THE 1958 MICHIGAN TECH

Forester

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Forestry Club

MICHIGAN COLLEGE OF MINING AND TECHNOLOGY

Houghton, Michigan

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Upper Hungarian Falls, near Hubbell, Michigan, is one of the many scenic but little-known beauty spots of the Copper Country. Although it compares favorably with many well-known tourist attractions of the Upper Peninsula, its beauties are enjoyed only by those who learn of its location and make a special effort to seek it out. (Photo by Walter L. Cook.)

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FOREWORD

This past year a milestone has been gained in the history of the Forestry Department at Michigan Tech. This milestone was occasioned by the department being accredited by the Society of American Foresters. Congratulations are due the faculty, especially Professor U. J. Noblet, Department head, whose untiring efforts made this achievement possible.

In our small way, we of the annual staff have attempted to commemorate this event and make this annual fitting to the occasion. Only through the excellent co-operation between the staff, faculty, and contributors has this been possible. Especially are we grateful to our advisor, Mr. Crowther.

THE STAFF

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Feature Editor . . . Walter L. Cook
Sports Editor . . . Alan Olson
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Circulation Manager . . . James Kirschbaum
Faculty Advisor . . . Richard Crowther
Dedication

DR. ERIC A. BOURDO, JR.

No more difficult a task exists than that of succinctly commending one on a job well done. Such a problem exists here as we attempt to adequately pay tribute to Dr. Eric A. Bourdo for his outstanding work as Associate Professor of Forestry, and as Director of the Ford Forestry Center. An alumnus of Tech, Eric sets a sterling example to all of us.

Thus, in recognition of all he stands for, we respectfully dedicate this Ninth Edition of the Michigan Tech Forester to Dr. Eric A. Bourdo, Jr.
THE DEPARTMENT OF FORESTRY
Michigan College of Mining and Technology

THE SCHOOL

The Michigan College of Mining and Technology is a state-supported college accredited by the North Central Association of Colleges and Secondary Schools. It includes the main campus at Houghton, at which the Forestry Department is located, and a branch at Sault Ste. Marie, Michigan, where a two-year program is offered.

Michigan Tech is one of 27 forestry schools in the United States accredited by the Society of American Foresters.

The Houghton campus is situated in the heart of the heavily-timbered Upper Peninsula of Michigan, one of the principal centers of timber production in the Lake States Region. Because of this ideal location, it has been possible to combine the advantages of classroom instruction with practical field work and on-the-spot inspection of virtually all phases of forestry activity.

The area surrounding Houghton serves as a vast outdoor laboratory, containing a wide variety of timber types, both hardwood and coniferous, including large acreages of both virgin and
cutover forestlands. These forests include thousands of acres of northern hardwoods, pine, balsam, spruce, cedar, and aspen.

Much of this timberland now is under sustained-yield management, enabling the student to familiarize himself with the many aspects of practical forestry at work. Several large timber-owning companies in the area carry on well-organized forestry programs, typical of those developed by many of the more progressive industries throughout the nation. In addition, the nearby Ottawa National Forest gives the students an opportunity for intensive study of Forest Service operations. Similarly, the Baraga State Forest and other state-owned forests are located within a few miles of the campus.

Other facilities within convenient driving range of Houghton include several sawmills of varying sizes, a flooring mill, paper mill, fiberboard plant, Forest Service tree nursery, and the Upper Peninsula Experimental Forest, a branch of the Lake States Forest Experiment Station. Isle Royale National Park in Lake Superior, Porcupine Mountain State Park, and other natural areas also are utilized by forestry classes.

The college itself owns a large acreage of timberland and a sawmill highly useful for laboratory purposes, and carries on research programs in forest management and forest products utilization.

EDUCATION AND TRAINING FACILITIES

The Forestry Department offers a full curriculum leading to the Bachelor of Science degree, with excellent classroom, laboratory and library facilities for all academic work.

In addition to the usual program of four academic years, the Forestry Department carries on a 10-week summer camp program which forestry students normally take following their sophomore year. The summer camp is located at the Ford Forestry Center of the college, a tract of nearly 4,000 acres located about 40 miles southeast of Houghton.

Here, at Alberta, intensive instructions are given in the several phases of forestry which cannot be treated adequately in the field laboratories during the regular school year. Accent is placed on timber cruising, forest type mapping, timber marking for partial cutting, log scaling and grading, forest land subdivision, and allied work. The practical experience gained at the Forestry Summer Camp is an invaluable asset to the forester when he takes a job in his profession.
Located within one-half mile of the main campus is a 524-acre tract of oak-sugar maple timberland and open land, much of which has been utilized as pine plantations. Additional plantings are made in this area each spring. A small part of this land is reserved for the College Arboretum.

Additional timberlands owned by the college are a 150-acre tract of aspen-balsam fir pulpwood forest near Baraga, Michigan, and the Clarence B. Randall Research Forest which comprises 241 acres of land and half-million board feet of old-growth northern hardwood timber. This latter unit serves a dual purpose. It is set aside as a “museum forest” of this valuable timber type; it also serves as a training ground for student instruction in cruising “virgin” timberlands of inaccessible areas.

Besides the College-owned forest lands so essential in the training and development of competent professional foresters, the Forestry Department maintains a lodge on the Otter River, about 25 miles from the campus. This modern log camp and 20 acres of forest land, embracing one part of the area’s best trout waters, was a contribution of the Michigan Department of Conservation. The Otter River Camp serves as a center for student outings throughout the four seasons. Use of the lodge by forestry students is encouraged; it is believed such camp-life experiences yield excellent lessons in social development of the students and in their maturing to more responsible citizenship.

In addition to the thorough program of studies afield, which give Tech foresters all the advantages of practical “know-how,” the curriculum provides a broad academic background. General courses include English, algebra, chemistry, physics, economics, and geology. Specialized forestry courses include botany, zoology, soils, silviculture, forest pathology, logging, aerial photogrammetry, wildlife management, forest law, and forest management. Each student also has an opportunity to schedule several elective courses during the last two years of his studies. Enrollment in the Army or Air Force Reserve Officers Training Corps program is optional.

The course of study is designed to give the student a thorough background in the field of forestry, as well as a well-rounded college education.

In addition to the basic curriculum in forest management, elective courses can be taken to provide specialized training in forest utilization and forest wildlife management, although degrees are not granted in either of these specializations.
RECREATIONAL OPPORTUNITIES

Hard work is not the only outlook for the Tech forester. Since the main campus is located deep in Michigan's north country, the out-of-doors man has an unparalleled opportunity to enjoy good hunting and good fishing. White tail deer are plentiful; black bear are fairly common. Small game is plentiful—snowshoe hare, ruffed grouse, sharptail grouse, spruce hen. The College is within seven miles of the Sturgeon River Marsh, one of the largest waterfowl marshes in the western part of the Upper Peninsula. The most productive trout streams are within a short driving distance of the campus. Adjacent streams yield brook, brown and rainbow trout; big rainbows on their spring spawning "run" provide unusual sport fishing. Portage Lake, at the edge of the campus, yields excellent pike, walleye and perch fishing.

