MINUTES

FIRST ANNUAL MEETING

FOREST HISTORY ASSOCIATION OF WISCONSIN, INC.
September 24, 1976

The first annual meeting of the Forest History Association of Wisconsin was called to order by the President Tom Fulk at 12:45 p.m. at the Holiday Inn, Rhinelander, with 21 members present. The meeting was convened after a tour of the Rhinelander Logging Museum and a group luncheon at the Holiday Inn.

Mr. Roger Drayna, author, historian, and writer as well as a member of the board of directors, welcomed the group to the meeting and gave a brief review of the historical sequence of logging and how many nameplaces in Wisconsin came about because of their association with early loggers or events. He also provided the focus for the Association in preserving and promoting the forest history of our state.

The president then introduced the board of directors, reviewed the history to date of the Association, making special mention of Mr. George Corrigan for his early work in developing a commemorative program, developing the articles and by-laws and the current status of the corporation.

The secretary was then called upon to review the articles and by-laws of the Association and to elaborate on the high points.

The president then reviewed some of the questions that should be resolved at the meeting, the first of which was whether an election should be held for new directors at this meeting. Motion was made by Mr. James Newman, second by Mr. Corrigan, to continue all directors now in office to the next annual meeting and to so ratify the election. Motion carried.

Mr. Frank Fixmer gave the treasurer's report for the period February 1 to September 24 as: receipts $890.00, disbursements $298.92, leaving a balance of $591.08 in the treasury that date. Motion was made by Mr. Ken Elliot, second Mr. Terry Moore, to accept the report as presented. Motion carried.

As membership chairman, Mr. Fixmer reported a current membership of 75 individual and 21 corporate memberships. A discussion followed on how to acquire more members. A number of suggestions were made that will be considered. Also, a request was made that a membership list be prepared for distribution to the members from time to time.

Mr. L. G. Sorden, program chairman, reviewed his committee's suggestions for the various programs the Association should consider. A considerable list of suggestions was presented.

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On the question of procedures on electing board members, the consensus was for the president to appoint a nominating committee to nominate a slate for the board for presentations at the annual meeting.

On the question of whether the Association should join the national Forest History Society, the president offered three alternative approaches. With approval of the group the board of directors will consider this at their next meeting.

On the discussion of time and place for the next annual meeting, Mr. Newman suggested Stevens Point as the place and offered to be the host. Motion by Mr. Sorden to accept Mr. Newman's offer. Second Mr. Lee Andrae. Motion carried.

Ms. Sue Meyer suggested that annual meetings be moved about the state and held in places of historical significance to forestry. Suggestions were also made the meeting be earlier in the year and probably held on a Saturday. The board is to consider these suggestions.

Mr. Drayna then suggested the Association consider early action on making a small number of grants to museums or others to support work related to forestry or logging history. He stated this would give the organization some visibility and fulfill its purposes for existence. A suggested grant was to the State Historical Society to preserve a glass negative collection of early logging they had.

Mr. Gordon Cunningham suggested making a grant to the Marathon County Historical Museum. Motion was made by Mr. Newman, second Mr. Sorden, for the board to consider eligible organizations and determine the contributions they are making, the size of grant and to select the recipients. Motion carried.

Mr. Drayna then moved that the Association create a distinguished service award to be given to individuals or organizations making outstanding contributions to preserving or promoting the forest history of this state. The president is to appoint a committee to make the annual selections. Second Mr. Cunningham. Motion carried.

As a method of raising additional revenue for the Association and obtaining recognition, Mr. Fixmer reported on how this was done by other associations and of his discussion with the Marathon County Historical Museum relative to a publication on the history of Marathon County. It was suggested the board investigate further.

Mr. Ivan Branham mentioned the large number of very valuable logging artifacts floating around farm yards, basements, attics, etc. in the state and wondered if the Association should make some effort to obtain and preserve them. This brought up several questions the board will consider.

Mr. Sorden suggested and moved that the Association affiliate with the Wisconsin Academy of Sciences, Arts and Letters. Second by Mr. Jay Gravens. Motion carried.

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The president then called on Mr. Ken Elliot, who is writing a history of the Nicolet National Forest, for a review of his work. Mr. Elliot wove many interesting little anecdotes into his review and read a brief portion of a chapter relating to an Indian chief he personally was acquainted with.

Mr. Sorden then reviewed his book "Lumberjack Lingo" and related many little incidents occurring in his research or connected with the lumberjack era. Both book reviews were most enjoyable and informative.

The meeting adjourned with a showing of a slide tape series called "Daylight in the Swamp." This consisted of a photo story of life in early logging camps.

Adrian J. DeVriend
Secretary

Addendum:

There being a quorum present, the board of directors authorized Mr. Drayna to write a news release on the meeting and send to the news media of the state.

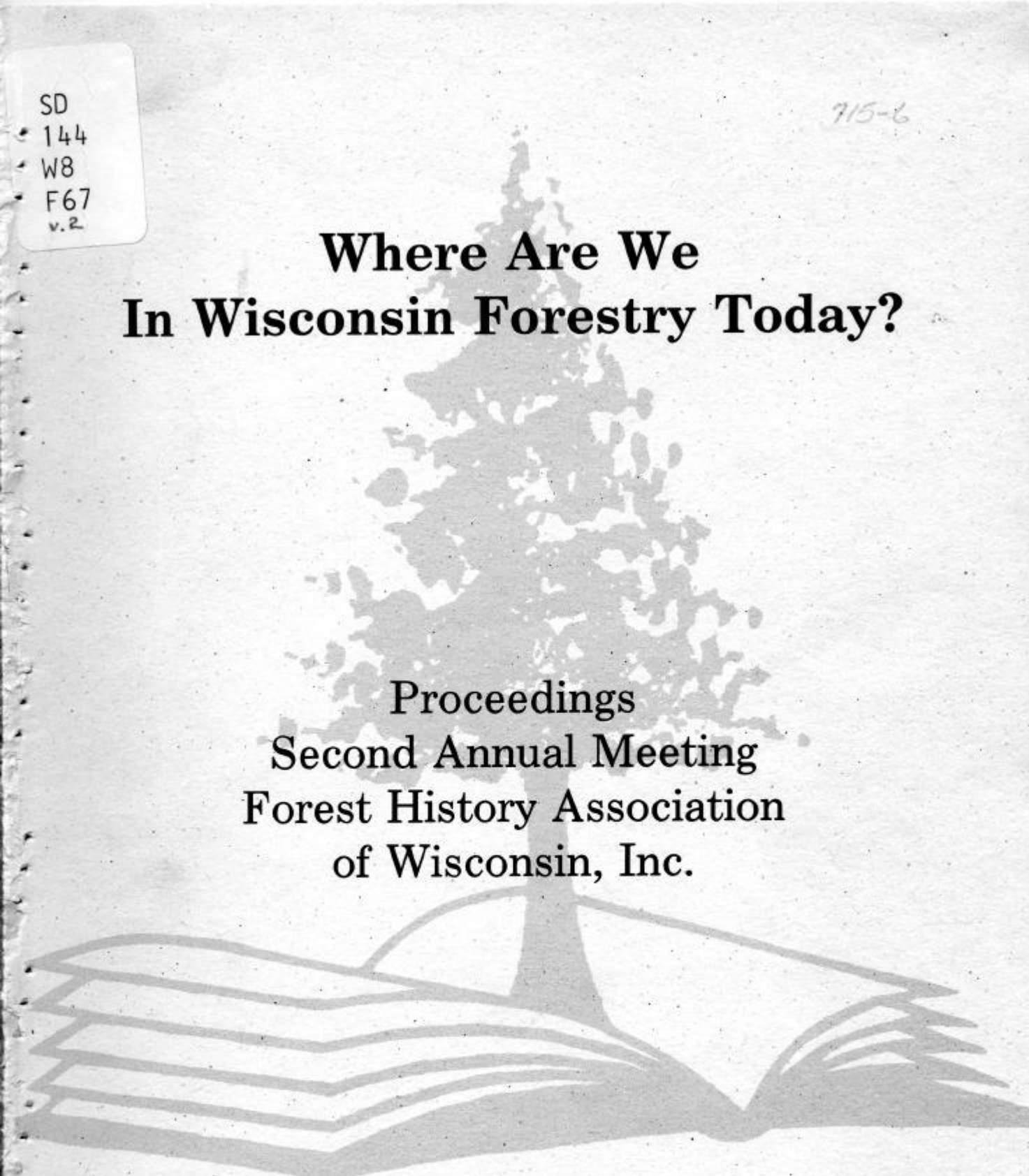
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Where Are We In Wisconsin Forestry Today?

Proceedings
Second Annual Meeting
Forest History Association
of Wisconsin, Inc.



September 24, 1977

University of Wisconsin – Stevens Point

Where Are We In Wisconsin Forestry Today?

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Founded 1975

403 McIndoe Street
Wausau, Wisconsin 54401

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Foreword

The text of this book consists of papers presented at the 2nd Annual Meeting of Forest History Association of Wisconsin, Inc., on September 24, 1977 at the University of Wisconsin – Stevens Point. Both the quality of the presentations and the enthusiastic response of the membership led to the printing of this book.

Editorial and publishing coordination was done by Ramon Hernandez of Wisconsin Rapids. Authorization of publication was approved by the Board of Directors of the Forest History Association of Wisconsin, Inc., at its meeting on February 8, 1978.

On behalf of the membership of the Forest History Association of Wisconsin, the Board of Directors expresses its heartfelt thanks to the scholars for their interesting and definitive presentations at the 2nd Annual Meeting.

The Forest History Association of Wisconsin

The Forest History Association of Wisconsin had its beginnings early in 1975 when a small group from the wood products industries, conservation agencies, and the University of Wisconsin met to discuss a potential bicentennial project which would remind our citizens of the importance of forests in Wisconsin's past and present.

Thus was formed the Forest History Association of Wisconsin, Inc., a non-profit, tax-exempt endeavor incorporated under the laws of the State of Wisconsin. Already, in the 1977-1978 year, the membership numbers over 200 (personal and corporate).

A seven-member Board of Directors serves as the Association's governing body. Association officers and directors for 1977-1978 are:

Ned Revie, Wausau, President
Roger Drayna, Wausau, Vice-President
Frank Fixmer, Mosinee, Treasurer
Ramon Hernandez, Wisconsin Rapids, Secretary
Robert Birkholz-Lambrecht, Black River Falls
L. G. Sorden, Madison
Carl Theiler, Tomahawk

The Association's corporate address is:

Forest History Association of Wisconsin
403 McIndoe Street
Wausau, Wisconsin 54401

Inquiries regarding membership may be directed to this address, as well as orders – while still in stock – for *History of Nicolet National Forest,* 1928-1976 by Kennell M. Elliott, a cooperative publication of the Forest Service, U.S.D.A., and the Forest History Association of Wisconsin, Inc.

Program

Second Annual Meeting
Forest History Association of Wisconsin, Inc.

Saturday – September 24, 1977

University Center – Program Banquet Room
University of Wisconsin – Stevens Point

8:30 - 9:00 Registration – Coffee & Sweet Rolls

9:00 - 10:00 Welcome by Daniel Trainer, Chairman – College of Natural Resources
Call to Order by President Revie
Report of the Secretary
Report of the Treasurer
Report of the President
Election of Board of Directors

10:00 - 12:00 **"Where Are We In Wisconsin Forestry Today?"**
School Forests – W. A. Sylvester, University of WI - Stevens Point
State Forests – Gerald Vande Hei, Dept. of Natural Resources
National Forests – James Berlin, U.S. Forest Service
County Forests – Arlyn Wooden, Marinette County Forester

12:00 - 1:15 Buffet Luncheon – (Adjacent to Meeting Room)

1:15 - 1:30 **Awards Presentation**
Individual making significant contribution to Forest History
Organization making significant contribution to Forest History

1:30 - 3:30 **"Where Are We In Wisconsin Forestry Today?"**
Private Forests – Gordon Cunningham, Extension Forester, U. of WI
Industrial Forests – Frank Fixmer, Mosinee Paper Corp. - Forest Mgr.
Logmarks – Jacque Vallier, Milwaukee
Record Size Trees in WI – Guy Rodgers, Dept. of Natural Resources

School Forests in Wisconsin

by William A. Sylvester
Associate Professor of Forestry
College of Natural Resources
University of Wisconsin – Stevens Point
and Forest Specialist, University of Wisconsin – Extension

School forest information in Wisconsin is presently included in the Wisconsin Community Forest Register which has been maintained by University – Extension for many years. One result of university merger was the establishment of a 25% forestry specialist position on the Stevens Point campus. Maintenance of this register was shifted to Stevens Point at that time. A survey was then initiated with the help of school, department of Natural Resources and Extension personnel to gather current information and use data on these forests. An information update was sorely needed because the numerous school consolidations of the past decade resulted in reversion of many forests to original donors. Emphasis was placed on use of the forests in all classifications of registration. Data was obtained over a three-year period and computerized for summary purposes.

The school forest idea was introduced toWisconsin by the late Dean Russell of the University of Wisconsin – Madison, College of Agriculture. On a trip to Australia in 1925 he observed school children planting trees and thought this would be an excellent educational activity in the "cut-over" region of our state. Through Dean Russell's enthusiasm, enabling legislation was passed in 1927 permitting school districts and municipalities to own land for and engage in forestry programs.

Now, 50 years later, Wisconsin's 328 public school forests totaling 25,084 acres stand as a testimonial to the activities of the late Wakelin McNeel, whom many of us knew as "Ranger Mac" and the late Fred Trenk, who was extension forester.

Our survey indicated that the emphasis in many school forests has gone from a wood production-tree planting orientation to one of resource and land management education.

Other interesting observations from the survey include the following.

1. Over 50,000 boys and girls used school forests for instructional activity during the 1976-1977 school year.
2. Tree planting had been done on 282 forests.
3. 147 forests had forest products (largely pulpwood) harvested from them.
4. Timber stand improvement has been done on 150 forests.
5. Interpetive forest trails have been constructed on 110 forests.
6. Picnic areas were made on 60 forests.
7. 24 forests have overnight camping facilities.
8. Hunting is permitted on 190 forests.
9. Only 7 of Wisconsin's 72 counties do not contain a school forest. Except for the southern and southeastern state administrative

districts, the number of forests are more or less equally divided (about 75) in each of the remaining four districts.

10. Because of class scheduling problems in secondary schools, a school forest is more apt to be used by elementary students.
11. Information on major forest cover types indicated in the survey showed:

Cover Type	No. Times Indicated
Aspen-White Birch	125
Northern Hardwood	85
Pine	227
Lowland Hardwood	65
Lowland Conifer	58
Oak-Hickory	60
Spruce-Fir	40
Grass-Upland Brush	46

Operation of an active school forest program is generally a three-sided cooperative program between the Department of Natural Resources, University Extension and the school. As an example of this type of cooperation, the current activity relating to the Tomahawk school forest serves as a good example.

At the request of the school administration, the local extension office brought together Department of Natural Resources, Forestry and Wildlife personnel, classroom teachers and extension specialists to work out a program to revitalize school forest activity.

The Department of Natural Resources undertook the making of a forest-management and wildlife management plan using high school seniors in much of the data collection process. This data was gathered in computer format and processed by UW – Extension using computer facilities on the Stevens Point campus.

Classroom teachers and the local extension office are developing applicable teaching materials. The soil conservation service has prepared a detailed soils map of the area. While taking several years to accomplish, a coordinated program involving much student participation has developed.

In many areas industrial foresters contribute time and efforts on local school forest projects. The Wausau school forest was certified this past spring as a tree farm by the American Forest Institute in recognition of the Wausau school's outstanding program.

Success of a school forest program is dependent on active, local support. There are forests which are in a holding pattern for various reasons as lack of local interest, questions resulting from school district consolidation as to who actually owns the land, etc.

The function of UW – Extension is to encourage and help with this educational process whenever possible. Other than working on a one-to-one basis, Extension is endeavoring to provide means for the exchange of ideas and teaching methods. One-day

school forest seminars have been held in 1975 and 1976 for approximately 200 area teachers on the Wausau and Manitowoc school forests. An annual statewide educational telephone network program is held each fall to provide a question-answer opportunity for educators using and administering school forests.

At the present time, consideration is being given by a committee of DNR and Extension personnel, to an update in the 1927 law to bring it in conformance to present uses of these forests by putting more emphasis on their educational uses, and provide for a re-registration at 10 year intervals.

Another current project is a "School Forest Manual" being done by several graduate students at UW – Stevens Point in conjunction with the Central Wisconsin Environmental station of UW – Stevens Point. Hopefully, this project can be completed in one year's time. Emphasis is being placed on the educational and administrative details of the forest operation.

1. An interesting program which will provide direct assistance to school systems in central Wisconsin is just getting under way at the Central Wisconsin Environmental Station. The station with federal funding is making available a team of three specialists to work with school districts and their teachers in development of outdoor education programs which, of course, can be applicable in the school forest setting.
2. Relating more directly to the forest management instruction on the school forest, the Wisconsin Department of Public Instruction, assisted by the Department of Natural Resources, forest industries and University of Wisconsin – Extension, has published (June 1977) a forestry manual for Wisconsin vocational agriculture instructors. The manual, while intended as a guide to vocational agriculture instructors, is being used as a text in high schools with school forests. The manual can be purchased for $3.00 a copy from the Department of Public Instruction.

We can conclude that school forests are very much alive and are an integral part of the environmental education program in the state. Much more can still be done.

Cooperation has been the key to a successful school forest. Time does not permit a listing of all our successful programs and the many people responsible. Our data is as complete as a mail survey permits, and is constantly changing. The community forest listing given you this morning is subject to change. If you can provide further information in your local area, please contact me.

We have an abundance of data. Trends indicated show much use in the educational process. Much more can be done. We hope to follow through as resources permit.

Note: Complete copies of "Community Forests" may be obtained free by writing to William A. Sylvester, College of Natural Resources, University of Wisconsin, Stevens Point, Wisconsin.

Where Are We in State Forestry Today?

by Gerald Vande Hei
Department of Natural Resources

We are probably all aware that from 1890-1899 Wisconsin was the leading lumber and forest products producer in the nation. In reaching this distinction millions of acres of land were cutover leaving in many cases substantial quantities of residual timber on the land. Subsequent fires large and small burned the cutover areas destroying what remained which consisted of extensive areas of young and submerchantable timber. There was only a faint, if not a complete lack of interest in forestry as a means to keep land productive for the future. Economic circumstances practically ruled out any plans for the handling of lands for forest growth on a systematic basis. Similar conditions in the utilization of the timber resources of other states had occurred and the pattern of operations and the future of Wisconsin forests was guided by the experiences common to the entire country.

It was during the period of 1900-1910 that the idea of an extensive public ownership of potentially valuable forest land began to take shape in Wisconsin. This first concept was for "Forest Reserves" and in reality these early-day units were the beginning of what we now call the Northern State Forests.

However, there was a rough road ahead. In November of 1910, the first forestry amendment to the constitution, which permitted the state to directly engage in forestry as a work of internal improvement, was passed. In the years that followed up to 1913-1915, large areas of cutover land were purchased by the state and the nucleus of the present day system of state forests was established. This overall activity was materially curtailed by the supreme court decision of 1915 in the so-called "forestry case." The supreme court at this time declared that the 1910 forestry amendment to the constitution was improperly adopted and void. It should be remembered, however, that all action taken by the State Board of Forestry was supported by duly enacted legislation. In this legislation, fundamental provisions of the State Constitution had not been followed and the supreme court in its decision declared that official actions taken were null and void.

Then at the general election of 1924, the people of the state by referendum vote of more than 2 to 1 adopted the second forestry amendment to the state constitution. It provided that the state could appropriate money for the purpose of acquiring, preserving and developing the forests of the state. It further provided that the amount appropriated in any one year could not exceed two-tenths of one mill of the taxable property of the state. A clarifying action testing the sufficiency of this amendment was shortly presented to the state supreme court and the court, by unanimous decision, approved the validity of the amendment.

It must be realized that the production of recurring forest crops is the primary purpose of forest lands, including state forests. In recent years, however, there has been a significant shifting of emphasis in the end objectives of state forest ownership. The importance of the recreational use of such lands has come increasingly to the fore. Today our forests are of greater importance to the general public as recreational areas than as

producers of forest products. The influence of the wilderness idea, the areas within the state forests held for scientific study, the roadside timber reserve strips, camping and picnicking areas and other recreational dedications, as well as protective strips along lakes and rivers have very materially reduced the acreage in all state forests for timber harvest. What the future may witness as to the use of these forest lands for public or specialized purposes other than the growing of forest crops cannot be accurately determined, but if the past is a guide to the future, the area dedicated and managed for wood products will decline as other more compelling public uses appear.

The ideas regarding the needs and purposes of state forests are fundamentally the same today as they were in the early 1900's when the program first started. The priority of public benefits to be obtained, however, has materially changed and this influence is a potent factor in the development of all working plans.

Where are we in forestry today as it pertains to state forests? The present program has what we refer to as the northern and southern state forests. The latter consist of the northern and southern unit of the Kettle Moraine and Point Beach. The overriding concept for their management is recreation, mainly camping, picnicking and education or nature study. While some forest products result from the management of these southern forests they are very minor and of a secondary nature. These three state forests total less than 45,000 acres and are managed by the Department's Bureau of Parks to satisfy the recreational pursuits of the large population centers in the southeast corner of Wisconsin. The northern state forests are of a different nature, and those I would like to dwell on. The Northern Highland-American Legion State Forest now managed as a single unit were established in 1925 and 1929 respectively and total over 207,000 acres. The Flambeau River State Forest totaling 86,600 acres was established in 1930. The Brule River followed in 1932 and consists of 37,500 acres. The Black River State Forest was formalized in 1957, following some twenty years of management as the Central Wisconsin Conservation Area. A major portion of the now 64,800 acres came from the United States Resettlement Administration of the 1930's.

Our newest state forest, the St. Croix, became a reality in 1970 following the establishment in 1968 of the St. Croix as a federal Wild River. Present ownership is 13,000 acres. The forest was established to provide a buffer to the 412 foot strip of land adjacent to the river as authorized in the federal legislation. While the management plan for the St. Croix provides for forest management including timber harvest, tree planting and forest culture, the overriding philosophy is one of protection and preservation of the unique character of the river itself.

This philosophy of preservation is indicative of the increased demands now being placed on the state forest acreage. The 1940's and 50's saw the major efforts of management directed towards the restoration of forest cover on our lands and the extensive types of recreation mainly hunting and fishing that we had accepted as compatible uses. From 1950 through the early 60's the harvest of the second forest was becoming a reality. The harvest of forest products has continued to increase since then to where we are now harvesting an average of one and a half million board feet and 70,000 cords annually, from the 400,000 acres of state forest lands.

During this same period the development of intensive recreation in the form of

campgrounds and picnic areas was superimposed on the state forests. The attendance and use of the state forests for recreation has increased from approximately seven hundred thousand to one and a half million visitors each year, during the past ten year period. The present annual use includes snowmobilers, cross-country skiers, backpack campers, trail bikes and hikers, all barely envisioned or heard of in the mid-60's.

While this is wise use of our state forest lands it has destroyed the often imagined opinion that multiple use meant every acre being everything to everybody. By the late 60's and early 70's the realization that in order to maintain high quality recreational experiences, areas of singular use must be established. This in itself does not pose the problem. The problem, however, is the large area of use that each of these pursuits must utilize. The snowmobiler and cross-country skier are not compatible on the same area; trail bikes infringe on the quiet that campers desire; and all are perhaps incompatible with wilderness, and wilderness timber management.

The terms wilderness, wild areas, and resource management zones are not new. Neither is the establishment of these zones on state forests. The Flambeau River State Forest had a wilderness river protective zone of ¼ mile wide on either side of the river established as early as 1954. Similarly wilderness areas were established on the Northern Highland. Scientific areas and aesthetic management zones on roads, rivers and lakes have been utilized in our management efforts for many years.

The important factor that has been recognized is the need for updating the future plans of our state forests to provide forest products for our wood-using industry while at the same time providing the areas necessary for a wide variety of recreational pursuits that are not always compatable.

I would like to take a few moments and point out the process of master planning that is currently underway on all of the state forests. (Map of resources zones and recreational development of the Northern Highland-American Legion State Forest.)

Master planning is a long and tedious process that will guide the management direction of our state forests. The local managers of fish, game, forestry and recreation constitute a task force whose responsibility it is to mold all of the concerns of their particular fields of expertise into a concept-plan proposal. Their proposal is then taken to public informational meetings and reviewed by the various advisory councils to the Natural Resources Board as well as other concerned resource management groups. At every level of input, compromise is imperative in order to develop the best possible plan. Following a review of all public input the concept proposal is modified as necessary and taken to the Natural Resources Board for approval.

Once approved by the Board the task force develops the master plan itself. The plan will establish what, when and where, management will take place. Once completed, the master plan is reviewed within the Department and then taken back to the Board for their approval, based on a favorable Environmental Impact Hearing. The impact statement is prepared and taken to public hearings. Final modifications or adjustments of the plan are then formalized and approved. This plan is considered a ten-year plan which is revised at the end of each management cycle. However, the overall management concept for each forest hopefully will extend for many years into the future.

Where are we in forestry today? We are at a virtual crossroad attempting to adjust the direction of our state forest management to provide as many high-quality non-conflicting recreational opportunities and outdoor experiences as possible. This must be consistent with applied silviculture to improve the future forest cover types, providing forest products for our wood using industry and the improvement of wildlife habitat all done simultaneously. This is a monumental undertaking but it is the one that our state forests are doing, and I might add doing exceptionally well.

Where Are We Today in National Forests?

By Jim Berlin
Forest Supervisor
Nicolet National Forest, Rhinelander, Wisconsin

Mark Twain's reply to an annoying inquiry was "I'm happy to give you a very definite answer to that question – I don't know." The question now – Where Are We Today in Forestry concerning the National Forests – surely is not an annoying one to me, and I don't intend to treat it in a brusk manner as Mr. Twain was prone to do – but there must be a hint of the "I don't know" in my response.

It's sort of a good news – bad news situation – but I'll spare you any of the current lines of jokes in this area to illustrate this point.

My presentation today could be considered a book report. In December of last year, the book *100 years of Federal Forestry,* written by Mr. William Bergoffen, a retired Forest Service employee, was published by the Forest Service. It is now my favorite book, combining a clear and concise style of writing with nearly 500 informative and well selected photographs. I would enthusiastically recommend this book to you – it is a must for anyone even remotely interested in Forest History. The book is available from the Government Printing Office at a cost of $3.80 – a real bargain.

I'm sure everyone here knows enough about the history of the National Forest System that only a very brief review is necessary to bring us to the present and how we got here.

To me, one of the most positive and meaningful charters ever given to any agency must certainly have been transmitted in the letter to our first Chief Gifford Pinchot from the then Secretary of Agriculture, James Wilson. This letter, written in 1905, read in part:

> "In the administration of the Forest Reserves, it must be clearly borne in mind that all land is to be devoted to its maximum productive use of the permanent good of the whole people, and not for the temporary benefit of individuals or companies . . ."
>
> ". . . When conflicting interests must be reconciled, the question will always be decided from the standpoint of the greater good of the greater number in the long run."

Seventy-two years have passed since these lines were written, and I tell you I'm proud to still have it as direction.

During the 100 years following the signing of the Declaration of Independence, the lumbermen had exhausted the forests of the East, were rapidly clearing the great pine forests of the Lake States, and would soon move on to the South and West. Many shady land deals were involved in giving away Government lands. Railroads linked the East and West and controlled great land grants in return.

Reaction to abuse of the nation's natural resources during this period gave rise to the Forestry and Conservation movement in America. In August of 1876 – 101 years past – Congress authorized $2,000 for the first Federal office devoted to Forestry. Those men who supported the measure were men of vision.

In 1905, Congress transferred the Forest Reserves from the Department of Interior to the Department of Agriculture, and we became known as the Forest Service. Two years later – 1907 – to emphasize the forests were for use, the name Forestry Reserve was changed to National Forest.

The early day activities were essentially custodial in nature, protecting the forests against fire, game poachers, timber and grazing trespass.

During the early years, research, essential to progress in any field, received increasing attention. The first forest experiment station was established in Arizona in 1908 – in 1910, the Forest Products Laboratory was established by the Forest Service in Madison.

Cooperation with State forestry departments in fire protection was established by law in 1911.

In this same year, the Weeks Act authorized the purchase of private lands as National Forests – cutover, burned over, and farmed out – mostly east of the Great Plains when there was little public domain left.

As the years passed, the Forest Service found itself involved in espousing highly controversial philosophy, such as who should control logging on private lands. Many acts were passed which gave further direction to the Forest Service. The Clarke-McNary Act of 1924 greatly expanded Federal-State cooperation in fire control and reforestation on State and private forest lands. It broadened the authority of the Federal Government to purchase private forest lands for National Forests. It provided for studies and forest taxation intended to encourage private forestry and for cooperative educational work in farm forestry with farmers.

In 1933, the Civilian Conservation Corps program began. During its nine-year life, 2,000,000 men planted over 2 billion trees, fought fires, constructed dams and roads, built campgrounds and, in general, substantially improved the National Forests in a variety of ways – most still visible and/or in use today – some 40 years later. Without doubt, each of you have many times driven on roads constructed by the CCC's – or perhaps camped in a campground constructed by them. From the vantage point of forty years, most persons conclude this was a very worthwhile program.

In 1960, President Eisenhower signed the Multiple Use-Sustained Yield Act. This legislation specifies that the National Forests shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes – in such a combination and in such a manner that they will best meet and best serve human needs.

Throughout its history, the Forest Service has had to deal with clashes of interest as various individuals and groups competed for a share of the National Forest resources. With the passing of time, as the population of our country and the demands of our people for natural resources have dramatically increased, conflicts change, but I can assure you they continue to arise. But, our Charter remains the same – the greatest good for the greatest number in the long run.

In 1974, the Forest and Rangeland Renewable Resources Planning Act was passed. It is one of the most significant congressional conservation actions in many years in that it represented the first legislative recognition by Congress that management of our natural resources can be fully effective only when planning and funding are done on a long-range basis, not year to year.

And now – here we are today. As each of you know, crystal-ball gazing is a risky undertaking, but a peek into the future, if possible, would, in my opinion, reveal the following:

1. The Resource Planning Act will help set the pace for Forest Service planning, for management protection, and development of the National Forest System; for the agency's research activities, and for programs of cooperation with the States and private landowners.
2. Controversy is not likely to subside as various interests continue to press for their share of resource allocation – or perhaps more. In many cases, the Forest Service will not totally please either side as we continue to seek the ground that will give us the greatest good for the greatest number in the long run.
3. Interest and activity will accelerate in cultural resource management – the same can be said for visual resource management.
4. There will be increasing concern for maintenance of adequate raw material supplies needed by industry, but improved techniques, accelerated forest management and protection activities, stepped up through planting programs and greater production from private landowners, will help alleviate this situation. Then, too, research must play a key role in finding ways to better utilize available resources.
5. There will be renewed emphasis – stemming from the Endangered Species Act of 1973, on wildlife habitat requirements in the National Forest System and on all forested lands.
6. Recreation trends point to greater and greater use of the forest for all forms of outdoor recreation.
7. The Forest Service will continue to be involved in various manpower and Human Resource Programs, such as Job Corps, Youth Conservation Corps, Young Adult Conservation Corps, and similar programs.

There's more, of course, but that's about as far as I'll go today. I am not looked upon as a prophet – and the role leaves me uneasy.

Where Are We Today in County Forests?

by Arlyn L. Wooden
UWEX Forester for Marinette County

Good Morning.

I'm here today to talk about the County Forest segment of "Where Are We in Forestry Today?"

You may have heard the story about the Arab who had gotten extremely rich as a result of owning some oil wells. He decided that with all the money he had he would like to buy something for his three sons.

He asked his eldest son, who was about 16, what he would like most in the world to have. His son replied that he would like to have a boat.

So his father went out and bought him an ocean liner together with the whole crew and he also bought him an ocean to sail in.

He then asked his next son, who was about 13, what he would like most to have, to which he replied he would like to have a horse.

So his father went out bought him a whole stable full of horses along with the trainers, grooms and a race track to ride on.

He then asked his youngest son, who was 8, what he would like to have and he replied that he would like to have a "Mickey Mouse" outfit.

So his father went out and bought him the Marinette County Forestry Department.

Now it may seem to many that taken individually any given County Forestry Department may seem like a "Mickey Mouse" outfit, especially when compared to the immensity of Federal, State or Industrial forestry in the State of Wisconsin. However, I think it important to keep in mind that each individual county forest plays a very important role in its respective county in providing economic, biological, social and spiritual values.

Now you take that one county and its importance to that county and you multiply that by 28 and I think you might get a fair idea of the importance of all 28 county forestry departments to the State in providing those values I just mentioned. I believe these 28 forests provide quite a force in the State.

I'm getting ahead of myself and at this time I would like to go back to the beginning of the County Forest program and look at the history of how we got here.

I would like to mention that the history I am going to talk about is primarily about Marinette County, but keep in mind that events leading up to the present day were basically the same throughout the northern part of the state and consequently the history of the County Forest program is basically the same for all of the 28 counties with county forests.

At one time, northern Wisconsin was covered with magnificent stands of white and red pine, hemlock and hardwoods on the highlands, and cedar, spruce, balsam and tamarack on its lowlands. These forests provided raw material for a thriving lumbering industry from 1880 to about 1910.

Early land settlement conformed to the expected pattern of the "plow following the

axe." The early settlers included lumberjacks and immigrants. It turned out that this early settlement was on fairly good land so agriculture prospered for they were able to sell their products to the lumbering towns of the North and to the growing cities further South.

At the close of the logging era, there were vast areas of cutover land, unprotected from fire. These lands were held principally for the purpose of land settlement. World War I produced such high land values in the corn belt that it stimulated a great movement of corn belt farmers to the north. These people were happily met by land speculators, salesmen and anyone else who had land to sell.

As the land was developed, little thought was given to the quality of the soil and nearness to markets, roads, schools and other governmental functions. People felt these would come as the land was settled and the frontier was pushed back. The great moving spirit was to sell the land, bring in farmers and promote any activity in which agriculture had a part.

As long as agricultural prices remained high, new settlers continued to flock to the county. Fires were often allowed to burn because it helped clear the land or made a better crop of blueberries. There didn't appear to be much interest in maintaining a forest cover, even on the roughest terrain that would never be used for agriculture.

A drop in agricultural prices occurred in 1920 and 1921. This resulted in a decrease in demand for cutover lands. Land companies, lumber companies with land holdings, land agents, and land speculators held on for a time but gradually went out of business.

The new settlers, with suddenly decreased income, had difficulty paying operating costs. As land contracts and mortgages became due, many settlers became so discouraged that they simply moved off. Farm abandonment became a widespread problem. In addition, bankrupt land companies, land speculators and absentee land owners ceased to pay taxes. By 1924, tax delinquency became an acute problem. Throughout the years Marinette County had taken tax-deeds on approximately 650,000 acres of Marinette County or about two-thirds of the county.

Marinette County recognized this problem and consequently they took tax-deeds on this property as soon as they were abandoned. This action prevented further tax levies on land which for all practical purposes had no owner anyway and it gave a more accurate and realistic tax base for planning the county budget.

A vicious cycle developed. Land was coming into county ownership from which there was no revenue. Also, the county expenses could not immediately be reduced so the remaining land owners had to pay higher taxes. This then forced more tax delinquency. So the problem at hand was how to stop this cycle and prevent the remaining land owners from losing their land.

In 1928, Marinette County formed a committee to study this problem. This committee, working with the College of Agriculture of the University of Wisconsin assembled a clear and objective report of the problem which was published in 1929. As a result of the recommendations of this report, Marinette County undertook the establishment of county forest reserves. Then, in 1930, Marinette County entered 14,003 acres under the new Wisconsin Forest Crop Law. They were the first county to do

so and this marked the beginning of the present day county forest program.

We just took a short look at how the county forest program was started. Now let's take a look at where we are today.

In 1930, it started with one county entering lands under the County Forest Program. Today there are 28 counties who have lands in this program.

The initial entry under this program was 14,003 acres. Today the 28 counties involved have over 2¼ million acres entered. This total represents more acreage in the State of Wisconsin than the State and Federal lands combined.

After these forests were established the next problem was to rebuild the forest. Remember that many of these lands were denuded of forest cover by logging, fires and farming so these areas had to be restored. Fire protection by the state DNR allowed much of the land to restock naturally; however, a lot of land still had to be planted. In 1933 almost 3 million trees were planted on 2,300 acres. Today there has been nearly 200 million trees planted on nearly 200,000 acres.

Because of the conditions of the forests at the start of the program, timber sales and timber sale income was slow to start. The first timber sale was in 1935. A total of 115 cords of wood was cut, bringing in a total revenue of $23. In fiscal year 1977, nearly 270,000 cords and 5 million board feet were cut for a total sales value of over 1.5 million dollars. Totally throughout the program almost 4.5 million cords have been cut as well as over 100 million board feet for a total value of over 16 million dollars.

Today the county forests are responsible for supplying primary employment for literally hundreds of people and secondary employment for hundreds more. The economic impact of these forests is substantial.

In addition, these forests provide 1,200 campground units, 10 miles of nature trails, 1,500 miles of snowmobile trails, 350 miles of walking and hunting trails, 8,000 linear feet of swimming beach, 185 boat landings, and nearly 100 waysides, plus numerous other recreational facilities.

The progress made by the counties in developing these forests are largely the result of four factors:

1. State legislation which provided funds for support of the local government while forest resources were being restored. They still provide funds today.
2. The DNR provided protection against fire and assistance in management and growing of planting stock.
3. The University of Wisconsin – Extension provided guidance in planning and assistance in management.
4. The various county boards provided additional funds as well as office and field staffs to do the necessary work.
   The counties also administer the programs.

It has taken over 40 years to get the county forests to where they are today, and

getting here has not been easy. As I just pointed out, it has taken a lot of work by a lot of people in different agencies to bring this about. There has been a lot of cooperation through the years.

Now, what does this all mean?

I mentiond before that each forest plays an important role in providing economic, biological, social and spiritual values in its respective county. I think that all 28 of these forests provide these same values to all the people of the state of Wisconsin. I don't think there is any question that these forests are important to everyone.

County forests occupy a niche no other forest does — somewhere between the production of the industrial forests and the wilderness trends of the state and federal forests.

We are proud of our forests and I don't think, considering the accomplishments, that we are a "Mickey Mouse" outfit.

Where Are We in Private Forests Today?

by Gordon Cunningham
Extension Forester, University of Wisconsin
Madison, Wisconsin

Private forests, in this discussion, are those non-industrial, privately-owned farm and "other private" woodlands less than 5,000 acres in size.

They include about 60 percent of the commercial forest land in Wisconsin. As you can see in Figure 1, this is by far the largest ownership group in the state and 62 percent of all trees harvested in 1967, the last year reported, came from these lands. These small private forests also include 60 percent of all commercial forest land *nationally,* as Figure 1 shows.

Although these private woods have continued to include about 60 percent of all forests during the last 3 inventories (1952, 1962, 1970), ownership is shifting from farm to "other": i.e., rural residents and absentee owners. In 1952, 41 percent was in farm woodlands and 20 percent in "other"ownerships. As of 1970, the area in farm woods was down to 33 percent, and "other private" had risen to 27 percent. This is evidence of the move by urban people back to the land, or at least to ownership of rural land.

Many motivational studies have been made to learn the reasons for ownership of small private forests. Generally, the reasons given have been "economic" (income or investment), "recreation" (from quiet, beauty, nature study, walking, to hunting), "multiple-use," and "land ethics." At six conferences for woodland owners held last February and March in Superior, Eau Claire, Stevens Point, Milwaukee, Madison and Green Bay, reasons for ownership were: Recreation-34%, Investment-24%, Residence-21%, and crops-21%. Those who attended the conferences in Superior and Eau Claire rated 'crops' above investment while those attending in Milwaukee and Green Bay rated 'crops' last.

Because more than 60 percent of our wood comes from these small forests, management of them for continued crops of wood, as well as other benefits, is of great importance to our material and economic well-being. But our present forestry situation is challenging to say the least. The growth of our forest acreage is tapering off. We're losing about 35,000 acres of woodland annually in Wisconsin by conversion to production of food crops, to homesites, to highways, to power lines; and by nature's surprises such as the cyclone up-north on the Fourth of July, 1977. At the same time our demands for wood continue to grow. If present growth and removal trends continue, removals will exceed growth by about the year 2000. We'll have to manage more intensively *most* forests, including these small private woods in order to push up that growth curve so we'll have a few more years to fit our removals to the volume of wood we can grow, without depleting our forests. If we ever let removals exceed growth our forests will no longer be 'renewable.'

