of the Michigan Office of Economic Expansion.

The eastern end of the Upper Peninsula of Michigan still continues to be the area where most planning is being done to interest the pulp and paper industry to manufacture paper products from the surplus timber available from private and public lands there.

Farther to the west at Escanaba, Michigan, the Mead Paper Corporation is engaged in an extensive building program which will include a pulp mill to use woods of the many species available in the Upper Peninsula. The resource information on U.P. timber developed by the Institute of Wood Research and supplied to industry contributed to the decision by Mead Corporation to expand at Escanaba. The staff continues to funnel new information on wood resources to Mead as it becomes available.

The decision of Oxford Paper Company to postpone building plans for a large pulp and paper complex near Munising is not believed to have closed the Upper Peninsula as a building site for this progressive paper company which has recently merged with the Ethyl Corporation. IWR continues to keep close contact with the planning division of Oxford Paper Company and intends to keep the advantages of the Upper Peninsula before them as economic conditions improve generally and as construction in the paper industry resumes the pace of two years ago.

The method that is used to stimulate the interest of pulp and paper manufacturers in the Upper Peninsula is to keep them informed with new data on the timber resources in each county by species.

Supplement 3 to the IWR report, "Wood for Paper," has been prepared recently from data supplied by the North Central Forest Experiment Station of the U.S. Forest Service. Permission has been received from the Forest Experiment Station to supply this, as yet unpublished, information on a restricted basis to pulp and paper manufacturers that have copies of the IWR report. The data are based upon aerial photographs taken in 1965 and extensive field work carried out since then.
The research activities of the Forest Engineering Laboratory increased considerably during the past year. Work on several studies is now underway, and others are planned.

Those students who scaled the snow banks between the Forest Engineering Lab and the Forestry-IWR Building this past winter probably noticed several piles of pulpwood near the FEL Shop Building. This material was used in a research study aimed at designing more efficient tree shears (fig. 1). Shears are becoming a common tool on multifunctional harvesters — primarily for felling, limbing, and bucking.

The purpose of this study, in addition to determining force and energy requirements for effecting the cut, was to evaluate and attempt to minimize splitting damage caused by shears. This is of vital concern to equipment manufacturers and mill managers if the shear is to be used in harvesting saw log material.

During the past year we have witnessed large increases in the price of softwood forest products; and if practices and management methods are not changed, the future will see more price increases along with timber supply problems. One approach that the Forest Engineering Lab is taking in an attempt to combat this supply and demand problem is to increase the present level of utilization on existing operations and to approach what can be called, “whole-tree harvesting.” At present, existing operations utilize only about half of the harvested tree. Remote chipping along with integrated operations should make it possible to increase our utilization in this area by perhaps 30 to 50 percent by chipping tops, limbs, and maybe even roots. One major bottleneck exists, however. How do we remove the bark and other impurities from such irregular material?

The Forest Engineering Lab is attempting to find methods of removing the bark after chipping. Numerous studies are planned under the general areas of mechanical, chemical, liquid medium, and induced methods to solve this perplexing problem. One method now under test is air flotation in a specific gravity separator (fig. 2).

These two studies are only examples of the work being carried out by the Forest Engineering Laboratory personnel.

An invitation is extended to students and alumni who are interested to visit the Lab and witness some of the research.
Michigan Tech Forestry Club
1968-69

1968-69 FORESTRY CLUB COUNCIL: L. to R.: Lou Best, vice-president; Joe Minier, secretary; Don Schwandt, president; Tom Oldfield, Social Chairman; Arnold Schoeck, treasurer.
The 1968-69 academic year was an active one indeed on all levels of the Michigan Tech Forestry Department. At the departmental level, last year witnessed many significant events: accreditation by the S.A.F., the installation of Dr. Bourdo as our first Dean, a new Forest Technology program, and three Masters Degree recipients — to name just a few events. The Forestry Club participated in a typically broad variety of activities, from the refined enjoyment of the Venison Booyaw and Senior Banquet to the more questionable pleasure of the tobacco spit at Big Brother Day! The 1969 Forester has attempted to accurately and completely portray this wide spectrum of activities and events.