Winter sports, particularly skiing on the college-operated ski slope, and skating at the college's indoor rink, are popular with many students. Snowshoeing is another popular sport for the outdoor enthusiast.

The Michigan Tech Forestry Club is one of the most active organizations on campus, sponsoring many recreational activities. All foresters are encouraged to join the club, which asks a nominal membership fee. Some of the major events carried on by the club are a "Freshman Welcome" outing early in the fall, a "buck shoot" contest during deer season, and the "Lumberjack Ball," one of the more unusual and popular dances of the school year. Shortly after deer season the Forestry Club treats the membership to a venison "bouillon", and in the spring a "smelt feed" is held during the annual smelt run. Each May the club arranges a "farewell" banquet in honor of the graduating senior foresters.

The Forestry Club is active in many campus affairs. Several Forestry Club teams compete in intramural sports: the club participates in all activities of the Winter Carnival, being especially prominent in the famous snow statue competition; a float represents the club in the annual Homecoming parade, and exhibits are prepared for the Engineering Show held every second year.

The preparation of this publication, the "Michigan Tech Forester," is another project of the Forestry Club.

Throughout the year, all club members are encouraged to use the facilities of the Michigan Tech Forestry Lodge at the Otter River.
TECH BECOMES AN ACCREDITED FORESTRY SCHOOL

The date of June 24, 1957, stands as a milestone in the history of forestry education at Michigan Tech. This is the date on which Michigan Tech joined the ranks of forestry schools accredited by the Society of American Foresters.

By action of the Council of the Society of American Foresters, during its meeting at Berkeley, Calif., Michigan Tech became the twenty-seventh accredited forestry school in the United States.

The climb of Michigan Tech to reach this goal began virtually with the establishment of the Forestry Department in 1936. Such an achievement could not be gained easily, and the trail was marked with disappointments as well as advances. Through this period, forestry instruction at Tech has been capably guided by Prof. U. J. (Bert) Noblet, head of the Forestry Department, through whose enthusiastic and untiring leadership the present strong academic program has evolved. Since 1936 the Department's enrollment has increased from an initial 15 to as many as 157, with current enrollment standing at 125. During this time, the Departmental faculty has increased from two to nine full-time members.

Forestry classes first were taught in Hubbell Hall, but in 1942 the Department moved to its present location in Hubbell School, where it occupies the entire second floor and part of the basement.

One of the accomplishments of the Department following World War II was operation of the Practical Woods Industries School at Pori, Mich., from 1946 to 1951. Primarily designed for the vocational training of former servicemen, the one-year course was taught by Prof. H. M. Steinhilb.

Freshman and sophomore courses in forestry have been taught at the Sault Campus of Michigan Tech since that Branch was established in 1947.

A development of major importance occurred on Nov. 30, 1954, when the Ford Motor Company presented to Michigan Tech its Alberta property, including a modern band sawmill, village, and three sections of northern hardwood timberland. The Ford Forestry Center has served since 1956 as the Department's forestry summer camp, in addition to conducting its program of forest research.
This background of achievement led the Department in 1956 to request an inspection by the Society of American Foresters to determine the eligibility of the school for accreditation. Appropriate questionnaire forms were completed and supplied to the Society’s Committee for the Advancement of Forestry Education, of which Harold G. Wilm was chairman.

On the basis of this information, the Committee deemed Michigan Tech’s forestry and general academic programs sufficiently strong to warrant a personal visit. Accordingly, on Nov. 10, 1956, an investigating committee composed of Henry Clepper, Executive Secretary of the Society; Dr. A. L. McComb of Iowa State College, and Dr. John R. Emens, President of Ball State Teachers College of Indiana, visited the Tech campus.

On the basis of the questionnaire form and the report of the visiting committee, the Committee for the Advancement of Forestry Education unanimously recommended that the College be accredited. In accordance with this recommendation, on a motion from J. H. Stone, seconded by Dr. J. S. Illick, the Council of the Society voted unanimously to accord to Michigan Tech accredited status for professional instruction in forestry.

On motion by Dr. G. A. Garratt, seconded by E. F. Heacox, the Society Council made this action retroactive to May 15, 1954 for Society membership eligibility of Tech forestry graduates. Thus, Tech foresters who have graduated since May 15, 1954, are eligible to enter the Society as Junior members. Graduates during this period who presently are Affiliate Members are automatically eligible for advancement to the Junior grade.

The news of Tech’s forestry accreditation occasioned compliments from many quarters. Excerpts from a sampling of letters received by Professor Noblet follow:

“Word has just come to me that your Department has been officially recognized and accredited by the Society of American Foresters in reference to professional instruction in Forestry. Please accept my sincere congratulations!” — Paul M. Dunn, technical director of forestry, St. Regis Paper Company, New York, N. Y.

“We extend our wholehearted congratulations to you, your staff, and the College. The amount of energy you yourself directed toward this realization certainly paid dividends.” — William Veeser, Assistant to the President, Upper Peninsula Power Company, Houghton, Mich.

“Your letter of notification that the Tech Forestry Department had been voted by the S.A.F. as an accredited forestry
school was a very welcome one. My congratulations to you and
the staff of the forestry school. I know you all have worked
unceasingly to gain that “accredited” status for our school; and as
an alumnus I am proud and grateful for your efforts.” — Bruce A.
Shaner, Oregon Pulp and Paper Company, Salem, Ore.

“I have just learned of the accreditation of your school by
the Society of American Foresters. Along with the many other
letters of good wishes you have undoubtedly received, I am happy
to add my hearty and sincere congratulations . . .” — R. H. O’Neil,
Consumers Power Company, Jackson, Mich.

(Telegram) “Congratulations. Due recognition for best for-
estry school in the country.” — Sadler, Byrd, Bird.

“Just a line to let you know that the news announcing the
acceptance of our Department by the Society is very gratifying.” —
Charles P. Nielson, O-I Timber Corporation, Big Island, Va.

“Received your letter today, announcing the accrediting of the
Forestry Department. It gave me a deep seated, warm feeling
of pleasure to know you have achieved the goal you have worked
for so long. Please accept my heartiest congratulations for a job
well done, Bert. I know the accomplishments of the Michigan
Tech Forestry Department will continue even bigger and better
with you as the leader.” — Frank E. Blake, Dundee, Ill.

“It was with great joy that I read your recent letter inform-
ing me of the success your Department has had in becoming an
accredited forestry school. I know of some of the joy you felt
after years of effort toward this objective. Of course, we have
never doubted the status of our graduating foresters in compari-
on with those of other “big” schools, but it is good to know that
now it is officially on paper.” — Duane L. Corbin, Wisconsin De-
partment of Conservation, Wausau, Wis.
Faculty members of the Forestry Department are, left to right, front row: Dr. Robert T. Brown, Prof. John Veenstra, and Prof. U. J. Noblet, department head; back row, Mr. Richard Crowther, Prof. H. M. Steinhilb, Dr. Gene A. Hesterberg, a Prof. Vernon W. Johnson.
FACULTY

U. JOHN NOBLET, B.S., M.S., Department Head and Professor of Forestry

Schools: Michigan State University, B.S., M.S.
Bert teaches Wood Preservation, American Timber Law and Municipal Forestry. In addition, he serves as a board member on the State Board for Registration of Foresters and as Director of the Timber Producers Association.