Anyway, for small forests the present challenge in forestry is this: only 5 percent of small forests are now being managed intensively for wood crops. Owners of about ⅓ have

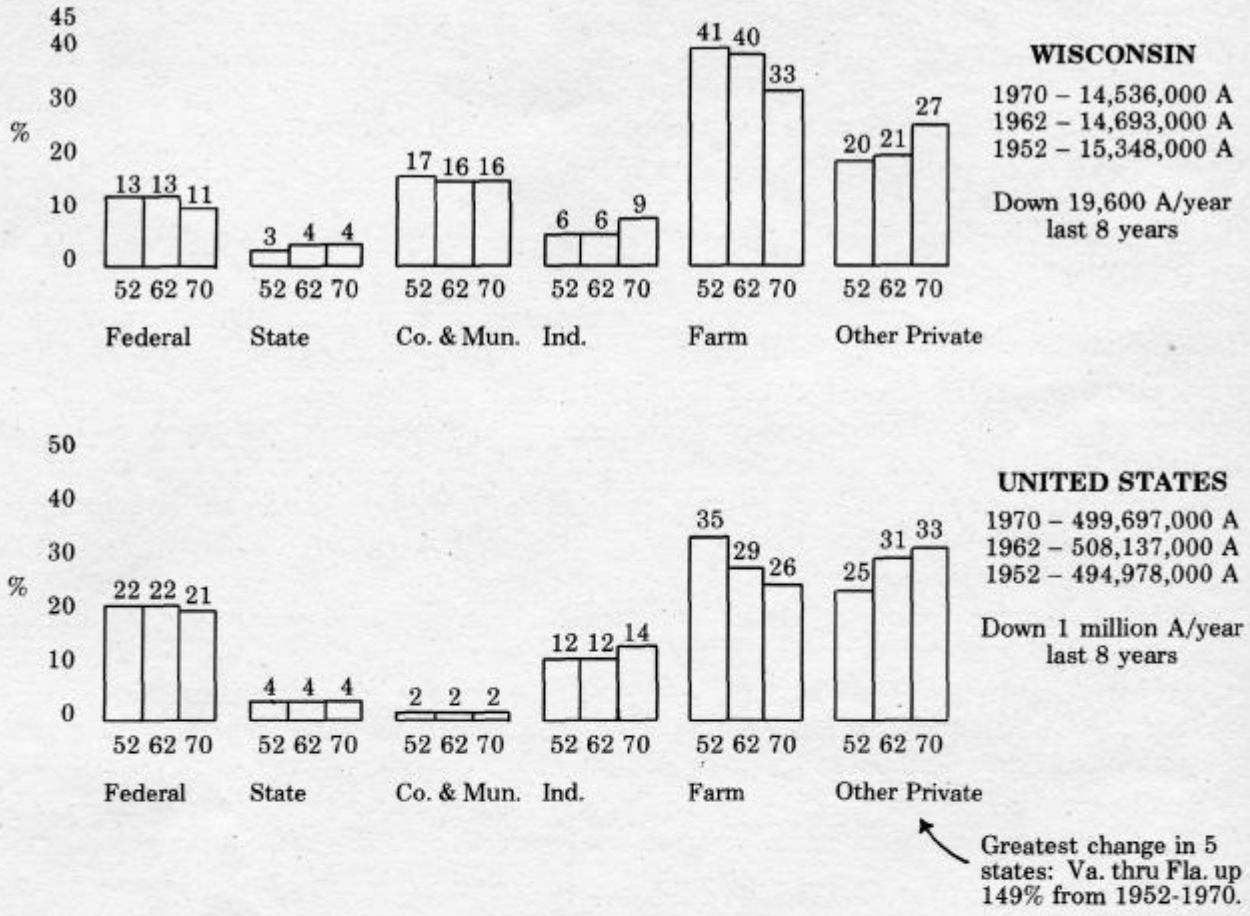


FIGURE 1. Changes in Ownership of Commercial Forest Land, Wisconsin and United States, 1952-1970, in Percent of Area.

("Forest Statistics for the United States, by State and Region, 1970," Forest Service, U.S. Department of Agriculture, 1972)

some interest in such management. Owners of about ½ have no interest in management for wood crops, and 15 percent exclude wood crops from consideration entirely.

By the way, 5 percent is also about the number of these owners who receive forestry guidance annually. If only 1 in 20 receive guidance, or each receives guidance once every 20 years, little overall intensive management can be anticipated.

What will encourage more intensive management? More and higher-priced markets are arousing more interest. For example, until recently, pine plantation owners in southern counties couldn't sell the trees they had to thin-out to keep the remaining trees healthy; now excellent markets exist.

The energy situation is creating new interest for some owners in their woods –for crops of firewood; hopefully, there will be subsequent interest in management for other crops, too.

Benefits of the Woodland Tax Law and Forest Crop Law will become more attractive as property taxes rise. Direct financial assistance for planting and improvement work will encourage those who know *they* may not reap the crops.

Recognition of those who conserve their forest resources instills a stronger sense of stewardship in others. The Tree Farm program of the American Forest Institute is an excellent example of giving recognition to encourage wise use.

We must realize, of course, that more intensive management will require more foresters; WDNR, consulting and industrial Tree Farm foresters.

An example of intensive management today for wood crops, watershed protection, investment, wildlife habitat, and recreation is that carried on by tree farmer Francis Greenneck of Buffalo County. He has planted over 500,000 trees on land too steep for food crops. He harvests cull trees from his hardwood stand for firewood. He prunes his planted walnuts. He shears and sells Christmas trees. He prunes saw timber trees. He harvests timber crops. And his WDNR forester stays slim just keeping ahead of him.

Our success with forestry today and in the future in private woodlands depends upon markets (these are improving); upon more understanding about forest and forestry by both forest owners and forest users (and this meeting is an example of growing interest); upon adequate management assistance so more of those small forest owners can call on foresters without having to wait three to six months (more foresters are needed) for management guidance; and upon recognition of those forest owners who show the way in forest conservation (as via the tree farm program). We have about one generation in which to decide how we will keep our forests 'renewable'!

A Short History of Industrial Forestry in Wisconsin

by F. N. Fixmer
Forester, Mosinee Paper Corporation, Mosinee, Wisconsin

Industrial forestry in Wisconsin became an informal industry-sponsored activity in August, 1944. This is not to imply that forestry programs by individual companies did not exist prior to that time. On the contrary, it is well-documented that such foresighted and progressive forest-based corporations as the Goodman Lumber Company, Tomahawk Kraft Paper Company, Nekoosa-Edwards Paper Company, and the Consolidated Water Power and Paper Company began their respective forest management programs in the 1920's. Their corporate names have all changed over the years, but their forestry practices have expanded and intensified to a highly significant degree.

The term "industrial forests" was adopted, rather than that of "tree farms," which were then proliferating in the West and South, because it appeared to describe more aptly the objectives of the forest ownerships. It was also decided that an industrial forest should consist of at least 1,000 acres of managed forest lands, and that certification of such properties was to be done by the Wisconsin Conservation Department upon verification of the owners' management program.

The sponsoring organization was the Wisconsin Forest Industries Information Committee, which, in 1944, was an arm of the National Forest Industries Council, which in turn, was an umbrella for a group that included the National Lumber Manufacturers Association, the American Pulp and Paper Association and the American Pulpwood Association. Members of the F.I.I.C. then included such forest industry leaders as Folke Becker of the Rhinelander Paper Company, John Stevens of Marathon Paper Mills and F. E. Sensenbrenner of Kimberly-Clark Corporation. Under their leadership and the encouragement and cooperation of other industry chief executives, land acquisition and management policies were formulated by a number of companies. Instrumental in the implementation of those policies were such pioneer industrial foresters on the Wisconsin scene as F. G. Kilp of the Nekoosa-Edwards Paper Company, C. G. McLaren of the Tomahawk Kraft Paper Company and E. B. Hurst of the Consolidated Water Power and Paper Company. Their expert guidance in the earlier years of industrial forestry in Wisconsin laid the groundwork for a statewide program that drew national attention.

The public record of the 1920's is both obscure and fragmentary as to the total area of managed forest land that was to qualify for the eventual designation of industrial forests. If we use the Forest Crop Law as a possible indicator, that acreage would appear to have been relatively small, because in the ten-year period from 1928 thru 1937, only 95,215 acres were enrolled by nine companies under that forest tax program. Yet, only four years later, in 1941, a Wisconsin Conservation Department report disclosed that 800,000 acres were then industrially-owned or operated, of which about 163,000 acres were "handled under some form of forest management plan."

Subsequently, as of 1942, a total of nearly 100,000 acres were protected from excessive taxation by the Forest Crop Law. These were owned chiefly by one lumber

company practicing selective cutting, and three paper companies engaged in reforestation. It is noteworthy that the planting programs of those three paper companies in 1941 gave Wisconsin a high rank among all states in acreage of land reforested by industrial firms.

The most recent analysis of industry-owned land enrolled under the Forest Crop Law was for the year 1971. At that time, 19 companies had 521,248 acres classified as forest crop lands and were thereby certified as practicing forestry in accordance with generally accepted standards of management.

On the other hand, *14* of these same companies have participated in the National Tree Farm Program sponsored by the American Forest Institute. Statistics compiled for Wisconsin as of January, 1976, show that 1,351,535 acres have met the qualifications needed for certification under that program. That figure is probably much closer to the actual acreage being managed as industrial forest today. However, the involvement of these and other timber-using firms goes much beyond their participation in Forest Crop and Tree Farm programs. In their day-to-day contracts with small private owners, who often are the sources of a considerable volume of various timber products needed by industry, industrial foresters implement the efforts of the more numerous public agency foresters in convincing them of the merits of good forest management practices.

TREE FARM ACREAGE OF INDUSTRIAL OWNERS — JANUARY — 1976

(WISCONSIN ONLY)

1.	American Can Company	111,951 Acres
2.	Badger Paper Company	3,170
3.	Branham Woodland Products	4,930
4.	Connor Forest Industries, Inc.	40,785
5.	Consolidated Papers, Inc.	244,702
6.	Kimberly-Clark Corp. (Champion International)	26,295
7.	Menominee Enterprises	220,000
8.	Mosinee Paper Corporation	85,378
9.	Nekoosa Papers (Great Northern-Nekoosa)	229,651
10.	Owens-Illinois	245,450
11.	St. Regis	1,817
12.	Tigerton Lumber Company	40,830
13.	Universal Oil Products (Louisiana-Pacific)	66,496
14.	Wausau Paper Mills Company	30,080
	TOTAL	1,351,535

Not Yet Certified Under the Tree Farm System

Boise Cascade	*14,000*
Patterson Brothers	*2,156*
Pukall Lumber Company	
Weshke, Carl (Bayfield County)	*5,729*

No account of the origins and progressive development of industrial forestry in Wisconsin would be complete without reference to the role it has played in the birth and growth of the Trees for Tomorrow program. Begun in 1944 by a group of 9 paper companies, and soon thereafter joined by several power companies, the initial efforts of Trees for Tomorrow were directed toward increasing pulpwood production to aid the war effort. Concurrent with that goal, a campaign was conducted to step up the pace of reforestation on small private forest land ownerships, to literally grow more trees for tomorrow. Eventually the organization distributed and machine-planted some 22,000,000 trees.

In due course, it was perceived that the management of forest lands was even more important than tree planting. Accordingly, Trees for Tomorrow operations included in-the-field services of a forester throughout a 14-county area and management plans were prepared for about 370,000 acres of private woodlands. It is important to emphasize at this point that the financing of these activities came primarily from the supporting industrial firms, with supplemental income derived from donations and workshop fees.

Today, the Trees for Tomorrow Environmental Center has become a focal point for conservation and environmental studies by thousands of students, educators, land-owners, and forest-users of all types.

According to a Wisconsin Conservation Department report in 1943, all forest-based industries in Wisconsin in 1941 employed a total of 6 professionally-trained foresters, along with 5 non-technical aides. In 1954, another survey indicated that 45 foresters were employed by industry. Today one major company alone has 13 graduate foresters and another has 25, all in management, operations, wood procurement and technical support! By last count, Wisconsin forest-based industries had a total of at least 80 foresters and 14 non-professionals growing, managing, harvesting, or buying timber crops for their respective mills.

In conclusion, it is appropriate to mention that many forestry practices of today – ranging from nursery operations to the harvesting of mature timber crops – are often considered commonplace by both the general public and the forestry profession. Yet few realize that many of the advances in equipment, machines and techniques have been the result of research, experimentation and development by industrial foresters on their company forests. Time does not permit any detailing of these contributions – hopefully they will provide the basis for a future and more detailed dissertation – but suffice it to say that these contributions to all aspects of forestry have been considerable. The accomplishments of the past 50 years will probably be but a fraction of what industrial forestry will contribute to Wisconsin forest history in the future.

A chronological listing of the more significant events in the history of industrial forestry in Wisconsin would include the following highlights:

1923 – Consolidated Water Power and Paper Company's president, George W. Mead I, experiments with reforesting burned-over land by planting spruce and pine seedlings in a barren field near Biron.

1925 – Nekoosa-Edwards Paper Co. hires the first industrial forester in Wisconsin, F. G. Kilp, and begins the first industrial forestry program in the Lake States with the establishment of its Nepco Lake tree nursery.

1926 – Goodman Lumber Company initiates selective cutting practices on its hardwood forest lands in Marinette County.

1927 – Tomahawk Kraft Paper Co. employs C. G. McLaren as its first professional forester and undertakes a study showing the desirability of acquiring forest lands for sustained production.

Landmark Forest Crop Law is enacted, providing a tax incentive for private landowners to practice forestry.

1928 – Two lumber companies and two paper companies enter a total of 7,223 acres under the new Forest Crop Law.

Tomahawk Kraft establishes a forest tree nursery to implement its reforestation program.

Connor Lumber and Land Co. adopts selective cutting policies in Forest County which are later applied to its Michigan timberlands.

1929 – Mosinee Paper Mills Company begins timberland acquisition but the onset of the depression era forces discontinuance of its planned forestry program.

1930 – Nekoosa-Edwards builds and mans a fire look-out tower overlooking its Adams-Wood County forest lands, and enters into a cooperative fire control agreement with the Wisconsin Conservation Department which was believed to be the first of its kind between an industrial and state organization.

Consolidated hires its first professional forester, E. B. Hurst.

1931 – Consolidated establishes a forest nursery at Biron.

1943 – Rhinelander Paper Company begins its reforestation program.

1944 – Trees for Tomorrow is organized by nine paper companies, with Folke Becker of Rhinelander Paper Company as its first president.

Mosinee Paper Mills employs its first professional forester, resumes its land acquisition program and becomes the first private landowner to use a mechanical tree planter, supplemented by women and high school students for hand planting, due to war-time manpower shortages.

1946 – Tigerton Lumber Company reappraises its cut-out-and-get-out policy and embarks on a program of forest management and the re-acquiring of lands it had formerly owned.

National Container Corporation buys Tomahawk Kraft, expands its forestry staff, accelerates its land acquisition and intensifies its forest management.

1948 – Consolidated establishes a 2000-acre experimental forest near Monico for forestry research purposes and for the application of that research to practical forest management.

1949 – National Container develops the first whole tree chipper for the maximum utilization of its aspen and hardwood resource to supply its new semi-chemical pulp mill.

C. V. Branham Lumber Company initiates its land acquisition program.

Nekoosa-Edwards celebrates its 25th anniversary in industrial forest management with a forestry field day attended by Governor Rennebohm and other dignitaries.

1950 – Lake States Council of Industrial Foresters is organized, with notable support from Wisconsin representatives.

1951 – Mosinee Paper conducts the first aerial insect control project by a private forest landowner, on 3000 acres in Douglas County infested by the pine tussock moth.

1953 – Mosinee Paper cooperates with Koppers Co. in the construction of a post-peeling plant which is supplied by thinnings from Mosinee's pine plantations and over-stocked stands.

1955 – Forest Pest Control Act, with major support from industry, becomes law.

1956 – Owens-Illinois acquires National Container Corporation and its timber-lands.

Mosinee Paper aerial sprays 22,000 acres in Douglas Co. to control a major jack pine budworm epidemic.

St. Regis Co. acquires Rhinelander Paper Co.'s industrial forest and established permanent plots for a continuous forest inventory

of its forest lands. Concurrently a 20-acre forest nursery was started with production in excess of one million transplants annually.

1957 – Wausau Paper Mills begins its forestry program with the purchase of a block of forest lands in the Ringle area east of Wausau.

1958 – Owens-Illinois applies the continuous forest inventory system to its Wisconsin timberlands.

1960 – St. Regis conducts the largest single reforestation program in the state with 1,150,000 transplants planted on company lands.

1969 – Mosinee Paper becomes the first industrial forest owner in the Lake States to acquire an S.F I. scarifier for site preparation prior to planting of clear-cut lands.

1970 – St. Regis phases out its nursery after completing the planting of over 10,000 acres.

1973 – Wausau Paper begins a systematic inventory and evaluation of its 44,000-acre industrial forest.

Evans Forest Products Co. begins a land acquisition and tree farm family program.

1974 – St. Regis sells 117,000 acres of its industrial forest in Wisconsin, most of which becomes integrated into the industrial forests of other wood-using companies.

1975 – Boise-Cascade purchases Evans Forest Products Co. and re-activates its tree farm family program.

1976 – Consolidated Papers conducts large scale salvage operations on Oneida Co. timberlands that are severly infested with the spruce budworm.

1977 – Nekoosa Papers and Mosinee Paper suffer extensive losses from major forest fires in south central and northwestern Wisconsin. All industrial forests with conifer plantations experience losses from the drought of 1976. Consolidated Papers and Owens-Illinois sustain major damage and losses from a devastating windstorm across Sawyer, Price and Oneida counties.

Lakes States Log Marks

by Jacque D. Vallier
Milwaukee, Wisconsin

During the earlier days of logging in the Lakes States when logs were floated downriver to the sawmills, ownership of logs was designated by marking the logs with a log-marking hammer. L. G. Sorden in his great little book *Lumberjack Lingo* gives us several synonyms for the term log-marking hammer – Log Stamp – Stamp Hammer – Stamper. These hammers varied in size and weight. Some weighed as much as six pounds. They were made commercially in city foundries close to the Lakes States. Relatively few were made by the local blacksmith. Most were made of cast iron and a few were made of brass.

Log-marking hammers should not be confused with log-marking axes. Log-marking hammers were used to place "End Marks" in the cross grain of the wood, while log-marking axes were used to make the "Side Marks" or "Bark Marks" on the longitudinal grain of logs. Log-marking axes were called "Catcher's Axes." These axes were double-bitted with handles approximately five feet in length. Log-marking axes were made by various companies in the United States. Among the most well-known were the Marshall Wells Company of the St. Paul-Minneapolis area and the Kelley Axe Company of Louisville, Kentucky. Both companies made what they called their "*hand-made axe.*" Actually, these two companies made most of the axes that were used in the Lakes States logging operations. It is interesting to note the long inscription on one of the Kelley Perfect Axes:

"W. C. Kelley Perfect Axe"
Pat'd May 13 & April 23, 1883
Made By
Kelley Axe Mfg. Co.
Louisville, Ky.

> The Kelley *PERFECT AXE* is made of the finest steel and is hand-hammered, tempered and treated before leaving the shop. The blade is so sharpened it will cut deepest but will not bind in timber. It will burst the chip and it will not become stubbed after grinding. It has a taper eye which will fit the handle and you should use no other."

Many thousands of different log-marking hammers were made during the "River Drive" days of logging in the Lakes States. One logging company is said to have offered a thousand dollars to anyone who could produce a new and workable design for a hammer. Hammers had embossed letters, numbers or configurations on the heads. When the cross grain of the log end was struck with a hammer, the mark of ownership of the company was deeply imprinted in the log. Thus, when the logs so marked arrived at the downriver sorting gap, log ownership was easily and quickly established. It is obvious that some such marking system had to be established since several logging companies might be using the same driving river at the same time. Companies frequently (almost yearly)

changed their "Marks" by using different hammers. Even with such a system of ownership marking of logs, pirating of logs as they floated downstream did take place. Log owners soon realized that to stop log-pirating they would have to mark their logs with "Side Marks" or "Bark Marks." As described above, these marks were applied to the long grain of the logs with a "Catcher's Axe." It was the common practice of log pirates to simply cut off a few inches at both ends of a log and apply their own end mark. Side marks eliminated such pirating.

What has happened to most of the log-marking hammers? Relatively few have been saved and preserved. Most went into the scrap drives of two World Wars. The best record of Lakes States log marks can be found in a small W.P.A. Writers Project pamphlet entitled "Michigan Log Marks." This work was published in 1941. In Minnesota and Wisconsin the record of log marks is rather poorly recorded. Very few of the original log mark registries remain today. They have been lost or destroyed by fire. In Wisconsin only a few of the registries are preserved in the State Historical Library at Madison, Wisconsin.

Each of the following museums in Wisconsin have some log-marking hammers on display:

1. Connor Camp Five Museum at Laona, Wisconsin.
2. Paul Bunyan Logging Museum at Eau Claire, Wisconsin.
3. Downesville, Wisconsin History Museum.
4. Wabeno, Wisconsin Logging Museum.
5. Marinette, Wisconsin Museum.
6. History Land at Hayward, Wisconsin.
7. Rhinelander Logging Museum at Rhinelander, Wisconsin.
8. Menominee Logging Camp Museum, Keshena, Wisconsin.

There are some fifty people in Wisconsin who own from 1 to 25 hammers. The largest known collections in Wisconsin are:

1. Mr. Jacque D. Vallier (Menominee Logging Camp Museum at Keshena, Wis.) Over 200 hammers.
2. Mr. Norman Maxon, Ladysmith, Wis. – over 50 hammers.
3. Mr. Howard Peddle, Iron River, Wis. – over 50 hammers.
4. Mr. Erwin Trantow, Merrill, Wis. – over 50 hammers.
5. Mr. Eugene Harm, Cadott, Wis. – over 50 hammers.

Today, these log-marking hammers, mementos of a bygone age in Lakes States forest history, have become collectors items. Antique dealers and collectors have been known to pay as much as fifty dollars for a single hammer. The author recently turned down a hammer being offered for fifty dollars. He did this for two reasons: first, he thought fifty dollars was too much to pay and secondly, he was not certain that the hammer was authentic – it looked very much like a reproduction! The author offers this word of caution: "Buyer Beware." Recently the author had occasion to visit a small foundry in northwestern Wisconsin. This foundry occupied an old dairy barn. On

entering the premises the author rapped at the homestead door and the housewife answered the knock. The author asked where the owner was and his good wife replied: "Oh, he's out in the barn making antiques!" And so he was! Among the "antiques" being made in this out-of-the-way foundry were *log-marking hammers*!!! Some were dumped behind the barn to rust and age before being offered for sale! Again: "Buyer Beware!"

(Jacque D. and Dora Vallier developed the Menominee Logging Museum at Keshena, Wisconsin.)

Record Size Trees in Wisconsin

by Guy W. Rodgers
Supervisor, Private Forests
Department of Natural Resources

I think most people would agree that trees are among the most beautiful and enduring creations on this earth of ours. Trees generate great interest from people in all walks of life, especially in these days of heightened environmental concern, and have values that go far beyond those obvious material benefits that we enjoy every day.

Really large trees hold special interest, both because of their probable old age and the fact that they may be unique biological specimens. Old trees of any size have witnessed much in the way of history and, of course, there are many such trees which are identified and preserved because of their historical significance.

Of necessity, the Department of Natural Resources' interest and activity is limited to trees as biological specimens, and our records deal only with trees of large or record size.

Much of the credit for the data and records available on record size trees must be given to Walter E. Scott, now retired from the Department of Natural Resources. Mr. Scott's interest in and dedication to documenting large trees continues in retirement as evidenced by his recent publication on large oak trees in the Madison area.

The Department's records on large trees date back to the early 1940's and include information on well in excess of one thousand trees. As an example, over 100 large or near record elm trees are documented.

With Walter Scott's retirement, the responsibility for exotic tree species records was given to Professor Ed Haselkus of the University of Wisconsin, Madison, faculty, while native tree record keeping was taken on by the Department of Natural Resources' Bureau of Forestry. As in the past, the Department field staff foresters contribute valuable assistance in locating, identifying and measuring record size trees.

Unfortunately record tree listings become outdated quickly with the discovery of new specimens, and the ever present risks to past recorded trees. The last update of Wisconsin native tree records was published in 1975. The Department also receives periodic revisions to the list of national champions.

What is a record size tree? In order to give proper weight to all dimensions of tree growth, champion size trees are judged on three measurements:

1. The circumference in inches at 4½ ft. above the ground.
2. The total height in feet.
3. The crown spread in feet.

Using the formula circumference in inches plus height in feet plus ¼ the average crown spread in feet, a point total is arrived at which determines the record size tree. Unfortunately, because of the relative case of measurement, many trees which have been recorded show only the circumferences measurement and, therefore, cannot be considered for record status.

People's natural interest in trees, especially large ones, suggests that with encouragement and minimal promotion a good deal more activity in searching out champion trees could be generated. I must admit that because of limited manpower and time we have hesitated to give full rein to the potential of this program.

As was mentioned before, the major problem is that of keeping the champion list current. Trees grow, die, and suffer the innumerable ravages of storm, insects and disease and advancing civilization, all of which contribute to a constantly changing cadre of record trees.

Department of Natural Resources

WISCONSIN'S BIG TREES
A LIST OF STATE RECORD TREES AS OF MARCH, 1975
(ONE AMERICAN RECORD APPEARS IN ITALICS)

Common Name (Genus, Species)	Location	Circumference 4½ ft.	Total Record Points
Ailanthus, Tree of Heaven (Ailantus altissima)	57th Street, Kenosha Kenosha Nat'l Bank (Kenosha County)	5'6"	124
Alder, Speckled (Alnus rugosa)	Kohler State Park (Sheboygan County)	1'8"	50
Arborvitae, or White Cedar (Thuja occidentalis)	George Behringer Land Town of Cooperstown (Manitowoc County)	12'5"	248
Ash, Black (Fraxinus nigra)	Pat Kileen Timber, Sarona (Washburn County)	5'11"	187
Ash, Blue (Fraxinus quadrangulata)			No Wisconsin Data Available
Ash, Green (Fraxinus pennsylvanica lanceolata)	Lex Brown home, Newville (Rock County)	13'	234
Ash, Red (Fraxinus pennsylvanica)	4 miles north of Creston (Green Lake County)	10'3"	204
Ash, White (Fraxinus americana)			Incomplete data available
Ash, Common Prickly (Zanthoxylum americanum)	¼ mile N from Highway 14 on Blynn Rd. (Iowa County)	2'3½"	86
Aspen, Bigtooth (Populus grandidentata)	Rusk County Forest (Rusk County)	8'1½"	202
Aspen, Quaking (Populus tremulades)	Town of Cleveland (Chippewa County)	7'7"	205
Baldcyprus (Taxodium distichum)			Incomplete data available
Basswood (Tilia americana)	In front yard of Waszong farm, Town of Beaver (Polk County)	9'6"	225
Beech, American (Fagus gradifolia)	On Lake Bluff in Grant Park (Milwaukee County)	9'5¼"	213

Common Name (Genus, Species)	Location	Circumference 4½ ft.	Total Record Points
Birch, Paper (Betula papyrifera)	Jules Blaha property, Town of Oma (Iron County)	9'	204
Birch, River (Betula nigra)			Incomplete data available
Birch, Yellow (Betula lutea)	White Deer Girl Scout Camp (Forest County)	13'7"	253
Boxelder (Acer negundo)			Incomplete data available
Buckeye, Ohio (Aesculus glabra)	707 N. Broadway, DePere, Wis. (Brown County)	8'3"	177
Butternut (Juglans cinerea)	Neil Rymer property, Rt. 2, Oconto Falls (Oconto County)	9'4"	214
Catalpa, Northern (Catalpa speciosa)	312 Polk St., Sauk City (Sauk County)	11.52'	220
Cherry, Black (Prunus serotina)	5760 Bittersweet Place, Madison (Dane County)	11'4½"	216
Cherry, Pin (Prunus pennsylvanica)	Bertha Pearson property, Wausau (Marathon County)	3'	76
Chestnut, American (Castanea dentata)	Einar Lunde property, Trempealeau (Trempealeau County)	9'9"	183
Chokecherry (Prunus virginiana)	Catholic Resurrection Cemetery, Madison (Dane Co.)	3'	77
Coffeetree, Kentucky (Gymnocladus dioicus)	409 High Street, Mineral Point (Iowa County)	5'9"	151
Elm, American (Ulmus americana)	Edgar Boeing farm (Richland County)	23.2'	401
Elm, Rock (Ulmus thomasii)			Incomplete data available
Elm, Slippery (Ulmus rubra)			Incomplete data available
Fir, Balsam (Abies, balsamea)	Kenosha National Bank, 57th St., Kenosha (Kenosha County)	5'6"	124
Fir, White (Abies concolor)	Front Lawn Montreal Mining Co. Shop, Montreal (Iron County)	5'10"	135
Hackberry (Celtis occidentalis)	Wayne Smith property, Janesville Township (Rock Co.)	17.5'	311
Hawthorn, Downy (Crataegus mollis)	5275 Oakland Avenue, Green Bay (Brown County)	7.02'	134
Hemlock, Eastern (Tsuga canadensis)	Flambeau River State Forest (Sawyer County)	11'1"	257
Hickory, Bitternut (Carya cordiformis)	5118 Lake Mendota Dr., Madison (Dane County)	9'4"	210

Common Name (Genus, Species)	Location	Circumference 4½ ft.	Total Record Points
Hickory, Shagbark (Carya ovata)	4228 Bagley Parkway, Madison (Dane County)	8'11½"	192
Honeylocust, Common (Gleditsia triacanthos)			Incomplete data available
Honeylocust, Common Thornless (Gleditsia triacanthos var. inermis)	Behind church, University and Charter St., Madison (Dane County)	11'7"	220
Hophornbeam, American (Ostraya virginiana)	109 S. 8th St., Delavan (Walworth County)	8'6"	165
Hornbeam, American (Carpinus caroliniana)			Incomplete data available
Juniper, Common (Juniperus communis)	Ed Morse Tree Farm, Lancaster (Grant County)	5'6"	117
Larch, Eastern or Tamarack (Larix lariciana)	Contact N. Bickford (Burnett County)	7'4"	169
Linden or Basswood (Tilia americana)	Wauzong Farm, Town of Beaver (Polk County)	9'6"	225
Locust, Black (Robinia pseudoacacia)	Town of New Haven (Adams County)	8'10"	169
Maple, Black (Acer nigrum)	Hugo Wachsmith property, Hartford (Washington County)	12'8"	236
Maple, Mountain (Acer spicatum)			Incomplete data available
Maple, Red (Acer rubrum)	Wyalusing State Park (Grant County)	8'8"	188
Maple, Silver (Acer saccharinum)	Victor Johnson property, Town of Oakland (Jefferson County)	15'9"	303
Maple, Sugar (Acer saccharum)	Russell Wolf farm, Cadis Township (Green County)	11'7"	282
Moosewood or Leatherwood (Dircus Palustris)	Near John Connely house (Washburn County)	.59'	18
Mountainash, American (Sorbus americana)	Court House (Barron County)	4'7½"	99
Mulberry, Red (Morus rubra)	Floyd Wilbur's farm (Buffalo County)	7'6" (@4.2')	146
Oak, Black (Quercus velutina)			Incomplete data available
Oak, Bur (Quercus macrocarpa)	S.E. of intersection of 7th and Western Ave., Watertown (Jefferson County)	13'3"	219
Oak, Chestnut (Quercus prinus)			Incomplete data available
Oak, Pin (Quercus palustris)	West of Lions house, Vilas Park, Madison (Dane County)	12'7"	222

Common Name (Genus, Species)	Location	Circumference 4½ ft.	Total Record Points
Oak, Northern Pin (Quercus ellipsoidalis)	Menominee Indian Reservation (Shawano County)	10'9"	227
Oak, Northern Red (Quercus borealis)	Property of Frank Shumate (Richland County)	14'10¾"	254
Oak, Swamp White (Quercus bicolor)	Sugar River, near Avon Bottoms (Rock County)	14'6"	151
Oak, White (Quercus alba)	Town of Lyndon (Sheboygan County)	13'4.4"	267
Osageorange (Maclura pomifera)	Pleasant Prairie Township, Near Highway "A" on the Weller farms (Kenosha County)	5'3"	109
Persimmon, Common (Diospyros virginiana)			No Wisconsin data available
Pine, Eastern White (Pinus strobus)	Brule River State Forest (Douglas County)	17'11"	378
Pine, Jack (Pinus banksiana)	Wm. Langenecker property, 2½ miles east of Pool Lake (Langlade County)	6.73'	156
Pine, Red (Pinus resinosa)	Brule River State Forest (Douglas County)	8'10"	239
Pine, Pitch (Pinus rigida)	5 miles west of Prairie du Sac (Sauk County)	4'11"	122
Sycamore, American (Platanus occidentalis)	100 Military Road, Fond du Lac (Fond du Lac Co.)	11'9"	231
Poplar; Cottonwood, White (Populus alba)	Town of Taycheedah (Fond du Lac County)	18.05'	312
Poplar, Balsam (Populus balsamifera)	Peter Webber property, Porterfield (Marinette County)	9'8"	216
Poplar, Balm of Gilead (Populus candicans)	Stange Park in the City of Merrill (Lincoln County)	7.03'	175
Poplar, Eastern (Populus deltoides)	Robert Sedgwick farm, Platteville (Grant County)	24'8"	444
Redbud, Eastern (Cercis canadensis)			Incomplete data available
Redcedar, Eastern (Juniperus virginiana)	Lilac Circle Riverside Park, Janesville (Rock County)	5'11"	118
Shadblow (Amelanchier conadensis)	Town of Hebron (Jefferson County)	4.34'	92
Spruce, Black (Picea mariana)	Forest Cropland (Langlade County)	3.47'	112
Spruce, Colorado Blue (Picea pungens)	1½ mile west of Wittenberg, south side of Highway 29 (Shawano County)	4.55'	108
Spruce, Norway (Picea abies)	Basswood Cemetery, Town of Eagle (Richland County)	11'9"	241

Common Name (Genus, Species)	Location	Circumference 4½ ft.	Total Record Points
Spruce, White (Picea glauca)	Town of Clover (Bayfield County)	10'9¾"	213
Sumac, Staghorn (Rhus typhina)	2000 Block Hubbard St., Janesville (Rock County)	2'9.5"	66
Tuliptree Yellow-poplar (Liriodendron tulipifera)			No Wisconsin data available
Walnut, Black (Juglans nigra)	House behind Moravian Church, Ephraim (Door Co.)	9'7"	215
Willow, Black (Salix nigra)	Corner of West Milwaukee St. and McLean Ave., Tomah (Monroe County)	18'4"	291
Witchhazel, Common (Hammamelis virginiana)			No Wisconsin data available
Yellowwood, American (Cladrastis lutea)	Courtyard of Tripp Hall, U.W. Campus, Madison (Dane County)	6'4"	136

QUALIFICATIONS FOR RECORD CONSIDERATION

In submitting a tree for big tree record consideration, four things are necessary. First, the correct species name. Second, the circumference at 4½ feet, in feet and inches. If there is a growth or branch at this point the circumference is measured just below it. Third, the height of the tree to the nearest foot. Fourth, the average crown spread to the nearest foot. This data must be complete in order to be considered for a record.

Record trees are established using a point system. The total points are calculated by adding the circumference in inches + the height of the tree in feet + ¼ spread in feet. The tree with the greatest total is the record.

DATE DUE

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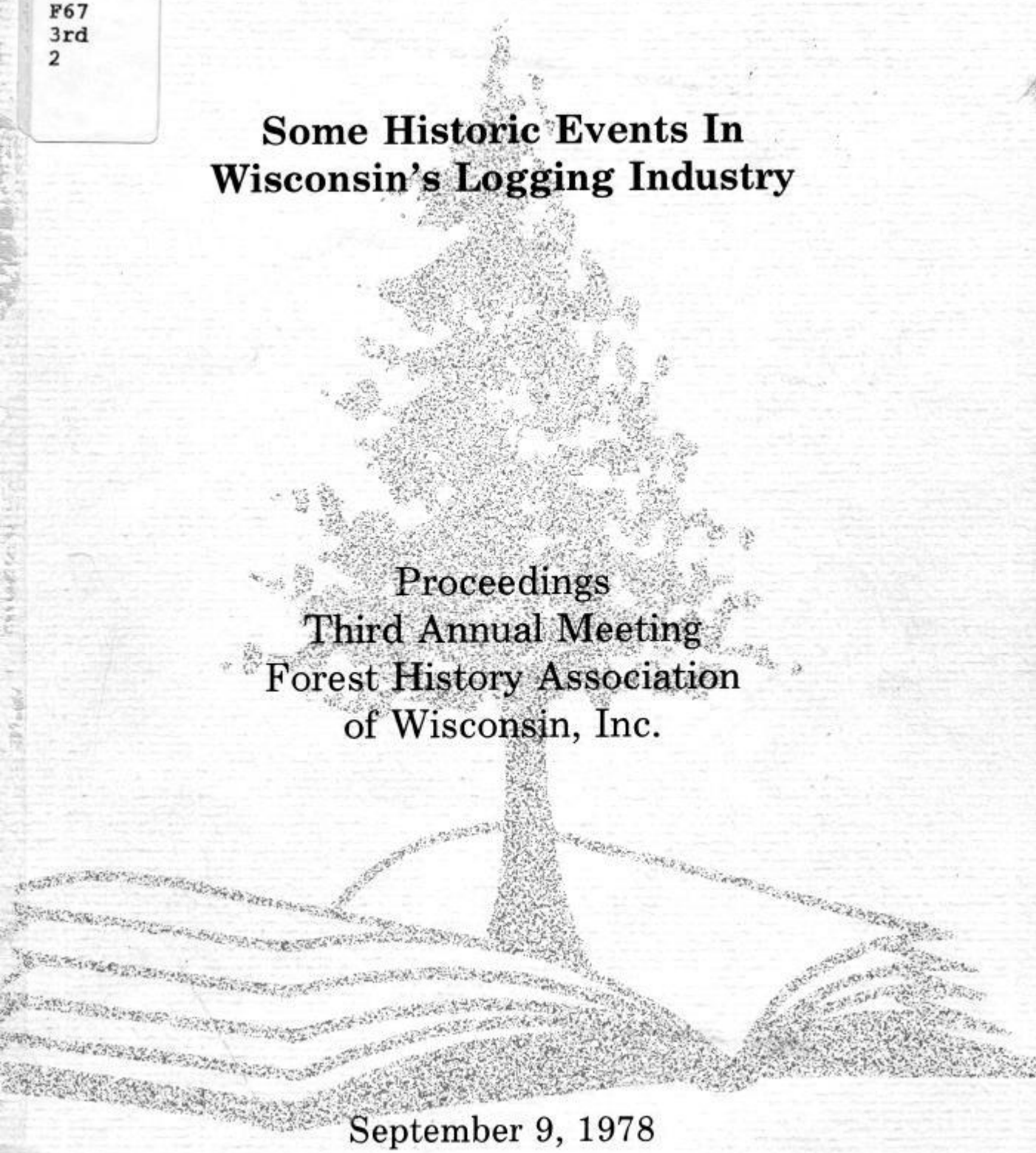
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STATE HISTORICAL SOCIETY
OF WISCONSIN
816 State Street
Madison, Wisconsin 53706
608 262-3421
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Some Historic Events In Wisconsin's Logging Industry



Proceedings
Third Annual Meeting
Forest History Association
of Wisconsin, Inc.

September 9, 1978

University of Wisconsin – Madison


THE STATE HISTORICAL SOCIETY OF WISCONSIN
1846

Some Historic Events in Wisconsin's Logging Industry

Proceedings
Third Annual Meeting
Forest History Association
of Wisconsin, Inc.

Edited by
Ramon R. Hernandez

September 9, 1978

University of Wisconsin – Madison



Founded 1975

403 McIndoe St.
Wausau, Wisconsin 54401

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Foreword

The text of this book consists of the official transactions of and the papers presented at the Third Annual Meeting of the Forest History Association of Wisconsin, Inc., on September 9, 1978 at the University of Wisconsin–Madison. Editing and publishing coordination was done by Ramon R. Hernandez of Wisconsin Rapids, 1977-1978 secretary of the Association. On behalf of the membership, the Board of Directors expresses its heartfelt thanks to the speakers for their excellent presentations at the Third Annual Meeting.

The Forest History Association of Wisconsin

The Forest History Association of Wisconsin had its beginnings early in 1975, when a small group from the wood products industries, conservation agencies, and the University of Wisconsin met to discuss a potential bicentennial project which would remind our citizens of the importance of forests in Wisconsin's past and present. Thus was formed the Forest History Association of Wisconsin, Inc., a non-profit, tax-exempt endeavor incorporated under the laws of the State of Wisconsin. Already, in the 1978-1979 year, the membership numbers over 200 (personal and corporate).

A seven-member Board of Directors serves as the Association's governing body. Association officers and directors for 1978-1979 are:

John H. Saemann, Florence, President
Howard S. Lovestead, Rhinelander, Vice-President
Frank N. Fixmer, Mosinee, Secretary-Treasurer
George A. Corrigan, Saxon
Jay H. Cravens, Stevens Point
Walter Mayo, Eagle River
L. G. Sorden, Madison

The Association's corporate address is:

Forest History Association of Wisconsin
403 McIndoe Street
Wausau, Wisconsin 54401

Inquiries regarding membership may be directed to this address, as well as orders – while still in stock – for *Where Are We in Forest History Today? Proceedings of the Second Annual Meeting,* and *History of Nicolet National Forest, 1928-1976,* by Kennell A. Elliott (a cooperative publication of the Forest Services, U.S.D.A., and the Forest History Association of Wisconsin, Inc.).

Program

Third Annual Meeting
Forest History Association of Wisconsin

Saturday, September 9, 1978

University Bay Center
1950 Willow Drive
University of Wisconsin
Madison, Wisconsin

9:00 - 10:00 a.m.	Registration – Coffee and Donuts
10:00 - 10:45 a.m.	Business Meeting – Election of Officers
10:45 - 12:00 noon	Welcome — Stephen C. Smith, Associate Dean, School of Natural Resources, College of Agricultural and Life Sciences
	Dietz at Cameron Dam Malcolm Rosholt, Rosholt, Wisconsin
	Hemlock Bark Industry in Wisconsin George Corrigan, Saxon, Wisconsin
12:00 - 1:15 p.m.	Lunch in Building
1:15 - 3:30 p.m.	Logging History of Northeastern Wisconsin Mrs. Mary Connor, Laona, Wisconsin
	Logging Railroads in Wisconsin James Kaysen, Cedarburg, Wisconsin
	Rafting Logs (pulp) Across Lake Superior to Ashland Docks Ralph Swanson, Consolidated Papers, Inc. Wisconsin Rapids, Wisconsin

Directions:

Go north at intersection of Observatory and Elm Drive. University Bay Center is located immediately north of the tennis courts, on the Agriculture Campus. There is no charge for parking at the Center.