The 1969 Forester staff was an active group in which many ideas and new approaches were especially abundant. Each staff member's effort in working on this year's Forester was an integral part of the overall group effort needed to produce such a publication, and was certainly appreciated. Our lot would have been disorganized indeed this year if not for the guidance of our advisor, Prof. Crowther, and for this guidance he deserves a well-earned vote of thanks.

The 1969 Forester Staff takes pleasure in presenting what we hope will be the best annual ever, the 1969 Michigan Tech Forester.
Rifle Raffle
by Gary Bird

Again, the combined efforts of the Forestry Club members paid off in making the Annual Rifle Raffle a success. The prizes offered this year were: First — Marlin .30-30 lever action rifle, Second — Bushnell 7x35 binoculars, Third — Dacron 88 sleeping bag, and Fourth — Alaskan snowshoes.

With some last minute effort and luck, the 1968 Homecoming Queen, Judy Hangus, was present to draw the names of the four winners. The biggest surprise of the drawing came when it was announced that the first prize winner was a six year old girl from Iron River. A Forester, Bert Peterson, won the sleeping bag and the other two prizes were won by Tech students.

The top two salesmen were awarded $10 and $5 respectively. First place went to Terry Lane, who won by a wide margin with Gary Bird second. The awards were given at the Venison Booyaw that was held later on in the year. With the continued support of the members, the Rifle Raffle should remain the Forestry Club's biggest money making project.

Venison Booyaw
by Tom Oldfield

In keeping with the Forestry Club's tradition, the Venison Booyaw was held on the evening of January 14 in the Memorial Union Cafeteria. The venison stew was enjoyed by club members, the faculty and their wives, and guest speaker Mr. Bruce Miller, Superintendent of Isle Royale National Park, accompanied by his charming wife.

After dinner, Mr. Miller presented an interesting and enjoyable slide program on the different National Parks to which he has been assigned during his career with the Park Service.

This evening of companionship was enjoyed by everyone present and we all walked away a little fatter, proud of Gene and Hammer for getting us real venison for the stew this year.

"Use the Knife and Fork. Best!"

Below:
(L) The Bruce Millers
(R) The Hesterbergs
(CTR) The Odd Couple
"Situated in the beautiful (Ralph) northern hardwoods, M.T.U. offers an unexcelled opportunity as an outdoor laboratory for the study of science." With this stirring passage from the catalog well in mind, the '70 twigs charged eagerly into summer camp . . . and within a week had strung up Smitty for false advertising.

The first weeks of camp were spent on the log deck and with compasses. Mike Ryan got "turned around" on the compass course (which isn’t too much to be ashamed of) but he hit the jackpot when he got lost at the Mohawk mill. Ah, the Army trains its men well. The first prize, however, went to Bob Sajdak who, through his explicit directions, lost an entire class on the traverse final. C’est la vie, guys.

As time went on, a definite routine became established: stimulating slide shows on scaling heart rot in Douglas-fir, rain, moldy old jokes from yours truly, rain, onion sandwiches, rain, clear, concise lectures on Quality Index, rain, prayer meetings with Rev. Hornor, frog races, rain, and, perhaps most important, the new contributions to a growing vocabulary of grossness.

When the final cruise had ended, we all looked forward to transit work on campus but the cow-eds got some advance notice and stayed hidden for four weeks. Eee-ah! The topographic maps of Sajdak’s Folly in South Range weren’t too bad for a first effort, but there were some very surprised people when they discovered that the highest peak in N. America was located in the Copper Country. The level circuit was made easier by the ingenious crew of Finns who used walkie-talkies instead of sign language. In addition, the local citizens were treated to the world’s first amplified ralph concert but no further engagements were possible since the audience departed rather hastily.