VERNON W. JOHNSON, B.S., M.S., Professor of Forestry

Schools: New York State College of Forestry, B.S., M.S.

HELMUTH STEINHILB, B.S., M.S. Associate Professor

Schools: Michigan Tech, B.S.
Michigan State University, M.S.
Hammer teaches Wood Technology, Photo Interpretation, Logging, Lumber, Cost Control, and Forest Products and Industries.

GENE A. HESTERBERG, B.S., M.S., Ph.D., Assistant Professor

Schools: Purdue University, B.S.
University of Michigan, M.S., Ph.D.
Gene teaches General Forestry, Dendrology, Forest Pathology, Forest Protection, Ornithology, and Wildlife Management.

ROBERT T. BROWN, B.S., M.S., Ph.D., Assistant Professor

Schools: University of Wisconsin, B.S., M.S., Ph.D.

JOHN VEENSTRA, A.B., B.S., M.S., Assistant Professor

Schools: Kalamazoo College, A.B.
Western Michigan University, B.S.
University of Michigan, M.S.
John, a relative newcomer to the faculty, teaches Zoology.

C. RICHARD CROWTHER, B.S., M.S., Instructor in Forestry

Schools: Iowa State College, B.S., M.S.
Dick teaches Silviculture, Soils, and related subjects. He also is faculty advisor to the “Forester.”
SENIORS

William C. Aldrich
Holland

Bruce R. Carlson
White Pine

Lawrence D. Golin
Skokie, Ill.

Ronald E. Klammer
Battle Creek

Frederick Lintelmann
Bessemer

SENIORS NOT PICTURED

Name                  Hometown
René O. Bunster        Evanston, Ill.
Ronald O. Daynard      Soo, Ontario
Claire R. Enerson      Alma Center, Wis.
Harold L. Godlevske    Three Lakes, Wis.
Fred A. Kisabeth       Curtis
Richard G. Korseberg   Richland Center, Wis.
Horace H. LaBumbard    Rapid River
SENIORS

Eugene P. Malkoff
Hilbert, Wis.

J. Terry Moore
Pontiac

Ulysses S. St. Arnold
Baraga

Claudette I. Spiroff
Ishpeming

SENIORS NOT PICTURED

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<th>Name</th>
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<tr>
<td>Arden R. Mikich</td>
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<td>Charles R. Niver</td>
<td>Newberry</td>
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<td>Thomas E. Smith</td>
<td>Marquette</td>
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<td>Gerald L. Vande Hei</td>
<td>W. DePere, Wis.</td>
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<td>Theodore C. Vogel</td>
<td>Washington, D. C.</td>
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<td>Douglas B. Watson</td>
<td>Wayne</td>
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The ranks of the Sault Branch Forestry Club are somewhat thinner than usual this year, due to one thing or another. However, what the club lacks in body it makes up in spirit.

Club officers this year are Dick White, chief; Lyle Hannahs, vice-chief; Bill LaTocha, secretary; Larry Battey, treasurer; and Jack Sibbald, representative to the Student Council. Faculty advisor is Dr. Edward Sturgeon.

The club's main project has been the Forestry Club cabin, located southwest of Brimley, which is nearing completion. This year the club members finished the outside work on the cabin. The exterior walls have been done in vertical half-log siding. This gives the cabin a rustic appearance which, after staining with preservative, provides a pleasing effect.

The club gives thanks to the Maintenance Department, which made and hung the new door. The old door wasn't in the best of condition, since it had to be propped shut with a two-by-six.
This year the club also purchased the parts for a barrel stove, which Prof. Kennedy of the Mechanical Engineering Department assembled. The cooking and heating set-up for the cabin is now complete, since a cook-stove had previously been donated to the club by Representative Clayton Morrison of Pickford.

All that remains to be done on the cabin is to acquire a few more pieces of furniture, do some interior finishing, and chase the squirrels out of the attic.

On the snow-shoe hike this year, Dick Kopitsch took the club members in to one of his father's logging camps on the Chippewa River in Ontario. Most of the club members were amazed by the ruggedness of the terrain in that area, as compared to the relatively flat Eastern Upper Peninsula country to which they were accustomed. All Clint Nesseth could say was, "I'd sure hate to have to do my farming in this country!"

Everyone was having a fine time until someone suggested a "short-cut" out to the first camp (five miles by road; ? miles by "short-cut"). It must have been the fact that their bellies were all full of T-bone steak that got the boys so pooped. It couldn't have been the hills!

With a major effort from the club's amateur artist-sculptor John Kaestner, the club managed to win second place in the snow-statue contest with their portrayal of the "U. P. Mystery Cat." Most people thought we should have had a "first" including us! A good time was had by all during the construction of the masterpiece, in spite of frozen water hose and frozen fingers. The Camera Club managed to cash in on the statue too, by taking the Evening News up on their offer of $26.26 for the first picture of the elusive mystery cat of the eastern Upper Peninsula.

The annual banquet was held in the spring term. All club members tuned up in an effort to take the crown away from last year's champion tall-tale-teller, Dick Kopitsch.

A series of movies was shown to the Forestry Club during the spring term. Also, the fellows held a smelt dipping party when the little silver fish began to run about the middle of April. Oh, the ways of the forester are wild, wild ways, but chances are that he will not be called to his rest prematurely in the "low green tent".
Forestry Club officers for the 1957-58 year were, left to right, Jim Falge, chief forester; Bruce Carlson, assistant chief forester; and Claire Enerson, secretary-treasurer.

CLUB OFFICERS

Chief Forester  JIM FALGE
Ass't. Chief Forester  BRUCE CARLSON
Secretary-Treasurer  CLAIRE ENERSON

REPORT FROM OTTER RIVER

by Mike Massie

The winter of 1957 saw extensive plans being laid by the Camp Committee for the continued renovation of the Otter River Camp. After preliminary planning, the main work was started in the spring term of 1957. It was through the close coordination of the Forestry Club members, who went to work with will, that so much was accomplished.

The first project was removal of the old cedar shingles on the cabin roof. New thick-butt shingles now face the weather.
A new gate of the “lift barrier” type was erected at the entrance to the camp. This was followed by the removal of a few elms, which were shading the cabin excessively. The elms, together with a notorious dead spruce—now called “Hesterberg’s spruce”—were converted into camp firewood. The water pipe from the spring was repaired, and a large stone and cement cistern was installed. This serves not only as an efficient water supply but also as a retaining tank for fresh-caught trout. The camp kitchen had a section of flooring replaced and a new lock installed on the door. Kitchen and cooking equipment were also brought up to date.

During the spring the foresters trucked in load after load of native red sandstone and a good start was made replacing with stone the deteriorated spruce logs around the base of the cabin. The section from the kitchen door around to the front porch was completed by the end of the school year. It was surprising to note the skill of some of the foresters as stone masons and the excellence of their work. The bulk of the job was done on weekends by club members staying at the camp, who interspaced their work with some relaxing and productive trout fishing.