Registration:

There is no pre-registration. Registration will be done at the Annual Meeting. $5.00 will cover the cost of your registration, coffee, donuts, and noon meal. Please arrive as soon as possible so that we may begin right on time at 10 a.m. Thank you very much.

Minutes of the Third (3rd) Annual Meeting of the Forest History Association of Wisconsin

Saturday, 9 September 1978

University Bay Center
1950 Willow Drive
University of Wisconsin
Madison, Wisconsin

The Third (3rd) Annual Meeting of the Forest History Association of Wisconsin was called to order at 10:15 a.m. by President Ned Revie of Wausau. Registration indicated that there were 41 in attendance.

Secretary Ramon Hernandez of Wisconsin Rapids read the minutes of the Second (2nd) Annual Meeting, which was held at the University of Wisconsin–Stevens Point, on Saturday, 24 September 1977. L. G. Sorden of Madison moved and William O'Gara of Wisconsin Rapids seconded that the minutes be approved. Carried.

Secretary Hernandez read the report of the Audit Committee, composed of Jack Hamilton of Merrill, and William Kauth of Mosinee. The Committee stated that the financial records of the Association were found to be in order. The Audit Statement is attached to the official minutes of this meeting.

Treasurer Frank Fixmer of Mosinee, gave the annual Treasurer's Report for Fiscal Year, July 1, 1977 – June 30, 1978, which showed a checking account balance of $2,421.96, and a savings account balance of $3,786.02. Ken Elliott of Rhinelander moved, and Richard Brown of Eau Claire seconded, to accept the Treasurer's Report. Carried. A copy of the "Treasurer's Report" is attached to the official minutes of this meeting.

Membership Committee Chairman Fixmer reported that at the end of the year (30 June 1978), there were 203 members, a net gain of nine over the previous year. He presented three life-member certificates: to L. G. Sorden of Madison; Ned Revie of Wausau; and William D. Johnson of Hayward (Johnson's was in absentia). A detailed membership report by Fixmer is attached to the official minutes of this meeting.

Revie presented the annual President's Report surveying, in detailed outline, the events and activities of the Association, and particularly the Board of Directors, during the year. He expressed his thanks for serving the Association during the past two years. A copy of the "President's Report" is attached to the official minutes of this meeting.

During the discussion of the President's Report two items of business to be noted in the minutes arose: (1) Regarding a new member joining in mid-year, should a new member so joining be required to pay the full annual dues. Noting the low membership fee and the potential chaos for the treasurer in having a varying scale, it was moved by William Sylvester of Stevens Point, and seconded by Richard Brown of Eau Claire, that "regardless of the time of year when joining the Association, a new member is to pay the full annual membership dues for the full fiscal year, and the new member will receive all material benefits retroactive back to the beginning of the fiscal year (e.g., any publications)." Carried.

(2) Regarding the need for clerical assistance for the Association, Sylvester indicated the possibility of help from the College of Natural Resources of UW–Stevens Point , and will confer with the Board of Directors during the next year.

Gordon Cunningham of Madison, reported for the Nominating Committee. Other members of the Committee were Elliott of Rhinelander, and Robert Engelhard of Stevens Point. Although there were three two-year terms to be filled and two unexpired one-year terms to be filled on the Board of Directors, the Association by-laws provide that the Board of Directors assign the elected directors to the terms of office and not the membership. The membership only elects the nominees. Cunningham presented the following nominees: George Corrigan of Saxon; Jay Cravens of Stevens Point; Howard Lovestead of Rhinelander; John Saeman of Marinette; and Walter Mayo of Eagle River. (Mayo requested only a one-year term.) There being no further nominations from the floor, Cunningham moved and Brown seconded that the nominations be closed and that the secretary cast an unanimous ballot for the nominees. Carried.

Stephen Smith, Associate Dean, School of Natural Resources, College of Agricultural and Life Sciences, University of Wisconsin–Madison, brought words of welcome and greeting.

The following persons then presented papers, which are attached to the official minutes of this meeting:

(1) Malcolm Rosholt, Rosholt, "Dietz at Cameron Dam."
(2) George Corrigan, Saxon, "Tanneries and the Hemlock Bark Industry in Wisconsin."

LUNCH

The afternoon session began with the Awards Presentation. President Revie presented to George Corrigan of Saxon the award to the individual making a significant contribution to forest history. President Revie presented to Mrs. Mary Roddis Connor of Wausau and Laona, representing Camp Five Logging Museum of Laona, the award to the organization making a significant contribution to forest history.

(3) Mary Connor, Wausau and Laona, "Logging History of Northeastern Wisconsin."
(4) James Kaysen, Cedarburg, "Logging Railroads in Wisconsin."
(5) Ralph Swanson, Wisconsin Rapids, "History of Consolidated's Pulpwood Rafting on Lake Superior."

The meeting was adjourned at 3:15 p.m.

Respectfully Submitted,

Ramon R. Hernandez, Secretary



President Ned Revie, left, is shown presenting the 1978 Forest History Association of Wisconsin Individual Award to George Corrigan, right, as the individual making a significant contribution to forest history.



President Ned Revie, right, is shown presenting the 1978 Forest History Association of Wisconsin Organization Award to Mrs. Mary Roddis Connor, left, representing the Camp Five Logging Museum of Laona, as the organization making a significant contribution to forest history.

Forest History Association
of Wisconsin, Inc.
403 McIndoe Street
Wausau, Wisconsin 54401

Officers and Directors

Ned Revie, President
Woodland Specialty Co., Wausau

Roger Drayna, Vice-President
Employers Insurance, Wausau

Frank Fixmer, Treasurer
Mosinee Paper Corporation, Mosinee

Ramon Hernandez, Secretary
McMillan Memorial Library
Wisconsin Rapids

Carl Theiler
Wisconsin-Michigan Timber
Producers Association, Tomahawk

L. G. Sorden
Professor Emeritus, U.W. - Madison, Madison

Robert Birkholz-Lambrecht
Black River Falls

August 29, 1978

AUDIT STATEMENT

TO WHOM IT MAY CONCERN:

An audit of the financial records of the Forest History Association of Wisconsin, Inc. for the fiscal year period of July 1, 1977 through June 30, 1978 was made by Jack Hamilton and Bill Kauth.

An examination was made of the receipts and disbursements. Account beginning and ending balances, for the fiscal year, were checked and found to be in agreement with the annual Treasurer's Report.

The checking account balance as of June 30, 1978 was $2,421.96. The savings account balance as of June 30, 1978 was $3,786.02.

Respectfully submitted,

Jack Hamilton

Jack Hamilton

Wm. W. Kauth

Wm. W. Kauth

AUDIT COMMITTEE

Forest History Association
of Wisconsin, Inc.
403 McIndoe Street
Wausau, Wisconsin 54401

Officers and Directors

Ned Revie, President
Woodland Specialty Co., Wausau

Roger Drayna, Vice-President
Employers Insurance, Wausau

Frank Fixmer, Treasurer
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Ramon Hernandez, Secretary
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Carl Theiler
Wisconsin-Michigan Timber
Producers Association, Tomahawk

L. G. Sorden
Professor Emeritus, U.W. - Madison, Madison

Robert Birkholz-Lambrecht
Black River Falls

TREASURER'S REPORT
for
Fiscal Year July 1, 1977 thru June 30, 1978

Checking Account Balance June 30, 1977			$1 545.47
Receipts			
Membership-dues	-Individual	$860.00	
	-Corporate	450.00	
Gifts, grants, donations		3 200.00	
Annual meeting registration fees		230.00	
Publication Sales-Nicolet Nat'l For.History		1 349.94	
Total Receipts			6 089.94
Disbursements			
Postage & mailing permit fees		$ 198.32	
Stationery and Supplies		303.06	
Bonding and legal expense		85.00	
Printing-Nicolet Nat'l. Forest History		600.00	
Miscellaneous- Telephone		7.85	
Annual Meeting		182.40	
Distinguished Service Awards		109.32	
Photographs		27.50	
Total Disbursements			1 513.45
NET INCOME			$4 576.49
Transferred to Savings Account			3 700.00
			876.49
Checking Account Balance June 30, 1977			1 545.47
Checking Account Balance June 30, 1978			$2 421.96
Savings Account Balance June 30, 1978 (includes interest earned)			3 786.02
TOTAL WORKING CAPITAL AVAILABLE			$6 207.98

FNF
8/29/78

Membership Report
for
Forest History Association of Wisconsin

by Frank Fixmer, Chairman, Membership Committee
September 9, 1978

Growth of our Association's membership for the past fiscal year has been nominal – somewhat less than five percent. We started the year with a total of 194 members in all categories, and ended with 203, for a net increase of only nine.

There should be cause for some concern in the fact that 46 members failed to renew their memberships, despite the two "reminder" letters that were sent to them. Only one offered any reason for discontinuing his support; it can be surmised that either they were just no longer interested, or that the Association's program did not meet their expectations. Fortunately, we were able to interest 55 new members in our objectives, thereby resulting in our net gain of nine.

Since the new fiscal year began on July 1, we have acquired 13 new members, but the percentage of renewals so far is a disquieting 60 percent.

These statistics emphasize the need for a more concerted effort to convince both current and potential new members that the Association merits their support. However, in order to do so, it will require more than improved salesmanship on the part of the Membership Committee. If every current member would try to recruit just one new member each year, a more satisfactory growth rate would be assured.

Last year, we announced the creation of a special membership class designated as a **Life Member.** The cost of such a membership is 20 times the current annual rate, or $100 under our present dues schedule. We are happy to report that three members have taken advantage of this opportunity, so I now take great pleasure in presenting their special certificates to: L. G. Sorden of Madison, Ned Revie of Wausau and William D. Johnson of Hayward.

Summary of Memberships

	6/30/77	June 30, 1978			Net Change
		Renewals	New	Total	
Individual	158	121	47	168	+10
Corporate	32	23	5	28	−4
Honorary	4	4	3	7	+3
Totals	194	148	55	203	+9

Comments on Map of Membership Locations

I would like to call your attention to the map showing the statewide distribution of our members.

You will note that a majority are clustered in cities along the state's major waterway – the Wisconsin River.

But you may also note that we have far too little representation from areas that have been the scene of some of our oldest and most exciting logging and lumbering exploits: the Mississippi Valley, and the Chippewa River watershed. We also have a notable lack of members from the area around Green Bay and the region northward to the Michigan Border.

Expansion of our membership should certainly include those areas. With the cooperation of our current members and with adequate publicity through the various media, there is every opportunity to increase our membership by 25-50 percent in the next fiscal year. Also worth mentioning is the fact that there are members from 11 states – Maine to California plus Japan and Honduras.

Report of Past Year of the Forest History Association of Wisconsin

by Ned Revie, President

Immediately after the close of the meeting of the membership on September 24, 1977, the members of the Board of Directors met officially to formally elect officers for the Association to serve for the ensuing year.

The following members of the Board were elected:

President – Ned Revie – Wausau
Vice-President – Roger Drayna – Wausau
Treasurer – Frank Fixmer – Mosinee
Secretary– Ramon Hernandez – Wisconsin Rapids

Other Directors are:

Robert Birkholz-Lambrecht – Black River Falls
L. G. Sorden – Madison
Carl Theiler – Tomahawk

The Association corporate address is:

Forest History Association of Wisconsin
403 McIndoe Street
Wausau, Wisconsin 54401

Any inquiries regarding membership, dues, or any other matters concerning the Association may be directed to the corporate address.

On November 16, 1977, the Board of Directors held a quarterly meeting at McMillan Memorial Library in Wisconsin Rapids.

Treasurer, Frank Fixmer, gave a report which showed that as of October 31, 1977, net income was $1,113.37, with a bank balance of $1,628.52 and a Certificate of Deposit of $1,000 in addition.

As of November 1, we had 190 individual paid-up members, 33 corporate memberships, and 6 honorary memberships. A reminder to pay dues was to be sent to 37 individual members and 8 corporate members who were delinquent.

Fixmer reported on the status of the sale of the "History of the Nicolet National Forest." It was agreed by the Board that the author, Ken Elliott, be given a number of copies to reimburse him in a small way for the effort he has put forth to publicize and sell the books for the Association.

The secretary was instructed to investigate the cost of printing the papers presented at the annual meeting held in September of 1977.

The president appointed a Program Committee to begin planning for the 1978 Annual Meeting, consisting of L. G. Sorden, as Chairman, with Gordon Cunningham, David Gutzmer, Milton Reinke, and Jacque Vallier.

The president appointed Roger Drayna Chairman of the Awards Committee, with L. G. Sorden, William Sylvester, Carl Theiler, and Jacque Vallier.

The work of the Publications Committee was discussed. There was considerable

interest in publishing a brochure of forest history sites in Wisconsin. The matter was placed in the hands of the Committee to investigate and pursue.

The president directed the Publications Committee to compile a bibliography of books that deal with Wisconsin Forest History. L. G. Sorden would consult with the Steenbock Library on the U.W. campus at Madison and report at the next meeting.

The status of the Forest History of Bayfield County was discussed. It was reported that the project was not ready for publication. It was decided to recommend assistance from the U.W.–Madison College of Journalism. Fixmer and Sorden were to report at the next meeting.

On February 8, 1978, a quarterly meeting of the Board of Directors was held at the Associations mailing address, the Marathon County Historical Museum at Wausau.

The Treasurer's report showed a net income of $2,810.02, with $2,500 in the savings account and a checking account balance of $1,855.49.

In a communique from the Internal Revenue Service District Director in St. Paul, Minnesota, the Forest History Association of Wisconsin was advised of its tax exempt status as an educational organization. It was emphasized that this now opens the door for a greater emphasis on donations and memorials to the Association

At this time there were 179 paid individual memberships and 28 corporate memberships and 6 honorary memberships.

The president appointed a membership and solicitations committee consisting of Karl Bauman of Peshtigo; Mully Taylor of Merrill; Robert Birkholz-Lambrecht of Black River Falls; and George Corrigan of Saxon.

L. G. Sorden reported on the time and place of the next annual meeting to be held in Madison on September 9, at University Bay Center on Willow Beach, U.W.–Madison.

Plans were made to cooperate with the National Forest History Society of America in co-sponsoring a symposium in Madison, Wisconsin, in the spring of 1979.

Roger Drayna reported on a Guide to Wisconsin Logging and Forest Conservation Landmarks brochure. He will investigate costs of printing, etc., and report at the next directors meeting.

Mully Taylor, of Merrill, former director of operations of Trees for Tomorrow at Merrill and Eagle River, presented his plans for the publishing of his monograph entitled *The Saga of the New Wood Country*, a forested area northwest of Merrill. The matter was referred to the Publications Committee.

The matter of what is the status of a member who joins at mid-fiscal year was discussed. Is one's dues reduced for the balance of the year? The president decided to take this matter to the membership at the Annual Meeting.

Frank Fixmer reported that he was retiring from Mosinee Paper Corporation at the end of February. The Board wished him well in his retirement, and heartily accepted the additional time he will have to devote to forest history. However, there will be a few problems with the preparation and printing of our "Chips and Sawdust" publication.

Mr. Fixmer will no longer have the assistance of the office help and equipment that he had while actively employed. Arrangements will have to be made to possibly go to corporate members for printing or other volunteer or donated services, with a revolving responsibility.

Memorial gifts were received from L. G. Sorden – in memory of Fred Trenk, and Walter Rowlands. Mary Roddis Connor contributed, as did the Connor Foundation. The secretary was instructed to thank these people for their continued support of the Association.

On June 7, 1978, the Board of Directors met at Arrowhead Lodge near Black River Falls.

The Treasurer's Report showed that we had on hand through May 31, 1978, a net income of $4,070.51 and a bank balance of $5,663.67.

The record showed that we had a total of 32 delinquent members and more emphasis would be directed toward curing this problem because our membership projections were not being met.

The Awards Committee reported that after due search and strict inquiry, they had selected individual and organizational award recipients to be announced at the Annual Meeting of the membership.

The Board authorized the planning and preparation for a F.H.A.W. display for exhibit at the Annual Lakes States Logging Congress to be held in Green Bay in September.

There was discussion on the Third Annual Meeting. The president appointed a nominating committee, consisting of Gordon Cunningham, Chairman, with Ken Elliott and Bob Engelhard.

The president appointed an auditing committee, consisting of Bill Kauth, Ed Steigerwalt and Jack Hamilton.

A quarterly meeting was held on August 24, 1978, at the college of Natural Resources Building at the U.W.–Stevens Point.

Frank Fixmer reported a working capital of $6,207.98 for the new fiscal year.

As a result of discussions regarding the printed annual proceedings of our Association, it was decided that we provide free copies to all public libraries in the State of Wisconsin, all county and local historical societies, all donors, all members and prospective members, with all other persons and groups being charged the printing cost.

Frank Fixmer reported a good return on membership renewals. On June 30, we had a total of 168 individuals, 28 corporate and 7 honorary for a total membership of 203.

Much discussion was given to combining the offices of secretary and treasurer and paid staff eventually. It was decided to discuss the matter again at the next meeting of the Board.

Bob Birkholz-Lambrecht announced that he was resigning from the board of directors. He is moving to Oregon. His resignation was received with deep regret. A hearty vote of thanks was extended for his work for the Association.

Ray Hernandez also announced his resignation from the Board due to circumstances surrounding his activity. He was extended a vote of appreciation for a job well done this past year as secretary for the Association. In addition to the two resignations, the terms of Ned Revie, Carl Theiler and Roger Drayna expire as of the Annual Meeting. This means that Gordon Cunningham and his committee need to fill three two-year terms and two unexpired one-year terms for election at the Annual Meeting.

It has been a privilege to serve as your president the past two years. Your

Association has made great strides in the short time that it has existed. However, much remains to be done and you are assured that with continued good leadership and a diligent effort, we will continue to prosper and grow. This is my hope and prayer.

Dietz at Cameron Dam

by Malcolm Rosholt
Wisconsin History and Folklore Author
Rosholt, Wisconsin

Early one morning in mid-April, 1904, John F. Dietz, a down-at-the-heel farmer in Sawyer County, was standing on a knoll overlooking Cameron Dam on Thornapple River. He was carrying a .30-30 Winchester rifle and he was watching a driving crew preparing to raise the gates on the dam to begin sluicing. It was his intention to stop them, and he shouted to the men to leave the gates down. Pretending they did not hear him, they continued to raise the gates and then there was a loud report of a Winchester rifle and a bullet spat directly into an abutment of the dam. The drivers retreated without further ceremony.

John F. Dietz had effectively stopped a log drive of the Chippewa Lumber & Boom Company, a wholly-owned subsidiary of the Mississippi River Logging Company directed by Frederick Weyerhaeuser. He had challenged the champion. No one in the history of the logging industry had ever had the unadulterated gall to halt a sacred log drive.

For this act John Dietz became a hero to most people in Wisconsin and even across the nation. Newspaper men wrote stories about him, pictures were taken and the publicity he got brought in money and gifts from all over the Midwest. But he stopped being a hero when he shot and wounded a fellow citizen in the village of Winter over a petty school dispute in 1910.

But this was the period when bigness in industry was associated with evil, when big money makers like the Rockefellers and Mellons were squeezing smaller men and beating down competition, and busting unions. The little man was ready, therefore, to make a hero of anyone who might stand up to the big corporations.

The story of John Dietz continues to interest people to this day. It is by all odds the most spectacular story to come out of the wilderness frontier of Wisconsin and nothing quite like it has ever happened since. It is more than 70 years since the main events of this story took place and yet it continues to interest us. And why do I keep getting letters from people who write to ask for permission to quote from my book which I wrote more than a decade ago called *The Battle of Cameron Dam*? And why do editors of Sunday sections keep cribbing from my book without giving me credit for their material? How do I know they are using my book? Because it is the first objective account ever written on the subject and because it reaches a different conclusion than earlier accounts, especially two paperback versions, one published in 1911 and a second edition revised in 1913, both editions filled with distorted facts and opinions having only a slight resemblance to the truth. But these paperbacks were written in Dietz' favor in order to take advantage of the great public interest and sympathy for him, even though by the time these books came out, Dietz was already in Waupun state prison serving a life sentence for the murder of a sheriff's deputy.

After Dietz stopped the log drive, the logging company turned to the courts for relief,

and for the next six years, a procession of sheriffs and sheriff's deputies marched back and forth to Cameron Dam without making service on Dietz. Finally, on October 8, 1910 a posse of some 21 deputies and the sheriff surrounded the Dietz homestead on the hill and laid siege to the place, and for nearly six hours a regular gun battle took place. Dietz finally surrendered. At the end of the siege, one deputy, Oscar Harp, lay dead, and Dietz was charged with killing him, and taken to county jail in Hayward where the famous trial of the Dietz family was held in May, 1911.

But let us step back a moment and ask how I got interested in the story. One day, as a boy of six or seven, I asked my mother who I was named after. She replied that my father named me Malcolm after Malcolm Josie, a lumberjack on the Chippewa drive, whom he had met on a deer hunting trip to Butternut. I got my second name, Leavitt, from a dam, my mother said. She did not know where the dam was, only that it was "up north somewhere."

My father died when I was four, so there was no way of asking him where the dam was. Then for the next fifty years I went with the knowledge that someone by the name of Malcolm Josie and Leavitt were responsible for my first and second names.

Meanwhile, in the 1950s I was talking to a man in Plover, Wisconsin, and for some reason he asked me if I had ever heard of John Dietz. I told him I remember the name from childhood and also the name Cameron Dam because boys in our village played shoot-out games pretending to defend the dam. My friend then went to get a paperback put out by a newspaper man in 1907, which told the story of Dietz up to that point. I took the book home and began to read it when the name "Leavitt" leaped from the page. Although the dam was later called Cameron after Hugh Cameron, who owned the property in the late 1890s, it was first called the Leavitt Dam after Thomas Leavitt who built it in the late 1870s.

Around the turn of the century the dam was being called both Leavitt and Cameron. But when the shooting began in 1904, a newspaper in Ladysmith used the name Cameron in its headline, and that settled the matter for good.

On another occasion, I was talking to Roy Martin, editor of the Sawyer County Gazette in Winter, and he showed me a poem, doggerel of course, written about the early log drivers on the Chippewa River. One of the drivers mentioned in the poem is Malcolm Josie. There is no doubt in my mind that Josie Creek that runs into the Flambeau above Ladysmith is named for him. I also met an elderly man in Raddison who told me he knew Malcolm Josie "many years ago"; that Josie was actually a Spanish name for Jose; and that Malcolm Josie was descended from an admiral in the Spanish fleet, but he was not sure what war. It could have been the Spanish Armada! But no matter. I learned from a census of Chippewa County that the Josie family had lived in Chippewa Falls in the 1880s and for many years thereafter.

The fact that I was named Leavitt after the dam made famous by John Dietz has led me to believe that my father was a "Dietz sympathizer," a term held in honor by the majority of people at the time, but belittled by a minority.

After reading this small paperback on the Dietz affair published in 1907, and after skimming through the two paperbacks published in 1911 and 1913, I realized that no one had ever made a definitive study of the story before. I was fascinated with the possibilities

and drove to Hayward. I went to the court house where I found a carbon copy of the transcript of evidence taken at the trial of Dietz in 1911.

Through the transcript of evidence, the entire history of the case was revealed to me, not in logical order, but in retrospect as the numerous witnesses came forward to explain their part in the events at the dam. From this I was able to reconstruct the story beginning in 1904, when the Dietz family moved to the Cameron Dam property, down to 1910.

For six years Dietz resisted every effort to be taken to jail and, as already mentioned, on October 8, 1910, a posse of deputies surrounded the homestead and laid siege. In the end one deputy, Oscar Harp, a lumberjack, lay dead, and for this Dietz was held responsible, although lacking the science of ballistics at the time, it was impossible for anyone to say that the bullet found in Oscar Harp came from the Winchester used by Dietz. Dietz was convicted on circumstantial evidence.

My research on the story began in 1959, and in the next year or more I went through 1100 pages, legal size, of testimony taken at the trial. In addition, I was fortunate enough to meet several men and one woman who were involved in the case, either as deputies, newspaper men, or as a hotel keeper in Winter. All were people in their eighties and of course, they have all died since I talked to them.

Before I got down to writing the book, I wanted to see for myself what Cameron Dam looked like. I organized a search party of five local citizens in Winter and Hayward, one a logger with a good map, and on October 1, 1960, this logger led us through the brush and alders to the dam like a hound to a dead deer.

There is nothing left of the dam today except a platform which appears to be chained to the embankment, and that was more than 15 years ago. The dam stood on the quarter line, partly on Dietz' forty and partly on the company-owned forty, in section 20, town 38 north, range 4 west, 10 miles southeast of the village of Winter and less than 35 miles southeast of Hayward as the crow flies, but considerably farther via Highway 70 which has to skirt the Lac Court Oreilles Indian Reservation. We parked our cars on County Trunk W a few miles west of Big Bear Lodge on the Flambeau, and went into the woods along the bed of an old railway spur, the one-time Stinson Spur, until we struck the Thornapple River. From here it was about a mile down to the dam.

Since we wanted to see where the Dietz buildings stood, we had to take off our boots and wade the Thornapple to get on the east bank. The site of the homestead was not located close to the dam, or overlooking the dam, but stood at least a quarter of a mile above, that is, up river from the dam. The buildings had all burned, presumably in forest fires, but we found the embankments of the log house and the log barn which we had seen on photographs taken in the early 1900s. We also found where the family garden lay, the same garden that newspaper men were telling their readers was flooded every year by the lumber company when it raised a head of water on the dam. But of course, these newspaper men never visited the dam, or the garden, or they would have known that the garden lay at least 40 feet above the level of the flowage, far out of reach of any flooding, or even a cloud burst. I knew this was the garden because there, still growing in the grass, was some horseradish, the seeds of which were probably planted by Hattie E. Dietz 50 years ago.

We kicked around the grass looking for souvenirs but the place had been picked

clean a long time ago.

Why a dam at this point on the Thornapple? The upper reaches of the river, in flood tide, was just wide enough and deep enough to float a log. No large crew of drivers was needed. But where the dam is located the river widens, probably 25 feet across. The main reason for the dam here was, I think, an S-curve in the river which tended to cause a jam. By building a dam and raising a head of water, the logs drifted around the bend without much trouble. There is a small rapids here, but no impediment to navigation.

When Thomas Leavitt built this dam he paid no attention to its location in relation to the quarter line because the parcel of land on which it stood took in several forties. And even Dietz, when he bought a quarter section of this parcel from Jennie Cameron, did not know that the dam lay half on his forty and half on the company forty to the south. In other words, it lay diagonally across the quarter line. It was born to trouble.

John Dietz was born in Winneconne, in Winnebago County in 1861. His father emigrated from Germany during the revolution of 1848. He married in New York City and moved to Schenectady where two sons were born, and from there the family moved to Winnebago County. John Dietz, Sr. volunteered for service in the Union Army and came home unharmed. Around 1870 he decided to pull stakes again and head for the cut-over lands of Barron County. He settled on a farm less than five miles southeast of Rice Lake. Here John, Jr. grew to manhood, watching the comings and goings of the lumberjacks working in the nearby camps for Knapp, Stout & Company. In 1882 he married Hattie E. Young, 16, who he took to calling "Tatsy." They moved to a small farm southwest of Rice Lake, but the farm was owned by Hattie's relatives, and Dietz probably got tired of trying to meet the interest payments. Most of the children, May, Myra, Clarence, Leslie, Helen, and Stanley were probably born on this farm. In 1899, Dietz decided to go into real estate business with a brother in Rice Lake. But this quickly turned sour too, and in December, 1900, we find him in Hayward, making entry, in his wife's name, on a quarter section located on Thornapple River.

The family left Rice Lake in dead of winter – a move of desperation it seems – and drove north to Bishop's Bridge on the Chippewa River where they occupied a shanty of some kind. There was no village of Winter yet, but the bridge lay about four miles west of the future village. A few weeks later, probably early April, Dietz moved his family into an abandoned driving camp situated on Brunet River, a name pronounced Brunee in Sawyer County. This camp belonged to Chippewa Lumber & Boom Company. Dietz was not renting. He was squatting, a common thing in those days for people down on their luck. The company said nothing and when the drive on the Brunet began that spring, Dietz was asked to raise the gates for sluicing, which he did, and for this he had time coming for his work.

The company said it would pay him for 37 days wages. That was all. But instead of leaving this shanty, Dietz stayed on, even though he was no longer needed, and by 1904 the amount of money he said he had coming from the company had risen to astronomical proportions.

This matter of wages at Brunet Dam became the bone of contention between Dietz and the lumber company. It started here, not on the Thornapple. The dam lay east of Winter, a couple of miles or so. In fact it has been rebuilt by the Wisconsin Department of

Natural Resources to create Lake Winter which, I suspect, follows the contour of the original log driving flowage.

In any event, in the winter of 1904, when he could still use a bob sled and cross the Thornapple river on ice, Dietz moved his family over to the abandoned log house of Hugh Cameron on Thornapple River. And when the log drive was getting under way a few weeks later, he was there, with his trusty Winchester, ready to force the company to pay him for back wages by holding up the log drive.

Shortly later, when he learned that the dam lay partly on his land, he got another idea. Since he had owned this land since 1900, the company had been sluicing logs through the dam for three seasons, that is, the springs of 1901, 1902 and 1903, and he therefore had backpay coming for sluicing which, according to the original franchise issued by the State Legislature, allowed the owners to charge ten cents a thousand. Dietz computed the amount of board feet that had been sluiced through the dam in those three years and came up with the round figure of $8,000 which, in 1904, wasn't hay.

But Dietz had no franchise for sluicing logs. He said he inherited this right from the previous owners because there was nothing in his deed that carried this franchise forward. Indeed, the clause which provided for company log drives through the dam is absent from the deed that Dietz was given. The company readily admitted the oversight and was willing to make amends for the error.

But now Dietz thought he was holding a full house against a pair, and the more anxious the company was to reach a fair settlement, the more he put it off. And this failing plagued Dietz all his life. For example, after he got out of prison in 1922, he came to Milwaukee to lecture one week in the old Miller Theater. An attorney whom he had engaged to help him, told me that Dietz was also offered a big sum for the movie rights to his life story, but he turned it down because he said it was worth a million dollars. The attorney told me when this happened, he withdrew from further services to his client.

But there was another reason why the company withheld payment to Dietz until the last. Dietz had not paid his taxes on all his land, and the company had been doing its best to get a tax deed, at least to the forty on which the dam stood. The records in Sawyer County show that on one occasion, at least, someone has tampered with the tax entries, attempting to alter the name Chippewa Lumber & Boom and writing in someone else who allegedly paid the taxes.

I described all these matters in detail in the first draft of my book which ran to 83,000 words, but it got so complicated that when I showed the manuscript to an editor of the Milwaukee Journal, he turned it down. He said if I was going to publish the book myself, for Pete's sake to cut out the first two chapters about the title and taxes. In my present version I have a chapter on the matter of title, but it is brief and incomplete. Perhaps it is just as well.

Throughout the years between 1904 and 1910, Dietz consistently insisted that he had paid all his taxes and that he, that is his wife, had clear title. But in 1910, when he was waiting trial in Hayward, he threw himself on the mercy of the court because he said he had no funds for his own defense, since he could not prove clear title to his land.

In other words, the company apparently had gotten a tax deed, if not to the quarter section, at least to the dam forty. After Dietz went to jail and logging operations ended in

this area, the dam had no more use to the company and the land went back to Hattie Dietz, presumably after she managed to pay the back taxes. She continued to pay the taxes all through these early years, but finally the Depression got the best of her intentions, and the Dietz quarter section, in 1936, went to the county of Sawyer for taxes.

There is no doubt in my mind that the lumber company also engaged in some skullduggery to get rid of Dietz. However, in the final analysis, it is my considered opinion that Dietz was more wrong than right and that the lumber company was not the villain painted by him. He got nothing for his intransigence except, perhaps, a lasting fame, as sic the man with more guts than any lumberjack since Paul Bunyan.

Only one of the Dietz children survives, namely, Johnnie, who operated the Rambler agency in Wauwatosa for many years but is now retired. Myra, who married Eugene Newman, later was divorced and remarried in Texas. Helen, a younger sister, also married and lived in Texas. Clarence and Leslie, both at one time or another in the car business in Milwaukee, are also dead.

John F. Dietz was given an unconditional pardon by Governor John G. Blaine in 1921, a pardon heavily influenced by politics. A sick man when he was pardoned, he lived until 1924, when he died in a Milwaukee hospital. His wife had long since left him. She died in 1942, totally blind, at the home of her eldest daughter, May, in Rice Lake. Both John and Hattie Dietz are buried at Meadow Creek cemetery south of Rice Lake. She has a headstone. He has nothing.

Tanneries and the Hemlock Bark Industry in Wisconsin

by George Corrigan
Forest, Lumbering and Logging Consultant
Saxon, Wisconsin

My home was at Mellen. Mellen was a flourishing city of around 2500 at that time with a successful hemlock and hardwood sawmill and planing mill, dry kilns and a flooring plant operated by the Foster and Latimer Lumber Company. They also had their own railroad and logging operations with a timber stumpage supply for another 25 years. At a production of 20 MM board feet per year, it was a very good all-around industry. (They had a lot of fine hemlock.) Many companies who logged and sawed white pine successfully were unable to make a success out of hemlock and mixed hardwood. Mellen also had one of the largest, if not the largest, tanneries in Wisconsin from the late 1800s to 1922. (When the chemical changes for tanning agents took place.) The actual tanning which once took three months, is now done in 24 hours; thanks to chemical tanning agents.

On April 3, 1912, I was sixteen years old and able to get a job without a special permit. My mother and sisters tried to talk me out of it. I started out from home, undecided whether to try the tannery or the flooring factory. The tannery was paying 15 cents per hour for a ten hour day, six days a week. The flooring factory was paying 16½ cents per hour – ten hour day – six days a week. Either one would be inside work. Not only the little higher rate of pay, but the smell of sawdust appealed to me more than the tanning hides.

After a little over a year at the factory, I got another break. A young school friend of mine, Roy Welch, had been fortunate enough to get a job as time keeper for the Mellen Lumber Company in their boarding car camps, building railroads in the spring of 1913 stationed near English Lake. In August he told me to make application for his job as he was going back to school the first of September. The job would only last two more months, September and October, but I would then be in line for the job the next spring. I got the job and when the cars closed for the winter, I did get a job at one of the logging camps – first as a swamper, then driving team. I began to see bark piles all over the woods and of course, I knew about those for years. A crew was loading up bark jumpers in the woods, pulling the jumpers to the railroad siding then into box cars or onto flat cars to be shipped to tanneries somewhere in Wisconsin. When going to the Mellen Tannery, they had cars equipped by the tannery to be used at their plant only. I learned a lot about bark that winter.

Around the twentieth of January, 1914, I received another break which I was praying for. The Foster-Latimer Lumber Company had an opening for a Camp Clerk or Time Keeper who would be interested in scaling logs. That was my first ambition when I started to work in the woods. I became more interested while driving team at the Mellen Lumber Company camps skidding logs to the railroad tracks. When the log scaler would get to our skidways to scale our day's work, I would watch him. His name was Bill Benninghouse, an intelligent man and a very good scaler. I would talk to him and ask questions. He took an interest in me, gave me some good advice. When I left to take the new job, it seems he

gave me a brochure on the scaling of logs which helped me. Our jobs crossed lines many times in later years always on friendly terms. I met many men like that while working up in the logging industry.

In the spring of 1914, the wages were raised by the Foster-Latimer Lumber Company for mill employees. The raise for tying flooring was 2½ cents per hour; from 16½ cents to 19 cents per hour. At the tannery from 15 cents to 16½ cents per hour. The tannery paid weekly at the time with one week's wages always held back. One man received his first check after the raise, it was $9.90; previously it was $9.00. He looked at it and went back to the office paymaster to ask him about it. The paymaster said, "You have received a raise in pay." The man said, "You better make it out the same as before, I am used to those numbers on the check." Another foreigner newcomer working in the tannery had written a letter back home saying, "I have a job working in the tanderea. Tanderea stink too much. I will try to get a job at the Foster-Lemon Pile sawmill."

Three important materials were needed in the process of tanning. These were the hides or skins, water and some kind of tanning agent. Tanneries were usually situated near water or where the tanning agent was available. The chief tanning agent until a century ago was the bark of various trees, especially hemlock, oak, chestnut, and sumac. Hides have been a by-product of stock raising. In the beginning of this country's history, when tan bark was the bulkiest of the materials used in the manufacture of leather, it seemed to have no effect on locations. Hides were available everywhere because the slaughtering business was strictly local. The first tanning districts in the New England area were south of Boston. They started to move to the north where hemlock was available — Maine, Canada and New York State. The largest tanneries stayed near the ocean, due to cheap transportation. As markets grew, the supply of hides had to be drawn more from outside the country. During the 1840s and 1850s, about two-fifths of the supply of hides were imported. Then not only the hides, but the bark had to be drawn from farther afield. The relatively small supply located close to the tide water became depleted. The tanneries had to resort to expensive overland transportation or else move their bases of operation. The industries migrated to the west and southwestward on the trail of the virgin forests. Hemlock tanneries went westward across New England, to New York, Northern Pennsylvania, then jumped across Lake Erie into Michigan and across Lake Michigan to Wisconsin. The oak and chestnut tanneries moved southward along the Appalachians to Virginia, West Virginia, Kentucky, Tennessee, and North Carolina.

The migration did not get under way until after the Civil War. As the midwest was opened up and cattle raising was developed, the imports of cattle and calf skins stopped. On the East coast the use of goat and sheep skins, which were imported, were tanned.

Bark was the compelling factor in the transplanting of the tanning industry. Wisconsin, because of its rich lands of hemlock forests, proved an ideal territory for the development of the tanning industry. These forest lands had the ease of access as the railroads were being built farther to the north.

The first tanneries were located in cities such as Kenosha, Racine and Milwaukee. Hides were readily available from the large packing houses of the middle west. Milwaukee became the greatest tanning center in the world in 1909.

The early inland tanneries were dispersed throughout Wisconsin. It was profitable

to tan leather only where the hemlock bark was available. Due to its bulk and because of the fact that it was easily broken up and spoiled in handling, the hemlock bark was seldom shipped far except by water. Operators, when locating, usually secured such tracts of hemlock land as they could buy at a reasonable price.

This is where Wisconsin came into the picture. (I am trying to get there to show you how and why Wisconsin was a prime state for the tanning industry.) The counties were sketched as follows:

In my research, I came on to a map showing the counties marked with Number 1 for small amounts of hemlock in the northwest corner of the state such as Bayfield, Douglas, Washburn, Polk, Burnett, St. Croix, and Pierce.

Number 2 counties were Rusk, Sawyer, Chippewa, Eau Claire, and Dunn in the Northwest; and Iron, Price, Lincoln, the north half of Sawyer, and north half of Ashland.

Number 3 counties: south half of Ashland, Iron, half of Sawyer, Price, Taylor, Clark, Wood, Marathon, Shawano, and Portage.

Of course there were scattered hemlock plots on most all the counties on the northern half of the state.

With a showing of such large quantities of hemlock bark in the northern half of the state, along with railroads being built north to get the pine logs and timber, it was no wonder that the large tannery companies became interested in the area. With the background I had, growing up in the heart of hemlock and hardwood forest, it was only natural to pick out the logging, lumber and tannery industries for a vocation. (There sure was no other way to go, only railroading. I did give that some thought.)

When working at the camps in fall of 1913 and winter of 1914, I began to see the quality of the lumberjacks and what they had to put up with. It just happened to be one of the milder winters I have put in. There was practically no snow until after Christmas, but the ground was frozen. We walked to Mellen from camp, about eight miles on the railroad track, kicking up gravel between the ties going in to town for Christmas. There was not much snow and no big storms all winter.

The sleeping conditions were not first class, but what ever job you worked at from ten to twelve hours a day, it did not have to be first class in order to sleep, especially after a good hearty supper. Times were such in that period that you were lucky to have a job. There was not too much griping. In that period of logging history, the spring breakup was a rough time. There was a period from six to eight weeks in the northern part of Wisconsin when at least 75 percent of the crews would be laid off. And remember, there were no unemployment checks at that time. It was really tough.

I was happy that I did well on my clerk and scaling job; no lay off. I was picked by Aristo David, who was the engineer laying out railroads and planning on what area to peel hemlock bark for the summer – a big job each year with the Foster-Latimer Lumber Company. Aristo David was as fine and loyal a man as I have ever met. He left school after the eighth grade to work in the Mellen tannery. Then by making it a point to study mathematics at home and at camp, had become a good surveyor. I worked with him until bark peeling season ,around May 10. Bark peeling season runs through May, June, and July when the sap is up in the tree.

The company usually peeled from 2000 to 3000 cords a season. At the time it was all

to be shipped to the Mellen tannery. A good arrangement for both sides – no freight charges .

The Foster-Latimer Lumber Company train crew would set the loaded cars onto a siding. The tannery company's switch engine would take it from the siding direct to the mill, if needed. If there were a surplus situation, the car load of bark would go to the surplus stock piling yard. No freshly-peeled bark would be shipped.

Bark peeling season was a lesson in good planning, management and cooperation. First, before the peeling season started, strips would be run out in the plots of hemlock to be peeled. Most all peeling was contract labor, so much a cord; trees cut with bark being cut in 4'4" or 4'6" lengths. Trees were to be felled so as to get most of the bark peeled.

When first peeled, it would have to be cured before it was piled. That was done by standing the bark, flesh-side out in dry weather and bark-side out in wet weather to cure more quickly. In nice windy, sunny days, bark could be peeled in the forenoon and piled in the evening. Some peelers would do that after supper when it was cooler. Good, experienced peelers would know the right time to pile.

It was very important to cure and pile the bark at the right time. Too green or damp, it may mold and cause spoilage. That was one reason a foreman had to be on the job all the time in bark peeling season. The bark was piled in whatever sized pile for which the peeler had enough bark. The bark was scaled by measurement, but sold by weight of 2240 or 2280 pounds for a cord. You can see how easy a bark scaler could get in trouble if bark was not piled correctly.