Before ending this documentary, two notable contributions to society must be given credit. The life of every forester has been enriched by "Big Man" and "C’est la vie," particularly when the latter is accompanied by a Biltmore stick placed firmly in the ear. It is fitting, then, to close with an immortal phrase and our best wishes to the next batch of Tech. foresters — C’est la vie, you poor suckers, c’est la vie.
Want to buy some bug off now?

Anyone for head scratching?

Gadzooks! Supertree!

Hurry up! Before she gets out of sight!

Everybody off! Battery's dead and no brakes.
“Frog” and the gang. Race in 5 minutes!

Can’t see a thing through this gadget.

These guys are as slow as my camel.

Eee gad! What a reading.

I finally did it.
Big Brother Day

by Chris Kionka and Julie Brown

"Let a real man have that ax." "I think I'm missing three fingers!" "Match splitting sure cuts the nerves!" "Chow's on!" These are only a few exclamations heard by the members of the Forestry Club at their annual Big Brother Day. Sept. 28, 1968, was the eventful day and Otter River Camp was the place. Overcast sky and sprinkles of rain did not dampen anyone's spirits. The turnout was more than expected. The majority arrived after lunch and the events were — dendrology, traverse, match splitting, chopping, one and two man bucking, chain throwing and bolt throwing. The tobacco spitting event was better than usual for the participants outnumbered the space available. Conclave tryouts were correlated with the events. Conclave was held in October. Dinner was served with everyone eating twice as much as usual. They say this is caused by exercise in the clean fresh air or is it because it wasn't dorm food? To put the crowning touch on the day, as the faithful forestry bus was transporting the tired fellows back to the campus it developed engine trouble and demanded tender, loving care. The fellows did not have the tools to administer this requirement and so finished the trip in cars.

Come on one!! Come all!!!
Can't figure this complicated equipment out!

Whaddya mean, "which way's North?"

"The Score"

Mother Hubbard's cupboard bare?
Conclave 1968

by John A. Samuli

The 1968 Midwestern Forester's Conclave was hosted by the Illini Foresters of the University of Illinois. The Conclave events were held at Allerton Park, an island-like forest preserve located in the corn belt near Urbana.

Fourteen Michigan Tech Foresters set out on the five-hundred mile trip confident that they would return the Oak Trophy to Tech after a one year interlude. We did not compete in the 1967 Conclave for financial reasons. This year the team was financially prepared but the payoff did not come.

In the herculean events, Tech did not have the winning qualities. The sawing teams from the University of Michigan proved their skill by sweeping 1-2-3 in both one and two-man bucking. Tech Foresters did win two first places and one second place. Larry Truel did a fine job proving practice makes perfect by taking first place in the chain throw. Terry Durocher and John Samuli conquered the thorns and brambles and...
took a first and second respectively in the compass traverse.

The special event proved to be both the funniest and the most trying of the day. Three men from each school had to run along a string of wet slippery logs tied end to end across a pond. Lacking caulk boots, Bob Conley, Doug Drake, and Steve Siedentopf tried sheer determination, but the slippery logs proved to be too much for ordinary shoes or stocking feet.

Although we failed to get the trophy back, everyone enjoyed the side trip to Urbana to watch the Illini girls. And, if you weren’t watching girls, you could always collect a few more desperately needed bugs for Norm’s class.

This fall the Conclave will be hosted by the Forestry Club at Michigan Tech. The Conclave Committee is working hard to make it a success. Hopefully, with practice and perseverance during the summer and fall, the Foresters will be able to return the Oak Trophy to Tech.

Let’s take her back to Tech!
Winter
Carnival
1969
Winter Carnival 1969, was named "Iceterical History"; and even though it is now a part of history, it was an event that can be remembered. The Forestry Club again jumped right into the spirit of the occasion and began formulating plans to conquer all the events. Unfortunately, fortune did not smile very well on those efforts and the results did not quite meet expectations.

An abundance of very cold weather this year made the creation of a snow statue an ordeal that was finished only by the determination of the Foresters. The outcome was the fallen Liberty Bell, captioned: "Give Me Liberty, Or Give Me Death," that perfectly fit into the theme dictated by the Carnival.