Again in 1958 the Camp Committee has organized and planned further improvements. It was decided that flashing and metal eaves for the new roof would add the finishing overhead touch. Work continued on the kitchen with the installation of new kitchen cabinets and sink side boards authorized by Dean Kerekes and constructed by the Maintenance Department. The bulk of this spring’s work again was the replacement of the deteriorated logs with stone. Also, the porch is to have a poured concrete floor and a facing of stone.

Two serious problems received attention this spring. Investigation into the condition of joists under the cabin was continued and the possibility of replacing defective joists considered.

The Otter River Camp Committee, in co-ordination with the Forestry Club, has viewed the results of the past year’s work with satisfaction, and is looking forward to continued progress on its project in the future.
1958 WINTER CARNIVAL

by Gary Tucker

The Michigan Tech Winter Carnival of 1958, sponsored by Blue Key, an honorary service fraternity, was one of the finest viewed in many years.

Walt Disney was the Carnival theme this year. All of the various organizations on campus paid great tribute to this man by their wonderful snow replicas of his many favorite characters. Included in the Winter Carnival activities were skiing, snow shoe racing, ice skating, and last but not least, dog sled racing.

Dog sled racing, initiated this year at the suggestion of Dr. Robert Brown, turned into a huge success. This developed into one of the most laborious, breath taking, and hilarious sports of Winter Carnival. The teams consisted of 11 men, six of whom were "dogs," four sled riders who took turns as "dogs," and one musher. The race started behind Hubbell School and finished at the entrance to Dee Stadium. There were many exhausted and pale looking crews at the finish line.

The Foresters entered Class A competition this year for the first time. Our snow statue was the "kiss of love" scene in "Snow White and the Seven Dwarfs." This project was under the direction of Frank Dufour who did a fine job in organizing and handling the crews. To the minds of many, the statue was an excellent one; but to the eyes of the judges there were other statues which were better. To the boys who worked on the statue and had the thrill of competition running in their blood, there was only one thought after the judging: "Look out for the Foresters next year!"

Although we did not place in the skits this year, there were many fine presentations and much talent displayed. The Delta
Sigs did an exceptional job and their skit was a highlight in Winter Carnival.

The Forestry Club has an excellent scheme for next year's skit and we intend to be on top, not only in one event, but in all Winter Carnival.

LUMBER JACK BALL

by Claudie Spiroff

The Lumber Jack Ball was a “howling” success this year! Most of the Foresters were there with their wives, husband, or girl friends and we all enjoyed the dance music provided by a band from Marquette. To top the evening off, we were paid a visit by Ranger Tim Burr, alias Gene Hesterberg, who came all decked out in his ranger outfit plus his “100” gallon hat. He assisted Elaine Mosher and Claudie Spiroff in the drawing of the “lucky numbers” for the raffle prizes.

Walt Cook did a commendable job in decorating the Union Ballroom for the occasion. Also, Pete Theisen is in order for some praise for the very attractive corsages he made for the fairer sex. Mine was so outstanding that I still have it and here it is six months later!

All in all, everyone had a very enjoyable evening, so hats off to Doug Watson, dance chairman, for a real “Ball”.

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FIELD DAY AT OTTER RIVER CAMP
by J. R. Falge

The 21st of May, a cloudy, warm Wednesday, was a very important day for all Michigan Tech Foresters. The event was the annual field day held at the Otter River Camp. The activities were the same as usual—a very amusing conglomeration of contests packed with surprise results.

The real contest, as it developed, was mostly between the juniors and sophomores.

The first contests, pacing, climbing, tree climbing, bolt throwing and tree estimation, were won by the juniors. At this point the juniors felt pretty safe, but they didn't count on the sophomores' very superior skill with some of the main tools of the forestry trade. Floyd Marita changed the pace of the day when he exhibited a very superior form of axemanship and cinched the chopping contest for the sophomore class. Next the sophomores won the crosscut sawing, bow sawing and the trout derby, and moved to within two points of the juniors. The juniors won power sawing and stepped into a slightly better lead.

Probably the most decisive contest of the day was canoeing and portaging. Each team consisted of four men—two to put the canoe into the river by the outhouse and paddle it down to the end of the island and two others to portage the canoe at a dead run back to the starting point. The juniors won this contest, with the seniors, sophs and frosh close behind.

By this time the results of the Field Day were pretty well decided. Only one event was left—birling. The new cedar log that was cut for this year's birling contest suited our purpose quite well. Contestants were judged upon their performance. They had to keep the log moving. Ron Klammer led off and raised huge splashes of water three times in rapid succession. Some contestants managed to stay on the log longer this year and a good birling time was one minute or more.

Bob Booker for the juniors and Mike Massie for the sophomores were judged a tie for first place.

Total scoring for the classes was juniors, 42; sophomores, 36; seniors, 27, and freshmen, 3.

Now it was time for everyone to cheer or bemoan the victory of the juniors over a supper of hot dogs, potato salad, chocolate milk, cake and ice cream. The day was a fine one, and as it has been said in other places and at other times—"everyone had a ball!"
A new and interesting activity was introduced to the annual Freshman Welcome when the Forestry Club held its Fall Shoot at the Otter River Camp in September.

The Shoot took place at a level clearing just east of the Camp. Prizes in the form of gift certificates were awarded to the best marksmen in three events. There were, in all, twenty prizes.

The afternoon’s shooting began with a pistol contest — .22 caliber at a distance of sixty feet. The first man happened to be Professor Steinhilb, and he easily took first place in the event, showing the kids how it is done.

The bow-and-arrow shoot was, perhaps, the most unusual event of the day. A life-size silhouette of a deer was mounted on a wire and pulled for a distance of about one hundred feet. The bowmen were allowed to take as many shots as they could while the deer was moving. Bystanders were surprised at the number of archers who were able to make high scores on such a difficult target.

The last shooting event was an old-fashioned trap shoot. Competition ran high as the clay pigeons sailed out of the trap. Pete Malkoff won top honors consistently, though he was confronted by a field of above average shooters.

The purpose of the outing, with shooting, chow and campfire, was to acquaint the freshmen and transfer Foresters with the rest of the Department and the Otter River Camp. Mission accomplished.
FORESTRY BANQUET

by Arden Mikich

Closing out the Forestry Club social activities for this year was the annual banquet honoring seniors which was held at the Douglass House on Tuesday evening, May 20, 1958.

Approximately 60 foresters, their wives, and guests were present to hear an excellent presentation by the guest speaker, Mr. Richard J. Costley, who spoke on “The Challenge the Forester Faces.” A graduate of U of A State College of Forestry and the University of Illinois, Mr. Costley is assistant regional forester and chief of the Information and Education Division of the North Central Region, U. S. Forest Service, Milwaukee, Wisconsin.

Among the guests present were Dr. and Mrs. J. R. Van Pelt, President of the College; Mr. and Mrs. Ben Carson, district ranger on the Kenton District of the Ottawa National Forest, and Mr. Fred G. Wilson, formerly head of co-operative forestry in Wisconsin.