Here is an example to show the troubles of a bark scaler: One summer evening I took Mark Ferrando, a high school student, who was a camp clerk a few summers during bark peeling season, to help scale up a two-man gang of bark peelers who had peeled what they figured to be 72 cords of bark.

It was a hard bark scaling chance. They had been two hard-working, good men at other jobs by the hour, but wanted to peel bark once. They had done a poor job of peeling and piling bark .They had let much of the bark get too dry before piling, and they did not put a few good sheets of bark on top of the piles. Thus, much of the bark had curled up like stove pipes. To make a long story short, I scaled around 64 cords, they expected 72 cords.

They grabbed their axes and said we will see that you scale no more bark. We held our ground. Mark had a little darker skin. For a short while you would never have known it. He turned white as a sheet. I never said a word. Maybe I was unable to, but just kept on walking away. They did not follow. They took their time-sheets in the morning and left for Mellen.

They worked for me a lot in later years. There was a case where the foreman looking after the crew at that time neglected his responsibility and the scaler paid for it.

Another instance:

One morning one of the teamsters on the bark crew informed the foreman to come out as soon as he could to where they were skidding out bark. Around 80 cords of nice piles were talked about all fall and winter – perfect piles in half, three-fourths, and one cord piles . The sheets covering the piles to keep out rain were perfect.

The teamster said, "Look at the pile." The boss said, "It sure looks good." The teamster said, "Take off those first three layers of bark." The boss did. That's when he

got a surprise. He could look down four feet to the bottom in the center of the pile. It had been camouflaged by breaking the bark into short pieces and piling on each side of the pile with long sheets on the ends and top of the pile. (At least one third less bark in each pile.)

I do wish to say there were not too many cases of deceit compared to the total number of men peeling bark in those days. The big percentage were hard working, honest laborers. With no unemployment compensation at that time, bark peeling season took care of the unemployed woods workers of that era. By the time bark peeling season was over, the summer and fall logging season would start wherever they peeled hemlock bark.

They would start cutting up the hemlock logs and skid them to railroad tracks for direct shipping to sawmills or paper mills. Where areas required sleigh haul, the logs would be decked on sleigh roads for winter hauling. It was important to get those hemlock logs cut and skidded before the heavy snows in the snow belt of northern Wisconsin and Michigan. Not only would it be tough to get the peeled hemlock logs from under the snow, but it would also hinder the cutting and skidding of the hardwood logs to come out after the hemlock was out.

Before I get away from the subject of peeling hemlock bark, I wish to say the men who peeled hemlock bark the full season, an average of two months a season, were the hardest, toughest working men connected with woods work. Not only the work, but a heavy axe or a heavy bark spud in one hand, with the other hand holding a sheet of bark to work the spud under so the sheet would not break. On top of that, about two-thirds of them were covered with mosquitoes, black flies, and no-see-ums. (No-see-ums, but bite like hell.) It was a long way from a picnic in the woods.

In the early days, the bark peelers had their own mixture of fly dope; pine tar mixed with bacon grease or pure lard. They earned their money. My hat goes off to them. I was out in it all the time. I had to hold a pad and pencil in one hand and a bark scaler rule in the other along with a piece of chalk to mark the ends on one side of the pile. But at least I would get a break when walking between gangs to be scaled or going to the next camp.

When going to the next camp, I would put on more comfortable walking shoes and carry my calked boots over the end of my scale stick slung over my shoulder. Many days I would walk from 20 to 30 miles a day.

Another hazard in bark season was forest fires. With all those branches or limbs laying on the ground, along with the hemlock bark, which makes one of the hottest fires you would ever imagine. We had the start of a bad one in a dry season once, but luck was with us. It started toward evening, with the wind dying down and high humidity following. We were able to stop the fire.

That brings up another duty I had in those mountains of Iron County for the Foster-Latimer Lumber Company. Whenever there was heavy smoke from forest fires in the area joining their timber holdings, I would be sent out to walk the highest points to see if fires were getting in the danger line to their timber holdings. I was advised to get word back to headquarters the quickest way possible.

There were two very important forestry facts brought out in the logging and milling of hemlock and hardwood forests. In all the logging of the hemlock forests in northern Wisconsin and Michigan, wherever you had good hemlock you had good yellow birch, an

especially valuable tree ,along with smaller amounts of good hard maple and basswood. The other fact is that the hemlock does not reproduce. I have seen it tried in many ways and areas, but to date it has not been a success to my knowledge. Some are experimenting with planting from seed now; it will be interesting to see how that comes out.

The way I got interested in the history of tanneries in Wisconsin was when L. G. Sorden was editing my manuscript for my book, *Calked Boots and Cant Hooks*, at Madison. He noticed a chapter about men peeling hemlock bark. It triggered a question from him. What about hemlock bark? Was peeling just to make less weight to pay freight on? I said, "No, that is most of the reason they peeled balsam, poplar, or aspen and spruce, along with being able to be piled up in yards and keep longer for inventory."

I then informed him about hemlock bark being used in tanneries from which to get tanning agents. He said, "What period in history was that?" When I told him what a big business it was at one time, he was surprised. After that he made inquiries at historical museums and libraries and was surprised at the small amount of records he could find on the subject. He asked me to put a chapter in the book on bark and tanneries, which I did.

Another part of important logging and lumber history was overlooked by being overshadowed by the white pine logging and lumber history era. I think the tanning industry, along with the hemlock and mixed hardwood logging and lumber era are a close second in history to the white pine era. That was brought out vividly by two consultants on reading some of the manuscript of my book, *Calked Boots and Cant Hooks.* One of the consultants said, "This book has pointed up an era of logging history sadly neglected."

I firmly believe the men of the hemlock and hardwood era were equal to the men of the white pine era in every way. I took part in the turn over from white pine logging to the hemlock-hardwood era. I have enjoyed it.

Some of the lumberjacks of the white pine era who were good axe men took up peeling bark in the bark season. They were good bark peelers. We had good two-men or one-man cross-saws at the time, but they preferred to chop the trees with axes. It was a joy to see those men chop and see those large chips fall to the ground. You had to watch closely when handling one of their axes, for your own benefit.

Another fact brought out with the use of hemlock bark as a tanning agent, was the way it helped solve the waste of the hemlock tree. When the tanneries were small, it was not a big problem because the pine lumber market was past its peak. The small sawmills in southern Wisconsin were able to use the hemlocks as the tanneries moved north. It came to be a problem as they moved up to the heavy hemlock forests. It was hard for the saw mills to use all the hemlock logs peeled by the tanneries for the lumber market, even if hemlock lumber was a good building lumber.

In talking with John Grittner of Ashland, Wisconsin, a logger and pulpwood buyer for the Nekoosa-Edwards Paper Mills, I found out who started to sell the first peeled hemlock logs to be used for pulp. John informed me that his father, Joe Grittner, sold the first hemlock pulpwood used for making pulp to the J. B. Nash Paper Company (now Nekoosa-Edwards) between 1905 and 1910.

In his logging, he had to peel some hemlock trees to get the bark for which he had an order at Westboro, Wisconsin. He took out the bark and the trees were left. He thought to himself, what a waste. He made it a point to contact the J. B. Nash Paper Company at

Port Edwards, to whom he was selling balsam and spruce pulpwood.

J. B. Nash told him to ship a few car loads of those logs and he would try to make pulp from them which he did. From that time, Joe Grittner had a market for hemlock logs that did not go for lumber. The same results were had from hemlock logs shipped from Mellen around 1909.

In trying to find material on tanneries of Wisconsin, I contacted an old friend, Irwin Maier, retired chairman of the *Milwaukee Journal*, and now adviser to the editors.

Irwin was raised in Mellen. We went to school together. He worked in the tannery as a young man and wrote me a very interesting letter of his experience in the tanning factory which is included below. He also made inquiries at the Milwaukee Public Library and the Milwaukee County Historical Society. He sent me a thesis of Charles Ernest Schefft, which I found very useful and interesting. He said there are more books available pertaining to the tanneries near Milwaukee. I appreciated his help very much.

Dear George:

It was wonderful to hear from you again and to learn of the talk which you are to give at the Wisconsin Forest History Association's annual meeting September 9th at Madison.

First of all let me say that I worked for the tannery for about 2½ months in 1919. The Mellen Tannery was a sole leather tannery and, of course, you are right, hemlock bark ground up was used in the tanning process. After World War I we had acquired quite a number of the Germans' formulas for chemical tanning of hides. This caused the phasing out of the use of hemlock bark in the tanning process in a very short time.

As I recall it, the hemlock was stored on tannery property in stacks 12 ft. high, 8 ft. wide and about 1/5 of a mile long. My recollection is that there were three or four stacks of this size.

My job was taking the hides after they had gone through the fleshing and then the washing process. They were washed in steam and hot water. I put the hides into oil wheels about 10 feet in diameter. There were two such oil wheels. My job was to load each of the wheels, put a mixture of grape sugar and oil into them, properly measured, run them for 35 minutes or so and take them out on the other side, and load them on a truck which went to the finishing department.

Because we processed a thousand hides a day, my job involved handling 2000 hides; put them into the oil wheels and take them out after they had been treated with oil and grape sugar. After the hides left my station, they went to be dried. The next process after that was to polish and trim. After that the finished sole leather was shipped to wholesalers to distribute to shoemakers and shoe repair people.

This then is the extent of my knowledge of the Mellen Tannery and its product. Incidentally, some of the hides that we received were shipped to us from South America.

I shall make inquiries at the Milwaukee Public Library and the Milwaukee County Historical Society concerning any information they have on tanning in the Milwaukee area. There was a time when Wisconsin was one of the largest tanners of leather of all kinds.

As soon as can get some information, I will forward it on to you.

With best regards,

Sincerely yours,
Irwin Maier

P S. Since dictating this letter I have contacted the Milwaukee Public Library's head librarian, Henry Bates, and the assistant curator of the Milwaukee County Historical Society who tell me that they believe they have ample files on tanning in Milwaukee and Wisconsin, which would be available to you. I shall go over to the Milwaukee County Historical Museum and see what they have tomorrow morning. I expect to hear from the Milwaukee Library real soon.

Logging in Northeastern Wisconsin

by Mary Roddis Connor
Connor Forest Industries
Laona and Wausau, Wisconsin

My overlarge topic, "Logging in Northeastern Wisconsin," will be confined to the once vast Oconto County area, which now comprises the counties of Marinette, Vilas, Oconto, Menominee, Forest, Florence, and parts of Langlade and Shawano Counties. Abutting this is what is now Oneida, Lincoln, and Marathon Counties – all parts of "The Pineries" of early days.

This timber wilderness, laced with rivers and sparkling lakes, teeming with game and fish, was inhabited largely by Indians and fur traders. Pine logging crews invaded the area in the late 1800s, but settlers were sparse until railways pushed north in the late 1800s and early 1900s. It was then possible to tap its rich hardwoods and to establish mills, once the pines had been slashed out in a quarter century of unprecedented ferocity.

Three major northern river flows fed mills to the south. The first, a southeast flow, originated in the Rat River, Pine and Popple Rivers, which flowed into the Peshtigo, Oconto, and Menominee Rivers onto Green Bay, and thus supplied mills at Peshtigo, Marinette, Menominee, Michigan, Oconto, and Green Bay, which in turn sent lumber on to Milwaukee or Chicago.

The second geographical flow was south. This was the Wolf River, originating in Forest Couny's Pine Lake into Lake Metonga and Swamp Creek to the Wolf. This sent logs down to Oshkosh mills.

The third flow of water was southwest, originating in Lac Vieux Desert and the Eagle River Chain into the Wisconsin River; this southwest flow fed mills in what now is Rhinelander, Tomahawk, Merrill, Wausau, Mosinee, Stevens Point, and the Wisconsin Rapids area. Wausau alone had seventeen early sawmills. Lumbermen along this waterway first harvested the pine and after the sawmill era developed the great Wisconsin River Valley paper mill complex, which makes the Wisconsin River one of the busiest in the world. The earlier Wisconsin River pine and lumber barons had sent lumber rafts down to the Mississippi, as far as St. Louis, to help build America's western course of empire.

One of the first known sawmills in Wisconsin's northeast area was established in 1832 on the banks of the Menominee River by a Charles Brush and by William Farnsworth, the second husband of the French-Indian "Queen Marinette," for whom Marinette County and the city were later named.

"Queen Marinette," the famed "best fur trader in the northwest, a beautiful woman, with an uncanny business ability despite her inability to read or write, thus helped the first transition from fur trade to lumbering," according to the Marinette Eagle Star. (June 21, 1971)

This waterpowered sawmill, along with a grist mill, developed under a treaty of Farnsworth and Brush with the Menominee Indians, which the War Department spelled out. The treaty required Farnsworth and Brush to saw lumber and grind grain for both the

Menominees and the government and to deliver annually for eight yars to the tribes, 25 pounds of powder, 80 pounds of lead, 100 flints, 50 pounds of tobacco, and 100 pipes. The mill did not prosper well. A Peshtigo mill established in 1836 did prosper.

Gradually, many other water mills flourished. The first steampowered, circular sawmill was built in the 1850s in Oconto by a Samuel Gilkey.

The Menominee River area was subsequently heavily logged by many, including (Isaac) "Ike" Stephenson, later a U. S. Senator. Ike Stephenson, according to the centennial edition (June 21, 1971) of the Marinette Eagle Star, was "a leader in the lumbering period of hustle and expansion which crowded out the fur trade. During the era he represented, timber resources were harvested with a devastating thoroughness, which left the land gasping to recover the very breath of life."

Stephenson, himself, in his turn-of-the-century *Recollections of a Long Life* noted that "Twenty-five years ago the Menominee River region was producing 700 to 800 million feet of logs a year, more than any other place in the world, and many of the more experienced lumbermen," he said, "were reaping the harvest that had been awaiting them from time immemorial."

Stephenson added: "If predictions had been made then that pine timber would be exhausted in a quarter of a century, it would have been greeted with derision – yet this has come to pass." Let us add that Stephenson, himself, hastened its passing by what the Marinette Eagle Star (June 21, 1971) called "flamboyant and rapacious lumbering which lifted the Menominee to dizzy heights and then let it drop with a thud."

Fires and tornados contributed to devastation, too, as settlers moved in to clear land and to burn off the "worthless hardwood." The greatest fire in U. S. history in loss of lives, the Peshtigo, October 8, 1871 fire, took over 1,000 lives and claimed over 1,000,000 acres – a fire that could be seen as far as Upper Michigan.

Oshkosh, Milwaukee and Michigan interests mainly directed the onslaught on the Wolf River's upper reaches. Philetus Sawyer of Oshkosh, who became a powerful U. S. Senator, even envisioned his big boom lumber town as one of the world's great ports, if a deeper channel could be cut from Green Bay to Lake Winnebago, the Fox to the Mississippi, and he was accused of being against railroads. Like many lumbermen since his time, Sawyer also cast covetous eyes on the Menominee Indian Reserves, once the Wolf River pine was exhausted.

In Oshkosh, not only Sawyer, but the Paine Lumber Company, and the Diamond Match Company and others drew immense pine harvests down the Wolf River.

The Diamond Match Company, which later in 1884 in Upper Michigan's Ontonagon County logged the great total of 180,000,000 feet of logs in four months, had earlier, from October 11, 1881, logged pine in what was once Shawano County, but is now Crandon in Forest County. It logged Town 36, Range 14-12 East on Sections 18, 19, 20, and 29.

I mention this because Diamond Match has been unheralded in Forest County histories, but several years ago our Camp Five Museum at Laona, Wisconsin was given a boom ring with pins attached, which the donor stated came "from the Diamond Match days on Lake Metonga." Lake Metonga abuts Crandon and flows into Swamp Creek, Rice Lake and then into the Wolf River.

My curiosity was piqued as to whether Diamond Match had, indeed, been in this

area, so by a little sleuthing with the Forest County Register of Deeds I found the dates and sections mentioned.

Curiously, Crandon's "Forest Republican" editors in 1906 maintained that Forest County's heavy clay soil was never pine country but had always been hardwood country. Editor Frank Brady further stated that the Town of Crandon, established as the Forest County seat in 1885 by Legislative fiat, along with Forest County, was "unbroken timber, without a resident." Yet Crandon was exactly where Diamond Match had pulled out the pines in 1881, so it was not that "unbroken timber of 1885" that these scribes had proclaimed.

The end of the heyday of pine days was forecast as early as December 9, 1886 in the "Forest Republican," whose feisty Scot editor, Samuel Shaw, intoned:

> "The Upper Wolf is stripped clean of pine. The Lower Wolf River is bare. There is nothing to tempt a lumberman to lift an ax or draw a saw. Swamp Creek is stripped. Rice Lake and Pine Lake (head of the Wolf) will soon be. Other lakes are bared up to Eagle River and Pine River, which drop into the Wisconsin River and the Menominee.
>
> "Yet in Oshkosh scores of men believe and say the pine will last twenty-five years or more. Like Daniel Webster, they judge the future by the past, but will soon get badly left. The pine logs for Oshkosh will soon be gone and her mills silent as the tomb."
>
> After the pine was taken, lands were frequently abandoned for taxes. Tax and land problems grew. Settlers abandoned land in the face of hardships and pine barons had abandoned hardwood land, once pines were cut, before the railroads penetrated north.

Land Questions

The front pages of early newspapers extolled the land opportunities for farms, settlers and timber, with lands at $1 or 50¢ per acre and hardwoods at 25¢ to 50¢ per thousand feet. But an occasional back page, as in the April 29, 1889 Forest Republican carried nearly 2,000 notices of tax delinquencies in microscopic print.

Some speculators would buy the tax titles, letting them "ripen" or "take water on them," till seasoned, to use the language of that day.

Land ownership questions brought problems similar to today's large government ownerships, which were principally acquired from either the 1930s depression tax delinquencies or bought from financially-troubled lumber companies, many of which had closed out operations during that depression.

Where today our northern counties starve for funds for roads, schools or welfare, under present staggering 65 to 75 percent federal, state and county land ownerships, which return only pitiful 9¢ to 12¢ per acre federal revenues "in lieu of taxes," there was a parallel back in the 1880s, when editorials inveighed against land barons and too large ownerships.

The May 7, 1889 Forest Republican cried "Will They Sell??" A vital question to settlers – will the parties with great blocks of land open them for settlement? It can be

said that a dozen men and corporations own the whole county and have put the rope around its neck and pulled the rope until (it is) black in the face.

"Their taxes are lower than the poor, restive settlers, whose small acres are more accessible to the assessor and not hidden away in the impenetrable vastnesses of forest. They want low taxes or no taxes and our people are getting restless. We need roads and schools, and even a jail.

"We need settlers to open up the country, if the land barons would only sell. The tax sales are picked up briskly but mainly for speculation."

Logging of the Pines

Pine loggers were hardly settlers in these areas of less than 100 people to some counties.

To log the pines these roving logging crews went forth in late summers to build dams on northern lakes and rivers, so as to hold the waters back for the spring log drives, as a preliminary to starting their pine cut. Those crude log dams were secured by braces. If there were leaks, a pipe was lowered toward the leak, and manure and ashes were fed into the pipe to stop up the leaks.

Dams would be dynamited open in the spring, when the decked logs along every creek or river bed would be floated down lakes and rivers toward busy sawmills. The floating of logs was called "watering the logs," and lakes and rivers were soon clogged with the log harvest.

An unkind logger could ruin his neighbor's harvest by prematurely blowing out the neighbor's dam, leaving too little water for the float.

To service pine crews in the wilderness was a hardship. Flour for biscuits and many supplies were needed, such as potatoes, salt pork, beets, sugar, and hay and oats for the horses or oxen.

There was a military road from Fort Howard in Green Bay through Shawano, Antigo and north. In 1886 the Forest Republican noted that "Each winter saw the road converted into a great highway for teams carrying supplies to the pineries of the Upper Wolf. At times the trains resembled the toilsome march of some great caravanserie.

"Along the road crept a few timid settlers, who, in winter, kept open house for the loggers and the 'tote' teams moving up and down the road. Supplies were bought at Shawano. Some lucky wight might be so forehanded as to haul a year's supplies by sled. But most had to go pounding on wheels to Shawano and back. It was a horrible trip, which no language can adequately describe. All the elements for a bad road were present: corduroy, sound and rotten; stones; mud; sticky clay; hills and gullies; overhanging brush; fallen timber (Forest Republican – November 25, 1886).

Roads, in short, were practically nonexistent. Another road, from Pelican to Crandon, brought machinery and supplies into prerailroad Crandon. This road was described as "22 *long* miles, with its rocks of no uniform size but of a uniform hardness on wheel tires. Passengers would soon get out of the buckboard to walk and rest themselves but would pay the stage coach driver out of pity."

Rivers were hardly super highways for pine drives. One news account noted that it

took "all summer to move pine logs from Post Lake (near Elcho) to Oshkosh." There were log jams that held up river men for days or weeks, or had to be dynamited. Logs had to be searched out from crooks and crannies.

Wanagan cook and store shanty boats followed the slow excursions downstream with food and clothing for the cold, wet, tired buccaneers of the water ways. Venison and fish helped them to live off the land.

This rugged life reminds one that where, today, we "take exercise," in those days people *got* exercise!

Railroads Opened the Lands and the Hardwood Era

Changes from the pine days came when railroads opened the land and made possible the hardwood era. Hardwoods could not be moved by river; they needed mills, so sawmill towns erupted throughout the north.

The Chicago and North Western went into the Marinette area in 1871 and further north by the 1900s. The Milwaukee and Northern, which later became the Chicago, Milwaukee, St. Paul and Pacific; the Soo Line; and the Wisconsin and Northern Railway (called the Whiskey Northern), all pushed north from the 1880s to 1900s.

Sawmills brought settlers, created company towns, company houses, company stores, roads, company hospitals, schools, and it was the sawmills which usually furnished electric power for their entire villages, as Connor Forest Industries did from 1901 to 1976 for the Laona area.

Many lumber companies also built their own short line logging railways to service their lumber camps or to feed main line routes.

These included the Peshtigo Company's seven mile narrow gauge, the Dunbar and Wausakee Railway; the Peshtigo Harbor Railway, later absorbed by the Wisconsin and Michigan Railway, along with the Holmes and Son Railway. There was the Girard Lumber Company line at Dunbar and Holt Lumber Company's at Oconto.

The Thunder Lake narrow gauge railway at Rhinelander was acquired from Robbins. The Mississippi Valley Railroad from Boulder to Star Lake; the Hackley-Phelps-Bonnell Company line at Phelps; the Turtle Lake Company at Winegar; Charlie Fish at Elcho and Hiles – all these and more had their rail systems. Most of them had heavy duty Lima Shay side piston engines for log train switching and hauling.

In Forest County, alone, rails were operated by the Page and Landock Lumber Company at Crandon; the Hiles Company at Hiles; the Flanner-Steiger Company at Blackwell; the Menominee and Bay Shore Railroad at Wabeno, where three large lumber companies flourished: the Menominee and Bay Shore Lumber Company, the Jones Company, and the Rausch Company. Albert Hess at Cavour ran fifteen miles of railroad. From 1901 the Connor Lumber and Land Company at Laona, now Connor Forest Industries, operated its Laona and Northern Railway upon twenty miles of line. Its present twelve miles of track now takes freight hauls to the Soo's Laona Junction and today features a summer steam engine "Lumberjack Special" tourist attraction. The Laona and Northern Railway is the last survivor of Northeastern Wisconsin short line logging railroads.

It was these logging railways that brought men and supplies into lumber camps. Station crews laid about one mile of rail per month, so as to move camps on to new timber areas. The camps were peopled by farmers earning a winter living or men brought in from city bars and slums by "mancatchers," who were paid per head delivered.

Horses brought log sleighs to the steam jammers, which loaded logs on railroad cars. There were McGifford, Cody, and "Slide-Ass" loaders.

In the early decades of the 1900s railroading was supplemented and serviced by steam haulers or "snow snakes," which would haul veritable trainloads of log sleighs to train landings. The sleighs had 14' wide bunks and operated on ice rutted grooves or "tracks," one and a half feet thick. These were carved by ice rutters and sprinkled nightly by watering sleighs, which had been filled with water chopped from icy streams. Driving a steamhauler could mean freezing at the wheel while hot ashes from the engineer's boiler could pour onto one's neck from behind.

Steamhaulers, of which only three are known to exist today, had a veritable Rube Goldberg forerunner. This was heralded in January 8, 1887 by the Forest Republican, which headlined "A Great Logging Machine," a 140 horsepower traction engine developed in Michigamme, Michigan, invented by a Chicagoan named Grover. It had four sleigh runners and four drive wheels furnished with teeth on which hot steam could be played so as to cut into ice roads, and make its own ice roads by thawing the snow with hot drive wheels. It had a sprinkling hose attached to use if necessary. This was expected to run night and day on six mile hauls, at four miles per hour, and to cut hauling costs.

Apparently this twelve and a half ton wondrous machine did not prove feasible, but it *was* a part of the search for ever-increasing ingenuity in the handling of timber.

Remote railroad camps and the whole era of railroad logging ended about the time of World War II with the advent of bulldozers, big tractors, big trucks, and permanent roads. Trucks and gravelled, all-weather roads ended the railroad days and the lumberjack camps. Power saws and skidders created a whole new world of logging – a long way from the ax, the cross cut saw, the oxen, the horses, and the hard labor. This brought changes in forestry or silviculture.

Changes in Silviculture

Until the late 1920s and the 1940s, the hardwoods and hemlock, too, had tended to be cut destructively by loggers and settlers. Often fires followed in the wake of clear cuts. Taxes were a factor in clearcutting, as taxes rose so fearsomely that all timber was clear cut as fast as possible. The scenery left was too often bare and denuded of seed trees or was hideously blackened with burned stumps. Ghost towns became prevalent. Change was demanded by an aroused public.

Wisconsin's Forest Crop Law of 1927 brought a needed stabilization of taxes.* That,

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* The Connor Lumber and Land Company was the first to enter some lands under the Forest Crop Act. This was appealed by Wabeno, and the State Supreme Court in 1928 ruled in favor of Wabeno on a "grandfather" clause, due to its bonds issued. As a result, the lands were clear cut, so both sides lost, in effect.

with the advent of better fire protection and fire towers and later aerial fire observation, for the first time made feasible the whole concept of perpetual cycle or selective harvest cutting, particularly after World War II's changes to permanent roads. Permanent, all-weather roads also improved fire protection.

Pioneers in permanent cutting cycles were, first, the Menominee Indians, whose Chief in 1900 decreed rotation cuts. However, selective cutting required more timber acres than most of these early companies had left, so clearcutting continued and many lumber company villages disappeared or turned into resort areas.

Robert Goodman's Lumber Company at Goodman was the first to officially start selective cutting in 1926. Richard M. Connor of Connor Forest Industries instigated selective logging in 1928 at Laona and closed out his railroad camps in 1938. Today Goodman lands (now Louisiana Pacific) stand somewhat overcut, while Connor Forest Industries has unmatched quality in its remaining stands. Both companies need supplementary logs.

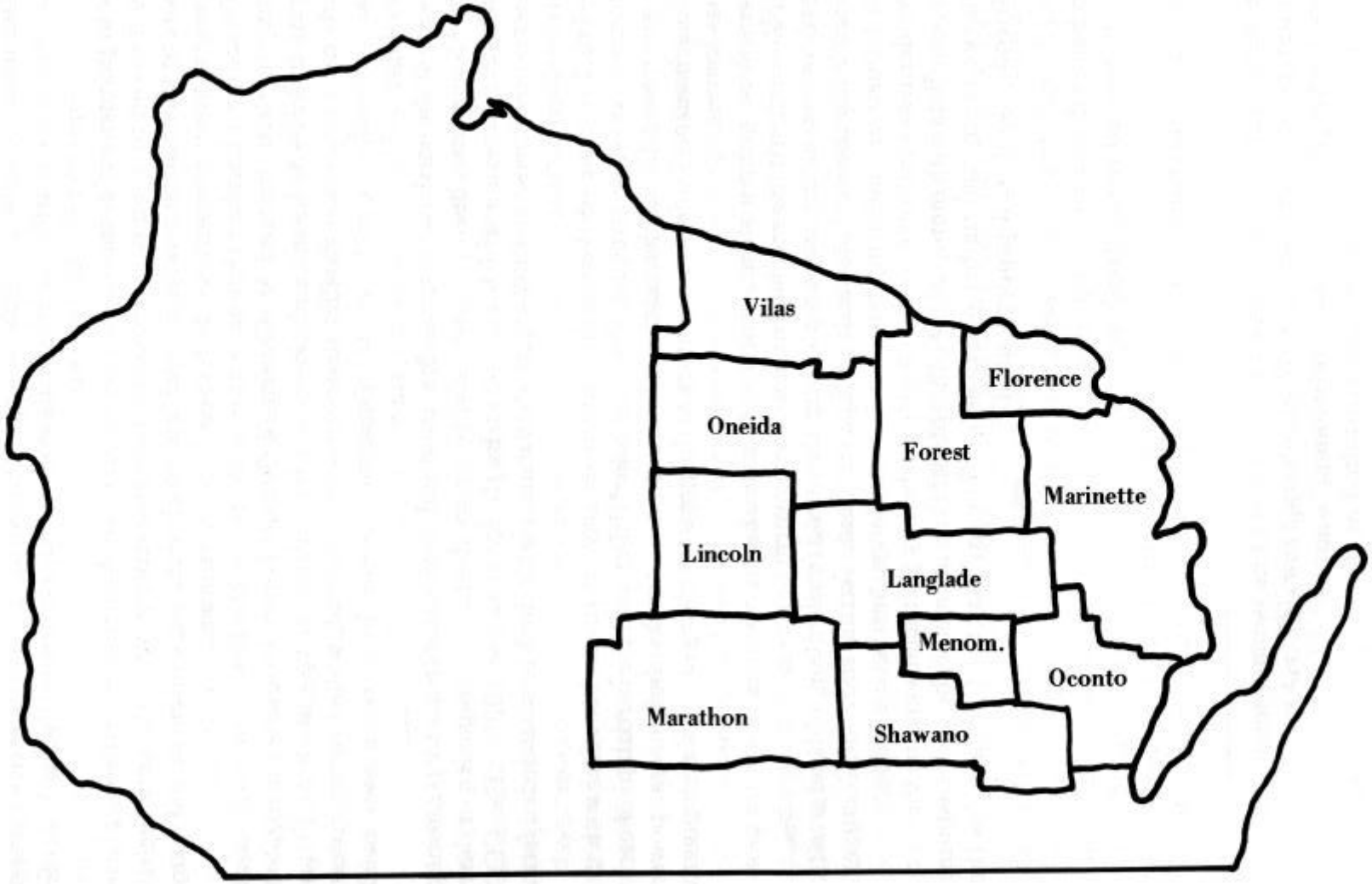
Today, much of the north has recovered; second and third forest crops are regrowing well. Softwood stands have been planted extensively by the paper companies in their Trees for Tomorrow program which started at Eagle River in the 1930s. The CCC (Civilian Conservation Corps) of 1933 established many plantations on abandoned farm lands and burned over areas.

This concludes my tale of Wisconsin's northeast area. It *still* is beautiful with its panorama of forests, lakes and streams. The most colorful days and the hardships of early logging have given way to mechanization of power saws, trucks, bulldozers, power skidders, and mechanized loaders in a century of the greatest changes and development that history has known.

I cannot conclude without a comment that this rich forest resource needs far more intensive silviculture than it has received to date from government or most private hands. Our forests need much thinning, more replanting; they need fertilization, soil and genetic studies, if we are to be the best stewards of this, our land. To this end, our Company, Connor Forest Industries, under my husband's stewardship, has been a leader.

Today's wilderness syndrome, so sedulously pushed by politicians and by the U. S. Forest Service, conflicts with multiple-use concepts and can ultimately be as devastating to forest resources as any bad timber practices – "The ax," say the Germans, "is the forest's best friend." So it is, if properly used.

Northeast Counties of Wisconsin. Oconto County once embraced all but Oneida, part of Langlade, and Marathon Counties.



Railroad Logging in Wisconsin

by James P. Kaysen
Cedarburg, Wisconsin

If you have come upon a long, narrow clearing through the woods with perhaps a few rotted ties or depressions in the ground where they formerly were, you probably have found the remains of one of Wisconsin's many logging railroads which were long a feature of the lumber industry in most of the northern counties. Earliest railroad logging appears to have been in the vicinity of Shell Lake in Washburn County in 1881. Between that time and May 13, 1948 when the last logging train of the Rib Lake Lumber Company pulled into the mill yard, 67 years elapsed during which thousands of miles of largely unmapped track were built and eventually removed, and this became the prime method of transporting logs from the stump to the hot pond or river log dump. Railroads made areas lacking suitable driving streams accessible and also provided a method of transporting species too dense to be floated.

An earlier railroad had been built in 1868 by the Peshtigo Lumber Company from Peshtigo to Peshtigo Harbor, but it was not a logging railroad, being used solely to transport sawed lumber, supplies and passengers from their mill at Peshtigo to the shipping docks at Peshtigo Harbor. Logs for the large mill at the Harbor were transported by the Peshtigo River.

Railroad logging persisted almost to the end of large scale logging operations in Wisconsin. Several factors brought about its demise: the tremendous improvement in primary and secondary highways; the rise of selective logging which resulted in lower yields per acre, and, in turn necessitated lowest possible transportation costs; and greatly improved trucks and tractors. Three of the large sawmill operations remaining are: Connor Forest Industries at Laona, Louisiana Pacific Corporation at Goodman, and Menominee Industries at Neopit. All depended on rail transportation until the middle or late 1930s and then switched over to truck logging which is still in use today. Essentially the logging railroad went hand-in-hand with clear cutting, high production and, usually, well blocked forest lands.

Logs started moving by rail many years before the last log drives. The vast stands of white and Norway pine in the Bayfield Peninsula required land transportation because there were few suitable driving streams. As a result, a tremendous mileage of railroad, both narrow and standard gauge, was built by a large number of operators with mills at Ashland, Washburn, Bayfield, Duluth, and Superior. The resulting network of abandoned railroads is a very complex and, at times, puzzling heritage of the boom days at the turn of the century. In other cases, pine logs were transported by rail to unloading works on important streams from which they were driven to the downriver mills. Thus William Holmes and Son and Quinnesec Logging Company delivered logs to the Menominee River at Miscauno Island and Aurora, respectively, and the Empire Lumber Company of Winona dumped logs in the St. Croix in Douglas County. In a reverse type of operation the J. S. Stearns Lumber Company hauled logs out of the Bad River and transported them by their railroad, the Ashland, Odanah & Marengo for the rest of the distance to the

mill at Odanah, presumably to avoid the slack water in the lower reaches of the Bad. Two of the famed Apostle Islands were logged by rail. John Schroeder Lumber Company of Ashland and Milwaukee had extensive trackage on Michigan and Outer Islands by means of which logs were transported to landings at the water's edge and then trans-shipped by barge to the Ashland mill.

The cessation of pine logging resulted in a great increase in railroad logging as mill operators moved into the hardwood and hemlock forests. Most of this activity was encompassed in the years from 1900 to 1940. Countless miles of railroad were built in Marinette, Florence, Forest, Oconto, Langlade, and Menominee Counties in the northeast; Douglas, Bayfield, Ashland, Iron, Price, Sawyer, Washburn, Rusk, and Taylor in the northwest; Vilas, Oneida, Lincoln and Marathon in the north central area of the state. Ashland County alone had a total of 717 miles of logging railroads over the years.

These railroads were basically plant facilities of the mills that they served. Some were separate, subsidiary corporations while others were operated directly by lumber companies and hence were private railroads as distinguished from common-carriers. One advantage of the common-carrier approach was that it permitted exercising the right of eminent domain in situations where right-of-way problems became troublesome. It also opened the way for tariff divisions with trunk line railroads and facilitated hauling logs and other commodities for others. On the other hand, it placed the railroad under the jurisdiction of the Interstate Commerce Commission and the Wisconsin Public Service Commission or its predecessors.

Wisconsin's first logging railroad appears to have been the Crescent Springs Railroad, a subsidiary of the Shell Lake Lumber Company which commenced operations in 1881 and completed cutting in 1901. Frederick Weyerhaeuser was a minority stockholder in this company. Next on the scene was the Chicago, Fairchild & Eau Claire River Railroad which was organized by N. C. Foster of Fairchild. For a time logs were hauled north to the Eau Claire River and then driven to Eau Claire mills. At this time the line would have been classified as a tramway, using wooden poles for rails and log cars with concave wheels and pulled by teams. In 1882 it became a conventional logging railroad. The railroad served the N. C. Foster Lumber Company at Fairchild until the end of logging in 1905. In the meantime the name of the road had been changed to the Fairchild & North Eastern which continued in business until 1930. A very close contemporary of the Chicago, Fairchild & Eau Claire River was the Chippewa River & Menomonie Railroad, another of Weyerhaeuser's interests, which built a short line from Potato Lake to the Big Bend of the Chippewa River south of the present village of Weyerhaeuser in 1883. Later this line was extended into the Blue Hills of Rusk County and eventually was sold to the Beldenville Lumber Company which continued to operate it until 1910. There is an official marker of the State Historical Society of Wisconsin on Highway 8 near Weyerhaeuser which states that the Chippewa River & Menomonie was built in 1875-76 and was the first logging railroad in Wisconsin. However, recent documented research by Franklin King and Howard Peddle has shown that this information is incorrect.

One of the major operators in Wisconsin was the Edward Hines Lumber Company of Chicago with mills at Washburn, Mason, Iron River, Superior, Hayward, Park Falls, and

Loretta. This company is still in business but its mills are in the deep south and the far west. Its first Wisconsin mill was at Washburn and was purchased from the Bigelow interests and the sale included the narrow gauge railroad. Other mills with extensive logging railroad operations were the Connor Lumber & Land Company of Laona and Stratford; Yawkey-Bissell Lumber Company of Arbor Vitae and White Lake; Menominee Bay Shore Lumber Company of Soperton; Goodman Lumber Company of Goodman; Girard Lumber Company of Dunbar; J. W. Wells Lumber Company of Wausaukee; Holt Lumber Company and Oconto Company of Oconto; Menominee Indian Mills of Neopit; Rib Lake Lumber Company of Rib Lake; Mellen Lumber Company of Glidden and Mellen (this was a logging subsidiary of Nekoosa Edwards Paper Company); Kneeland-McLurg Lumber Company of Phillips and Morse; Rust-Owen Lumber Company of Drummond; White River Lumber Company of Mason; Foster-Latimer Lumber Company of Mellen; J. S. Stearns Lumber Company of Odanah; Lake Nebagamon Lumber Company of Lake Nebagamon; Scott & Howe Lumber Company of Ironwood, Michigan (timber in Wisconsin); Roddis Lumber & Veneer Company of Park Falls; Bissell Lumber Company of Ladysmith and Tripoli; John S. Owen Lumber Company of Owen; Northwestern Lumber Company of Stanley. The list is by no means complete and in addition there were dozens of smaller operations. Farthest south logging railroads in Wisconsin were the Goodyear Lumber Company of Goodyear and its subsidiary, the Goodyear, Neillsville & Northern Railway, and also the McMillan-Salsich Lumber Company of McKenna, all in eastern Jackson County.

Wisconsin logging railroads were built to either standard gauge, 4 feet 8½ inches between railheads or, narrow gauge, 3 feet between rails. Standard gauge was more popular because it permitted interchange of trunk line rolling stock and was better suited to handling bulky loads such as sawlogs. On the other hand, narrow gauge construction costs were lower and equipment was somewhat cheaper. The first logging railroad, the Crescent Springs Railroad, was narrow gauge and the Thunder Lake Lumber Company continued to operate with this gauge until the end of their operation in 1941.

In a few cases trunk line railroads built branches into the woods which served the same purpose as the logging railroads built by the lumber companies. A case in point was the Milwaukee Road branch extending north from Boulder Junction in Vilas County into Gogebic County, Michigan, serving timber lands of the Brooks & Ross Lumber Company and others. In other cases such as the John S. Owen Lumber Company and Yawkey-Bissell Lumber Company, the mill people were able to negotiate trackage-rights contracts with trunk lines whereby log trains were operated over the latter with the lumber companies' equipment. In the case of the Yawkey-Bissell mill at White Lake log trains ran over the Soo Line from various blocks of timber north almost as far as Crandon to the mill. The steam locomotive used for this service was well-maintained to meet the inspection requirements of the Interstate Commerce Commission. Yawkey-Bissell log cars were equipped with hand brakes only and link-and-pin couplers, real rarities in the mid twentieth century. Operation on trunk line railroads, of course, saved constructing a private railroad.

Quality of track construction varied considerably but generally was in direct proportion to the length of time the particular section would need to remain in service.

The main line feeding the mill for a period of twenty years or more could be expected to be built to fairly high standards with the most favorable grades and curvature the country permitted and with well-drained cuts and gravel ballasted track. On the other hand, a spur intended for only one or two years' service would be built as cheaply as possible with no ballast or ditching and with steep grades and sharp curvature. Tracks were sometimes laid over frozen swamps with the knowledge that the rails would be removed before the spring thaw.

Rail was always second-hand and of light weight, between 25 and 60 pounds per yard, and in most cases was leased from the trunk line railroad that served the company sawmill. Rail fastenings such as splice bars, bolts and spikes were reused as often as possible. Tie plates were seldom used. Cross ties were usually cut from the cleared line of the projected railroad.

Bridges were most often built up out of log cribs and stringers. Most lumber companies were not equipped with pile drivers but could, on occasion, borrow such equipment from the trunk lines. Culverts were framed out of logs or sawed timbers. Only in extremely rare instances were steel and/or concrete bridges used. Cull logs were used to save earth hauling at fills or embankments. In the days when hemlock bark was more valuable than the peeled logs, many thousands of feet of timber ended up under the track. By the time the logs rotted out and the fill settled, the rails had been removed and no one worried about the sag in the roadbed.