Again this year, it seemed that the Foresters were able to capture only a small number of points in the events. Snowshoeing appears to be a Forester strong point as two points were accumulated here. Skating earned the Forestry Club one additional point for a total of three for the whole Carnival. The Foresters were in the show this year and did well enough . . . next year all the rest had better watch out because the Foresters will be back again.
In the 1968 Forester, Phillip Sworden tried to instill in us a sense of pride which was an integral part of the foresters of days gone by. They were always in the running for the overall championship in intramurals and their trophies prove it. If you noticed the final intramurals standings, you would have noticed that we were far from the top. With a total membership as we have, we should be closer to the top than we were.

The teams that were entered this year did fairly well, but there were a number of sports in which teams were not entered due to a lack of participation. I'd like to thank all of the members of the club who participated on any of our teams this year. Our teams in basketball, hockey, paddleball, softball, and golf fared well, but our best performance came in volleyball. We took first in our league and made the playoffs.

I'm looking forward to a better year in intramurals, but everybody must give a hand. Let's all pitch in our help and show the rest of the campus that the Foresters are still here and always will be.
"Your point, Twinkletoes"

Top: Bowling Team
Left: "They call me slim."

Right: "I'll bet that smarts"

Left: "Take that, you swine"

Right: "If it's so easy, "YOU" stand in front of the net!"

"You use the sticks that you like and we'll use the kind we like."

Below: "Hit it hard. I can take it"
Spring Field Day
by Walt Summers

Memorial Day saw another annual gathering of the Michigan Tech Foresters for their Spring Field Day at the Otter River camp. As has become customary for this event, the weather was warm and sunny... although the mosquitoes and the black flies caused many to wish for a bit cooler clime.

Participation ran high and the events were enjoyed by all as the competitors pitted their skill against all comers. One and two man buck saw competition took its annual toll in stiff and sore muscles. Bolt throwing and chain throwing occupied a good deal of time as each member tried again to better that last throw. Canoe racing provided a few the opportunity to check the water temperature; and the dendrology quiz required some to think a bit more than
they had through all of the previous week’s classes. There was unanimous enjoyment when the dinner cry sounded and all gathered inside to sample the infamous hot dog, bean and potato salad lunch; prepared again this year by Dr. Sloan.

A fitting climax to the events of the day occurred when the log burling began. Every Forester with a taste for cold river water tried to climb aboard and stay on top of the provided log. It seemed that this was a skill that few have yet mastered, for most spent more time in the water than they did on the log. It is certain that all of the members present had a great time; that being so — it can now be said that Field Day for 1969 was a huge success.
Forester housing is as diversified as the individuals involved. Variety can be found whether it is a school rooming house or private lodging. — Matt C. Nowak

All set for class. — since last night.

You can always tell what a man is by what he hangs on the wall.

Here we have two juniors hard at work preparing for tomorrow's class.

Yes, we do have girl foresters.
Hey Bill, we didn't get the anchor, but...

I refuse to comment.

Finally we have a typical room and I care.

Here we have a freshman, also hard at work. There's a difference somewhere.
Club members, faculty, and guests gathered at the Dreamland Hotel on May 21 for the Senior Banquet. The meal was delicious and everyone enjoyed the event. The dinner, however, was marked by one distinguished absence. Dr. Gene Hesterberg who was out of town on business. This was, so I am told, the first banquet that Gene has missed since the invention of trees.

Father Shiroda of St. Albert’s gave the blessing before we ate. After the meal, Professor Joe Kirkish of Tech’s Humanities Dept. gave an interesting and humorous talk on “Fashion.” He was followed by Vern Johnson, who gave a report on the changes in the Forestry Dept. over the past year and what is planned for the future. Club president, Don Schwandt, concluded the banquet by announcing the results of this year’s election of club officers.

Guest Lecturers

Left: Mr. Fred G. Wilson, former State Forester for Wisconsin, gave a slide talk on “Classical Thinning Methods” to the Forestry Club last fall. Mr. Wilson is also a former instructor at Tech.