Comments were made by Professor U. J. Noblet, Dr. Van Pelt, Mr. Wilson, Dr. Gene Hesterberg, Forestry Club advisor, and Richard Crowther, faculty advisor to the Michigan Tech Forester.

Chief Forester Jim Falge announced the newly elected officers and presented them as they received their symbols of office from their successors.

Chairman and M. C. of the banquet was Arden R. Mikich. He was ably assisted by René Bunster.
INTRAMURAL SPORTS

by Al Olson

BOWLING

The bowling team consisted of five seniors, Capt. Bruce Carlson, Pete Malkoff, Ron Klammer, Fred Lintelmann, and Arden Mikich. These fellows were really knocking the pins down as they finished high enough in their league to enter the playoffs. Consequently, the team bowled its way to the finals before bowing out in a closely fought contest. Pete Malkoff had the high average on the team, bowling 174 for the entire season.

BASKETBALL

In basketball, the Foresters played to fourth place in their league, then lost a close contest in the first playoff game. The team was headed by senior Harold Godlevske who had a high average. Rounding out the first five were Ray Theiler, Gary Tucker, Horace LaBumbard, and Al Olson. Doing a capable job in relief was a freshman, Russ Bensett.

VOLLEYBALL

This is a wonderful team sport requiring six fellows who can work with each other all the way. The team played to second place in their league and lost out in a close series for the championship to the powerful H. & T.'s. Batting the ball around were Fran Dufour, Gary Tucker, Bob Utter, Gary Keppen, Harold Godlevske, and Al Olson. Ray Theiler was the handy-man of the team, filling in wherever needed. The whole team except Harold will be back next year, so it looks favorable for landing the championship.

HANDBALL

Fred Kisabeth and Russ Rodgers, two ace handball players, played through to an undefeated season for the second year in succession to cop the handball championship. Both are seniors and will be sorely missed when the handball season rolls around in 1959.

SOFTBALL

The Intramural softball season is still in progress with the Foresters undefeated at this time. The battery consists of Bud Wallace and Gary Keppen, backed up by Pat Doud at first, John Sullivan at second, Fred Kisabeth at third, Al Olson, shortstop, John Dewey, right field, Ray Theiler, centerfield, and Bob Utter in left field. These men look forward to a very good season.
1957 FORESTRY SUMMER CAMP

Twenty-plus foresters answered roll on the morning of June 17th to inaugurate the 1957 Forestry Summer Camp. This was the second year that summer camp was held at the Ford Forestry Center, Alberta, Michigan.

After a morning or orientation, during which the law was laid down to us, we were given the afternoon off. The day was hot and Eric had warned the group that swimming in Ford Lake was strictly for the birds (sea-gulls?), so twenty foresters were left with nothing to do. L’Anse as yet, had not been discovered. The saw-mill hot pond was discovered, however. With Eric’s assurance it would not be used for several weeks we set to work, cleaning out hemlock bark, dead heads, and debris. By evening the job was done and the hot pond was refilled with water. After supper, most of the foresters turned out for an enjoyable evening of gambolling in the warm, putrid water. Unfortunately, the tannin couldn’t be completely cleaned out and after some of the boys started to turn blue, attendance at the pool dropped.

Next day, the playboy complex received a jolt as we were instructed in that basic of forestry, the lowly pace. All day under a broiling sun, up and down prison camp road and through the bush, we attempted to co-ordinate our stride to the standard chain. Many unstandard chains resulted. That evening, after 8 to 10 miles of pacing, our barking dogs wearily took us to the chow hall for Mrs. Erickson’s already famous chow. That lady sure could cook.

After learning how to walk in multiples of a chain, we (those of us without Boy Scout merit badges) were given instruction in the operation of the compass. The important thing, we were told, was to trust it completely and not throw the darn thing away if we got mixed up on some back forty.

With these fundamentals out of the way, we moved rapidly through compass and traverse problems and on to subdivision of land. Now subdivision of land is a high-sounding word which means just plain one heck of a lot of work. Our problem in land subdivision consisted of running lines through Section (dirty word) 12. This section isn’t the worst piece of real estate near Alberta, its just that the lines to be “run” pass through every alder swamp, blackberry patch and aspen slashing in the area. Mix in flights of deer flies (the biting kind), flocks of black flies and jillions of sand fleas as incentives and the lines moved right along. We prayed for rain for a day’s respite. No luck. Sam danced his rain dance
How to Plant Trees... Seeding and Planting Lab.

Pete's Champ. Buck  "Ole" Sink's one

Joe shows slides on the Golden North

Claudie shows...
Statue Winner

Hardworking Statue Builders

Venison Booyaw

Nice catch, Ron!

To make "Stuffing" Wildlife Lab.

Champ Bowlers - Fred absent
and we were considering the merits of different instructors as sacrifices to appease the rain gods. Still no luck, Maybe it was just as well; we got through that much faster.

After struggling through Section 12, we moved back to civilization again and began the fundamentals of scaling at Soli’s Mill in Baraga. It was bad enough to figure net board feet and log grade by applying the Steinhiib rule of thumb, but we also had to name the species scaled. A tip to future summer campers—when in doubt, call it sugar maple as ninety percent of Alberta timber is sugar maple.

About this time a catastrophe nearly befell the summer camp class. It seems a screen from Vern’s kitchen window was lifted and chopped to fit a window on a student house. Next morning, the class was informed that this was not very nice and how would we like to cruise Section 13 for a forthcoming problem. Section 13 supports mostly marine life through the efforts of a beaver colony and isn’t the best place in the world to cruise timber. Vern also mentioned that a few five dollar bills under his door in the morning just might salve some wounds.

That night, a mutilated screen and some beer money changed hands and next day everything was hunky-dory. We were going to cruise Section 12 instead of 13. With good weather and Gevorkiantz’s formula, short work was made of Section 12.

Following the cruise problem, we shifted operations to the Ken­ton District of the
Ottawa National Forest where several principles of marking timber were instilled in us. These were: (a) Do not mark instructors or co-workers with paint. This practice breeds ill-will and causes hard feelings. Paint only standing timber. (b) If you have a dog which eats chickens, as Gene's Susie does, leave it at home. (c) Do not mark the tree more than eight feet high. In case of a mistake in judgement in marking, the Ranger will need a ladder to remove the paint. For four days we painted the woods yellow. The most enjoyable part of these four days was the story telling of Hammer every lunch hour. His anecdotes are better than Tums as an aid to digestion.

Following timber marking we studied growth percent, had problems in timber trespassing and leveling, and became barely familiar with the barest essentials of lumber scaling and grading.

Now, with less than two weeks left of summer camp, we were given our final problem. This final problem consisted of making a complete cruise report on Section 18. This report was no small chore, requiring about four days of field work and two days of indoor work. It was interesting to observe the varying methods and speeds with which each team attacked the problem. Some groups cruised from the “sack”. Others cruised from George’s, The Working Man’s Lounge. Still others actually cruised in the woods. Even more interesting was the fact that everyone completed their work.

It was with mixed feelings that summer camp was brought to a close. Whatever feelings the individual had, he must admit that summer camp was a change from the grind of campus life. Yes, a very pleasant change that gave us the opportunity to learn the basics of forestry and have fun in the process.
Lake of the Clouds in Porcupine Mountains State Park, viewed from Escarpment Trail.