Early logging railroads were built mostly by manpower with hand tools and perhaps some help from teams and slip scrapers and dynamite or black powder when the going was rough. This was called station work, a station being 100 feet of line. Work was often done on a contract or piece work basis. Early logging lines can be readily identified by the "swedeholes" dug along each side of the track to furnish material to build up the roadbed. In later years steam and power shovels entered the picture and eliminated much of the hand labor. Bulldozers were available toward the end of the railroad era. Some companies used rather sophisticated track laying machines to reduce the cost of laying and picking up track. A testimonial as to the quality of main line logging railroads is the fact that hundreds of miles of abandoned roadbeds have been converted to highways of one type or another. Track laying, removal and maintenance was often handled by a special crew working out of a separate camp, often called a railroad camp.

Rolling stock included locomotives, log cars, cabooses, a few box cars, and perhaps even a refrigerator car for hauling perishable supplies to camps. In the early days logs were loaded on flat cars or skeleton-type cars known as Russels with bunks similar to sleighs and no floors. Loading was done by the crosshaul method using teams of horses or oxen. Later on a wide variety of patented and unpatented steam-powered log loaders, usually referred to as "jammers" were developed. Cars were fundamentally the same but flat cars became more common. Car stakes to hold the logs in place were cut from small timber and did their share in slowing up second growth. As a result, patented folding wood or steel stakes were developed which could be used over and over. Unloading logs at the hot pond was accomplished by spotting the cars on a specially built track sloped transversely so that gravity assisted in moving the logs into the pond.

In a few cases in Wisconsin, steam skidders were employed in transporting logs from

the stump to the track but their success does not appear to have been sufficient to result in widespread use. Steel cables were hauled out in the woods with teams and attached to one or more logs and hauled back to the skidder by winding the cable on a steam-powered drum. The cable was elevated at the skidder by use of a spar tree or a steel mast in order to keep the logs off the ground as much as possible. The system was somewhat similar to that used in the Pacific Northwest and was, of course, very destructive to young growth as well as the terrain. Steam skidder scars can still be found after 60 or more years in the Town of Silver Cliff in Marinette County. It is interesting to note that two steam skidders were used for a time by the Crescent Springs Railroad.

Perhaps the most interesting phase of logging railroads to the casual observer was the locomotive power. Conventional rod-type steam locomotives were often cast-offs from the trunk lines. When the elevated railroads in the larger cities were electrified around the turn of the century, many of their small steam locomotives found their way into the Wisconsin woods and other forest areas. Their short wheelbase made them well-suited to the sharp curves of logging railroads. Usual practice on larger operations was to use rod locomotives to move assembled log trains from the woods to the mill and do the switching and assembling of trains with geared locomotives which could operate on extremely rough and uneven track and negotiate steep grades and sharp curves which were off-limits to rod engines. Three or four different types of geared locomotives were on the market, but by far the most common in Wisconsin was the Shay, mostly referred to as a"limey" after the manufacturer, the Lima Locomotive Works of Lima, Ohio. Other types used on a limited scale in Wisconsin were the Heisler and the Climax. All had small driving wheels on swivel trucks powered by bevel gears and a longitudinal drive shaft with universal and slip joints connected to the steam engines. In the case of the limey, the steam engines consisted of three vertically-mounted cylinders on the right side of the boiler driving a crank shaft direct-connected to the drive shaft. To balance the weight of this assembly, the boiler was set off-center on the locomotive frame and presented a strange appearance viewed head-on. The gear ratio was such that the pistons travelled at fairly high speed with the engine moving rather slowly. An approaching limey sounded like an express train but the illusion was dispelled when it came in sight moving at perhaps ten miles per hour.

Train crews usually consisted of engineer, fireman and conductor, with brakemen added if grades were severe. Engineers frequently received their initial training on trunk lines from which they may have been furloughed or discharged. Firemen, conductors and brakemen were more apt to be home-guards. The brakeman's job was one of the most hazardous in the woods and casualties were high.

Railroad camp cars were fairly common in Wisconsin. They were simply portable buildings of basic box-car design with trucks and couplers so that they could be moved in trains from one location to another. Bunk, dining, kitchen, office, and horse cars were used. Generally the barn was too big to be moved so it had to be built from scratch at each new campsite. Camp cars were apt to be wider and even higher than standard railroad equipment since logging railroads seldom had any clearance restrictions.

In the early days most railroad logging took place in the winter months and logs were transported to landings along the tracks by sleighs. With the advent of summer logging,

big wheels were used or logs were ground skidded by teams. Since the maximum practical distance for direct skidding was considered to be about 600 feet, logging spurs had to be located about twice that distance apart or 1200 feet in order to provide complete coverage. In flat country the pattern of logging spurs could be quite uniform and symmetrical. In heavily glaciated country and stream valleys it was necessary to make many adjustments in the pattern. Logging railroads were often laid out by the company timber cruiser. Occasionally the layout was made by surveyors or civil engineers. Precise, instrumental surveys were seldom needed unless there were questions of property ownership.

Locomotive fuel in later years was generally coal which was stored at the mill and one or more of the camps and transferred to locomotive tenders with hand shovels. Water for locomotives was pumped direct from streams or ponds to engine tanks. Small engine houses were also provided where most repairs could be made. Heavy overhauling would be done at trunk line railroad shops or at a commercial locomotive repair shop in Tomahawk.

As might be expected, derailments were quite frequent but loggers were adept at picking up the pieces and getting things back to normal. Collisions were less common due to low speeds and the abundance of black smoke from engines and jammers which provided a good warning signal. The nature of the business did not require any sophisticated dispatching system but it was fairly common to provide a private telephone system connecting camps with the mill headquarters. The phone line was apt to be of the grounded type with the single wire hung on trees and snags. Reliability left a little to be desired.

Railroad logging was big business in its day but that day is long gone and all that remains are the old grades seemingly wandering aimlessly through the second-growth or slashings. They offer a challenge to curious-minded adventurers seeking to follow the old iron trail.

History of Consolidated's Pulpwood Rafting on Lake Superior

by Ralph G. Swanson
Divison Manager Timberlands
Consolidated Papers, Inc., Wisconsin Rapids

A familiar teardrop shape on the Lake Superior scene for a half century passed out of existence in 1972. Since 1923, Consolidated Papers, Inc. of Wisconsin Rapids, Wisconsin, had transported pulpwood across the lake's emerald waters in large rafts.

Harvested in Ontario, Canada, and northeastern Minnesota, this wood has served as a vital link in supplying the nation's publishers and printers with enamel printing papers for more than 35 years and with newsprint and other paper products for 15 years before that.

Through the fiftieth and final rafting season, Consolidated loaded out nearly two million cords of pulpwood at its Ashland dock for shipment to company mills 200 miles farther south.

Actually, well over two million cords of pulpwood and sawtimber have been loaded out at Ashland including wood destined for other paper companies and sawmills. The *Ashland Daily Press* reported in 1958 that as high as 140,000 cords of wood were towed to the Consolidated dock in a single season.

Consolidated got into the rafting business in its efforts to find an economical method of bringing spruce, balsam, fir, jack pine, and aspen from Canada to company mills in Central Wisconsin.

Between 1920 and 1923, the company had substantially increased the manufacturing facilities of its paper mills in Wisconsin Rapids and nearby Biron, and had built a sulfite pulp mill at the Wisconsin Rapids Division. Large quantities of spruce pulpwood were required by these mills.

Spruce has historically been in short supply in Wisconsin requiring purchases from Canadian, Michigan, and Minnesota sources. In addition, the harvest included 15 million board feet of white pine sawlogs and spruce piling.

Look To Canada

The Newaygo Timber Company, Ltd., which the company had acquired in 1920, owned extensive timberlands in the vicinity of Thunder Bay, Ontario, with tracts of exportable spruce. Newaygo's subsidiary, Newaygo Tug Line, Inc., had a large inventory of floating equipment for transporting pulpwood in rafts.

Consolidated purchased the tug *The Butterfield* from the United States Shipping Board in 1922. *The Butterfield* was put into service in 1923, towing across the lake for 32 of the next 34 seasons. Weighing in at 429 tons and stretching 141 feet, this craft had a 29-foot beam and 14½-foot draft. The powerful tug was equipped with a triple expansion steam engine of about 850 HP and required a crew of 20 men.

From about June 15 to September 1 each season, *The Butterfield* towed pulpwood across Lake Superior's dancing waves, usually hauling five or six rafts with anywhere from 8,000 to 12,000 cords. The weight ranged from 35,000 to 50,000 tons of wood in

each raft. A round trip from Ashland to Canada and back normally took 12 to 14 days depending upon weather conditions.

Company records indicate *The Butterfield*'s biggest rafting season was in 1942 when she hauled 78,970 cords to Ashland for rail transport to Consolidated mills. That did not include wood hauled for other companies.

A necklace of 450 Sitka spruce logs, each measuring three feet by 22 feet, formed a strong boom. Sitka spruce had such highly desirable characteristics as durability, length, large diameter, buoyancy, and few knots. It came 2,000 miles from the state of Washington. A double string securely enclosed the pulpwood.

The United States Army requisitioned *The Butterfield* for two years during World War II and she saw service in the Atlantic and Aleutians. However, rafting continued during these seasons with the *SS Britannia*, a converted car ferry.

The Butterfield came back for the 1945 season under Captain Theodore Arntsen, of Duluth. She towed about 74,000 cords to Ashland in 1946 and served until Consolidated traded her for the diesel tug, *John Roen III*, in 1957.

The Butterfield was converted to a twin screw diesel by the Roen Steamship Company, Sturgeon Bay, Wisconsin, and renamed the *John Purves* in honor of an officer of that firm.

The *John Roen III* was originally a fire boat for the City of Chicago and once was one of the fastest tugs on the Great Lakes. The 118-foot long vessel had a six-cylinder, 840 HP diesel engine with pistons the size of 30 gallon oil drums. She carried a crew of 13 men. *Roen* pulled smaller rafts on the shorter trip from Minnesota.

In 1972, the last season, the *Roen* was captained by Russel H. Bergh for the seventh consecutive season. Bergh was a veteran of well over 50 years on the lakes. He guided the powerful tug across Lake Superior seven times in 1972 moving pulpwood from Grand Marais (80-mile trip) in northeastern Minnesota to Consolidated's Ashland dock at the foot of Ellis Avenue.

Minnesota Rafting

Consolidated laid the groundwork for rafting spruce and other pulpwoods from the Gopher State by acquiring a large tract of timberland in Cook County from the Minnesota Forest Products Company in 1935. (The company also rafted briefly from Isle Royale before it was established as a national park in the mid-thirties.)

Two years later, Consoldated began towing pulpwood from this area. Until 1965, the company towed wood from Horse Shoe Bay near Hovland in Eastern Cook County and near the Canadian border. As forestry operations moved westward, so did the rafting which had continued from Grand Marais, 20 miles southwest of Horse Shoe Bay since 1952, and Sugar Loaf, 65 miles north of Duluth, since 1943.

Natural harbors provided protection from stormy weather while the rafts of 3,000 to 5,000 cords were made up. Summer rafting operations began after the period of severe spring storms.

The process of making up the rafts early developed as a tourist attraction with viewing platforms erected by Consolidated for the benefit of on-lookers. Many

spectators gathered shortly after the early northern sunrise to watch. Even area residents continued to gather ashore and in their boats to view the show.

On rafting days, the tug *John Roen III*, with its bright red cabin sparkling in the early light of dawn, chugged over the horizon towing its long string of boom logs. The twin booms were singled out by the winch boat, *J. D. McDonald*, and the Ashland based tender, *Timberland*, a 46-foot diesel boat which accompanied the *Roen*. The teardrop raft was formed in three to four hours in good weather and up to 12 hours in bad weather for the trip to Ashland.

Assembly Takes Experts

Of the several phases of rafting, the make-up work is most sensitive to weather. Reports and forecasts must be watched closely, and storage booms must not be opened in the face of severe winds or storm warnings.

Although the pulpwood sticks float independently and are not a structural part of the raft, most trips across the lake were routine because of precautions. Once under way, a raft could take a terrific pounding from wind and water without danger of breaking up, or loss of wood.

As the *Roen* proceeded at one mile per hour, constant radar and radio communications were maintained with other ships since the rafts crossed the shipping lanes of the enormous lake carriers headed to and from the ports of Superior and Duluth. The rafts also passed through fishing grounds. Commercial fishermen were asked to supply information on the whereabouts of their nets so these could be avoided.

The latter portion of the trip threaded through the Apostle Islands with their natural shelter from potential high winds and seas. Upon reaching the Chequamegon Harbor at Ashland, the main storage boom was opened by one of the tenders and the raft was shepherded into an 80-acre holding harbor with an 18,000-cord capacity. The towing boom was drawn out of the holding harbor and doubled back outside the outer storage booms for another trip to the Minnesota shore.

Inside the holding harbor, the two small boats worked the wood toward jack ladders which lifted it to cradles. A heavy line pulled pulpwood into the reach of men known as "polers" working on floating docks. The polers aligned and moved the wood to the jack ladders using long pike poles.

As the cradles or "pockets" were filled, a crane lifted the wood into waiting gondolas. Eight pocket loads filled a car. The work force of about 35 men during the season loaded from 30 to 35 carloads of pulpwood in a nine-hour day. Since each raft contained 150 to175 carloads of wood, it took about five days to load one raft.

Changing weather conditions limited the rafting season's duration. Mid-summer was the best time for towing. In late July, the prevailing winds began to blow earlier and stronger each day. By mid-August, roughening water prevented continued operation. A strong blow could actually push a raft and tug backwards.

But Consolidated never lost a raft even during the long pull from Canada. The company discontinued rafting from our neighbor to the north in 1958 when the *Roen* pulled one raft of 7,200 cords from the Nipigon Straits on a 13-day journey to Ashland.

An article in the Northwestern Ontario Timber Operators' Association *Log Book* in

1972 reported that the last movement of export wood by raft across Lake Superior to the American side was a delivery from the Nipigon Straits to Ashland on behalf of Newaygo Timber Company by an Oscar Styffe Limited tug in about 1964.

The final cargo of export pulpwood left Thunder Bay for North Tonawanda, New York, by freighter in 1970, according to the *Log Book* which commented, "This brings to an end a colorful period of logging history in the shipping of export wood by water from Northwestern Ontario to American pulp and paper mills. It represents the end of an approximately 60 years' era."

We have now witnessed the end of long-distance rafting on the Great Lakes as Consolidated in 1972 completed a fifty-year epoch.

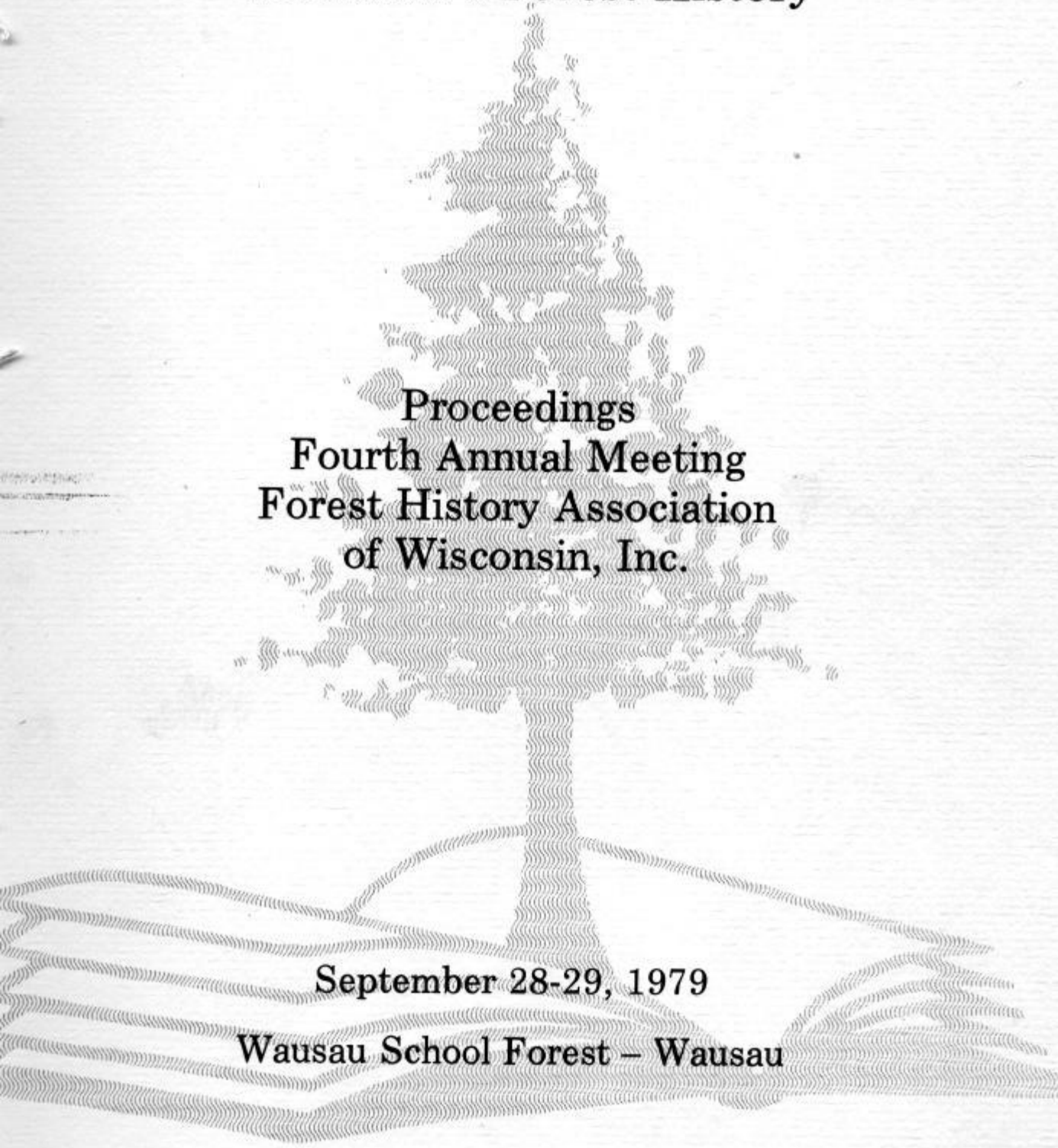
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Some Events In Wisconsin's Forest History



Proceedings
Fourth Annual Meeting
Forest History Association of Wisconsin, Inc.

September 28-29, 1979

Wausau School Forest – Wausau

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Edited by
Ramon R. Hernandez

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Founded 1975

403 McIndoe St.
Wausau, Wisconsin 54401

Printed on 100% Recycled Paper

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Foreword

The text of this book consists of the official transactions of, and the papers presented at, the Fourth Annual Meeting of the Forest History Association of Wisconsin, Inc., on September 28-29, 1979 at the Wausau School Forest – Wausau, Wisconsin. Editing and publishing coordination was done by Ramon R. Hernandez of Wisconsin Rapids. On behalf of the membership, the Board of Directors expresses its heartfelt thanks to the speakers for their excellent presentations at the Fourth Annual Meeting.

The Forest History Association of Wisconsin

The Forest History Association had its beginnings early in 1975, when a small group from the wood products industries, conservation agencies, and the University of Wisconsin met to discuss a potential bicentennial project which would remind our citizens of the importance of forests in Wisconsin's past and present. Thus was formed the Forest History Association of Wisconsin, Inc., a non-profit, tax-exempt endeavor incorporated under the laws of the State of Wisconsin. Already, in the 1979-1980 year, the membership numbers over 200 (individual and corporate).

A seven-member Board of Directors serves as the Association's governing body. Association officers and directors for 1979-1980 are:

John H. Saemann, President
Howard S. Lovestead, Vice-President
Frank N. Fixmer, Secretary-Treasurer
Directors: Jay H. Cravens, George A. Corrigan, William P. Yost, L. G. Sorden

The Association's corporate address is:

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403 McIndoe Street
Wausau, Wisconsin 54401

Information regarding membership may be directed to this address, as well as orders – while still in stock – for *Some Historic Events In Wisconsin's Logging Industry. Proceedings of the Third Annual Meeting, Where Are We in Forest History Today? Proceedings of the Second Annual Meeting,* and *History of Nicolet National Forest, 1928-1976,* by Kennell A. Elliott (a cooperative publication of the Forest Service, U.S.D.A., and the Forest History Association of Wisconsin, Inc.).

Agenda

Fourth Annual Members Meeting
of
Forest History Association of Wisconsin
September 28-29, 1979
Wausau School Forest – Wausau, Wisconsin

Friday - September 28

4:00 P.M.	Self-guided tour of the school forest and surrounding multiple-use forest area.
5:30 P.M.	Registration at Bannerman Lodge
6:00 P.M.	Dinner
	Slide/sound show – *We Cannot Escape History*
	The Isolated Settler Relocation Program – L. G. Sorden

Saturday – September 29

8:30 A.M.	Registration at Bannerman Lodge
9:30 A.M.	Business Meeting
10:15 A.M.	Distinguished Service Awards
10:30 A.M.	*The Menominee River Boom Company* John S. Burke
11:00 A.M.	*Wood in American Life* Walter G. Youngquist
11:30 A.M.	*History of the Wisconsin Paper Industry* John N. McGovern
12:00 Noon	Lunch
1:00 P.M.	Self-guided tour of the school forest and surrounding multiple-use forest area.
1:30 P.M.	Special meeting of Board of Directors

Minutes of the Fourth (4th) Annual Meeting of the Forest History Association of Wisconsin

Saturday, September 29, 1979

Bannerman Lodge
Wausau School Forest
Wausau, Wisconsin

The meeting was called to order by President Saemann at 9:30 A.M. with approximately 44 persons present.

Following some brief remarks of welcome by President Saemann, minutes of the 1978 annual meeting were read by Secretary Fixmer. There being no additions or corrections, the minutes were approved as read.

Secretary-Treasurer Fixmer then gave his report covering the services performed by his dual office. A copy is attached and made part of the official minutes of this meeting.

The highlights of the financial report were: Total receipts of $8,386.94, total disbursements of $5,996.49 and net income of $2,390.45. The checking account balance as of June 30, 1979 was $1,507.57 and the savings account balance on the same date was $7,090.86 for total cash assets of $8,598.43. The report of the Audit Committee was then read and this confirmed the balances stated above. On motion by Ken Elliott and second by L. G. Sorden, the reports of both Secretary-Treasurer Fixmer and the Audit Committee were approved as read. Copies of both reports are attached hereto and made part of the official minutes of this meeting.

President Semann then presented his report of the Association's major activities and accomplishments during the past year. In referring to the commitment to complete the bibliography of forest history literature, he introduced Mrs. Paul Loduha of Madison, who has been retained by the Board of Directors as Publications Editor.

The next matter on the agenda was the proposed affiliation of the Association with the State Historical Society of Wisconsin. Following a discussion of the several advantages of such affiliation, Dr. Brown moved, Jay Cravens seconded, and it was unanimously approved, that the Board of Directors be authorized to apply for affiliation with the State Historical Society of Wisconsin, under such terms and conditions as the Board of Directors may deem necessary and proper.

In the absence of the chairman of the Nominating Committee, committee member Ken Elliott reported that its slate of nominees for two-year terms were: L. G. Sorden to succeed himself, Frank N. Fixmer to succeed himself, and William P. Yost to succeed Walter Mayo. Upon appropriate motion by Ken Elliott and second by Dr. Brown, a voice vote declared these three elected as directors.

Several members then made brief statements regarding subjects of general interest:

Dr. Brown (EauClaire) referred to the Association's scholarship award project and explained that the winners of the two cash awards each year would be chosen by the two deans of the schools involved, since they would be best qualified to judge the merits of the candidates.

Ken Elliott (Rhinelander) proposed that the Association promote the official designation of several sites related to logging history. He further offered to assist George Corrigan and Mrs. Loduha with the organizing of committees to compile county histories in his area, similar to the current effort now underway in Bayfield County.

Homer Wiesner (Lakewood) told of efforts being made by the Lakewood Lions Club to restore the Holt-Balcomb Logging Camp and to have it designated as an historic site. This camp is believed to be the oldest logging camp still in existence, having been built about 1880.

Howard Peddle (Iron River), who had samples of his collection of log marks and stamping hammers on display, emphasized the need for a publication which would detail the historic origins of such artifacts.

Following a brief interlude for mid-morning refreshment, President Saemann presented this year's Distinguished Service Awards. Hand-carved plaques, with engraved citations, were awarded to Walter Scott of Madison and to Trees-for-Tomorrow of Eagle River.

Scott's citation acknowledged his outstanding contributions to the preservation of Wisconsin's conservation and forestry history, particularly in the fields of conservation law enforcement and the recording of large and historically significant trees. Due to his inability to attend the meeting because of ill-health, Scott's award was accepted for him by L. G. Sorden.

The citation for Trees-for-Tomorrow recognized its unique role in natural resource education during the past 35 years. Receiving the award for the organization was Earl Plourde, its newly appointed Executive Director.

Program Chairman Jay Cravens then referred to his presentation, the evening before, of a 15-minute slide/sound production of the national Forest History Society titled "We Cannot Escape History", a fitting introduction to the three speakers that followed:

Mrs. Hazel Chepeck, substituting for John S. Burke of Marinette, read his paper on "The Menominee River Boom Company."

Walter G. Youngquist of Madison reviewed the highlights of a book he co-authored with Herbert Fleischer on "Wood in American Life, 1776-2076".

John N. McGovern of Madison discussed his "History of the Wisconsin Paper Industry" and presented a series of slides to illustrate the salient features of the growth and changes since the building of the state's first paper mill.

The program concluded at 12:30 P.M. and the meeting was adjourned until again called in 1980.

Respectfully Submitted,

Frank N. Fixmer, Secretary-Treasurer

Forest History Association
of Wisconsin, Inc.
403 McIndoe Street
Wausau, Wisconsin 54401

Officers and Directors, 1978-79

John H. Saemann, President
Retired U. W. Ext. Forester
Florence, WI 54121

Howard S. Lovestead, Vice-President
Forest Manager, Consolidated Papers
Rhinelander, WI 54501

Frank N. Fixmer, Secretary-Treasurer
Retired Forest Mgr., Mosinee Paper Corp.
Mosinee, WI 54455

Jay H. Cravens
Professor/U.W.-St.Pt.
Stevens Point, WI 54481

George A. Corrigan
Retired Logger/Author
Saxon, WI 54559

Walter Mayo
Vilas Co. Forest Administrator
Eagle River, WI 54521

L. G. Sorden
Professor Emeritus, U.W. - Madison
Madison, WI 53711

Financial Statement

for

Fiscal Year July 1, 1978 thru June 30, 1979

Checking Account Balance 6/30/78	$ 2421.96	$
Savings Account Balance 6/30/78	3786.02	
		6207.98
Receipts		
Membership dues	1735.00	
Gifts, grants, donations	5300.00	
Publication sales	867.10	
Annual meeting	180.00	
Interest on savings account	304.84	
		8386.94
Disbursements		
Postage & permit fees	513.75	
Stationery & supplies	434.17	
Bonding of officers	85.00	
Publishing costs	2909.92	
Publication sales expense	34.50	
Refund	2.50	
Logging Congress exhibit	69.75	
Annual meeting, incl. awards	345.00	
Gifts & donations	99.75	
Membership applications	52.00	
Administrative expenses	450.15	
Office equipment (copier)	1000.00	
		5996.49
Net Income		2390.45
Checking Account Balance 6/30/79	1507.57	
Savings Account Balance 6/30/79	7090.86	
		$ 8598.43

Frank N. Fixmer
Secretary-Treasurer
August 13, 1979

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of Wisconsin, Inc.
403 McIndoe Street
Wausau, Wisconsin 54401

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August 13, 1979

Audit Statement

TO WHOM IT MAY CONCERN:

The undersigned have audited the financial records of the Treasurer of the Forest History Association for the fiscal year beginning July 1, 1978 and ending June 30, 1979. This included an examination of all disbursements and receipts and verification of the authority to make certain purchases. Receipts were checked against bank deposits and bank statements also examined and cross-checked.

All items were found to be in agreement with the Treasurer's summary financial report as attached.

The checking account balnce as of June 30, 1979 was $ 1,507.57 and the savings account balance on the same date was $ 7,090.86.

Respectfully submitted,

Roger Drayna

Ned Revie

Annual Report of the Secretary-Treasurer

As most members are aware, duties of the Secretary were combined with those of the Treasurer during the past year. This has eliminated time-consuming correspondence and costly phone calls between geographically-separated officers and has helped to improve the efficiency of both offices in the keeping of pertinent records. An indication of the time and effort needed to perform these dual responsibilities is the fact that over 500 man-hours were spent in the first year of this combined operation.

Noteworthy among the various services rendered was the compilation, printing and distribution of the Association's first directory of members. The listings included the special interests of most members, a feature that had been frequently requested, and which drew a number of favorable comments.

Our quarterly newsletter, *Chips and Sawdust,* continued to keep members informed of Association activities and the contributions of members toward our common goals. Additionally, "C & S" provided brief items of historical interest in a variety of fields related to Wisconsin's forest heritage. A "new look" was adopted with the most recent issue in an attempt to enhance our image, particularly with prospective members.

In 1978, a membership growth of just under 5% was reported, which was termed as "nominal." The opinion was expressed that a minimum increase of 25% might be possible in 1979 with a more concerted effort of recruiting new members.

Unfortunately, that optimism appears to have been unwarranted. The fiscal year ended with a net increase of exactly one member, in spite of the enrollment of 35 new members. The number of non-renewals is self-evident. On the other hand, a solicitation drive by mail since July 1st has resulted in 25 new individual members and 2 new corporate members. Hopefully, there will be further additions to replace the inevitable "drop-outs." It is encouraging to note that the delinquency rate this year is less than half of what it was at this time last year. Again, all members are urged to make a personal effort to recruit a relative, friend or colleague who may share your interest in some aspect of forest history.

The financial report for the past fiscal year shows that there was a gross income of $8,386.94, compared to $6,089.94 for 1977-78. Income from membership dues was $1,735.00, compared with $1,310.00 the previous year. Our largest source of income was from donations by corporations and foundations: $5,300.00 compared with $3,200.00 for 1977-78.

Among the major disbursements, $947.92 were spent for postage, stationery and supplies, versus $501.38 the previous year, and $2,909.92 for publishing costs compared to only $600.00 in 1977-78. A much-needed addition to our complement of office equipment was the acquisition of a used copying machine for $1,000.00 which was made possible by a special gift from a donor who prefers to remain anonymous.

As of June 30, 1979, the checking account balance was $1,507.57 and the savings account balance was $7,090.86. This provides the Association with working capital of $8,598.43 for the new fiscal year, a net increase of $2,390.45 over the previous year.

Those members who would like to review the detailed account of receipts and expenditures may have a copy of the complete financial report on request.

Frank N. Fixmer, Secretary-Treasurer

September 29, 1979

Annual Report of the Forest History Association of Wisconsin

Most of the activity of the Association comes through actions taken by the Board of Directors and its appointed committees. To initiate and coordinate these activities, your Board met five times during the year and a number of separate committee meetings were held. Here's a brief summary of what happened during the year:

The compiling of a Bibliography of Wisconsin Forest Literature has been a topic demanding attention at every meeting. Early in the year we thought a "Publication Editor" had been hired, but she resigned shortly thereafter; then last summer Mrs. Bonnie Loduha of Madison appeared at a Board meeting and has been Publication Editor since. Her priorities are:

(1) Complete the compiling and editing of the Bibliography
(2) Develop a standardized list of data needed by County Forest Committees working on forest history, and work with the Bayfield County Committee on developing a model for other counties to follow
(3) Review material that we are asked to help publish, reissue or distribute.

A Scholarship Committee made up of Deans Trainer and Smith and Dr. Brown has recommended guidelines to be used in the Scholarship Program of the Association. They suggest two scholarships of $200 each awarded annually to students with a demonstrated interest in forest history, one scholarship to each of the Forestry Schools of the state. Recipients will be selected early in the year.

After consulting with Chief State Forester Milt Reinke, the Wisconsin Department of Natural Resources has agreed to help set up County Forest History Committees in each of the northern and central counties.

Grants to further the objectives of the Association were gratefully received from:

Two Wausau-based foundations which prefer anonymity.
Drott Manufacturing Co.
Hamilton Roddis Foundation
Employers Insurance of Wausau
Connor Foundation
L. G. Sorden

Ramon Hernandez has agreed to continue editing our proceedings.

Mully Taylor has published his *Saga of New Wood Country* and copies were sent to all Association members and to all members of the Wisconsin Academy of Science, Arts and Letters. Members of the Academy learned of our current program at their annual meeting and a brief description of our organization was published in the *Wisconsin Academy Review.*

A new membership solicitation brochure was printed to aid in publicizing our association, with help from Roger Drayna, and Ed Schoenberger built a new traveling exhibit of early logging days.

The *C. C. Collins Story* was photocopied and distributed to a number of historical societies and libraries in the counties where the Collins Lumber Co. operated.

A memorial gift was named for a valued member, David N. Connor, and was

distributed to several historical societies and libraries in areas where he worked and was known.

Finally, affiliation with the State Historical Society of Wisconsin was studied and final application will be made after approval at this meeting.

Before taking up the several items of business, I want to mention, for the record, thanks from the Association to Board members who do the work. Secretary-Treasurer Frank Fixmer plans all meeting agendas, is membership chairman, solicits all gifts, grants and donations, writes and edits *Chips and Sawdust,* and has a number of Forest History projects of his special interests that he's working on. Because of Frank the transition from the old Board to the mostly new Board went on smoothly.

L. G. Sorden is the idea man of the group, and if one-tenth of the things he'd like to see done bore fruit, our organization would be a success.

The gray-beard of Wisconsin Forest History is George Corrigan. His interest and faithfulness to the cause of recording and preserving the old days of Wisconsin's logging story are most helpful. I wish I had his memory.

Jay Cravens took on the chore of setting up the program for this annual meeting, and the rest of us on the Board sit back and marvel at the effort those four have put into the accomplishments listed above. We look forward to today's program.

John H. Saemann, President

Citation for Distinguised Service Award to Walter E. Scott

The recipient of our Distinguished Service Award to an individual is Walter E. Scott, a trained biologist who served the cause of conservation for 39 years before retiring from the Wisconsin Department of Natural Resources in 1975. As a conservation warden, game manager, public administrator, editor, and author, he continually promoted and advanced Department objectives and programs. His liaison with the Wisconsin Conservation Congress, his research efforts toward the designation of several Wisconsin rivers as wild rivers, and his contributions toward the adoption of the Outdoor Recreation Act Program were noteworthy highlights of his career.

Scott's love of trees went beyond the words he has written about them. He has long kept records of Wisconsin's big trees, and has become an authority on oaks in the Madison area, with his survey and documentation of some 365 historic trees that are a living link with the past. Outstanding, also, among his many achievements, has been his dedicated recording of events in the whole conservation movement. Walter Scott is a especially avid collector of Wisconsin history – reports, books, documents, maps. From this store, he has generously donated a great deal of material on forest history to the Forest History Association of Wisconsin. For his many life-long contributions to conservation and forestry in general, and to forest history in particular, the Forest History Association of Wisconsin is pleased to present this plaque to Walter E. Scott.

Citation for Distinguished Service Award to Trees-For-Tomorrow

In 1944, a unique partnership was formed between nine Wisconsin paper mills. The founders of Trees-for-Tomorrow thus began a pioneer industry-supported program of encouraging private landowners to practice reforestation, forest protection and timber management.

Toward that goal, Trees-for-Tomorrow provided a tree-planting service and the services of four professional foresters to assist landowners in planning proper forest management activities.

The program was so successful that it gained the support of five additional paper companies and seven power companies in the ensuing years. Gradually also, the program expanded to include environmental concerns that had become national issues.

Now, 35 years since its origin, Trees-for-Tomorrow has become much more than a tree-planting and forest-management service organization. Its goals and programs now provide for natural resource education that involves the teaching of a full appreciation for the vital roles played by forests, water, wildlife, and recreation in the socio-economic lives of Wisconsin's people of all ages.

For its contribution toward that end, and for its national reputation as a still unique industry-supported institution, the Forest History Association of Wisconsin is pleased to present this plaque to Trees-for-Tomorrow, represented here today by its Executive Director, Earl Plourde.

The Northern Wisconsin Settler Relocation Project, 1934-1940

by L. G. Sorden, Retired
Agricultural Extension
University of Wisconsin-Madison

The era from timber to tinder to trees brought overwhelming problems and difficult adjustments in northern Wisconsin. The important adjustment took place in the minds of men. But that was slow in coming.

Let's go back to the end of the logging period – that was the time of destruction by fire of the cut-over. We, the people, let fires destroy more of our timber resources than loggers ever destroyed. This era was black on the landscape and black in spirit. It was complicated by depression and drought.

The first signs of change in the minds of men came with the acceptance of an educational program carried on under the leadership of the Agricultural Extension Service with much help and active cooperation from the Conservation Department, research agencies of the college of agriculture, and a surprising amount of help from the press.

The isolated settler did have some advantages in the earlier days that he lost with the end of logging. Loggers generally purchased their winter supply of potatoes and rutabagas, and sometimes oats and hay, for their camps from a farmer in the neighbor hood paying him $1.00 per bushel for the potatoes . . . $500 to $700 would keep the settler in good stead in addition to his own home grown food.

The vacationers, who came north and spent most of the summer, went out to these isolated farms and bought chickens for their Sunday dinner and, in addition, fresh vegetables and milk. The development of the super market brought an end to this practice, and the isolated farmer lost his market.

Then came, in increasing tempo, (1) the development of national, state, county, school, community, industrial, and private forests; (2) the CCC camps – providing equipment and manpower to stop forest fires; (3) the taking of tax deed by the counties to stablize ownership; (4) the tree planting program; (5) the enactment of county zoning ordinances which classified land into its best use and kept man off non-productive agricultural land; and (6) the removal of some of the non-conforming users, isolated settlers living on sub-marginal land under the county zoning ordinance.

By 1940, 24 northern Wisconsin counties had restricted, by a county zoning ordinance, five million acres of land against future agricultural settlement.

This paper concerns itself with the first 299 cases of 416 isolated settlers whose holdings were purchased and the families relocated under the resettlement administration program called The Northern Wisconsin Settler Relocation Project, carried on from 1934 to 1940. These 299 families all lived in the seven counties of Bayfield, Florence, Forest, Langlade, Oconto, Sawyer, and Vilas. The total program was carried on in twenty northern and central Wisconsin counties. Individual counties removed about 200 isolated settlers through purchase or trade in addition to this federal program.

Here are some of the conditions under which these families existed. One family lived

18 miles from a school, a market, or a road that was snow plowed during the winter period. Its two sons were boarded out at public expense to attend school. In three different families, mothers taught the children at home because there was no school in the vicinity. One mother of two bright boys did not see another woman for a four month period. In several cases the schools operated for only one or two families. One widely published incident related the death of a woman in an isolated area during a severe snowstorm. A trapper reported the death, and a county employee on snowshoes hauled out the body on a tobaggan 12 miles for burial. One community of about 10 families cost the county $35 each time a doctor was called. They lived 35 miles from the nearest doctor and it cost one dollar per mile for the doctor to call.

While these and many other similar cases were some of the worst, all the settlers whose farms were purchased were living on submarginal land, which was either too light and sandy, too stony and rough, or so isolated from markets that they were definitely uneconomic farm units. In some of the counties, as many as 80% of the families whose farms were purchased received public aid.

In Forest county, 124 tracts were purchased for $99,268. In the five-year period prior to May 1, 1937, this group of people received, in direct relief, $52,000 plus $25,000 from the WPA for a total of $77,000. Adding commodities and other emergency relief costs would more than equal the purchase price of the land of the isolated families.

Not all of the people whose holdings were purchased became self-supporting. From the information available, however, it is estimated that at least one-half on those originally on relief become self-supporting.

In addition to the purchase of the submarginal farms, a resettlement program was carried on to assist these families in relocating to better farm land in established communities. About 45% of the settlers moved from their farms before the resettlement work was started. Prior to that time, however, considerable help was given their families to help them find new locations. Somewhat less than one-half of the families whose farms were purchased were actual farmers or had a background of farming experience. Only 38% relocated on farms to make their living from the soil. Fully one-third of the families were too old for farming, or for industrial occupations. A few returned to industrial centers and obtained work similar to that which they were doing before moving to northern Wisconsin.

The following is a tabulation of the occupations in 1938 of the relocated families:

114 - Farming
20 - Woodworking
67 - General Labor
47 - Retired
7 - Resort Work
23 - Business – largely mercantile, but includes 2 school teachers
4 - Conservation Work
6 - Deceased
11 - Not yet moved from the land

299

Of the 299 families living on the land at the time it was optioned, 41 moved to other states, and the remainder relocated in Wisconsin. The number going to other states was as follows: Indiana, 11; Oregon, 8; Michigan, 5; Washington, 4; Minnesota, 3; Ohio, 3; Alaska, 2 (Matanuska colony); Illinois, 2; Iowa, Kentucky and South Dakota, one each.

A surprisingly small number returned to the locality in which they originally lived. On one project, almost one-half of the lands purchased were owned by people originally from Kentucky who had come here to work in the woods. At the time the land was optioned, most of them indicated that they planned to return to their native state, but when they finally relocated only one family returned to Kentucky.

Definite assistance was given in relocating 123 of these families. Resettlement farms were provided for 25, and 18 were provided temporary loans from the Wisconsin Rural Rehabilitation Corporation to purchase farms or homes until they received the money from their submarginal farms.

The resettlement farms were located and appraised by the project staff. The prospective resettlement family was shown a number of these farms and chose the one most to their liking. Money for the purchase of the farm was loaned by the Farm Security Administration, rather than the government taking title to the farm. All of the 25 resettlement farms were purchased from families who wished to retire because of age or disability, or where farms or estates were being closed. In no case was the family on the farm inconvenienced by the purchase.