Left Below: Dr. Lawrance C. Merriam, Professor of Forest Recreation, School of Forestry, University of Minnesota, spent two days, gave three slide lectures, and held several consultations with faculty and students here at Tech during April. His lectures were entitled “The Challenge of Changing Forest Use,” “Wildland Recreation and the Forester,” and “Wilderness Recreation and the User.” All three lectures were based on information which Dr. Merriam has compiled during a research project in the Bob Marshall Wilderness Area and several National Parks in the West. His visit was sponsored by the National Science Foundation, the Society of American Foresters, and Michigan Tech.


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   Area Forester, Michigan Dept. of Natural Resources.
MEVES, KENNETH O.; 1963, U.S. Forest Service, Hayward, Wis.
   54843.
   97470.
MIKICH, ARDEN R.; 1957, Ranger Station, Lakewood, Was. 54138.
   District Ranger. Lakewood District, Nicolet National Forest, U.S. Forest
   Service.
MILLER, ROBERT L.; 1963, Box 694, Glasgow, Mont. 59230.
MILLER, ROBERT W.; 1940, Killed in action, Pievadoa Isle. 1945.
MILLS, HARRY C.; 1957, 422 Woodview Dr., Sun Prairie, Was. 53590.
   Forester, State of Wisconsin.
   49992. Office Manager, Keweenaw Land Association, Ltd.
MOORE-BUNNEY, ROBERT S.; 1951, Box 711, Dryden, Ontario, Cana.
   da. Chief Forester, Driven Paper Co., Ltd.
MORDEN, WILLIAM E.; 1962, Lydick Lake CCC #4, Cass Lake, Minn.
MOSHER, ELAINE C.; 1961, Rt. 1, Box 436, Aumsville, Ore. 97325.
   Secretary, Western Farmers Association.

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NANCARROW, WILLIAM J.; 1947, Mt. McKinley National Park, Mc.
   Kinley Park Station, Alaska, 99755. Ranger, Mt. McKinley National
   Park.
NELSON, JOHN L.; 1966, 744 W. Washington, Caledonia, Minn. 55921.
   District Forester, Minnesota Conservation Dept.
NELSON, RODNEY L.; 1961, Mirror Lake State Park, Rt. 3, Baraboo,
   Wis. Park Manager, Wisconsin Dept. of Natural Resources.
NEUBAUER, CLIFFORD A.; 1951, P.O. Box 171, Federal Way, Wash.
   98002. Designer, Boeing Co.
NEWMAN, Lt. ALAN G.; 1968, 5540 19th St., Apt. 21, Lubbock, Texas.
NICKLE, DONALD G.; 1959, 904 Palmcroft Dr., Yuma, Ariz. 85364.
   Staff Assistant, Lower Colorado River Land Use Office, Dept. of Int.
NICOLSON, JOHN A.; 1964, 1929 2nd St. NE, Minneapolis, Minn.
   55418. Research Assistant, University of Minnesota.
NIELSEN, CHARLES P.; 1950, 5608 Olde Post Rd., Sylvania, Ohio,
   43560. Vice-President, General Manager Woodlands, Owens-Illinois
   Inc. (Forest Products Div.)
NIEMI, WESLEY O.; 1957, Box 131, Ahmeek, Mich. 49901.
NILSEN, CHRISTOPHER; 1962, P.O. Box 1041, Marion, S. Car. 29571.
   President, Nilsen's Logging Co., Inc.
   Land & Production Manager, Goodman Div., Calumet & Hecla.
NOBLET, PETER N.; 1955, 50 Cartier St., Sault Ste. Marie, Ontario,
   Canada. General Manager, Pick Timber Co. & Shay veneers, Subsidiaries,
   Calumet & Hecla.
NORGARD, ROBERT E.; 1950, 11550 Magnolia St. NW, Coon Rapids,
   Minn. 55433. Vice-President, MacGillis & Gibbs.
NORKOLI, RAYMOND R.; 1951, 512 Putnam St., Wakefield, Mich.
   49968. Michigan Dept. of Natural Resources.
NORLIN, JOHN R.; 1957, 1242 Gironomo Ave., Roseburg, Ore. 97470.
   Realty Specialist, Bureau of Land Management.
NORRIS, MAX E.; 1966, 2224 Lougee, Billings, Mont. 59102. Radar-
   man, U.S. Navy, San Diego, Calif.
NORTON, DAVID M.; 1964, 1107 Anderson Dr., Leesville, La. 71466.
   Owens-Illinois.
   49071. Salesman, Phillips Petroleum Co.
NYGREN, HAROLD T.; 1961, 22 Island View Ave., Pine Orchard,
   Conn. 96405. U.S. Forest Service.