COPPER COUNTRY PROGRESS IN FORESTRY

by Walter L. Cook

The tide has turned! The timber industry of the Copper Country has been stopped in its decline of several decades and once again is assuming an important role in the economy of the area. This modern "boom period," however, is altogether different from the "cut out and get out" days when pine was king. The industries contributing to this upward trend do not intend to "get out" as soon as possible. No indeed! They intend to stay right here as long as possible, and, thanks to modern forest management, that will be indefinitely.

The articles which follow describe only one of the new timber industries of the area, but will serve to show the impact this new "continuous boom" will have on the area. The remainder of the articles reveal other aspects of local forestry: recreation, education, soil conservation, and forest products and silvicultural research.
A Virgin Playground—

PORCUPINE MOUNTAINS STATE PARK

by Joseph Calabro

The Porcupine Mountains State Park, situated in the northwest part of Ontonagon County, encloses 58,000 acres of virgin mixed hardwoods. Its rugged land surface encloses some of the highest masses of land formations in the Central States. This area was made available to the public as wilderness park through the efforts of the Michigan Conservation Commission, Michigan Department of Conservation, and various civic organizations; and it is now one of the most scenic attractions in the state.

The primary purpose of acquiring this tract of land was to preserve this beautiful virgin area—one of the last stands of unbroken wilderness—to be enjoyed by the masses of people for their recreational needs. Through the ensuing years facilities were expanded to cover all types of recreational possibilities. Miles upon miles of foot trails were surveyed, cleared and tagged, enabling the park visitor to travel in comparative safety to many points of interest within the park's boundaries.

At certain scenic locations cabins were erected, completely furnished with utilities, and are now being used extensively by people from all parts of our country. These cabins are in use throughout the year. The early spring season brings the fisherman who braves cold winds, frosty temperatures and snow in hopes of catching some of the spring rainbows lurking in deep, dark pools, or as they fight their way over rocks, through rapids of foaming water and over falls, to spawning beds in the upper reaches of the escarpment.

In cool summer months thousands of visitors drive into the mountains to a point high on the escarpment. A short trail takes the sightseer to the tip of a sheer cliff from which miles of rugged wilderness unfolds to the eye. Below, the Big Carp River Valley, with its Lake of the Clouds hemmed in on the sides by rocky cliffs, stretches westward to Lake Superior. In the lake's outlet beaver dams and homes can be seen. At sunset the beaver will emerge to paddle about their dammed-up pools. Deer make their daily appearance in the shallows of the lake, slowly moving about in knee-deep water in search of tender shoots and to find relief from the flies. On quiet evenings, the glassy surface of the lake is disturbed by feeding bass, particularly near the weedbeds along the coves.
The entire park area is open for small game and big game hunting. Each autumn hunters rent the cabins of their choice for the deer hunting season. Hours of back-breaking labor are spent in packing in supplies necessary for the two-week stay. This type of hunting is for the rugged and woods-loving hunter. When a buck or bear is finally downed it becomes a worthwhile prize, even though the hunter is still faced with the problem of packing his game out over the same trails. Deepening snow toward the end of the season increases the difficulties. Long, laborious hours spent on the trail is enough to tax the strength and mind of any hunter, but the next season will draw him back to the challenging area.

Winter activity in the Porcupines is increasing yearly. The Porcupine Mountain Ski Area, in its eighth year of operation, is becoming well known to skiing clubs throughout the Midwest. Increasing hundreds of enthusiastic skiers pour into the area to use one of the best slopes, longest trails, and the finest facilities available in the entire Midwest. The attendance has increased into the thousands and has created a demand for further expansion of existing facilities and trails. The new double T-bar, installed this past season, has transported over 20,000 skiers to the top of the slope.

The increase of park visitors in all types of recreation has created some problems. An expansion program has been adopted, and work along these lines continues each season. The South Boundary road, an extension of the Nonesuch Road, is partly completed and is finished through the old White Pine Extension Mine site. When more money is available this road will be extended to the Presque Isle River where it will connect with the county road north of Wakefield. Plans also include a new campsite development with toilet facilities and manager’s residence on the west side of the Porcupine Mountains. This will tie in more closely the entire park area.

The completion of the East end campground near Union Bay is expected in the near future. This site will accommodate over one hundred camps.

Much of the work completed in the park is done with inmate labor from the Department of Conservation Correction Camp near the Porcupine Mountains. The Conservation Correction Camp, which is located at Union Bay, will be moved to another site. This new camp will be of permanent construction with modern facilities.
Enlargement of skiing facilities is contemplated. More expert runs to the West will be cut out with additional open slope. Existing runs will be widened and installation of new tows and lifts will be constructed to meet increased demands of winter recreation.

The residents of Ontonagon County are thankful for the God-given natural beauty of the Porkies. It brings them security by attracting hundreds of thousands of tourists, skiers, hikers, campers and hunters, and it is their own natural playground.

This all-year-round playground is a benefit not only to the resident, but to all people in this and neighboring states who make extensive use of the Porcupine Mountains.

CELOTTEX CORPORATION IN L’ANSE

FORESTRY FOR CELOTTEX

In 1956, The Celotex Corporation acquired 185,000 acres of forest land and cutting rights on an additional 57,000 acres from the Ford Motor Company Fund to serve as a reservoir of raw materials for a new fiberboard mill at L’Anse, Michigan. From this acreage, pulpwood-sized hardwoods, low grade logs, cull logs and, in time, tops and limbs will be utilized for fiber for insulating board manufacture. Products such as veneer logs and sawlogs, and spruce and balsam pulpwood will be grown for the open market.

Lands suitable for raising northern hardwoods will be cut selectively wherever growing stock is sufficient to permit an economical cut, and at the same time allow for leaving an adequate stand for optimum growth, reproduction and site development. Other lands will be cut and developed so as to promote the establishment and growth of the most suitable tree species.

Overall cutting will be regulated by a system of permanent sample plots scattered over the entire tract and remeasured at frequent intervals to judge the results of cutting, to measure accumulating growth, and to forecast future operations. Day to day, management will make use of aerial photogrammetric techniques tied in with ground and aerial reconnaissances and estimation.

Approximately 50,000 cords of dense hardwoods and aspen will be required annually at the L’Anse plant, part from company lands, part from sawmill waste, and part from farmers and other land owners. Suppliers will be encouraged to use good forestry practices.
The planning and supervision of forestry operations of Celotex are carried on by a six man staff. As the forest builds up and the production of forest products increases, the staff will grow with the size of the harvest.

FIBRE BOARD PLANT

The new fibre board plant which the Celotex Corporation is currently constructing at L'Anse, Michigan, will be of the latest design and will incorporate many features of automation, as well as other process refinements, developed by the insulating board industry in general, and by Celotex's own engineering staff in particular. It will have an initial daily production capacity of 500,000 square feet and this will constitute a substantial addition to Celotex's insulation board output. Furthermore, the basic layout of the plant has been made so as to allow for future expansion through the addition of reproduction units should the market require increased capacity.