In addition to the real estate loans, funds were also loaned to make minor repairs on buildings and to purchase livestock and machinery, to establish an economical income-producing farm. Most of the families had some livestock and machinery, and some had a small amount of money from the sale of their submarginal farm, which was used as part repayment on the real estate or chattels. The average price of the resettlement farm was slightly under $3,000, and the average chattel loan about $1,000, making the total debt about $4,000. With the supervision given in their farming operations, most of these people succeeded on their new farms.

In order to take care of those people who were too old or were physically handicapped and therefore incapable of caring for themselves, nine "retirement homesteads" were constructed. All of these houses were occupied by people who presented serious medical and relief costs in their former locations. Three of the houses, located at Antigo, were completely modern and built at a cost, including land, of less than $2,400 each. Six of the houses, in Crandon, were less modern and were built at a cost of less than $2,000, including land. All were well constructed and had three or four rooms.

Funds for the construction of these "retirement homes" were furnished by the Wisconsin Rural Rehabilitation Corporation, a predecessor of the Farm Security Administration. An annual rent contract was signed by the counties affected, whereby they agreed to pay 3% per annum, of the Construction cost, plus necessary repairs. This provided a good comfortable home at a cost of less that $7 per month for the county. At the Crandon unit, a small barn was constructed to house milk cows owned by the families. Sufficient land was furnished to provide a large garden for each occupant. The people occupying these houses took excellent care of them and at that time they all indicated contentment in their new homes.

In addition to those given financial assistance, 80 submarginal land families were assisted in finding new locations. Farms were found for many of them, on which they used the proceeds from the sale of their submarginal land to make a down payment. In a few cases, credit was arranged for them to make the purchase of either a farm or a home in town. Most of this credit was in loans from local banks, until such a time as they received their submarginal land purchase money. More than one-half of the families had plans of their own and made readjustments, although most of these counseled with the project staff.

In all areas of purchase, the local county and town officials cooperated in making most of the decisions as to which settlers should be relocated.

Since these submarginal farms had little production value, arbitrary values for appraisal purposes had to be established. Buildings were appraised on a square foot basis depending on the type of construction – cleared land so much per acre, depending on quality. United States Forest Service values were used for cut-over land. Timber was appraised separately. No land was optioned in excess of the appraised value.

On the average, $2,000 was paid per farm. These "farms" ranged from a tar paper shack in the woods to a few quite well-developed farms. The land purchased by this project was later transfered to the federal, state or county, depending on its location and is being used for productive forestry.

The question most often asked about this project was – "were the people willing to sell?" When the project was explained and when the families were given time to think it over and talk it over with other people in whom they had confidence, 98% of these families were willing to sell and relocate.

The results of this isolated settler relocation project immediately made possible a saving in school costs of more that $15,000 per annum by closing 12 rural schools. In addition, several thousand dollars worth of school transportation cost was eliminated. Road costs were reduced by the elimination of maintenance and snow plowing. Relief costs were cut materially by placing many of these families in a position to make their own living.

More important, however, than these financial savings to local and state government, was the renewed hope given to these people by their removal from isolated areas to established communities where they and their families has a chance to start over again with a more secure financial and social future.

Note – L. G. Sorden was in charge of this settler relocation project. The $500,000.00 for the project were the results of a request by W. A. Rowlands and Dean Christenson of the Wisconsin College of Agriculture from the then Secretary of Agriculture, Henry A. Wallace.

The Menominee River Boom Company

by John S. Burke
Chairman, Board of Trustees
Marinette County Historical Society

The Menominee River Boom Company was a transportation company. Its roadbed was the Menominee River and some of its larger tributaries. Its motive power was the natural and stored waters of its river bed. Its "crew" was the approximately 175 men, doing work of various classifications, just as an army has "ground troops" and support troops. There were peavey men, who poked and pushed logs along the way; polers, who aided them and pushed the 30 to 40 foot boats the rivermen used; cooks, cookies, watchmen, timekeepers, water messenger, teamsters, blacksmith, foremen, superintendent, and side superintendents (one for each side of the Menominee); and the wanigan crew for the supply boats, that moved the men and equipment, and their food and tents, down the river, step by step, as the drive progressed.

May I digress to say that this boom company was not the only booming company that bulled logs down rivers. There were others in Wisconsin. All of these *drove* their logs instead of *rafting* them, as was the case on wider, less violent rivers. This method of transporting logs originated in the north east, where rivers were transporting logs in Maine and New Brunswick before the first log floated down the Menominee. Very early in our history, the King's foresters marked the tallest, straightest trees they could find with the King's arrow, to be cut and floated to a port, then shipped to England for masts on his Majesty's ships.

The name *boom company* most likely came from *booming company,* after the method of using *"booms"* for men to walk on as they sorted and scaled the logs when they neared their destination near the mouth of the Menominee River at the twin cities of Marinette and Menominee. There were at one time or another, 30 sawmills processing these logs into the boards that helped build not only northern Wisconsin, but Chicago, as it grew to become a staging point in the "Winning of the West."

Isaac Stephenson exercised momentous influence with the early mill owners in organizing a central organization to combine the efforts of all loggers and mill owners into one centrally operated transportation for the benefit of all. His influence rose from the fact that he was the only man on the river at the time who had experience with river booms and log driving methods. The method was new here, although inaugurated in Maine in 1825 by Jefferson Sinclair. As a boy young Isaac had lived with Sinclair and worked for him in Bangor, Maine.

Before the advent of this type of organization, log driving down the Menominee was hampered by the fact that many small operators built their own dams, staked out claims to parts of the river, and by 1867 the question of river rights in making drives, sorting and the delivery of logs became controversial. The necessity arose of organizing an independent company to assume the responsibility of driving all the logs down the river. The problems to be solved included how to control logs coming down the river, how to make the river do man's bidding, how to sort them out for their respective owners at the

end of the drive, and how to pro-rate the costs. The situation involved a lot of complicated engineering problems, many of which stumped trained college engineers of the day, but solved by these men by common sense and observations and experience with a large rivers' whims that dated back to the Indian peoples.

From this date and into the following year, 1868, the new company purchased all the dams and other improvements made by the independent operators, and the Menominee River Manufacturing Company of Michigan was organized. The new organization was capitalized for $150,000. The organizers were Philetus Sawyer, Henry Whitbeck, and Anthony G. Van Schaick. Immediately after organizing, these men transferred all of their holdings in the Michigan company to the Wisconsin company, which had been formed the year before, under the name of the Menominee River Manufacturing Company of Marinette, with Harrison Ludington, president, Isaac Stephenson, vice-president; and A. C. Brown, secretary and treasurer. We now had a Menominee River Manufacturing Company of Wisconsin and a Menominee Manufacturing Company of Michigan. The two companies carried on the work of building dams, improving streams, driving, stacking, scaling, and delivering logs into the mill pockets of the river mills, and in towing booms containing huge rafts of logs on the waters of the Green Bay for out-of-river mills.

During the sorting season of 1885, several of the log owners had notified the company's office that many of the logs were reaching the mills with ends badly "broomed" and split. This caused much loss in lumber and revenue. A committee of six was formed in 1886 to make a survey of the river from its headwaters to the boom limits in Menominee, with instructions to recommend improvements, give the legal definition of each, and give the approximate cost. The committee consisted of F. J. Merriman, civil engineer; William Holmes, Andrew Stephenson and Jim Holmes, all woods and drive superintendents; Mike Corry, Sr., mill superintendent; and Burleigh Perkins, dam builder. It left Marinette the morning of July 14, 1886, for Florence, Wisconsin, at the junction of the Paint and Brule rivers. They completed their survey July 23. One of their recommendations was the building of a dam at the head of Pemene rapids, at an estimated cost of $25,000, which could hold back a tremendous amount of water, to keep river levels higher above it during the drive. It was the halfway point of the drive. Today some of its stone and log work is still standing. The site and flowage rights are today held by a power company, who purchased it some time in the 1920's, I believe.

In 1887 it was deemed advisable to organize a new company, securing new charters in each of the states to extend the life of the company, and at the same time change their names. After all "manufacturing" didn't describe its operations. The new name was Menominee River Boom Company. This company continued to build dams until a total of 41 had been built on the Menominee and its tributaries to control flow and store water. For the most part, they were built of crib work of logs or timbers; and filled in with stone or gravel, with toe piling on the up-river side, installed at a slant, and loaded with earth to keep down water seepage. Five dams were on the main river. The large Pemene dam had 14 gates, was 450 feet long. One near Marinette was 940 feet long; there were three near Marinette. Some dams were 13 feet high, others as low as seven feet.

The dams near Marinette were particularly needed to hold water for the sorting and scaling operation, when logs would be backed up almost 20 miles on the river. As they

went through the gaps they were identified by the log marks stamped on at the camps where they were cut and scaled, so that they could be charged to the various mills owning them. Then they were sent into booms to be channeled to either the Menominee mills or Marinette operation, and then sent into the proper mill log ponds.

Besides the office in Marinette, the company maintained a boat factory, a stable for company horses, and a blacksmith shop, with a farm outside of the city to grow vegetables and furnish meat for the driving crews.

Operations continued until all the logs were down; the longest drive seems to have taken until November, when dry weather produced little moisture, and sacking crews literally rolled logs into the remnant of the river to get them to the mills. Usually, early July was considered the time of arrival of the main drive, but, of course enough logs had been floated down for weeks before to keep the mills operating. In all, more than *ten billion feet of logs* came down the Menominee. It is a story of men and muscle, icy waters, log jams, and adventurous people who first started cutting on the Monominee's banks. It was one of the largest outpourings of white and Norway pine in the history of the nation.

The first, small waterpowered mill sawed its first log in 1831. The major cutting, with larger operations, financed by eastern capital, started in the late 1850's, when logs really started coming down the river as the forests were cut farther and farther back from Marinette and Menominee. The Boom Company ceased operations in 1917; the last mill ceased operations in 1931 – one full century of sawing.

In the early days of saw mill operations, as many men "went broke" in this adventure, as those who survived, or made money. The Boom Company, by distributing the cost of driving and dam building and sorting, softened the blow for many small operators, who could then survive. Issac Stephenson told Mr. Jack Burke's father, Fred C. Burke, that the most money he ever made in one year from the Ludington Company operations in Marinette was $10,000, and when you consider that many times in the early days of sawing on the River, clear pine lumber sold for from $7.00 to $10.00 a thousand you can understand that there was a lot of "catching up" to do, when prices were better. The money many of these men made was in the appreciation of the value of their land holdings, sometimes up to 200,000 acres, as the years passed. These were purchased, in sheer panic, when Menominee River mill owners saw eastern interests come into the area on a buying spree, in the years just before the Civil War. When the estates of some of these old timers were probated, it was found that sizable amounts of their estate's assets were in west coast timber holdings, again bought early. This was particularly true of the Stephenson estate.

There is much much more to this colorful story, which we could rightly call a "saga", one whose dimensions are only now being recognized.

Wood in American Life

by W. G. Youngquist
Retired Assistant Director
U.S. Forest Products Laboratory

We have been very harsh in our historical treatment of the lumbermen who harvested the virgin white pine in the Lakes States. We have called them "lumber barons" and accused them of being greedy, conniving, and lawless scoundrels. Perhaps, just perhaps, we have been attacking the wrong people. Perhaps we should have vented our wrath on the folks in Cleveland, Chicago, St. Louis, and the prairie states. It was their demand for lumber that fueled the destruction of our Great Lakes forests. If that demand for forest products had not existed, my dad would not have left his native Sweden to work in the lumber camps and sawmills in Taylor County, Wisconsin. Except for that demand, I would not have been present when the Westboro Lumber Company sawed its last log.

That is a bit of local history but it does illustrate the close relationship between our forests, our use of wood products, and our history. Even our own association recognizes the importance of wood products. Our newsletter carries the title "Chips and Sawdust."

Back in 1974, the Director of the U.S. Forest Products Laboratory, Dr. H. O. Fleischer and I, his assistant, looked for an appropriate means for commemorating our nation's bicentennial. We decided on a book of American history based on our changing patterns of wood usage. Out of this decision, the help of many, and some unusual trials and tribulations, came the book *Wood in American Life*[1]. – The book was co-authored by Dr. Fleischer and me after our retirement from the Forest Products Laboratory. We both feel strongly that our nation must use its forest resources more wisely. If this book furthers that cause, we will be well repaid for our efforts.

In the book we look at wood use in four periods of our history. Quite naturally we chose the years 1776 and 1976. We also chose the year 1876 and after much deliberation we chose to look ahead to the year 2076. No doubt, Dr. Fleischer and I will be called to task for our predictions in 97 years.

Wood in the New Nation - 1776

In 1776, the 13 colonies had a population of about 2½ million along the eastern seaboard. The largest city, Philadelphia, had a population of only 34,000; New York 22,000; and Boston 15,000. Nine out of 10 lived in the rural areas.

The dominant feature of the landscape was the never-ending forest. Strangely, the forest was looked upon as an enemy. In the forest, lived hostile indians, dangerous animals and insects. All fevers originated in the forests. Crops could not be sown in the forest.

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[1] *Wood in American Life* is published by the Forest Products Research Society, a non profit membership organization located at 2801 Marshall Court, Madison, WI. Profits from the sale of the book are designated for use in the furtherance of forest products research.

The forest, however, was also a friend. It provided material for houses, fuel, furniture, utensils, tools, ships, wagons, pitch, charcoal, soap, and fences. A novel use of charcoal was its use as a toothpowder. History does not record its effectiveness in preventing cavities. In this new land each homeowner became a wood expert. Here were new trees for new uses.

The clapboard salt box house was standard in New England. On the frontier the log house was promoted as being warm, dry, durable, and arrow and bullet proof.

Much of the lumber was produced by the laborious, "pit-sawing" method. The first power-driven sawmill in America was established in 1633 on a river between Maine and New Hampshire.

Wood furniture was simple and homemade, but some great craftsmen were already at work in the cities. One such craftsman made a memorable contribution to American independence. Upon arrival in Philadelphia as a delegate to the Continental Congress, Thomas Jefferson rented a room from Benjamin Randolph, an eminent cabinetmaker. Jefferson showed Randolph a design for a small portable desk. Randolph made the desk and in the summer of 1776, Jefferson wrote the Declaration of Indepedence on it. That desk is now on display at the Smithsonian Institution. Randolph joined the army and was with Washington when he crossed the Delaware River in December of the same year.

The Broad Arrow Policy, which reserved the finest white pine trees for masts for the British Navy was a constant irritant to the colonists. One early writer added "timber" to the usual "Tea, Taxes, and Tyranny" as a cause of the American Revolution.

A New England home burned from 20 to 60 cords of wood each year. They had a rule of thumb for determining their need for firewood. In the fall, the wood pile should be as large as the house. Even at this early date, Boston had to import firewood from Maine. It was costly and the cities had to regulate quality and prices, and distribute free wood to the poor. Perhaps this was our nation's first fuel crisis. So, as early as 1776, we find scarcity in this land of plenty.

A few small voices were heard in protest of the wasteful use of our forests, but there were always more trees on the Western horizon.

Wood in the Growing Nation - 1876

In 100 years, the United States had become a continental nation of 45 million people. Twenty percent of the population lived in the cities. In this year Colorado became our 38th State, Custer lost his life on the Little Big Horn, the National Baseball League was founded, and the City of Wausau was four years old.

The Philadelphia Centennial was held in 1876. On display were the typewriter, the Corliss steam engine, the first telephone, and some fine colonial furniture which started a collecting craze that is still with us.

This was a time of transition. The Civil War, with its heavy demands on forest resources, was over. One factory alone used 28,000 walnut trees for gunstocks. The industrial revolution was at hand. New woodworking equipment such as bandsaws and multiple gangsaws were being manufactured.

In 1876, Michigan was the leading lumber producer; Pennsylvania was second; and

Wisconsin third. Midwest cities such as Chicago, Cleveland, and St. Louis required vast amounts of wood for all types of uses. This was a time of tremendous waste. Almost every sawmill had a waste burner where much of each log was burned. The great Chicago fire occurred on October 8, 1871. On that same day 1,200 people lost their lives in the Peshtigo forest fire and 2 million acres of virgin white pine were reduced to ashes.

In his "Song of the Broad-Axe," Walt Whitman describes life in a lumber camp:

"Lumbermen in their winter camp, day-break in the woods, stripes of snow on the limbs of trees, the occasional snapping,

The glad clear sound of one's own voice, the merry song, the natural life of the woods, the strong days work,

The blazing fire at night, the sweet taste of supper, the talk, the bed of hemlock boughs, and the bear skin . . ."

There are, no doubt, members of this audience who can testify to a less glamourous version of camp life.

Many early uses of wood had been lost, but new ones took their places. There was great demand for utility poles, railroad ties, and even plank roads. One of the most important of the new uses for wood was for papermaking. The low cost of paper from wood had dramatic results. The *Cleveland Recorder* in 1899 advertised itself as: "Cheapest Daily on Earth – 3 cents per week, single issue - 1 cent (on trains - 2 cents)."

The voices calling for conservation efforts were louder, but largely ineffectual. In 1876, Congress set up a special committee to "promote cultivation of timber and preserve forests." In 1877 President Hayes told his Secretary of Interior to "take strong measures against the wicked and wanton waste of timber." The United State Forest Service had its beginning in 1876. Not everyone was worried however. In 1852, Congressman Eastman of Wisconsin said, "There are interminable forests of white pine sufficient to supply all the wants of our citizens for all time to come."

It is so easy for us to look back and to be critical of the early loggers and lumbermen. Were they public enemies or were they building America? In the book, we say, "Each use of wood must be evaluated for wisdom on the basis of the social, political, and economic conditions extisting at the particular time."

Wood in the Industrial Era - 1976

We are now a nation of 50 States with a population of over 200 million. Over 75 percent of the population is urban or suburban. We think of this era as the age of metals, plastics, and concrete, but we err in doing so. This is the age of wood. As a nation, we use more tons of wood per year than all the tonnage of steel, cement, plastics, and all other metals combined. Our annual consumption of wood products has risen to 13.7 billion cubic feet – a figure so large as to be almost meaningless.

Our lumber industry is still characterized by many small operators but there is an accelerating trend toward large, integrated wood industries. It is interesting to note that the largest of these – The Weyerhaeuser Company – got it real start here in Wisconsin. These integrated large firms use the latest technology and channel each part of each log

to its best end use.

The most dramatic change in our use of wood is based on our ability to take wood apart and put it back together again in more usable forms. Examples of such products are paper, plywood, corrugated paperboards, hardboards, insulating boards, and laminated wood products. Many of these products are made from wood that was formerly wasted.

We depend on our forests for many chemicals such as tall oil, turpentine, and rosins. Our consumption of paper is about 600 pounds per capita. Despite the growing interest in wood for fuel, only a little over five percent is harvested for such use in the United States. The comparable world figure is 50 percent.

Much of the improved technology for the manufacture of wood products and use can be credited to the work of the Forest Products Laboratory which was founded in Madison, Wisconsin, in 1910. The real story of the contributions of that institution remains to be written.

The success of prefabricated home manufacture as exemplified by one of the leaders, the Wausau Homes firm here in Wausau, is based, to a large extent, on early research at the Forest Products Laboratory. A prototype prefabricated home, which was dedicated by Eleanor Roosevelt in 1937, still stands on the Laboratory grounds.

One of the earliest structures using laminated wood arches is still in use at the Laboratory. The arches were fabricated in nearby Peshtigo. The material used was southern pine and not northern white pine, and there is a bit of history in that.

The sawmill wood waste burner is gone from the scene. We have made great strides in the more efficient use of our forest resources but much remains to be done. We are using our softwood trees faster than we are replacing them. The last virgin timber is being cut. We have not learned to use our hardwoods to full advantage. We have 500 million acres of unplanted forest lands (and millions of unemployed workers). We do only token recycling of our wood products.

The miracle of wood is that it is a renewable crop. If we wish to do so, we can grow all the wood we need and still have our wilderness areas and recreational forests. Dr. Fleischer and I both feel that change must come and that is why we wrote the last chapter.

Wood in the Nation's Future - 2076

Dr. Fleischer and I approached the writing of this section with apprehension. Congressman Eastman's lamentable prediction was fresh in our minds. To help us in this dilemma, we conjured up a fictitious helper – Dr. Caroline Parks Smith, a future author, scientist, and ecologist. This section is a preview of a talk prepared by Dr. Smith for presentation at a Tricentennial Forum on Materials in Philadelphia on July 4, 2076. We enjoyed working with Caroline, as we soon called her. It is unfortunate that she has not yet been born.

One of our book reviewers failed to note that Caroline was a fictitious character and berated her for being too modest in her predictions!

She begins her talk with the statement:

"It is remarkable what a value is still put upon wood even in this age and in this new country – a value more permanent and universal than that of gold."

We then learned that she is quoting Henry David Thoreau who made that statement in the 1850's based on his experience at Walden Pond. The talk briefly traces our historical use and abuse of wood and states that an era of abundance came to an abrupt end about 100 years ago – which to us is now.

We learn that by the year 2076:

Our population has doubled.
The forest areas have been reduced, but the wood crop is four times larger than at present.
The metric system is in common use.
Trees are grown for commercial use in three to seven years.
Trees are sold by volume and the full volume of each tree is used.
Fifty percent of all wood products are recycled.
Wood is the source of most chemicals including gas and oil.
Wood can be welded together without the use of adhesives.
The nation has finally learned to live within a materials budget and is self-sufficient in wood.

Caroline closes her talk with these comments:

"If I were asked what is the greatest single achievement in the last century for wiser use of our wood resource I would have to pass over the many brilliant scientific achievements. What stands out as the most remarkable is the change in attitude of our citizens. We are more conservation conscious. We have become intolerant of waste . . ."

"In the future our descendants will pause and look back on American history as we are doing now. What will life be like then and how will we be judged on our management of America's resources. I suggest that the greatest legacy we can leave to the generations still to come is a sound and continually improving management program for our nation's natural resources."

Development of the Paper Manufacturing Industry in Wisconsin[1]

by J. N. McGovern
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Abstract

A continuing national stature has featured the pulp and paper manufacturing in Wisconsin since the state's first mill made newsprint and wrapping paper in 1848 in Milwaukee. By the 1930's, the early dominant newsprint production had been replaced by book and magazine and business papers, sanitary and tissue and specialty papers and paperboard. They had expanded to give the state its reputation of making a greater variety of paper products than any other area. The development in the mid-1930's of on-machine coating aided this transition. In recent years the state has led the nation in paper production, the figure being 3.1 million tons in 1977. Paper and allied trade rates high among the state's industries, ranking fourth in number of employees (45,000) and value added by manufacture ($1.5 billion in 1976).

The state's pulping industry early placed into practice the groundwood, sulfite, sulfate or kraft, and semichemical processes and their variations, as well as pulp bleaching. Also, this range of processes is not found in other areas. Recycling of waste paper to make secondary fiber started in 1873 and this fiber now supplies one-fourth of the state's papermaking fiber needs.

Pulpwood is the major timber product in the state and the former dependence on imported spruce and fir has given way to a 70% domestic production based on species diversification through use of pines, aspen, mixed hardwoods, and sawmill residues; aspen comprises 40% of the total pulpwood. In the last 50 years short-fibered hardwoods have increased their proportion from 2% to 62% of the fiber furnished.

The industry uses the state's rivers and bodies of water for power, process water and transportation with due recognition of stream and air environmental obligations. Spent pulping liquors have been the source of valuable chemical by-products since the 1930's. Alternative wood residue fuel and improved energy-use efficiency have significantly reduced fossil fuel use.

The forerunners of manufacturers of machinery for pulping and papermaking started operations in 1857 and 1858 in Appleton and Beloit and have expanded to make the state a major supplier of machinery for wood preparation, pulping, papermaking, and converting. Finally, the state is known for its research, educational and associated institutions and its support of industry associations.

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[1]Presented at the Fourth Annual Meeting of the Forest History Association of Wisconsin, Wausau School Forest Ceter, Wausau, Wisconsin, September 28-29, 1979.

Unless otherwise indicated (by table, figure or footnote), numbers in parenthesis ( ) refer to references at the conclusion of this paper.

Introduction

Wisconsin's paper industry had its start in Milwaukee in 1848, the same year statehood was granted (1, 2, 3). The site was at the confluence of the Milwaukee and Menominee Rivers near the West Water Bridge. The mill made newsprint and wrapping paper on a cylinder paper machine using rags as the fibrous material. A bleaching step was included, and the steam for the operation was generated from burning wood (4). The production was 110 reams/week. The mill was dismantled and re-erected in 1851 at a site at Mechanicville (renamed Humboldt) five miles upstream of the Milwaukee River already serving a sawmill and flour mill and supported by water power from a dam at this point (5, 6). The mill operated until 1860 when a spring freshet washed out the dam; the idle mill was later destroyed by fire. These were the fates of many early paper mills as well as sawmills to this day. The mill had a series of owners and developers or entrepreneurs without particular papermaking experience, a pattern for many early mills.

The need for process water and power for papermaking prescribed the location of the mills: the watercourses of the state. Thus, the mills expanded to locations on the Rock, lower Fox, upper Wisconsin and other rivers in a way as to outline these bodies of water (Table 1). The superior nature of the sites on the lower Fox River made it eventually the most concentrated location of pulp and paper mills making an especially diverse range of paper products anywhere. The location of present-day mills are given in Appendix 1.

Table 1.
Location of Pulp and Paper Mills in Wisconsin

Mill Locations	Watercourse
	Watercourses
Ashland, Superior	Lake Superior
Niagara, Marinette	Menominee River
Peshtigo	Peshtigo River
Oconto Falls	Oconto River
Waupaca	Waupaca River
Shawano	Wolf River
Neenah to Green Bay[1]	Fox River
Park Falls, Ladysmith, Phillips	Flambeau River
Cornell, Eau Claire	Chippewa River
Rhinelander to Nekoosa[2]	Wisconsin River
Beloit	
Milwaukee, Oshkosh	[3]

[1]Neenah, Menasha, Appleton, Kimberly, Combined Locks, Kaukauna, DePere, Green Bay.

[2]Rhinelander, Tomahawk, Merrill, Brokaw, Rothschild, Mosinee, Stevens Point, Plover, Wisconsin Rapids, Port Edwards, Nekoosa.

[3]Certain mills are not located on watercourses, as such, obtaining process water from and discharging effluents into municipal systems.

Up to 1871 the fibrous raw materials for the paper mills were cotton rags, white waste paper and straw. (The first straw board mill started up in 1855 west of Milwaukee on the Menominee River, but burned down in April, 1866 (7)). Wood pulping by the groundwood or mechanical process was introduced into the state in 1871 at Appleton. The first wood chemical process, the sulfite, was installed in 1887, also in Appleton. The sulfate or kraft pulping process entered the state in 1911, and semichemical and variations of these major processes followed in due course as they were developed elsewhere. With several exceptions the pulp mills were integrated with paper mills; independent paper mills depended on purchased pulp. Newsprint from groundwood and sulfite pulps was a major product until the second decade of the 1900's, when a great diversification of paper products began that continues to this day. The first paper was made on cylinder machines with Fourdrinier machines coming in some time later. The production of paper and paperboard has shown a 3% annual increase over the 131 years of the industry's existence to the point that 3.4 million tons were made in 1977.

The purposes of this report are: (a) describe briefly the early history of the paper industry in Wisconsin; (b) trace trends in production and consumption of fibrous materials and production of paper and paperboard products; (c) describe major developments in pulp and paper technology; (d) discuss certain associated aspects of the industry such as economic measures, byproduct chemicals and environmental obligations; (e) mention the related paper machinery manufacturing and converting industries; and (f) note research and education and associated institutions in the state industry association interests.

Historical Accounts of Wisconsin's Paper Industry

The first extensive account of early paper industry history in Wisconsin was prepared by Publius V. Lawson, "Paper-Making in Wisconsin" (1). This account covers the development of the industry, from the first mill in Milwaukee in 1848 to 1905 with certain statistical information for 1908. A second comprehensive record of the industry, "A History of the Wisconsin Paper Industry 1848-1948," was issued by the Howard Publishing Company (2). This publication provides valuable information about the state's early pulping and papermaking and about paper converting development and papermaking equipment manufacture as well.

General information on the early history of certain Wisconsin pulp and paper firms is given in "1690-1940, 250 Years of Papermaking in America," including brief reference to the first mills in the Milwaukee area (3). A summary account of Wisconsin's paper industry is given by Bowman in "Ninety-two Years of Industrial Progress" (9). There are also brief mentions of the development of the Wisconsin industry in "History of Papermaking in the United States (1891-1969)" by Smith (10) and "Paper Manufacturing in the United States (1699-1916)" by Weeks (11).

Pulpwood and Timber Products

Pulpwood (called "Pulp" is early statistics and colloquially since then) was a

significant, but not major factor, in total early industrial timber production. In 1908 the consumption of state-produced pulpwood was 137,808 Mbf (44% of total consumption; 56% imported), whereas the lumber production was 1,613,575 Mbf, or about 92% of the combined productions (12, 13). Pulpwood was, however, the major segment among the wood-using (excluding timber for construction) industries, comprising 33.35% of the total in 1908 (12). Decreasing lumber production and increasing pulpwood consumption since the first decade in the 20th century changed these relations, and in 1936 pulpwood made up 34% of the total roundwood output of timber products in the state (Table 2). Sawlog production was, however, still the highest item that year at 56%. The trend toward pulpwood becoming the dominant timber product continued and by 1973 (the latest timber survey) pulpwood had risen to become 62% of the total timber products output.

Table 2.
Output of Roundwood Industrial Timber Products in Wisconsin (14,15,16)

Industrial Product	1936		1956		1967		1973	
	Million Cu. Ft.	%	Million Cu. Ft.	%	Million Cu. Ft.	%	Million Cu. Ft.	%
Pulpwood	31	24	73.6	49	103.0	65	124.9	62
Sawlogs	72	56	55.0	37	45.0	28	64.2	32
Veneer Logs	6	5	4.7	3	3.7	2	5.2	2.5
Other	20	15	16.2	11	7.6	5	7.0	3.5
Total	129	100	149.5	100	159.3	100	201.3	100

Trends in Pulpwood Species, Production and Receipts

The first pulpwoods used in Wisconsin were spruce, aspen (poplar) and basswood for making groundwood pulp in 1871. Hemlock became an important pulpwood species after the start of sulfite pulping in 1887. Pines entered significantly after the introduction of kraft (sulfate) pulping in 1911 and aspen, along with mixed hardwoods, accompanied semichemical pulping in 1948. The hardwoods, shortly afterwards, were used for kraft pulp. Finally, a major source of wood for pulp was the hardwood and softwood residues from sawmills starting in about 1960.

The pulpwood species have changed in their relative importance, in production and receipts (production plus imports), over the 108 years of wood pulping in this state (Tables 3 and 4). The highpoint of spruce receipts was in 1940 at 545,000 cords or 45% of the total pulpwood received at the mills, though its highpoint as a percentage was 54% in 1908 (Table 5). The use of spruce steadily dwindled from these highpoints, until, in 1977, the receipts were 94,000 cords or 5% of the total. Furthermore, 85% of the spruce was imported, a trend that started early with a 56% importation in 1908.

Among the other softwoods (long-fibered woods), which comprised 99% of pulpwood in 1908, 72% in 1950 and 40% in 1977, used for pulping, balsam fir, hemlock, pine, and tamarack are included. Balsam fir, a low-density wood suitable for both groundwood and sulfite processing, had an appreciable usage of 9% of all species in 1908

Table 3.

Pulpwood Production in Wisconsin by Species (16,17,18,19)

Species	1908	1940	1950	1960	1970	1974	1977
				1,000 cords			
Spruce	92	48	31	18	16	19	16
Fir	26	51	69	50	68	85	66
Hemlock	150	195	47	52	53	44	43
Pines	3	152	93	124	259	291	279
Aspen	5	49	195	540	771	797	684
Hardwoods			6	131	372	606	572
Residues		8	6	31	113	206	153
Other		7	20	6	4	2	3
Total	276	510	467	952	1,656	2,050	1,816

Table 4.

Pulpwood Consumption (Receipts) in Wisconsin by Species (16,17,18,19)

Species	1899	1908	1929	1940	1950	1960	1970	1974	1977
					1,000 cords				
Spruce		338	379	545	441	389	208	161	93
Fir		49	165	122	228	176	111	133	109
Hemlock		223	476	266	91	97	118	69	43
Pines		6	142	195	244	388	498	507	416
Aspen		5	12	61	387	785	1,088	1,109	915
Hardwoods					31	289	414	446	565
Residues			21	8	7	14	341	428	424
Other			39	8	3	26	43	36	31
Totals	211	621	1,234	1,205	1,432	2,164	2,821	2,889	2,596

Table 5.

Percentages of Wisconsin Pulpwood Receipts by Species

Species	1871	1887	1908	1929	1940	1950	1960	1970	1974	1977
						Percent				
Spruce	X	X	54	31	45	32	18	7	5	4
Fir			8	13	10	16	8	4	4	4
Hemlock		X	36	39	22	6	5	4	2	2
Pine			1	11	16	17	18	18	16	16
Poplar	X	X	1	1	5	27	37	39	36	35
Hardwoods							12	15	22	22
Residues				2	1	1	1	12	14	16
Other				3	1	1	1	1	1	1

and peaked in its importance in 1950 with 238,000 cords received at 16% of the total. In that year, when within-state species were 32% of the total receipts, the balsam fir figure was 29%. By 1977, the usage had decreased to 109,000 cords for under 3% and of the total receipts only 20% came from within the state.

The pines, jack and red, are generally unsuitable for groundwood and sulfite pulping in spite of much experimentation but important for kraft pulping after 1911. By 1940, the receipts were 195,000 cords and 16% of the pulpwood at the mills. The peak receipt was in 1974 with 507,000 cords at 16% of the total pulpwood material; 78% was jack pine. This percentage of 16% was maintained in 1977; 67% came from within the state and 72% was jack pine.

The final long-fibered wood, tamarack or larch, is a species which seems to have a particular suitability for a certain grade of sulfite-based paper. Its very small receipts in 1950 of 3,000 cords had expanded to 23,000 cords in 1970 and 31,000 cords in 1977 or about 1% of the total pulpwood that year.

The production of the state's own pulpwood which started out at 100% in 1871 showed a decreasing proportion of domestic vs. imported pulpwood up to 1950, reaching a low of 31% that year (Table 6). The trend then reversed, and by 1977 the state production had increased to 70%.

Table 6.
Relation of Wisconsin Pulpwood Production to Consumption (12,17,18)

Year	Production/ Consumption[1]	Year	Production/ Consumption[1]
	Percent		Percent
1871	100	1960	50
1908	44	1970	59
1936	38	1974	64
1950	31	1977	70

[1]Or receipts

Aspen or poplar, a low density, short-fibered wood, started with a sparing use of 5,000 cords in 1908 at 1% of the total and increased to a peak of 41% in 1967 and a record receipt of 1,115,000 cords. In 1977, the receipts were 915,000 or 35% of the total state pulpwood receipts. Initially all aspen was procured within the state but this percentage has dropped to 70-75% in recent years.

The short-fibered hardwoods of medium to high density, generally mixed in supply, were early regarded as unsuitable for pulping, and it was not until the 1950's that developments in technology and markets permitted their introduction into sulfite, kraft and semichemical pulping. In 1950, token receipts of 10,000 cords of hardwoods were recorded or less than 1% of the total, but by 1960 this had increased to 289,000 cords at 12% of the total, and by 1977 this volume had risen to 565,000 cords at 22% of the total. In 1977, these hardwoods comprised in the form of roundwood, 31% hard and soft maples, 29% elm, 21% white and 8% yellow birch, 9% oaks (mostly red) and smaller

percentages of ash, basswood and other hardwoods.

The birch pulpwood is used for certain sulfite paper grades. The receipts rose from 10,000 cords in 1970 to 120,000 cords in 1977 or 4% of the total pulpwood receipts.

Another source of fiber supply for pulping, introduced in about 1950, was the chip residues from primary processing of timber products in sawmills and veneer mills. The volume was the equivalent of 17,000 cords and 1% of the total in 1950. This figure rose to 241,000 cords and 8% in 1970, and to 424,000 cords and 16% in 1977. In 1977, these residues were 71% softwoods and 84% of the softwoods were from out of the state. On the other hand 85% of the hardwoods that year were generated within the state.

In addition to the trends in pulpwood species and classes of fiber sources themselves, as discussed above, there was a remarkable change in the use of the two broad classes of pulpwoods, softwoods or long-fibered woods and hardwoods or short-fibered woods. The latter were long regarded as having poor suitability for paper products. Technology of pulp and papermaking and products marketed, coupled with fiber needs, has resulted in a national increase in the applications of hardwoods from the 14% of 1950 to the 25% of 1976 (20). In Wisconsin, this transformation has been considerably more marked, as shown below:

Distribution of Pulpwoods by Fiber Type

Year	Short-fibered Hardwoods	Long-fibered Softwoods
	%	%
1929	2	98
1950	29	71
1963	50	50
1970	59	41
1977	62	38

Pulpwood Prices

Rough roundwood prices for several major pulpwoods, spruce, pine, and aspen, have increased five to six times in the 70 years from 1909 to 1979 (Table 7). This is an annual rate of increase of 2.5%. The rate from 1909 to 1960 was 3.2% and that from 1960 to 1979 was 3.9%. The rise in prices of aspen and mixed hardwood residue chips for the 12 years from 1967 to 1979 was at an annual rate of 5.7%.

Changes in Pulping and Bleaching

The production of pulp for papermaking in Wisconsin has changed greatly as to technology as well as in fibrous raw materials; the latter was discussed previously. The rags, after sorting and dusting, were bleached with hypochlorite in an open vat equipped with a false bottom and a vertical circulation tube. After bleaching, the stock was cut in a rag engine and dropped into a draining vat before processing the stock in a beater prior to forming on a cylinder paper machine (Table 8) (1,5). Straw was first pulped with lime in 1853. Wood was first processed by the mechanical groundwood process in 1871 as

Table 7.
Pulpwood and Chip Prices (12,21)

Year	Spruce	Pine	Aspen	Mixed Hardwoods
Pulpwood – $/Rough Cord, Delivered				
1909	9.18	5.03	5.05	
1933	8.25	5.50	–	–
1940	10.00	6.25	6.50[1]	–
1950	20.50	14.25	6.50[1]	–
1960	27.75	16.25	13.00	–
1970	29.25	23.15	16.00	–
1976	36.50	32.25	25.00	24.00
1979	44.00	38.50	27.00	29.00
Chips – $/Ton, Moisture Free				
1967	–	–	19.00[2]	18.50[2]
1973	–	–	22.00[3]	22.25[3]
1979	–	45.50[4]	50.00[4]	36.00[4]

[1]Peeled [2]FOB Mill [3]FOB [4]2,400 lb. Unit, Delivered

introduced by Bradner and Smith[1] in a mill placed at the south end of the upper dam at Appleton. Spruce and aspen were used and basswood, too. The groundwood method of pulping had been invented in 1840 by Keller in Germany and put into operation in 1846. The second basic pulping process, the chemical sulfite method, was inducted in 1887 at the Atlas Paper Company, Appleton, also using spruce. Hemlock was later used in the Badger mill at Kaukauna. The sulfite process had been invented by Tilghman in the United States in 1866-67 and was put into commercial operation by Ekman in Sweden in 1874. The third major pulping process, the kraft or sulfate method, which had been invented in Germany in 1978, had its beginning in Wisconsin at the predecessor of Mosinee Paper Mills, Mosinee, in 1911. This mill, in fact, was the first integrated kraft pulp and paper mill in North America. The first bleached kraft pulp was made at the Thilmany, Kaukauna. The fourth major pulping process, the semichemical, which had been developed at the U.S. Forest Products Laboratory, Madison about 1925, was introduced at the then National Container (now Owens-Illinois) mill at Tomahawk for production of corrugating medium pulp and at the Consolidated Papers pulp mill at Wisconsin Rapids for production of a bleached aspen semichemical pulp as a replacement for sulfite pulp in book papers, both in 1948 and 1947, respectively. Since that time a number of variations of these processes have been developed (Table 8).

A classification of pulp mills by process shows an increase from the first mill of 1871, to a maximum number of total mills of 55 in 1925 (Table 9). Then there is a steady decrease to a stabilized figure of 26-28 in 1971. The groundwood mills themselves increased to 26 in 1925, only to decrease six in 1976, but with the recent installation of two thermochemical pulping operations producing a ground-type pulp the present total

[1]Bradner Smith & Company celebrated its 125th anniversary in 1977 (27). This firm formerly owned paper mills in Wisconsin, Illinois and Upper Michigan, but now is a paper distributor.

Table 8.

Highlights in the Development of Fiber Use, Pulping Processes and Paper Products in Wisconsin

Years	Raw Materials	Pulping Process	Paper Product	Location
1848	Rags	Repulping, bleaching	Newsprint, wrapping	Milwaukee
1850	Rags	Repulping, bleaching	Printing	Whitewater
1853	Rags, straw	Repulping, lime pulping	Wrapping	Appleton
1855	Straw	Lime Pulping	Paperboard	Milwaukee
1871	Spruce, aspen	Groundwood	Printing	Appleton
1873	White waste paper	Repulping	Printing	Neenah
1885	Rags, waste paper	Repulping	Tissue	Kaukauna
1887	Spruce, hemlock	Sulfite	Printing	Appleton
1893	Spruce	Sulfite, bleaching	Printing	Appleton
1911	Pines	Kraft (sulfate)	Kraft papers	Mosinee
1947	Aspen	Semichemical, bleaching	Printing	Wisconsin Rapids
1948	Aspen, hardwoods	Semichemical	Corrugating	Tomahawk
1955	Aspen	Groundwood, bleaching	Printing	Wisconsin Rapids
1950's	Aspen	Sulfite, ammonia	Tissue	Green Bay
1966	Aspen	Sulfite, magnefite	Fine	Brokaw
1970	Aspen	Chemimechanical	Printing	Combined Locks
1974	Waste paper	Repulping, deinking	Market pulp	Oshkosh
1974	Aspen	Thermomechanical	Printing	Biron
1975	Aspen hardwoods	Nonsulfur	Corrugating	Tomahawk
1978	Aspen, balsam fir	Thermomechanical	Printing	Biron, St. Point

Table 9.