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ODONNELL, WILLIAM A.; 1960, P.O. Box 501, Timmins, Ontario,
   Canada. Management Forester, Province of Ontario, Dept. of Lands &
   Forests.
OLSON, ALAN G.; 1959, 1008 25th Ave., Anchorage, Alaska, 99502.
OLSON, JAMES W.; 1966, 717 Sutherland St., Ironwood, Mich. 49938.
OLSON, WALTER A. JR.; 1953, 1700 Calumet, New Holstein, Wis.
   53061.
OMERNICK, DONALD J.; 1965, P.O. Box 87, Two Harbors, Minn.
   55616. District Forester, Minnesota Lands & Forestry.
   49931. Graduate Student, Michigan Technological University.
   49783. Work Unit Conservationist, Soil Conservation Service, U.S.D.A.

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   48152.
PARRSINEN, Major LAURI F.; 1953, 517 Lighting, K.I. Sawyer
PARKINSON, PAUL A.; 1948, 111 Wallinwood, East Grand Rapids,
PARTYKA, Lt. EUGENE J.; 1961, 1823 Riggs Place, NW # 2, Washin-
   gton, D. C. 20009. U.S. NAVY.
PASTORI, FRED M.; 1962, 4452 Liberty Rd., SE, Salem, Ore. 97302.
   Forester, Bureau of Land Management.
PATLSON, NEIL R.; 1957, Rt. 2, Estacada, Ore. 97023. Resource As-
   sistant, U.S. Forest Service.
PEKKALA, HAROLD V.; 1965, 1303 5th St., Waverly, Ohio, 43086.
PEKKALA, ROBERT A.; 1953, 11135 SE 52nd Court, Milwaukie,
   Ore. 97222. Manager Technical Applications, Omark Ind. Inc., Timber
   Harvesting Div.
PEPPER, ALMON A.; 1949, 484 6th Ave., Parks Falls, Wis. 54552.
   Personnel Manager, Kansas City Star Co., Flambeau Paper Co.
PERAMAKI, OMER NICK, DO MEDAL., W. ; 1967, 54201.
   U.S. Plywood-Champion Papers.
PETE RSON, RAYMOND D.; 1950, 909 4th Ave., SW. Grand Rapids, Minn. 55744. 8th Grade Science Teacher.


PETE RSON, ROGER E.; 1950, 1019 Forest Ave., Piqua, Ohio, 45356. Log Buyer, Hartzell Ind. Inc.

PHILIPS, GREGORY M.; 1966. 525 Walnut St., NE, Grand Rapids, Mich. 49505.


PIEPEBRINK, HOWARD H.; 1961, Box 205, Ashland, Wis. 54806.


PIE RCE, RICHARD L.; 1949, P.O. Box 2122, Terminal Annex, Mobil Oil Corp., Los Angeles, Calif. 90054. Senior Research Palynologist, Mobil Oil Corp.

PIETILA, JAMES A.; 1965, Rt. 1 Blue Lake Rd., Minoqua, Wis. 54548. Forester, Commissioners of the Public Lands.

PIIPARI NE N, LAURI 1.; 1967, 7808 Colgate Ave., Cleveland, Ohio, 44102. Graduate Student, University of Minnesota.