Power and steam requirements will be supplied by a new power plant constructed by the Upper Peninsula Power Company which adjoins the Fibre Board Mill.

Construction has been continuing throughout the winter and should pick up increasing momentum as summer approaches. Sizeable portions of production equipment are already on hand at the plant, and others continue to arrive. While it is difficult to set down a production starting date, since this will in a large measure depend upon completion of the power plant, it is expected that it will be in early to mid-1959.

Taking into account the line of products to be manufactured and the plant's modern design utilizing mechanization to the fullest possible extent, it will be operated by a basic staff of from 120 to 150 people. This will increase as the plant expands with the need of the market it serves.

Mr. F. J. Alfeis, Works Manager, will be in charge of the Board Plant, and Mr. Lynn Sandberg, Forestry Manager, will be in charge of the timberlands.

NOTICE TO ALUMNI

If you change your address, please let us know so we can keep the FORESTER coming your way each year, and in order that our Alumni Directory will remain as accurate as possible.
PROGRESS IN FARM FORESTRY

by Fred Kekko

U. S. Soil Conservation Service

The primary role of the Soil Conservation Service in working with landowners is to provide them with a Land Capability Map from which can be developed a complete Soil and Water Conservation Plan. The Land Capability Map contains information on soil, type, percent of slope, erosion and the drainage conditions. With this information the landowner is able to make decisions on land use; for example, it would help him decide such things as whether to plant trees or perhaps clear land for pasture and crops. To date, 261 Soil Conservation District cooperators have been provided with Land Capability Maps in this district.

Here locally the Soil Conservation program as it directly affects forestry has been concentrated mostly in the following types of activities: (1) woodland improvement especially in second growth hardwoods, (2) tree planting, (3) windbreak plantings, and (4) such related practices as farm ponds and sod waterways.

Almost every Soil Conservation District cooperator has woodland on his farm. After a decision has been made by a landowner to use the land for woodland production, one of the first items to be entered in his Farm Plan is to protect the woodland from grazing and fire. The greatest share of the local woodland is second growth hardwoods which are very much in need of improvement work. In this connection the landowner’s plan contains decisions to remove culls, poorly formed trees and in many cases, do a thinning operation. For detailed management and cutting plans the Soil Conservation Service refers the woodland portion of the Farm Plan to the Michigan Conservation Department District Forester. To date the local Soil Conservation Districts of Houghton and Baraga have 350 District cooperators, 75 of which have complete detailed soil and conservation plans. The remainder are in various stages of progressing toward a complete plan.

Tree planting is encouraged by the Soil Conservation District especially on land in capability Classes 6 and 7. Most of this land should never have been cleared. The District is not encouraging tree planting on level cropland in capability Classes 1 through 3. Locally this land is used for dairy farming, potatoes and strawberries. Tree planting by small local landowners totaled 141,000
seedlings in 1957 and will total about 180,000 in 1958. These do not include any figures from larger private companies.

Some five miles of windbreaks have also been planted by District cooperators. The Soil Conservation District has helped to promote tree planting by making tree planting machines available and providing transportation for hauling tree seedlings to the local area.

Some other SCD accomplishments that are related to Forestry are the application on the land of 150 miles of sod waterways, that are used in providing good water disposal systems, and the construction of 122 farm ponds. The ponds were constructed primarily for livestock and irrigation water, but they can be used to provide water for forest fire control and serve as a source of water for spraying insect damage. The ponds have important wildlife aspects as they provide habitat for wild animals of the forest and for water fowl. The 122 ponds provide 60 acres of new water surface. These ponds are well distributed throughout both Houghton and Baraga SCD.

The above mentioned practices are all a part of a good land use program of which Forestry is a very important part here in our Copper Country area.

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GINO’S RESTAURANT, HANCOCK, MICH.
Some of the students attending Forestry Summer School at the Ford Forestry Center during the summer of 1958, will be quartered in a new dormitory building located just south of the dining room. Construction of the structure was begun last summer; it will be completed in ample time to accommodate this summer's class.

The dormitory is a roomy structure which can be adapted equally well to house 12 or 16 students. It has four 11 ft. by 18 ft. bedrooms. A 14 ft. by 25 ft. study and lounge room is located at the center of the building. Perimeter heating is made possible by ducts through which warm air can be forced through the concrete floor. This dormitory, and others which will be built as the need arises, will concentrate student activities near the classroom, mess hall, and bathroom facilities. As might be expected, the plan of the building blends well with the Center's other attractive facilities.

The K. P. work which students perform will also be easier in the future. A dumb-waiter is being installed to connect the kitchen, which is in the basement, with the main dining room above.
Although small groups have eaten in the limited space available in the kitchen, larger student classes will have to eat upstairs. The dumb-waiter will make much easier the work of transporting food. The cook also will have better quarters. A room to which she can retire is being readied in unused former cloakroom space.

Better athletic facilities will be available this year. Last summer permission was secured from the State Highway Department to build a softball diamond along the highway right-of-way. A backstop was built and a rough field was laid out. Since then an infield has been built. The ball field will be completed this year and work will be done on a volley ball court.

During the past year the area of the Center has been more than doubled by the acquisition from the Department of Conservation of 1900 acres of land. The area of the Center now is 3603 acres and it now has jack pine, red pine, and aspen timber such as did not occur on the original tract.

Nearly a hundred thousand board feet of hardwood sawlogs were logged from the Center’s forests last year and sawn in the mill. Though these logs were produced as a by-product of experimental work, summer school students made use of them in learning log grade and scale. The lumber produced enabled students to receive some instruction in lumber grading also. Students also observed the sawmill in operation; some of them actually worked in it. One of the three short courses held at the Center last year was attended by Senior foresters; they became acquainted with the expanding field of Continuous Forest Inventory.

The eight men who earned part of the summer’s expenses employed as student assistants by the Center helped greatly with the forestry work. Over 200 acres now are committed to experiments and special use.

During the past few months Mr. Philip Thornton, who has an extensive background in forest research, joined the Center’s staff. Last summer Professor Richard Crowther also was employed by the Center. More full-time and part-time research personnel have been required to keep pace with the Center’s fast-developing program.

Although only a sketchy review of activity at the Ford Forestry Center has been possible here, it serves to indicate that the tempo of work increased greatly during the past year. The picture for the future is equally promising.
DEPARTMENT SPONSORS
FIRE CONTROL CONFERENCE

On May 12 and 13 the Michigan Tech Forestry Department played host to the Midwest Conference on Forest Fire Control with Chemicals. The objective of the meeting was to present a series of live-fire field demonstrations that would evaluate sodium-calcium-borate, a chemical useful in fire suppression.

Borates long have been known for their fire retardant properties. Textiles, paints, paper, insulation, and a variety of other combustible products have successfully been treated with borates to provide a high degree of fire resistance. Now, the U. S. Borax and Chemical Corporation has developed sodium-calcium-borate, a new chemical fire retardant and suppressant, known by the trade name of Firebrake.