Number of Wisconsin Wood Pulp Mills by Process (23)

Year	Groundwood[1]	Sulfite	Sulfate	Semichemical[2]	Total
1871	1				1
1902	20	13			33
1919	24	23	5		52
1925	28	22	5		55
1950	14	15	5	1	35
1959	15	15	3	6	39
1967	12	14	3	4	33
1971/2	9	11	4	4	28
1976	6	10	4	6	26
1979	7	9	4	6	26

[1]Thermochemical included

[2]Chemimechanical and coarse fiber included

is eight. Sulfite mills peaked in numbers in the mid-1920's to 23 in number, but this process has decreased in number to nine at present. This number would likely have been lower without certain advances in utilizing the spent pulping liquor, as described later under by-product chemical developments. The kraft pulp mills were also highest in number in the mid-1920's at a figure of five. There were two shutdowns of kraft mills in the 1950's which was partially offset by a new mill in 1968. Finally, in the 1950's new concepts of producing papermaking fibers have increased from one to six in the "other" category, including two semichemical mills, one chemimechanical pulp mill and three coarse fiber mills for conversion to roofing felt and hardboard. Thus, the process emphasis has changed in a dynamic situation with closings of older mills being balanced by new mills and new processes.

The capability of producing pulp as measured by daily capacity has increased steadily in the last 60 years (Table 10). The pulping capacity increased between 1925 and 1979 by 80%, with a corresponding small, but positive, annual rate of increase of production capacity of 1.1%. In fact, kraft and "other" processes have shown appreciable increases in production capacities; groundwood has stayed about the same; and sulfite has shown a 20% loss since 1959. Also since 1950 the annual rate of increase in total pulp producing capacity has been 1.8%.

Table 10.
Daily Capacity of Wisconsin Wood Pulp Mills (23)

Year	Groundwood[1]	Sulfite	Sulfate	Semichemical[2]	Total
1919	1,216	1,217	295		2,728
1925	1,365	1,307	295		2,967
1950	889	1,640	545		3,074
1959	1,085	1,695	590	785	4,155
1967	1,020	1,844	610	785	4,259
1971/2	799	1,568	1,235	1,130	4,732
1976	638	1,536	1,284	1,450	4,908
1979	834	1,313	1,473	1,715	5,335

[1]Thermomechanical included

[2]Chemimechanical and coarse fiber included

Distribution of Pulp Mills by Process and Species

A survey in 1970 of the distribution of Wisconsin pulp mills by process and pulpwood species usage showed sulfite pulp to use about 40% of the total pulpwood (Table 11). At that time aspen supplied about 50% of the fibers for sulfite pulping. Recently there has been a decrease in aspen and a corresponding increase in mixed hardwoods for that purpose. The second highest pulpwood user was the kraft process, which used pines and dense hardwoods (little or no aspen). Groundwood and groundwood-type (chemimechanical) pulping was third in pulpwood use and there has

been, possibly, some interchanging of softwoods and aspen since 1969. The other categories in this 1969 compilation, if rearranged under "other" processes, show a preponderance of aspen use which continues.

Table 11.
Distribution of Wisconsin Pulp Mills by Process and Species, 1969* (24)

Process	Mills No.	Pulpwood Consumed				
		Aspen	Mixed Hardwoods	Softwoods	Totals	
			1,000 cords			%
Sulfite	11	559	144	361	1,064	42
Kraft	4	–	137	590	727	28
Groundwood and Chemimech.	9	227	–	65	292	12
Semichemical	2	70	200	–	270	11
Hardboard and Partical Board	4	112	15	55	182	7
Totals	30	968	496	1,071	2,535	100

*From 1970 Survey

Recycling Operations

Cotton rags were the only source of the fiber in the first Wisconsin paper mill in 1848 and this mill represented a typical early recycling operation. White waste paper was indicated in historical accounts as first being used as a source of fiber in 1873. Presumably mostly cotton fibers made up this secondary fiber, though it is possible that wood fibers from imported waste paper could have been present. By 1902 there were seven rag pulp mills; available records at that time do not show the waste paper use (Table 12). In 1925 there were a total of 13 recycling operations made up of six rag mills and seven using paper stock (sorted waste paper) to make fine papers after deinking (three) and paper board (four). The total daily capacity was 500 tons.

The number of recycling operations increased only from 13 to 14 between 1925 and 1950, though the daily capacity increased appreciably from 500 to 880 tons. After environmental and fiber supply crises of the mid 1970's, there was an increase in the number of mills and daily capacities of the 1979 figures of 10 deinking and 11 paperboard and pulp products, with the same five rag mills, to a total of 26 operations; the total daily capacity in 1979 was 2630 tons. The rise in deinked pulp was mainly due to a great increase in one mill and a new mill producing pulp for sale. It was estimated that in a recent year there were 19 mills recycling 800,000 tons of post-consumer waste (25).

Table 12.
Number and Daily Capacity of Recycling Operations (23)

Year	Rags[1]		Paper Stock				Totals	
			Deinked		Paperboard			
	No.	Capacity Tons/Day	No.	Capacity Tons/Day	No.	Capacity Tons/Day	No.	Capacity Tons/Day
1848	1	110[2]	–	–	–	–	1	110[2]
1902	7	–	–[3]	N.A.	–	–	7	N.A.
1925	6	50	3	80	4	370	13	500
1950	5	80	5	320	4	500	14	900
1979	5	80	10	1,590	11	960	26	2,630

[1]Including textile residues (cotton)

[2]Reams/week

[3]Paper stock first used in 1873

Total Fiber Sources for Papermaking

For more than 50 years, wood pulp fiber produced in the state has provided a decreasing proportion of the fiber used for the state's production of paper and paper board as shown below (17,19,26):

Year	Pulp Production	Paper Production	Pulp/Paper
	1,000 tons	1,000 tons	%
1923	565	796	71.0
1939	656	1,011	64.9
1963	1,400	2,461	56.9
1970	1,546	3,130	49.4
1975	1,362	3,102	43.9

Part of this fiber deficit is made of rags (less than 1%) and secondary fiber and the remainder from purchased, out-of-state pulp. A survey of fiber sources for Wisconsin papermaking in 1969 showed the following fiber furnish in the state's papermaking (24):

	%
Wisconsin-made wood pulp	51
Secondary fiber	23
Purchased pulp	26
Total	100

On the basis of pulp and paper mill capacities (Tables 10 and 15), it is estimated that in 1950, at full capacity, 7% purchased pulp would have been needed to meet the fiber requirements, whereas in 1979 the amount would be 26% (the same as 1969).

Furthermore, an appreciable portion of secondary fiber is made from waste paper from other states. The Wisconsin-made pulp itself is made from 30% wood fiber from out of the state, as mentioned previously. Thus, roughly 50% of the fiber for Wisconsin's large paper and paperboard production is derived out of the state. This contrasts with what originally attracted the paper industry to the northern part of Wisconsin: local wood fiber.

Paper Mills and Paper and Paperboard Production

Up to 1911, the date of the reciprocal trade agreement between Canada and the U.S. permitting import of duty-free newsprint, the major single product item in Wisconsin in paper mills was newsprint. After 1911, the production shifted to other grades; the variety now distinguishes Wisconsin paper production (25). Newsprint production diminished from about 50% in the early 1910's to no production by 1940, except for minor, makeshift flurry in little post-War II flurry (Table 13). The absolute production appeared to peak in about 1926.

Table 13.
Newsprint Production in Wisconsin (9,17,27,28)

Year	Paper and Paperboard Production		Mills	Year	Paper and Paperboard Production		Mills
	Newsprint	Percentage of Total			Newsprint	Percentage of Total	
	Tons	%	Number		Tons	%	Number
1900	58,850			1928	138,351	15.1	
1905	93,149		15	1930	112,274	13.4	
1911		50[1]		1940	0	0	0
1923	157,665	24.5	7	1948	23,000	1.5[1]	2
1926	174,000	20.4	6				

[1]Estimated

The number of mills making the major grades of paper (somewhat arbitrarily classified) has changed over the years since the shift noted above, although the total number of mills has been in a narrow range of 49-52 over the more than 75 years considered (Table 14). The daily capacities of these mills has, on the other hand, changed in total amount (annual rate of increase between 1902 and 1979 was about 3%), as well as within the classifications themselves (Table 15). The printing papers, book, catalogue, and coated magazine papers, the logical successors of newsprint, have been fairly constant at 15% of the number of mills and 25% of the capacity. Bond and writing papers have accounted for about 25% of the number, and 20% of the tonnage capacity over the year. Tissue mills jumped from 15 to 25% in number and capacity after 1950. Wrapping papers became classified under specialties in 1959, which specialty has maintained a 15-

20% portion of the mill numbers and under 15% of the capacity. Paperboard since 1950 has been made in slightly under 15% of the total capacity and in that same percentage of the mills. The "other" categories represents small molded pulp and hardboard mills which have sprung up in the last 10 years, to increase the total number but to have little influence on the total capacity (under 5%).

Table 14.
Number of Paper Mills in Wisconsin by Grade (23)

Year	News	Book, Catalogue	Bond, Writing	Tissue	Specialties	Wrapping	Paperboard	Other	Total
1848	1								1
1902	19[1]	5	10	4	6	3	1	1	49
1919	4[2]	10	14	8	7	5	4		52
1925	3[2]	7	15	7	5	8	4	1	50
1950	–	6	15	12	9		6	1	49
1967	–	6	15	13	8		7	2	51
1976	–	6	15	13	6		6	6	52
1979	–	7	13	13	7		6	6	52

[1]Many news mills also made manila

[2]Several news mills included in books mills

Table 15.
Daily Capacity of Wisconsin Paper Mills by Grade (23)

Year	News	Book, Catalogue	Bond, Writing	Tissue	Specialties	Wrapping	Paperboard	Other	Total
				Tons					
1848	110[1]								
1902	640[2]	86	140	24	180	46	30	5	1,151
1919	422[3]	575	477	312	271	360	407		2,887
1925	238[3]	423	451	257	220	457	505	15	2,566
1950	–	1,432	830	936	787		877	10	4,872
1967	–	2,108	2,002	2,094	1,003		1,679	164	9,050
1976	–	2,430	2,686	2,558	1,248		1,586	490	10,998
1979	–	2,696	2,244	2,896	1,690		1,901	490	11,917

[1]Reams/week

[2]Many news mills also made manila

[3]Several news mills included in book mills

Developments in papermaking in the over 130 years of existence of the industry in Wisconsin have been essentially in the gradual improvements in the quality and properties in meeting the use requirements of the market. Except for several outstanding

inventions, such as on-machine coating and absorbent tissues, the successes of the individual mill's research and development, engineering, operating, and marketing activities creating new types of papers are the evidence of the tremendous vitality of Wisconsin's paper industry.

Position of Wisconsin's Paper Industry in the United States

The position of Wisconsin's pulp and paper industry relative to the U.S. industry is shown, in one aspect, by their respective consumptions and pulp and paper and paperboard productions, and in another, by the rank of this state in these elements relative to other states (Table 16).

Table 16.
Pulpwood Consumptions and Wood Pulp and Paper and Paperboard in Wisconsin and the United States (18,26,27,29)

	1899	1923	1939	1963	1970	1977
Pulpwood-1,000 cords						
U.S.	1,986	5,873	10,816	44,126	67,524	77,161
Wisconsin	211	1,043	1,106	2,189	2,461	2,596
Rank	3	2	2	7	11	13
Wood Pulp-1,000 tons						
U.S.	1,178	3,709	6,993	30,121	43,663	49,777
Wisconsin	137	565	656	1,400	1,546	1,459[2]
Rank	3	2	3	10	12	13[2]
Paper-1,000 tons						
U.S.		5,078	7,484	18,752	23,409	27,780
Wisconsin		644	841	1,942	2,550	2,899
Rank		1	1	1	1	1
Paper & Paperboard						
U.S.	2,168	7,781	13,510	39,231	53,129	60,736
Wisconsin		796	1,011	2,461	3,120	3,574[2]
Rank			4	2	3	4

[1]Estimated

[2]1976

The state was an important user of pulpwood in the early days in the industry relative to the industries elsewhere, and in 1923 consumed 18% of the total U.S. volume. As late as 1939, when the national industry had moved its geographical centers to the South and West, this state still accounted for 10% of the total U.S. consumption. This level dropped with the great expansion in the South following World War II, and appears to have leveled off at about 3.5% in recent years. During the same time span, the ranking of the state among other states in pulpwood consumption also dropped from position as second or third to 13th recently.

Wood pulp production, as would be expected has closely followed the pattern of pulpwood consumption. The percentages have dropped from the early 15% level to about 3% in 1977, and the rankings from the 2-3 range to 13.

Paper production has not, however, followed the pulpwood and pulp trends: this statistic has maintained consistently a production of 10-11% of the total U.S. amount and its position as the leading state. Total paper and paperboard production has been influenced in the predominance of paper production in Wisconsin – about 85% of total of paper and paperboard – and has maintained a level of 6% of total production and a ranking of 2-4 among states.

The forests of the Lake States (Michigan, Minnesota and Wisconsin) area were the second to be exploited after the Northeast in the development of the paper industry in this country. Michigan and Minnesota, as well as Wisconsin, have been important contributors to the nation's pulp and paper production (Table 17). Up to the 1940's the production of paper and paperboard in Michigan exceeded that of Wisconsin, making the former state one of the largest producers of these products in the country. In 1975 Michigan produced 1.8 million tons of paper and paperboard to place in 12th among states.

Table 17.
Pulpwood Consumptions and Wood Pulp and Paper and Paperboard Productions in the Lake States (17,18,26)

	1899	1923	1936	1963	1975
Pulpwood-1,000 cords					
Wisconsin	211	1,043	1,034	2,189	2,344
Michigan	34	231	308	730	844
Minnesota	N.A.	271	323	667[1]	1,227
Wood Pulp-1,000 tons					
Wisconsin	137	528	605	1,400	1,362
Michigan	21	138	198	549	649
Minnesota	–	170	219	601	790
Paper & Paperboard-					
1,000 tons		**1925**			
Wisconsin		832	893	2,461	3,102
Michigan		847	1,218	1,999	1,855
Minnesota		224	265	909	1,225

[1]Estimated

The paper industry in Wisconsin can be also judged or measured in an economic sense by its number of employees and value added by manufacture in terms of the trends over the years and in comparison with other major state industries. The number of employees, for example, has increased from the 10 of the original Milwaukee mill to about 5,000 at the turn of the century to roughly 11,000 in 1929 and finally, to about 40,000 in recent years (Table 18). This number is of employees as generally based on Bureau of

Census figures for the "Paper and Allied Trade," which includes converting operations. A breakdown of manufacturing employment (unadjusted) for the elements in the above category for May, 1979, is as follow (30):

	Employment (1,000) (Unadjusted)
Paper and Allied Products	47.4
Pulp and Paper Mills	29.6
Converted Paper and Paperboard Products	9.4
Paperboard Containers and Boxes	7.0

The value added by manufacturing has increased about 140-fold from 1914 to 1976, and nearly three-fold since 1963 (Table 18) at annual rates of 8.4% (Table 17). The levels of employment and added value have placed the pulp and paper industry third or fourth in the rankings among major Wisconsin industries.

Table 18.

Employees and Value Added in Manufacturing in Wisconsin's Paper Industry (25,27,30)

Year	Employees[1]	Value Added	Year	Employees[1]	Value Added
	Number	$ million		Number	$ million
1848	10	–	1947	28,144	188.8
1870	270	–	1963	36,500	501.8
1899	5,124	–	1972	37,400	823.0
1914	8,468	10.6	1976	40,200	1,483.4
1929	10,819	36.2			

[1]Paper and Allied Trade (Census)

The position of Wisconsin's paper and paperboard production in national and world perspectives in 1977 is shown as follows (26,32):

	Paper	Paper and Paperboard million metric tons
World	–	157.6
United States	24.9	55.1
Wisconsin	2.9	3.6 (est.)

Mill Ownership

The earliest paper mills in Wisconsin were built by entrepreneur-type pioneers to fill a local need for paper products and often associated with flour and sawmill and water power enterprises. These paper mills were locally owned and financed. Multi-mill ownership started early in the history. The classic example is the Kimberly-Clark Corp., which had its beginning in Neenah in 1872, and in 1874 purchased the earliest mill on the

Fox River, which had started in 1865-66. The early paper industry in the state was characterized by local ownership, to the extent that up to 1925 there were only two firms, each with one mill, having out-of-state affiliation, in comparison with 40 state firms with 65 mills (Table 19). In fact, as late as 1950 there were only three firms with a total of four mills not owned in the state out of the total 37 firms with 53 mills. Some time in the 1960's this pattern of predominant state ownership changed and the change seems to have accelerated in the 1970's to the extent that in 1979 the records show more firms and mills under out-of-state control than within the state. Another aspect of this change in ownership has been a recent tendency for Wisconsin mills to change hands between out-of state owners, and for out-of-state owners to control two mills within the state.

Table 19.
Pulp and Paper Mill Ownership in Wisconsin (23)

	Ownership			
	State		Out-of-State	
Year	Firms	Mills	Firms	Mills
1902	29	40	2	2
1925	40	65	2	2
1950	34	49	3	4
1967	27	36	8	16
1971/2	22	31	15	23
1976	20	27	22	28
1979	19	26	22	30

Pulping Chemical Byproducts

Chemical byproducts based on the lignin, carbohydrate and extractant fractions of wood released in chemical and semichemical pulping, as well as the pulping reagents themselves, have been recovered from pulping spent liquors for many years. Lignosulfonate products from sulfite spent liquors, for example, were produced nearly 50 years ago through the Howard process developments at the former Marathon Corp. mill at Rothschild (32). A total of six sulfite mills in the state produce lignosulfonate products from sulfite spent liquor or supply spent liquor to other processors (Table 20). In addition, another utilizes the carbohydrate fraction as a nutrient for growth of a yeast for human consumption (32). Another mill, until recently, produced vanillin for food flavoring as a lignin reaction product from sulfite spent liquor.

Tall oil skimmings, a byproduct of kraft pulping of pines, are produced by several mills. They are chemical treated to the crude tall oil soap intermediates at a central operation in the state, and then sent to tall oil processors else where. The chemical products are turpentine and certain fatty acids of considerable commercial value. The annual value of tall oil soap in Wisconsin was $3.5 million recently. A semichemical pulp mill evaporates and combusts its spent liquor into a byproduct, sodium sulfate or salt cake, which is sold to kraft pulp mills as a makeup chemical.

Table 20.
Pulping Spent Liquor Chemical Byproducts

Sulfite Spent Liquor	
American Can Co., Green Bay, Rothschild	Dispersants, including for oil well pulping, binders, concrete and water treatment additives, tanning agents, animal feed supplements
Badger Paper Mills, Peshtigo	Dried spent liquor
Charmin Paper Products, Green Bay	Lignosulfonate products
Consolidated Papers, Inc., Appleton	Binders, dispersants
Flambeau Paper Co., Park Falls	Binders, animal feed supplements
Rhinelander Paper, Co., Rhinelander	Lignosulfonate products; torula yeast (for human consum.)
Kraft Spent Liquor	
Consolidated Papers, Inc., Wis. Rapids	Crude tall oil soap from central processing of black liquor skimmings
Mosinee Paper Co., Mosinee	"
Nekoosa Paper Inc., Nekoosa	"
Thilmany Paper Co., Kaukauna	"
Semichemical Spent Liquor	
Green Bay Packaging Co., Green Bay	Sodium sulfate (salt cake)

Environmental Protection

The need for protection of the environment through control of the mill effluents and emissions was recognized by the industry 50 years ago. In 1929 the mills instituted regular effluent testing in cooperation with the Wisconsin Board of Health (succeded by the Wisconin Department of Natural Resources (WDNR)) for measurement of biological oxygen demand (BOD) and suspended solids (SS) (34). This activity was the outcome of a meeting between officials of state agencies and the pulp and paper industry in 1926. In addition to the undesirable stream pollution from these effluents (sulfite spent liquor was the most serious offender), the industry was aware of the considerable fiber loss from uncontrolled paper mill effluent discharge.

Although small improvements were made over the years, it was not until the environmental protection pressures, starting about ten years ago, that first primary and then secondary treatment of the industry effluents were introduced along with internal reductions in discharges (Figure 1). In achieving this record, the industry has spent $375 million, and operational costs of the effluent treatment systems add $15/ton of paper processed (25).

In removing the BOD and spended solids from the pulp and paper mill effluents following the primary and secondary treatments a new environmental problem is created:

solid wastes. These solid wastes amount to about 23,800 oven dry tons a month and, in addition, there are also 22,400 tons/month from furnace and fly ash, bark and pulp screen rejects, trash and other materials (25). The management of these solid wastes is being studied by industry and government. Landfilling is being considered generally unsatisfactory. Effluent treatment sludges are being investigated as soil amendments (25).

Wisconsin pulp and paper mills also control the quality of their air emissions. For many years the particulate matter from steam generators have been subject to regulation as to quality. On the other hand, kraft mills with their odorous emission of sulfur compounds could not measure their emissions except subjectively. Development of methods to measure the total reduced sulfur (TRS) have permitted the mills to apply alleviating devices to control the TRS emissions. A pioneer kraft mill has installed a recovery system to meet government quality standards and at the same time to increase its self-generation of energy requirements (25).

Sulfite mills, too, have had times of excessive sulfur dioxide emissions, which are being controlled by scrubbers and absorbers.

Energy Generation and Conservation

Pulp and paper manufacturing is energy intensive and is the highest of the state's industries in this respect. The manufacture of a ton of paper requires 3.5 million Btu. Chemical pulping with chemical and heat recovery can, on the other hand, be self-sufficient in energy through combustion of the organic matter in the spent liquor. Kraft pulping generally operates on this basis. This generation of heat can be agumented by combustion of residues from wood preparation and, using outside supply, residues from sawmills and logging operations. A paper mill requires purchased fuel to generate process steam and power for pulp processing. An integrated kraft pulp mill with a recently installed energy conserving system is generating its steam and power requirement to the extent of 47% of the total (25).

Paper Machinery Manufacture and Paper Converting

The manufacture of machinery to make paper is an important industry in Wisconsin. In 1976 there were 27 establishments in this category with an employment of 5,343 (30). The paper machinery industry has a history extending back to the earliest time of paper manufacture itself (2). Machine shops in Appleton and Beloit, which shortly after their beginnings specialized in papermaking machinery, are dated to 1857-8. One of these, the present-day Beloit Corporation has become one of the largest in the world in its field.

A wide range of equipment used in preparation of wood for pulping, paper machines and auxiliaries, paper machine clothing, paper finishing and paper converting equipment are some of the items made in the state.

Conversion of paper and paperboard into finished products such as sanitary paper products, coated and glazed products and paperboard containers and boxes, is conducted in about 150 plants, employing an estimated 16,000 employees out of a total of 47,000 in April, 1979, or about 35% of the total for paper and allied trades (25,30).

Research and Educational Institutions and Trade Associations

Research and development, and education with respect to the paper industry, were initiated formally in the state with the opening, in 1910, of the U.S. Forest Service's Forest Products Laboratory in Madison in cooperation with the University of Wisconsin (35). This arrangement has served to bring engineering, chemistry and other disciplines into forest products research, including, strongly, pulp and paper interests. The inauguration of the Institute of Paper Chemistry in association with Lawrence College, Appleton, in 1929, has likewise served to join education at the graduate level and pulp and paper R&D at the professional level under the sponsorship of the paper industry. Undergraduate training in pulp and paper has been provided since early in the 1970's at the Department of Paper Science at University of Wisconsin-Stevens Point.

Investigations pertaining particularly to the sulfite spent liquor problems were considered and acted on by the state's industry-supported Sulfite Pulp Manufacturers League from the 1930's through the 1960's and now centered in the Institute of Paper Chemistry (25). The industry's general interests are presently handled by the Wisconsin Paper Council, Neenah.

The technical and middle management personnel support strongly the Technical Association of the Pulp and Paper Industry (TAPPI) and the Paper Mill Superintendent's Association (PIMA) and its Lake States section. TAPPI membership in Wisconsin numbered 986 in 1979, the highest of any state.

The University of Wisconsin and the Institute of Paper Chemistry provide continuing education opportunities for professional workers.

Conclusions

The paper industry in Wisconsin has grown steadily since its start in 1848 making newsprint and wrapping paper. The industry has been featured by its development of the world's greatest variety of paper products and its high share of the country's production leading all states. Associated with this paper production have been the adaptations and modifications of its fiber supply and types. Other conclusions are:

1. The Wisconsin-supplied pulpwood has changed in species from the preferred spruce-hemlock softwood, long-fibered types, including the pines, to the short-fibered hardwoods such as apsen and mixed hardwood, now 62% of total. Sawmill residues have become an important fiber supply in recent years.

2. Pulping of the different species has been featured by the application and modification of a wide range of mechanical, chemical and semichemical processes introduced worldwide over the years. Fibers are thus provided, having the properties needed for the diversification of paper products.

3. The production of secondary fibers from waste paper has been made in increasing amounts to help fill the fiber requirements for the large production of paper, as well as importing desirable paper use properties.

4. Environmental responsibilities with regard to effluents and air emissions have been meet with large capital expenditures and increased production costs; cooperation

with governmental agencies has been important. Efforts at improved efficienty of energy utilization have been successful, especially with respect to improved conservation in the mills and use of wood residues.

5. The paper industry has had the benefit of outstanding educational, research and development facilities and management, and of trade and technical associations.

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Apendix I
Locations, Types, and Daily Capacities of Wisconsin Pulp and Paper Mills.

(From Lockwood's Directory (8)).

Location	Firm	Pulp		Paper	
		Pulping Process	Daily Capacity	Major Products	Daily Capacity
			tons		tons
Appleton	Consolidated Papers, Inc.	Sulfite	122	–	–
Appleton	Fox River Paper Co.	Repulping	n.a.	Cotton content fine	50
Appleton	Riverside Paper Corp.	Deinking	60	Bond, writing	95
Ashland	American Can Co.	Deinking	80	Tissues	51
Beloit	Beloit Box Board Co.	Repulping	45[1]	Paperboard	45
Brokaw	Wausau Paper Mills Co.	Sulfite	185	Bond, writing	300
Cedarburg	Formart Containers Inc.	Repulping	20[1]	Molded products	20[1]
Combined Locks	Appleton Papers, Inc.	Chemimech.	200	Book, catalogue	200
Cornell	The Flintkote Co. (Louisiana Pacific Corp)	Repulping	100	Roofing felt	190
DePere	Nicolet Paper Co. (Phillip Morris Co.)	–	–	Glassine specialties	140
Eau Claire	Brown Co.	Deinking	250	Tissues	160
Green Bay	American Can Co.	Sulfite	150	Tissues	400
Green Bay	Fort Howard Paper Co.	Deinking	775	Tissues	800
Green Bay	Procter & Gamble Paper Products Co.	–	–	Tissues	820[1]
Green Bay	Proctor & Gamble Paper Products Co.	Sulfite	300[1]	Tissues	
Green Bay	Green Bay Packaging Inc.	Semichemical	200	Paperboard	300
Kaukauna	Thilmany Pulp & Paper Co. (Hammermill)	Kraft	400	Kraft specialties	540
Kimberly	Miatec Paper Corp.	Groundwood	115	Book, catalogue	650
Ladysmith	Brown Co.	Deinking	50	Tissues	70
Marinette	Scott Paper Co.	–	–	Tissues	200
Menasha	Mead Corp.	Repulping	n.a.	Cotton content fine	69
Menasha	Menasha Corp.	Repulping	n.a.	Paperboard	250
Menasha	Geo. A. Whiting Paper Co.	–	–	Fine paper specialties	25
Menasha	Wisconsin Tissue Mills Co. (Phillip Morris)	Deinking	100	Tissues	85
Merrill	Ward Paper Co. (Arvey Corp.)	Deinking	45	Bond, writing	80
Milwaukee	Kelding, Inc.	Repulping	n.a.	Molded products	–
Milwaukee	Wisconsin Paperboard Corp. (Newark Box Board Co.)	Repulping	n.a.	Paperboard	120
Mosinee	Mosinee Paper Corp.	Kraft	200	Kraft specialties	250
Neenah	Bergstrom Paper Co. (Glatfelter)	Deinking	250	Bond, writing	325
Neenah	Kimberly-Clark Corp.	–	–	Tissue specialties	215

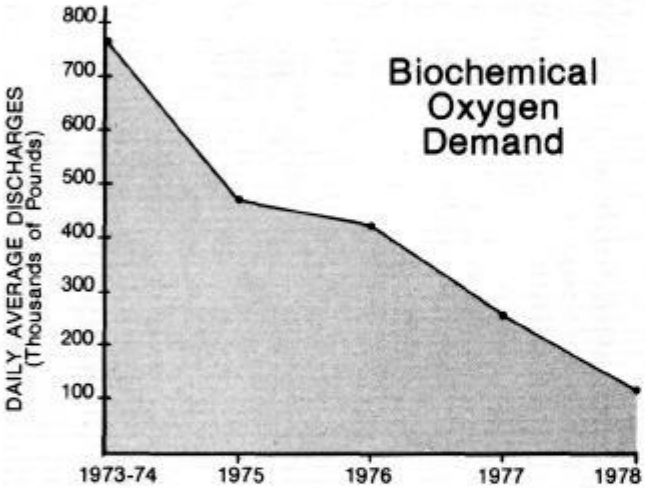
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Locations, Types, and Daily Capacities of Wisconsin Pulp and Paper Mills.

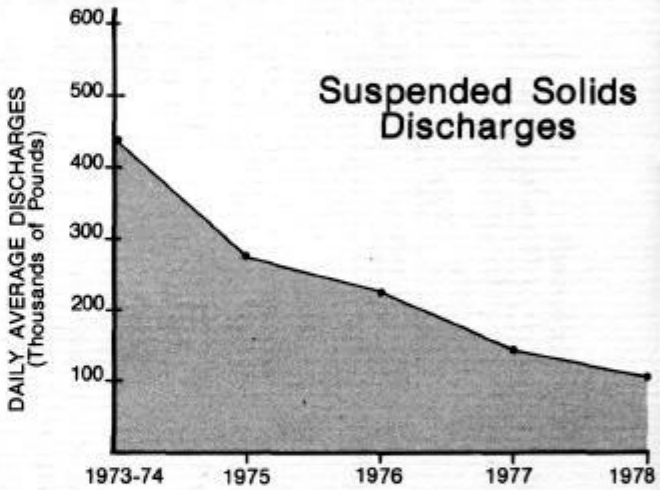
(From Lockwood's Directory (8)).

Location	Firm	Pulp		Paper	
		Pulping Process	Daily Capacity	Major Products	Daily Capacity
			tons		tons
Neenah	Kimberly-Clark Corp.	–	–		60
Neenah	Kimberly-Clark Corp.	Repulping	12	Cotton content specialties	70
Nekoosa	Nekoosa Papers Inc. (Great Northern)	Kraft	310	Business	380
Niagara	Niagara of Wisconsin Corp. (Pentair)	Groundwood	170	Book, catalogue	450
Oconto Falls	Scott Paper Co.	–	–	Toweling	115
Oshkosh	Ponderosa Pulp Products Co.	Deinking	100[1]	–	–
Peshtigo	Badger Paper Mills Inc.	Sulfite	110	Bond, writing	150
Phillips	Boise Cascade Corp.	Defibrator	n.a.	Hardboard	75[1]
Port Edwards	Nekoosa Papers Inc. (Great Northern)	Sulfite	215	Bond, writing	370
Rhinelander	Rhinelander Paper Co. (Monarch)	Sulfite	75	Classine specialties	250
Rothschild	Weyerhaeuser Co.	Sulfite	200	Specialties	400
Shawano	Shawano Paper Mills, Inc.	–	–	Specialties	100
Stevens Point	Consolidated Papers, Inc.	–	–	Book	111
Stevens Point	Consolidated Papers, Inc.	IMP[2] Groundwood	109	Book	268
Stevens Point	Plover Papers (Nekoosa Papers)	Repulping	7	Cotton content specialties	30
Superior	Superior Fibre Produts Co.	Defibrator	180	Hardboard	140
Tomahawk	Georgia-Pacific Corp.	Deinking	n.a.	Tissue	20
Tomahawk	Owens-Illinois Inc.	Semichemical	1000	Paperboard	1040
Tomahawk	Tomahawk Paper & Pulp Co., Inc.	Groundwood	50	–	–
Waupaca	Filter Materials, Inc.	Repulping	10	Cotton specialties	10
West Bend	Bermico Co.	Repulping	–	Fiber pipe	50
Wisconsin Rapids	Consolidated Papers, Inc.	–	–	Book	471
Wisconsin Rapids	Consolidated Papers, Inc.	Repulping	–	Paperboard	79
Wisconsin Rapids	Consolidated Papers, Inc.	Kraft	463	–	–
Wisconsin Rapids	Consolidated Papers, Inc.	Groundwood	180	Book	546
(Biron)	Consolidated Papers, Inc.	Thermomech., Groundwood	150		

n.a. Not available [1]Estimated [2]Thermomechanical



Discharges of biochemical oxygen demand (BOD) from paper mills have dropped 90 percent over the last five years. Mills are also discharging far less than allowed under both state and federal EPA limits.



Industry performance in reducing suspended solids discharges is also outstanding. During 1978, paper companies along the Fox and Wisconsin rivers discharged less than half of the amount allowed them under existing permits.

Figure 1.

Biological oxygen demand (BOD) and suspended solids (SS) discharges from Wisconsin pulp and paper mills 1973-4 to 1978 (25).

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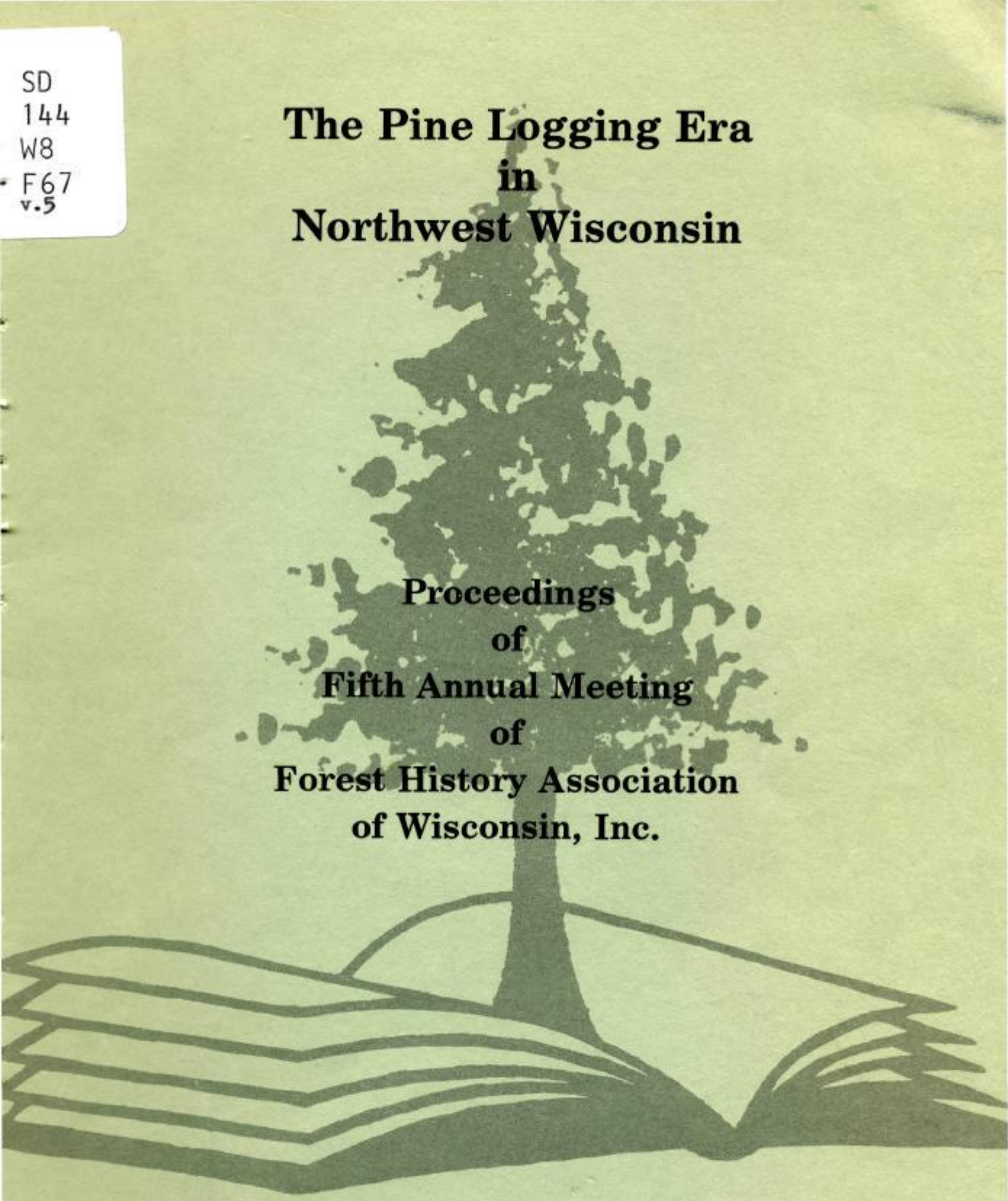
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The Pine Logging Era in Northwest Wisconsin



Proceedings
of
Fifth Annual Meeting
of
Forest History Association
of Wisconsin, Inc.

September 27, 1980
Chippewa Valley Museum
Eau Claire, Wisconsin

The Forest History of Wisconsin

The Forest History Association of Wisconsin had its beginnings early in 1975 when a group of representatives from the wood products industries, conservation agencies and the University of Wisconsin met to discuss a potential bicentennial project which would remind our citizens of the importance of forests in Wisconsin's past, present and future.

Their discussions led to the organizing of the Forest History Association of Wisconsin, Inc., as a non-profit, tax-exempt endeavor whose principal objective would be to preserve Wisconsin's forest heritage. Membership currently numbers about 265 individuals, corporations and institutions.

A seven-member Board of Directors serves as the Association's governing body. Officers and directors for 1980-81 are: Howard S. Lovestead, president; John H. Saemann, vice-president; Frank N. Fixmer, secretary-treasurer; Mrs. Gordon R. Connor, L. G. Sorden, Jacques D. Vallier, and William P. Yost.

The Association has published a number of booklets which should have some appeal to the forest history enthusiast:

History of the Nicolet National Forest
Some Historic Events in Wisconsin Logging
Some Events in Wisconsin Forest History
Bibliography of Wisconsin Forest History
Chips and Sawdust (Quarterly newsletter)

Another publishing effort is currently underway and is planned for completion before the end of 1981: *"Firsts in Wisconsin History"*.

Further information on any aspect of the Association's program and policies may be obtained by writing to

Secretary
Forest History Association of Wisconsin
403 McIndoe Street
Wausau, Wisconsin 54401

The Pine Logging Era
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- Log Rafting on Lake Superior 31
- Father Went to the Woods 33
- The Chippewa Valley Now 35

Foreword

The following text comprises the official transactions conducted, and the written papers presented, at the Fifth Annual Meeting of the Forest History Association of Wisconsin on September 27, 1980 at the Chippewa Valley Museum in Eau Claire, WI.

Two presentations were made which, unfortunately, cannot be reproduced herein because they consisted of a video-tape showing and a slide-talk: *Queen of the Pineries* by John Russell, and *The Story of N. C. Foster, Pioneer Lumberman* by William O'Gara, Jr. Both were outstanding in their coverage of historic figures during the early logging days in the Chippewa Valley.

An innovative feature of the day's program was an after-lunch performance by the Voyageurs, a singing group from Northland College, Ashland, WI, specializing in the songs of the pioneer fur traders and lumberjacks of the 18th and 19th centuries.

The Board of Directors is most grateful to the Chippewa Valley Museum and its governing body for its hospitality. Without that cooperation, this Fifth Annual Meeting would not have been the success it was. The Board is also very appreciative of the presentations made by the various speakers, the quality and interest of which were received with enthusiasm by all in attendance.

Frank N. Fixmer, Editor

Program

of

Fifth Annual Meeting

of

Forest History Association of Wisconsin

Saturday, September 27, 1980

Chippewa Valley Museum

Carson Park, Eau Claire, Wisconsin

"Theme: Pine Logging Era in Northwest Wisconsin"

8:30 A.M.	Registration
9:10 A.M.	Welcome and introductions
9:15 A.M.	*"Queen of the Pineries"* – Video tape – John Russell
9:50 A.M.	*"Pine Logging – Chippewa Valley"* – Dr. R. C. Brown
10:20 A.M.	Coffee Break
10:40 A.M.	*"Logging the Reservation"* – Eldon Marple
11:10 A.M.	*"Rafting on Lake Superior"* – Howard Peddle
11:35 A.M.	*"Father Went to the Woods"* – Diane Schmidt
12:00 P.M.	Lunch (Chippewa Valley Museum)
1:30 P.M.	*"The Voyageurs"* – Northland College
2:15 P.M.	*"N.C. Foster"* – Slides by William O'Gara, Jr.
2:35 P.M.	*"The Chippewa Valley Now"* – Richard L. Pifer
2:55 P.M.	*"Ask the Experts"* – Audience
3:15 P.M.	Business meeting of members
4:15 P.M.	Tour of the Paul Bunyan Logging Camp – Carson Park
5:00 P.M.	Adjournment

Minutes of the Fifth (5th) Annual Meeting of the Forest History Association of Wisconsin

Saturday, September 27, 1980

Chippewa Valley Museum
Carson Park
Eau Claire, Wisconsin

Following the day's program, as per the attached agenda, the business meeting of the Association was convened at 4:00 P.M. by President Saeman. Tom Albrecht voiced the concensus of opinion with some remarks of appreciation for the quality of the program and the arrangements made by Dr. R. C. Brown and his program committee.