PLOURDE, ALBERT E.; 1950, Star Rt. A, Box 259, Anchorage, Alaska. 99502. Field Underwriter, MONY.


PRICE, LESLIE D.; 1957, P.O. Box 507, Weaverville, Calif. 96093. Resource Officer, U.S. Forest Service.


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REED, CLIFFORD G.; 1961, Box 353, White Swan, Wash. 98952. Forester, Bureau of Indian Affairs, Yakima Reservation.

REID, DR. LESLIE M.; 1951, 1202 Pershing Ave., College Station, Texas 77843. Head, Dept. of Parks & Recreation, Texas A&M University.


REU SHEL, THEODORE M.; 1964, Box 75, Beulah, Mich. 49617. Area Forester, Betsie River State Forest, Michigan Dept. of Natural Resources.

RICHARDS, FRANK E.; 1951, 2416 Cogswell Dr., Lansing, Mich. 48906.


ROACH, ROBERT V.; 1956, Park Falls, Wis. 54552. Forester, Wisconsin Conservation Dept.

ROBBINS, EUGENE S.; 1962. 4565 Imperial Dr., Toledo, Ohio, 43623.


ROGERS, FRED J.; 1943, 971 Wisconsin River Ave., Port Edwards, Wis. 54469. Forester, Nekoosa Edwards Paper Co.

ROGERS, MICHAEL V.; 1964, 12914 Forrester, Detroit, Mich. 48227. Senior Assistant Forester, Dept. of Parks & Recreation, City of Detroit.

ROLLMAN, CHARLES W.; 1941. 1033 Neufeld St., Green Bay, Wis. 54304. Owner, C. W. Rollman & Associates; Civil Engineers, Land Surveyors & Foresters.


RUCINSKI, LOUIS; 1955, Onaway, Mich. 49765.

RUSING, RONALD L.; 1966, 6276 Newark Ave., Chicago, Ill. 60631.


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ST. ONGE, WILLARD C.; 1949, Box 156, Trout Lake, Mich. Conservation Officer, Michigan Dept. of Natural Resources.


SARKINEN, DALE V.; 1964, Brantwood, Wis. 54513.


SCHUENEMAN, DOUGLAS W.; 1965, 650 Third Ave. S, Park Falls, Wis. 54552. Senior Forester, Owens-Illinois, Inc.


SCHNEFF, JOHN W.; 1966, 2716 Queens Ave., Hoquiam, Wash. 98550. Inventory Section, Bureau of Indian Affairs.


SCHULTZ, JAMES A.; 1964, P.O. Box 293, Stephenson, Mich. 49887.

SCHWARTING, WILLIAM C.; 1955, Rt. 2, Richland Center, Wis. 53581. Vice-President, Richland-Hardwoods, Inc.

SCOTT, DONALD H.; 1956, 24170 Calvin St., Dearborn, Mich. 48124.

SIDDIQI, SHAHED.  
SIDDOW, S.  
SHEPPARD, GEORGE  
SMITH, STEVE S.  

T

TEEGUARDEN, DR. DENNIS E.: 1953. 4732 Westwood Ct., Richmond, Calif. 94803. Associate Professor of Forestry, University of California, Berkeley.  
THOMPSON, WALTER J.: 1952. P.O. Box 475, Olla, La. 71465. Forest Manager, Georgia-Pacific Corp., Crossett Div.-U.S.A.  


WEBSTER, ALAN R.; 1964, 13 1st St., South Range, Mich. 49963. Assistant Area Forester, Mishwabic State Forest, Michigan Dept. of Natural Resources.

WEINBERG, GLEN L.; 1942. 511 Brompton Place, Chicago, Ill. 60613. Assistant to the President, Royal Continental Box Co.


WOOD, WILLIAM B.: 1963. 780 Meadow Dr., Rhinelander, Wis. 54501. Assistant Manager, Hugo Sauer Nursery, Wisconsin Dept. of Natural Resources.


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