This borate chemical has yielded excellent results in extensive field trials in the West. This was its first test in this part of the U. S. and Canada. Objective of the live-fire demonstrations, sponsored by the Forestry Department and Institute of Extension Services of the College, was to determine the usefulness of the chemical for suppressing wildland and forest fires in several Lake States cover types.
Control of fires in dense young conifer stands, snag fires, spot fires, and slash area fires, was tested. The value of Firebrake in hazardous back-firing operations was demonstrated.

In these tests, conducted at the Baraga Plains on State Forest land, especially designed equipment was used to demonstrate the application of the chemical by conventional ground methods using modern pumping equipment. Newly developed Fluid Transporter equipment manufactured by the Four Wheel Auto Company also was employed. Also, specially designed gear for applying borate from fixed-wing aircraft was demonstrated.

In all, Firebrake was successfully used to suppress wild fires on almost 100 acres of demonstration live-fire areas during the course of the conference and field demonstrations. The largest single test, a forty-acre prescribed burn for maintenance of cover standards for sharptail grouse and/or for blueberry culture, clearly established the usefulness of this chemical as an aid in control practices on Lake States forest lands.

The conference also included displays of other fire-fighting equipment, and a banquet followed by an evening program featuring talks and motion pictures on new developments in fire fighting techniques.

The Michigan Conservation Department, and private industry of the Copper Country and elsewhere, were of great assistance in making this event a success.

RESEARCH BY THE U. S. FOREST SERVICE ON MICHIGAN'S UPPER PENINSULA

by Robert L. Cross, Research Forester
Upper Peninsula Forest Research Center

During my attendance at Michigan Tech, I was not fully aware of the program and the results obtained by the Upper Peninsula Forest Research Center. Thinking that this may also be true of some present students, I would like to discuss briefly with you some of the Center's research problems and plans.

The Center is a field unit of the Lake States Forest Experiment Station. The Station, in turn, is one of nine Experiment Stations through which the Forest Service of the U. S. Department of Agriculture conducts regional research. Because the success of a forest research program requires an intimate knowledge of the
factors affecting the productivity of the forest types within a region of similar climate, topography, soil, and economic situation, the Station’s research is carried out through field offices called Research Centers.

The central office of the Upper Peninsula Forest Research Center is at Marquette. Staff members located there are responsible for the projects in Upper Michigan. At Dukes, a few miles from Marquette, is the Upper Peninsula Experimental Forest which contains the nucleus of our past and present research projects. In addition several experiments have been established throughout the Upper Peninsula in cooperation with forest industries and other private landowners, educational institutions, the Michigan Department of Conservation, and the National Forests.

Initial work in the area was concentrated on old-growth northern hardwood management. Now sufficient information is available from these studies to allow an accurate prediction of the yield and stand development following several cutting methods. During the past 10 years, research on the management of second-growth northern hardwoods, hemlock-yellow birch types, and mixed coniferous swamps, has received increased emphasis.

One problem that we are working on is a system for preparing young second-growth hardwood stands for cutting, which will be less expensive than individual tree selection but just as silviculturally acceptable.

An equally difficult problem being studied is the establishment and early growth of yellow birch. Yellow birch is the most valuable species in the northern hardweed type, but it is a rather spotty constituent of most stands. We here at Dukes are attempting to create a desirable seed-bed through the use of logging equipment at different seasons of the year.

The mixed coniferous swamp type, which is well suited to the climate of the Upper Peninsula, presents still another problem. This type provides raw material for high-grade paper and paper products. We need to know how to manage it to obtain maximum growth and satisfactory reproduction. The northern white-cedar it contains is also the most used tree species for winter deer browse. A correlated program of management for timber and wild-life presents a very complicated situation in this type.

Many of the Upper Michigan farmers and small landowners depend upon forest products for a portion and, at times, all of their income. Cooperating in the maintenance, management, and
preparation of reports for numerous woodlot demonstrational areas here in the U. P. is also one of our functions.

There are numerous problems on which we do not have the time to perform the needed research or analysis, so some of our cooperators assist in performing this research. One of these cooperators is Dr. Gene Hesterberg, a forestry professor at Michigan Tech. He has recently published two papers through the Lake States Station dealing with the relationship of logging damage to sugar maple deterioration. Several other agencies also cooperate with us on various projects, the Center acting as a coordinator to avoid duplication of effort.

Our research findings are made available currently through a series of Station publications or in scientific and trade journals. The best way, however, to become acquainted with our work is to visit the Upper Peninsula Experimental Forest. Specific problems and questions may also be answered through direct correspondence with us.

What are the future plans for the Upper Peninsula Forest Research Center? In attempting to solve one problem, we usually uncover a number of additional ones. We plan to intensify and refine many of our present experiments, broaden our field, and include new specific problems.

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**PARTICLE BOARD**

*by Forest Products Research Division of Michigan College of Mining and Technology*

The Forest Products Research Division of Michigan College of Mining and Technology has recently participated in particle board research. Particle board may be thought of as synthetic lumber. It is made of pre-dried wood fragments of a certain specific size and thickness range. These are spray-coated with a waterproof resin glue. This mixture is then dumped into the hopper of an extruder unit, or preformed into a mat of the desired panel size and weight and then inserted into a multiple-opening, plywood-type hot press. The mat is pressed at about 325 F. and at 200-300 pounds per square inch pressure until the resin adhesive binder hardens and fuses all the wood particles together into a solid panel. The boards are conditioned to about 7 percent moisture content before shipping.

Boards are usually made from one type of wood available in the area. In the Upper Peninsula, Aspen is a desirable species,
as is Jack Pine. Boards can also be made from other species, but the lower density woods are preferred. There are four types of particle board now made commercially.

Flake-type boards are commonly produced from pulp-type bolts rather than wood waste or mill residues. This type board has the best physical and mechanical strength properties and is the strongest of all the particle boards. Some of the flake boards compare favorably with Douglas Fir Plywood in strength properties.

Splinter-type boards are usually made from ground wood particles that have been obtained from mill residues of different types. These are screened to a certain minimum size classification. Sawdust is not utilized and is considered undesirable.

Extruded-type boards are also ground wood particles that are fed into an extruder unit after proper preparation. This is a process which produces a continuous sheet which is automatically cut off into the size panels desired.

Sandwich-type boards are typified by U. S. Plywood’s Novoply. This board has a thin flake upper and lower surface and a splinter type particle for the thicker core area. The desired quantity of flakes for upper and lower surfaces are alternately supplied in the forming unit with the correct amount of splinters interspersed to form the center or core area. This loose mat is then prepressed before being inserted into the multiple-opening hot press where this sandwich-type board is formed in one final operation.

The physical properties of particle board are mostly in its favor. Flat-sawn hardwood lumber shrinks from five to ten percent across the grain, and, when quarter-sawn, shrinkage is three to six percent. Particle board, excepting the extruded type, shrinks (or swells) uniformly in all grain directions from one to two-tenths of one percent or approximately fifty to one hundred times less than lumber. In thickness gain or loss, particle boards compare directly with lumber in dimensional variation. This good dimensional stability is one of the characteristics of particle board.

Particle boards for exterior use may be considered in the experimental stage. Resin binders considered qualified for severe exposure are under development.
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