A reading of the minutes of the previous annual meeting of September 29, 1979 were dispensed with inasmuch as all members had received a copy of the 1979 PROCEEDINGS. Since no additions or corrections had been received, the minutes were therefore approved as distributed.

Secretary-Treasurer Fixmer presented his annual report, which covered the dual functions of his office and which pointed out several problems regarding membership growth and the financing of Association activities. The detailed report is appended hereto, and includes the financial statement as well as formal confirmation of all financial transactions by the Audit Committee. On motion by K. Elliott and second by E. Marple, the secretary-treasurer's report was approved by unanimous voice vote.

President Saeman then presented his annual report, outlining the Association's major activities and accomplishments during the past fiscal year. He particularly noted the contributions of retiring Board members George Corrigan and Jay Cravens, both charter members of the Association.

The next order of business related to the amending of certain articles of the Association's constitution in order to conform with requirements for affiliation with the State Historical Society of Wisconsin. President Saemann referred to the specific changes and reported that these had been approved by the Association's legal counsel and the Board of Directors. Upon motion by G. Corrigan and second by K. Elliott, the resolution to amend was approved by 16 voting members and the 28 proxies cast by the President, with no dissenting votes.

In the absence of members of the Nominating Committee, President Saemann read a letter from committee chairman Roger Drayna which comprised the report of the committee. This proposed the election of the following nominees for two-year directorships: Mrs. Gordon R. Connor, Howard Lovestead, John Saemann and Jacque Vallier. There being no further nominations from the floor, it was moved by K. Elliott and seconded by H. Peddle, that the secretary cast a unanimous ballot for the foregoing nominees, which motion was then approved unanimously by voice vote.

On proper motion by T. Albrecht and second by C. Rhody, the official acts of the board of directors and the officers during the past year were ratified and duly approved.

On proper motion by K. Elliott and seconded by H. Lovestead, it was resolved that appropriate expressions of appreciation be conveyed to retiring Board members George

Corrigan and Jay Cravens for their very substantial services toward the progress of the Association since its founding. Approved unanimously.

President Saemann then proceeded with the presentations of the 1980 Distinguished Service Awards. Director H. Lovestead accepted the organizational award to the Rhinelander Logging Museum on behalf of its president who was unable to be present because of illness. The award recognized the museum for being the first in Wisconsin to be built specifically for the preservation of relics of the pioneer logging era. The individual service award was presented to Frank N. Fixmer, secretary-treasurer of the Association for his services as a co-founder, officer and newsletter editor since the Association's beginnings. Both citations are made a part of these minutes and are appended hereto.

There being no further business, President Saemann declared the meeting adjourned at 4:45 P.M. until the 1981 meeting.

Respectfully Submitted,

Frank N. Fixmer, Secretary-Treasurer

Annual Report of the President

The printing and distribution of "A Bibliography of Wisconsin Forest History" gave your officers the greatest satisfaction in reviewing activities during the past year. L. B. Sorden and Frank Fixmer got the project started, and when Bonnie Loduha became publications editor she made this her first effort. She's already at work on a supplement.

The first county forest history is in the process of being compiled by Bonnie, Gordon Sorenson, George Corrigan and others, and will be of Bayfield County. Much has already been done and the materials will hopefully go to the printers during the coming year. The format being followed will be useful when other county histories follow.

During the year a supplement to the "Directory of Members" was printed and distributed and the PROCEEDINGS of our fourth annual meeting were published, with Ramon R. Hernandez doing the editing. Other members working on projects supported by the Association are Howard Peddle, "Wisconsin Log Marks" and Frank Fixmer, "A Chronology of Firsts in Wisconsin Forest History".

Your Board of Directors met five times during the year and our Secretary-Treasurer got out four issues of "Chips and Sawdust". Perhaps you noticed the new logo. Art work was done by Don Mullen of Wausau Insurance Companies. He also designed the plaque for our annual distinguished service award.

To help support these publishing activities, dues in all membership classes were raised. We especially appreciate grants received from:

Hamilton Roddis Foundation
Connor Foundation
Owens Illinois
Jay Cravens
L. B. Sorden

Our first scholarship awards were made to Susan K. Bulmer at UW - Stevens Point, and Debra L. Casucci at UW - Madison. Awards were $200.00 each. Some changes in procedures are being recommended to the Scholarship Committee in the awards for 1981.

Your Association has given encouragement to the U.S. Forest Service to reconstruct the 100-year old Round Lake Logging Dam in Price County and to place signs at the Butternut - Franklin Lakes connecting waterway in Forest County.

Publicity was given the Association with displays at the Logging Congress at Chippewa Falls, and regional convention of the Wisconsin Council for Local History at Mauston. John Chapple of Ashland wrote an article on Association activities that appeared in several Wisconsin newspapers.

The program today was planned by Dr. Richard Brown, and he was helped by Richard Norris, Diane Schmidt, and Frank Fixmer. We surely appreciate the fine facilities here at the Chippewa Valley Museum, and I'm sure all of us benefited from our contacts with the friendly people from the society that operates the museum. They were wonderful hosts.

A final item: we are all grateful for the service given over the past years by retiring board members George Corrigan and Jay Cravens. Both gave freely of their time and talents to help the Association's efforts to stimulate an interest among us all in the discovery and preservation of the records of Wisconsin's forest history.

John H. Saemann, President

Annual Report of the Secretary-Treasurer

The term "first-the-bad-news-then-the-good-news" has become such an overworked cliche', that I hesitate to use it. Yet, it does describe what comprises my annual report as secretary-treasurer. So, here are some of the pluses and minuses of this past year's operations: A total of 21 individuals and 4 corporations failed to renew their memberships. Also, as readers of our newsletter became aware, we lost two of our esteemed charter members, Ed Henricksen and Emmett Hurst, both professional foresters who contributed much to the history of industrial forestry in Wisconsin with their records of over forty years of service.

On the positive side, we were able to attract the interest of 73 individuals and 1 corporation in becoming new members of the Association, so, in effect, we had a net gain of 47 new members. As of June 30, 1980, our total membership stood at 265, which included the non-dues-paying classes of honorary and corresponding or exchange members.

You will recall that our dues structure was increased last January 1st, the first increase since our founding five years ago. Whether the quite moderate $2.00 increase for individuals and $5.00 for corporations, coupled with the prevailing economic climate, has had a negative effect on membership renewals is a moot question. It is a fact, nevertheless, that as of September 15th we had only a 70% renewal rate. Reminders have since been sent out to all delinquents and, hopefully, a majority will respond to our appeal for continued support.

It would be most difficult for anyone to name any Association which has given its members more for their dues dollar than F.H.A.W. In the past year, members have received four issues of "Chips and Sawdust", the 1979 Annual Meeting Proceedings, a directory of members, and the landmark publication "Bibliography of Wisconsin Forest History". Costs of these publications obviously exceeded the prevailing $5.00 dues; their printing and distribution would not have been possible had it not been for donations and grants from several foundations, to whom we are most grateful. However, if we are to continue publishing desirable works, we will need a sustained effort to obtain the financial support of corporations, foundations and institutions which have a direct relationship to the forest heritage our Association seeks to perpetuate.

My usual duties as secretary-treasurer this past year were supplemented by several other activities which served to promote interest in the Association and its objectives. Among these were participation in a meeting of the Northeastern Chapter of the Wisconsin-Michigan Section of the Society of American Foresters, which had as its theme some aspects of forest history for that area of the state. Members Jacques Vallier and James Kaysen also were guest speakers on that occasion. Additionally, two meetings were attended of the Wisconsin Chapter of the National Association of Civilian Conservation Corps Alumni (NACCCA); the CCC's obviously were a significant factor in the forest restoration efforts of the 1930's. Currently, I am serving as chairman of the program committee for the first annual meeting of members of that organization, to be held October 3-4 at the Wausau School Forest.

Also noteworthy was our participation in the Logging Congress sponsored annually by the Wisconsin-Michigan Timber Producers Association. Our exhibit was viewed with

considerable interest by several thousands of visitors during the three-day event.

We now come to our financial operations:

My financial report for the past fiscal year will just present the highlights; I won't dwell on the details of the complete report, so those who may wish to study it, may have a copy on request.

We started the year with cash assets of $8,598.43. Our receipts from all sources totalled $5,096.85, but our disbursements were $10,507.55, so that we have been in a deficit spending situation. The result was that we reduced our capital assets by $5,410.70 and ended the year with total cash on hand of $3,187.73.

In explanation, let me hasten to remind you that several of the larger donations received in 1978 and 1979 were reserved for specific projects which were not completed until 1980. One example was the BIBLIOGRAPHY; we were given a grant of $2,500.00 in November, 1978 for that specific publishing venture but the money was not actually spent until this past spring.

Also, for the first time, your secretary-treasurer was paid $1,000.00 over the course of the year in which he spent a minimum of 569 hours in the performance of his duties. Also for the first time, we had a publications editor who received $900.00 in compensation for the many days and weeks she spent in compiling and editing the BIBLIOGRAPHY.

In this regard, it should be noted that publishing costs comprised 53% of the total expenditures for the year, whereas administrative costs were only 22% of the total.

Also noteworthy is the fact that membership dues, which were increased by $2.00 per member last January 1st, were only 43% of our total receipts, and provided only 21% of the costs incurred this past year. I am not suggesting another dues increase at this time, but I do want to emphasize that we need to increase our revenues from donations and gifts if we are to be able to continue performing our primary function, which is the educating of Wisconsin citizens in the value of preserving their forest heritage. Potential donors, particularly foundations with a forest-based background and corporations in the wood-using industries, should be approached in every area of the state for the financial support necessary to sustain our program. We need the assistance of every member in soliciting such support if we are to continue as a viable organization in the future.

My complete and detailed report is appended hereto.

Frank N. Fixmer, Secretary-Treasurer
September 27, 1980

Forest History Association
of Wisconsin, Inc.
403 McIndoe Street
Wausau, Wisconsin 54401

Officers and Directors, 1979-80

John H. Saemann, President
Retired U. W. Ext. Forester
Florence, WI 54121

Howard S. Lovestead, Vice-President
Forest Manager, Consolidated Papers
Rhinelander, WI 54501

Frank N. Fixmer, Secretary-Treasurer
Retired Forest Mgr., Mosinee Paper Corp.
Mosinee, WI 54455

Jay H. Cravens
Professor / U.W. - St. Pt.
Stevens Point, WI 54481

George A. Corrigan
Retired Logger / Author
Saxon, WI 54559

William P. Yost
Retired, Flambeau Paper Corp.
Butternut, WI 54514

L. G. Sorden
Professor Emeritus, U.W. - Madison
Madison, WI 53711

Financial Statement

for

Fiscal Year July 1, 1979 thru June 30, 1980

****

Checking Account - Balance July 1,1979	$ 1507.57	$
Savings Account - " " " "	7090.86	
		8598.43
Receipts		
Membership dues	2219.00	
Gifts, grants,donations	1560.00	
Sales of publications	647,50	
Annual meeting registrations	369.00	
Interest on savings account	301.35	
		5096.85
Disbursements		
Postage; mailing permit fee	466.19	
Stationery; office supplies	938.17	
Bonding of officers	86.00	
Publishing and printing	5531.85	
Salaries,travel, phone,office mtc.	2468.41	
Scholarship awards	400.00	
Annual meeting;distinguished service awards	412.93	
Other miscellaneous expenses	204.00	
		10507.55
Operating Profit or (Loss)		(410.70)
Transfer from Savings Account		(5000.00)
Reduction of Available Capital		(5410.00)
Checking Account - Balance June 30, 1980	795.52	
Savings Aaccount - " " " "	2392,21	
		$ 3187.73

Frank N. Fixmer
Secretary-Treasurer

September 27, 1980

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Audit Statement

TO WHOM IT MAY CONCERN:

The undersigned have audited the financial records kept by the Secretary-Treasurer of the Forest History Association of Wisconsin for the fiscal year beginning July 1, 1979 and ending June 30, 1980.

This audit included an examination of all transactions involving both receipts and disbursements, as well as verification of the authority to make certain purchases. Bank statements were also examined and cross-checked with records of receipts.

All items were found to be in agreement with the Secretary-Treasurer's summary financial report as attached hereto.

As of June 30, 1980, the Association's checking account balance was $ 795.52 and the savings account balance was $ 2,392.21.

Respectfully submitted,

F. S. Ziemann

Carl F. Theiler

August 12, 1980

CITATION
for
Distinguished Service Award
to
Rhinelander Logging Museum

The Rhinelander Logging Museum was the first museum of its kind in Wisconsin, having been built in 1932 for the specific purpose of preserving relics of the early logging era in the northern pinery. So it was altogether fitting and proper that the first annual meeting of the Forest History Association of Wisconsin was held at that museum in 1976.

The Rhinelander Logging Museum's display of tools and equipment used by old-time loggers is one of the most complete in the Upper Mid-West and the several buildings housing them reflect the actual living and working conditions in typical logging camp of 100 years ago.

The conception and fullfillment of the idea of the Rhinelander Logging Museum was the joint effort of the local American Legion Post, the local historical society, the Chamber of Commerce, several lumber companies, the City Council, the two railroads serving the community, and University of Wisconsin's College of Agriculture. A notable personality who provided much of the driving force needed to bring the project to a successful completion was the Forest History Association's co-founder and charter member, L. G. Sorden, who was then Oneida County's agricultural agent.

For nearly half a century, the Rhinelander Logging Museum has helped to preserve the forest heritage of the headwaters area of the Wisconsin River. In recognition of its dual role as the conservator of a unique collection of early logging era relics, and as the custodian of an outstanding exhibit which contributes to the education of present and future generations in Wisconsin's forest heritage, the Forest History Association is proud to present this plaque to the Rhinelander Logging Museum.

CITATION
for
Distinguished Service Award
to
Frank N. Fixmer

No one has had a greater interest in or has spent more time and effort in organizing and sustaining the Forest History Association of Wisconsin than its Secretary-Treasurer, Frank N. Fixmer. His work and influence on behalf of the Association has been outstanding, and his involvement in membership drives, financial aid contacts, newsletter preparation and collection of historic firsts in Wisconsin forest history all were projects he tackled with vigor and success. Without his service the Association would be less active and its accomplishments less noteworthy.

Trained as a forester and after giving eleven early years of public service to the United States Forest Service and the State of Wisconsin, he became Manager of Forest Operations for Mosinee Paper Corporation. During his thirty-four years as an industrial forester, he was very active in professional and community affairs. Among the organizations he served were American Pulpwood Association, Wisconsin Tree Farm Committee, Society of American Foresters, Forest Advisory Council to Wisconsin Department of Natural Resources, Wisconsin Woodland Owner's Association, National Association of CCC Alumni, Mosinee Lions Club and Boy Scouts of America.

While a practicing forester, he maintained a lively interest in the history of his profession, early-day logging and processing of wood. He has done extensive reading in these fields and has acquired a large library on those subjects. He is a dedicated forest historian willing to share his interest and knowledge, and for all these reasons the Forest History Association of Wisconsin is pleased to present this plaque to Frank N. Fixmer.

Pine Logging in the Chippewa Valley

by R. C. Brown, M.D.
Eau Claire, Wisconsin

The beginning of recorded history with regard to the Chippewa Valley begins with the first white men who traversed the Chippewa Valley, and these probably were Father Hennepin and his party in 1680. As best we can tell, he was the first white man, in his case, a French-Canadian priest, to have actually been in what is now the Chippewa Valley of Wisconsin. There were probably others who were related to the French-Canadian fur trade who were then in the area, but we do not have notes about them. Very extensive notes, however, were kept by Jonathan Carver, who made a series of rather excellent maps during his travels in the Chippewa Valley in 1766 and 1767, and from this trip he claimed to have been deeded much of Northwest Wisconsin by the Woodlands Sioux who were then its native inhabitants. This claim went through a lot of legal maneuvering during the remainder of his lifetime and then was perpetuated by his descendants. However, in the legal sense, nothing ever came of it. His contribution to history, however, is very worthwhile in that he kept extensive and clear-cut notes and made some very good maps.

The size of the Chippewa Valley is 96,000 square miles. It is 267 miles long and it drains approximately one-sixth of the area of the state of Wisconsin.

It was said to have contained 43 billion board feet of merchantable white pine timber, and it was said to contain, as of about the time of the Civil War, one-sixth of the standing eastern white pine in the entire United States.

The tree in question, of course, is *Pinus strobus,* or the eastern white pine. This tree grew, and grows, on the intermediate soils and among native hardwoods on ridges and along river bottoms, particularly where the better soils were present. The trees, when mature, varied from 2½ feet to over 4 feet in diameter, and become fully mature at around 200 years. Perhaps the largest tree cut during the pine era was a tree on the Jump River which is toward the south edge of the Chippewa Valley, which scaled 7,000 board feet. At the height of the pine logging era, the trees averaged about 200 board feet per 16-foot log, or around 5 saw logs per 1,000 board feet. During almost the entire white pine era, the Scribner scale was the official scale of the State of Wisconsin, and a little bit later the Scribner Decimal C, which was a modern variation of the original, became the legal measurement of board feet per log.

The pine loggers and pine lumber manufacturers had a tendency to subdivide *Pinus strobus* (eastern white pine) into two groups. This seems to be more of a loggers' definition than a dendrological fact. One was called cork pine, which was usually pine on better soils, and which was lighter in weight per cubic foot, and, of course, would then float better when in the water. It was also marked by the presence of a rougher and darker bark than the other variation which was called bull-sap pine, which tended to have a smoother bark, was a bit denser and contained more resin (pitch), and which, therefore, floated less well when in the water. The two varieties were manufactured as they were found, but the cork pine tended to make for more clear lumber of slightly higher value.

The Chippewa Valley had a fairly evenly aged stand of mature pine with the average age around 200 years at the time it was logged. Pines that were over-mature were present on the Yellow River, the south edge of the Valley, and then there was also a stand of over-mature pine up on the Totogatic, which is a branch of the St. Croix River and just north of the Chippewa Valley. Although there are no legends with the Sioux, or recorded history, the fact that so much of this was evenly aged makes one consider that about 1660 there may have been a great forest fire involving a lot of northern Wisconsin; in fact, much of the Chippewa Valley, and this might account for the fact that so much of this pine was evenly aged at about 200 years at the time of the pine logging era which went from about 1850 to 1910.

The first mill in the Chippewa Valley was located at Wilson Creek near Menomonie, and this was put up by Lockwood and Rolette, who first began sawmilling on a tributary of the Chippewa River, in this case a little stream going into the Red Cedar River. This mill was an off-and-on-again proposition for a number of reasons, but from 1831 on it became a steady operation, and it was ultimately included as a part of the Knapp-Stout lumber empire as of 1848. This first mill on the Chippewa River was located at the falls at Chippewa Falls, this being built by Brunet and Dousman as of 1838. The first steam-powered mill was that located at Waubeek, very close to where the Red Cedar comes into the Chippewa, which was built by C. C. Washburn in 1857, and this mill, too, became part of the Knapp-Stout empire as of the time of the Civil War. Another early mill was at Eau Galle in the southwest corner of the Chippewa Valley, and this, too, was a water-operated mill.

The water mills were some of the original ones, although water power was never that important in the numerical sense in the Chippewa Valley. The mill already noted at Wilson Creek near Menomonie was water-powered. The original mill at Eau Galle was water-powered. The big mill at Chippewa Falls was always a water-powered operation, although after their last rebuild in 1887, the planing mill had separate steam power. The upper mill of the Eau Claire Lumber Company, built in 1845 originally by the Randalls, was water-powered and the original mill at Hallie between Eau Claire and Chippewa Falls started as a water-powered mill, but because of water problems soon evolved into a steam mill, which it was during the heyday of its operation.

The amount of water power in some of its more primitive forms in the Chippewa Valley was pretty much limited to the sites noted above. The fall line of the Chippewa Valley is at Chippewa Falls, and considerable in the way of water power was available there and was utilized for the manufacture of pine lumber. This site is now heavily used by Northern States Power to generate hydroelectric power.

For the sake of simplicity, I will start our discussion at the south end of the Chippewa Valley and then work northward and eastward, using a geographic base as an outline for our disussion. Beginning in such a fashion, we must start with Beef Slough and the events and circumstances surrounding it. The Beef Slough was originally one of three mouths of the Chippewa River, it being a slough that branched off southward from the other two mouths of the Chippewa, and it is probably the route that was first followed up into the Chippewa Valley by Father Hennepin in 1680. Early in the history of pine logging it

became apparent that this would be an excellent place in which to hold, store and sort logs, and as such, it became important early in the pine era of the Chippewa Valley. Improvements in the Beef Slough for the holding of logs were apparent to a number of lumbermen who owned pine in the Chippewa Valley, and in this group were Francis Palms, Bacon and Elijah Swift, who were the original owners of the Beef Slough property and the sorting works there. This property and its sorting works began in 1867 with the ownership as described above. Elijah Swift is an interesting character in history all by himself. He was a young man who was a Harvard University graduate, apparently had some family money and came west to try to make his fortune. His first investment was in Beef Slough, and from that investment, and a lifetime of hard work, he did, indeed, get to be a very wealthy and important man.

The Beef Slough operation ran on an economic shoestring right after the Civil War and in 1872, after some economic and physical troubles, it was purchased by the Mississippi Logging Company who had as its main principal, Frederick Weyerhaeuser, who was a sawmill man from Moline, Illinois and who went on to become the most dominant figure in the history of pine logging in the Chippewa Valley. During the years 1867 until its purchase by the Mississippi Logging Company in 1872, there was an era of problems which acquired the label of Beef Slough War. This war had several physical episodes, including one in the fall of 1867 which resulted in the cutting of some booms and which led to the loss of a finger by the then secretary of the Beef Slough River Driving and Sorting Works, and to the arrest of five men who were hauled off to jail at La Crosse. In the spring of 1868 a driving crew started far up the Chippewa Valley, cut a number of booms in the Eau Claire area, creating considerable trouble, but which did not result in any physical violence until their drive arrived at the Beef Slough. At that point in time, the payroll was not met by the company and the disgruntled lumberjacks and riverpigs got into a lively fracas at Alma, which again resulted in some injuries, but was mostly a typical lumberjack fight. Of more importance was the legalistic battle that made up a part of the Beef Slough War. This was a battle that was fought in the legislative halls of Madison, and to a degree in Washington, D.C., and from which ultimately came the definition of a navigable stream: one capable of floating a twelve-foot pine log that had an eight inch top. This, of course, meant that almost any small trickle of water, some of which you could step across, was defined as a navigable stream.

After 1872, Weyerhaeuser installed as the secretary of the Beef Slough operation, Thomas Irvine, a Muscatine, Iowa lumberman, and after that the Beef Slough became a most important sorting works and the works from which all of the down stream Mississippi lumbermen received their logs. In its heyday, the Beef Slough operation had six camps and 1500 men on the payroll. They drove logs from the Eau Claire area downriver, boomed them at the Beef Slough, sorted them and then made them up into the Mississippi River log rafts, which were then sent on down to the southern mills, these mills being present on the river all the way to St. Louis, Missouri. The typical volume at the Beef Slough after it became a big operation was in the nature of 500 million feet per year, and the best single year at the Beef Slough was 1885 when 742 million board feet of pine logs were boomed and rafted.

The typical Mississippi River raft consisted of a number of brails of logs, each brail being 45 feet wide and 200 feet long, held together with a framework of good big boom logs which were chained end-to-end with the typical Beef Slough boom chain, a three-link piece of chain, the whole thing being held together with wire rope. A raft of logs would consist of at least six of these brails, usually being three brails long, and two brails wide. These brails were taken down the Mississippi River by raft boats which were for the most part owned by the lumber companies involved. The Beef Slough site became silted up in part due to wing dams in the middle 1880's; the works were finally abandoned in 1888 because of the silting up process which had gotten to be of formidable magnitude. In 1889 the logs were allowed to drift further south into the main Mississippi to a point five or six miles south of Wabasha, Minnesota, where they were caught, boomed and then rafted at West Newton Slough on the Minnesota side of the river. This slough remained in operation during the years 1889 to 1907.

The volume of logs and lumber rafted out of the Chippewa Valley by the Beef Slough works and then the West Newton works amounted to 25.6 billion feet, which included some four or five billion feet of sawed lumber, which had emanated from mills that were located on the Chippewa River. These numbers, fortunately, were tallied by the United State Corps of Engineers and have become a part of the permanent record.

Further up the river, additional sorting works were present. The next one up the river was the Dells sorting works at the Dells Pond in Eau Claire, and this came into being in 1878 after the building of the Dells Dam, and its prime purpose was to separate logs that went to Half Moon Lake in Eau Claire. (We are presently meeting on an island in this very Half Moon Lake.) Half Moon Lake was used for the storage of logs that were to be manufactured at Eau Claire. Above Eau Claire, there was a sorting works at Paint Creek just above the site of the Chippewa Mill, and its prime purpose was to separate, segregate and store the logs that were manufactured at the big mill at Chippewa Falls.

River driving had its start in the early 1820's when the U.S. Army rafted some pine logs onto the lower Red Cedar River down out of the Chippewa into the Mississippi and then down to a small sawmill that was owned by the U.S. government just north of Prairie du Chien, Wisconsin. This operation was under the command of Colonel Zachary Taylor, the commanding officer at Prairie du Chien, and one of the lieutenants involved was Jefferson Davis, who went on to become the first president of the Confederate States of America, before and during the Civil War. There are stories involving Jefferson Davis getting as far up as Eau Claire to cut pine for the army, but a more careful study of history suggests that the involvement was on the lower Red Cedar. Some of this story is further confused by the fact that another lieutenant in the particular army garrison was a man called Davies, and perhaps the similarity of the two names helps account for some of the confusion of history that has passed down to us through the years. Rafting on the lower Chippewa did become more prominent in the late 1840's and then steadily progressed on through the succeeding years.

The last river drive on the Chippewa to Eau Claire occurred in 1904 and the last drive to Chippewa Falls in 1907. The very last drive in the Chippewa Valley occurred on the

Flambeau River with a drive of pine logs by the Flambeau River Lumber Company to their mill at Ladysmith in 1926.

After the formation of the Chippewa Logging Company in 1881, and this group was literally the same ownership as the Mississippi River Logging Company which had preceded it, river driving became a combined operation under the management of the Chippewa Logging Company and under the personal command of Captain Henry, a Civil War veteran who had started as a driving boss for the Empire Lumber Company in Eau Claire, and who in later years was the total boss of the river and all of the driving activities on it. He was capably assisted by a man named Smith, and another one named England, who were both master drivers on the river, and England got a personal reputation as the best dam builder in the Chippewa Valley. The story is, and I believe it is a correct story, that he had never lost a dam.

The largest single operation was that of Knapp-Stout on the Red Cedar River which functioned from 1846 until 1901. In their heyday, they operated some four or five mills along the Red Cedar and during much of their company's lifetime they had a mill at St. Louis, Missouri, which also manufactured lumber from logs which were cut on the Chippewa and other rivers. They did have cuts up to 100 million board feet per year. The second largest was the Eau Claire Lumber Company based at Eau Claire, which with three mills manufactured up to 70 million board feet per year. Big and durable mills included the Empire Lumber Company at Eau Claire which functioned from 1858 to 1899, and which manufactured from either 3, or sometimes 4, mills, and the Northwestern Lumber Company which had started at Porter's Mills just south of Eau Claire, and then later moved to Stanley, Wisconsin in 1899, where they lasted until about 1920, and in a sense the Stanley sawmill of this company was the last big pine operation in the Valley.

The Daniel Shaw Lumber Company in Eau Claire has to be mentioned because, although it was always of medium size, sawing from 20-30 million a year, it was the longest-lived pine mill in operation in the Chippewa Valley beginning in 1857 and lasting until 1912. The last few years of its operation, it cut heavily of hemlock and hardwood lumber. Lesser mills that probably deserve some mention are the Dells Lumber Company at Eau Claire, the Wheaton Mill located on the west bank between Eau Claire and Chippewa Falls, the French Mill at Chippewa Falls, which was destroyed in the 1884 flood, the Lafayette Mill between Chippewa Falls and Eau Claire, a mill that was always plagued with both economic problems and problems with holding logs because of a poor location on the river. The Valley Lumber Company was a large mill in later years which was owned by the prime owners of the original Eau Galle mill. We must also mention the Flambeau River Lumber Company at Ladysmith, which was one of the last of the mills that started as a pine mill but which finished as a hemlock-hardwood operation. One must also mention the Roddis Mill at Park Falls which is the farthest up the Valley that you could get in a geographic sense, and which was also a mill that started as a pine operation and then ended as a hardwood-hemlock mill.

The Knapp-Stout operation, as noted before, was the largest single operator in the Valley and perhaps one of the most economically stable ones, this being in part due to the

fact that they had a virtual monopoly on the Red Cedar River. They were able to manufacture with a minimum of difficulties both in regard to the driving of their logs and to the fact that they had one of the most stable labor forces in the Valley. They sawed from at least six mills at times, there being three mills at Menomonie, a water mill at Cedar Falls above Menomonie, a steam mill at Chetek, a steam mill at Downsville below Menomonie on the Red Cedar River, and finally, smaller mills at Rice Lake (which were later sold to the Rice Lake Lumber Company) and also a small mill at Prairie Farm. A very excellent history about this operation is available to the interested person at the Empire Pine Museum located in the old I.O.O.F. hall at Downsville, Wisconsin. I commend it to you as a most excellent place to spend at least one-half a day.

The Knapp-Stout operation had very stable management and that accounted in part at least for its success. Knapp was the president, Stout was the business man in charge of the sales, Wilson was the woods superintendent, and Captain Tainter handled the steam boats that they owned, and had a lot to do with the process of getting their product from the Red Cedar Valley down to the ultimate sales area along the Mississippi River. Stout started as a man with a one year college education and a thousand dollars' worth of capital, and he teamed up with the other gentlemen noted to become certainly one of the outstanding lumbermen of the pine era in the Chippewa Valley. Wilson was the woods boss and it is noted that he was a huge man, very knowledgeable in the woods, and seemingly capable of winning arguments with physical force if, indeed, that was the best way to go.

The big mill at Chippewa Falls needs some special mention at this point. The original mill was built at the site by Gene Brunet, who was financed by Dousman, both of them important characters in Wisconsin history. The mill was located at the end of a 75 yard long race, cut through rock alongside the falls at Chippewa Falls, and a spot that was most excellent in its ability to generate water power. This mill was always water powered, except for the last rebuild in which a steam plant was arranged to power the planing mill. The mill remained at the site from 1838 until 1911, when in August of that year they cut the last board. The last rebuild of this mill was in 1887, following its loss in a September 1886 thunderstorm, due to a lightning hit. The mill had five turbines which were used to power the four single cut band saws and two gang saws. This mill was capable of cutting a quarter of a million feet a day, and it did so on a number of occasions. The early history of this mill shows that it was beset with economic difficulties and many changes of ownership, but finally in 1881 this mill, its physical assets and about 500 million feet of pine, mostly located on the Yellow River, were bought by Frederick Weyerhaeuser and some of his associates, and after that time, as the Chippewa Lumber and Boom Company, it became very stable and performed very well in all parameters and in the final sense it made for its some several stockholders a very substantial amount of money. After the 1887 rebuild, it was said to be the largest mill in the United States under one roof.

Any history of the Chippewa Valley has to include some comments about the Cornell land grant of 1867. In 1864, the United States legislature passed a so-called Land Grant Act in which federal lands were given to a number of universities, and that land was then

sold by them with the proceeds of the sale going to help finance and endow those institutions. Ezra Cornell, from Ithaca, New York, the chairman of the land grant committee of what was then becoming Cornell University, picked up land grants in Wisconsin which finally included 499,126 acres, mostly in the Chippewa Valley. This land was then sold over the course of the next 30-some years at a total price of around 13 million dollars, and of that, some 7 million ended up as profit, and this was then the major endowment for Cornell University of Ithaca, New York.

The Chippewa Valley was a part of the original Third Lumber District of pre-Civil War days. Then, in 1864, the four districts of the State of Wisconsin were subdivided again; included in the Chippewa Valley was the Eighth District, which was almost the entire Red Cedar watershed, the Seventh District which for all practical purposes was the Eau Claire River Valley. The principal Chippewa water shed became the Sixth Lumber District, with its office at Chippewa Falls. At the very northern edge of the Chippewa Valley was a very small district, the fifteenth, which includes most of what was, and is, Sawyer County.

The Chippewa Valley was the prime source of lumber for a number of very important Mississippi River manufacturers who, almost without exception, had their mills located lower down on the Mississippi River. This group formed, in 1871, a mutual organization called the Mississippi River Logging Company. It was based at Clinton, Iowa and for many years Frederick Weyerhaeuser functioned as its president. Somewhat the same group formed the Chippewa Logging Company in 1881 to better facilitate the production of lumber on Chippewa Falls and this always was referred to as the Pool. This was first headquartered at Alma, until about 1884, at which time they moved to Chippewa Falls, where they lived out their lifetime there, using the same headquarters as did the Chippewa Lumber and Boom Company, of which Frederick Weyerhaeuser was the dominant owner who had the controlling interest in both companies. After 1881, and to the end days of logging in the Chippewa Valley, the Chippewa Lumber and Boom Company was the dominant company on the scene.

Railroad logging became important after it became apparent that sleigh hauling on iced roads was not economically feasible if the hauls got to be over six miles. This led to the development of the first logging railroad in the Chippewa Valley, a distinction really shared by two separate logging railroads. The Chippewa River and Menomonie Railroad was started in 1883 by the Chippewa Lumber and Boom Company to haul logs to the river from some sites along the west side of the river that were hard to log because of rough terrain, or were located on very small streams that were hard to drive. The second logging railroad was the Fairchild and Northeastern, located in the Southern edge of the Valley, which was basically started in 1883, the same as the Chippewa River and Menomonie, with the prime purpose of hauling logs to the Fairchild mill of the N. C. Foster Lumber Company, or to haul some logs in the reverse direction to the Eau Claire River for driving to mills of the Eau Claire Lumber Company.

At the end of the logging era, a couple of railroads need mention: these include the Roddis Line north and east of Park Falls, and the Lake Shore and Eastern, owned by the John R. Davis Lumber Company of Phillips, in the same general area.

At the end of the pine era, several mills used railroads to supply their needs as they cut other species. The Roddis Line, again, was involved with the Roddis Lumber and Veneer Company at Park Falls and Marshfield, and the Daniel Shaw Lumber Company of Eau Claire railroad-hauled from 1905 to 1912 after driving on the Chippewa River had ended. The Chippewa Lumber and Boom Company hauled the last of its pine from the Lac du Flambeau area, at the very furthermost northeast end of the Chippewa Valley via the Soo Line, and operated from 1907 until 1911 on railroad-hauled pine logs from there.

A word or two about the floods that have occurred on the Chippewa River and their impact on lumbering. A number of them have occurred: very big ones in 1847, which washed out the mill at Chippewa Falls; another in 1885 which led to the loss of their logs; another in 1866, again with lost logs at Chippewa Falls. One of the biggest floods occurred in the fall of 1880, with great damage all along the river and the loss of the Wheaton mill above Eau Claire. The Little Falls dam (now Holcombe) washed out in the 1884 flood, and with the loss of that dam, great havoc ensued all down the Valley. The Frenchtown mill at Chippewa Falls was lost and the Gravel Island mill at Chippewa Falls were literally washed away. Almost all logs on the river were washed away. After the loss of the Little Falls dam, originally built by Viles and Swift about 1878 or 1879, a new dam was put in by "Billy-the-Beaver" England, and after that point there were no further problems with the Little Falls dam. The last flood of interest with regard to logging occurred in 1905, again with unusually heavy rains in the fall of the year. This flood caused the loss of the Knapp-Stout mills at Menomonie, which had shut down several years before but were not dismantled, and this caused, as well, the loss of all the logs from the big mill at Chippewa Falls, which, fortunately, were caught at the somewhat inactive Dells sorting works at Eau Claire and were saved.

The Chippewa Valley became the site of a number of logging innovations during this pine era. Hauling on ice roads, using sprinklers to create these iced roads, began in the late 1870's on the Jump River, involving Mississippi River Logging Company logs. Saws used to cut down the pine first came into use in the 1870's, when saws with rakers were first invented, I think, by the Disston Saw Company of Philadelphia, Pennsylvania. The Daniel Shaw Lumber Company first used these saws in the Chippewa Valley. About 1895 horses were extensively used for skidding, tending to displace oxen which were commonly used for skidding before that time. Horses, of course, were always preferred for hauling because of their faster gait. Double-bitted axes first came into use in the 1890's and have become the standard of the industry ever since.

Steam loaders first appeared in the Valley about 1884 and became the standard of the industry. The first types were the American and the Decker and then more recently evolving into the McGiffert, which was commonly used into the 1920's, including many Pacific coast operations.

Steam skidders were used on at least two occasions in the Chippewa Valley, but they never did become popular in Wisconsin. They were used by the Shell Lake Lumber Company, south of Shell Lake, prior to 1900, and after 1900 one was used by the Northwestern Lumber Company north of Stanley on the Jump River for harvesting hemlock and hardwood. One has to guess that the stands were never quite thick enough

to make steam skidding economically attractive.

Lumber rafting on the Chippewa River was, of course, a method of taking the product to the downriver sites from which it could be railroad-hauled to its ultimate destination. Typically, the lumber rafts on the Chippewa River consisted of cribs which were 16 feet wide and 32 feet long, made at the sawmill site and then floated down the river. The typical lumber raft of the Chippewa River was four cribs wide and seven cribs long. These were floated fown to Read's Landing, which is on the Minnesota side of the Mississippi River just across from the mouth of the Chippewa River, where they were made up into much larger lumber rafts for movement on down the Mississippi River. Typically, it took one to two days to take a raft from Chippewa Falls or Eau Claire to Read's Landing.

Steam boats were used on the river as a part of the process of bringing supplies in, and helping take lumber down, beginning in 1848, the last boat going up to Chippewa in 1868 and the last one to Eau Claire after about the middle 1870's. The need for steam boating on the river greatly passed with the building of the Chippewa Valley Railroad, later to become the Milwaukee Road from Wabasha, Minnesota up to Eau Claire, and finally Chippewa Falls, in 1881.

A number of the mills had company stores located in what were literally company towns. These include the N. C. Foster Lumber Company at Fairchild, the Northwestern Lumber Company at Porter's Mills just below Eau Claire Lumber Company in Eau Claire, now a ghost town site, the Empire Lumber Company in Eau Claire, the Eau Claire Lumber Company in Eau Claire, the Daniel Shaw Lumber Company in Eau Claire and the Knapp-Stout Lumber Company in all of the towns where its mills were located.

A number of the companies had very big company farms to help supply food for the camps and grain for their animals. The biggest of these farm operations were the five large farms of the Knapp-Stout Lumber Company, but the Eau Claire Lumber Company and Daniel Shaw each had very large farms for the same reasons.

Flour milling, an important farm product of the Chippewa Valley until about 1880, was engaged in by the Daniel Shaw Lumber Company and the Eau Claire Lumber Company. The Eau Claire Lumber Company also made sawmill machinery for sale. They also made electricity for Eau Claire's first electric lights.

I have talked about the logging of some 43 billion feet of white pine. My material has come from a great number of sources, but perhaps the most important single source is an unpublished thesis, which is available in a number of state libraries, by Dr. Dale A. Peterson of Eau Claire, which is titled "Pine Lumbering on the Chippewa River, Eau Clair Area, 1845 to 1885". I commend it to you as the single most important source of information about the era which I have just described.

Logging the Lac Courte Oreilles Reservation

by Eldon Marple
Hayward, Wisconsin

The development of a community like the Hayward Lakes Region has usually been marked by epochs in its history, periods when one type of activity was more important, more economically or culturally pervasive or of a nature which appealed to the romantic interest of later generations. Perhaps the era when the vast forests of white pine which once blanketed most of our land was logged off would be our most interesting and romantic period.

Many books have been written about the logging days; of the life in the camps, of the terms in use describing the tools and the daily work of the lumberjacks, or of the excesses of their pleasures when they finally got to go to town after a monastic winter in the woods. Perhaps it would be of interest to study another facet of the time of the logging days, the logistic details of the harvest to get a better idea of the magnitude of the job of getting the millions of logs out to the mills.

The big lumber companies who received this timber obviously kept good records of their purchases and much of this information is available in our libraries. However, except for jobs where they did their own logging, the specific data of the amount of timber harvested on certain descriptions which could be used for a study of comparitive yields, if kept at all, would have been in the books of the smaller jobbers who delivered their logs to the big buyers on the banks of the rivers and lakes where it was scaled, without regard to its exact source.

Fortunately there is a contemporary record available showing the land descriptions and the yield from each. This is a result of the government's propensity for red tape and the data was compiled when the timber was cut from the allotments on the Lac Courte Oreilles Indian Reservation.

When the treaty between the Government of the United States and the Chippewa Tribe of Indians was signed in 1854, it contained provisions for the allotment of eighty acres of land to each adult Indian who was accepted as a member of the tribe, the land to be on the reservation of his residence. Each adult could select two adjacent forties and on this property he had the same privileges as any other owner of fee land; he could build a home on it, clear it or sell its products. However, since he was a ward of the government, contracts he made with non-reservation businessmen had to be reviewed by government personnel to insure that he was not being bilked. Therefore, although the Indian could make a contract with whom he chose to sell his timber, it had to be co-signed by a government employee to make it legal.

To facilitate this supervision by the government, only licensed Indian traders were allowed to contract with the allottees and they had to make regular reports to keep their licenses. The Indian got all of the proceeds of the sale which he could then use as he like with little further supervision. These contracts and reports were filed away in the office of the Indian Service and are probably still in some warehouse in Washington. For this study I found records in great detail of all the timber cut on the reservation in the season

of 1887-88, conveniently laid out in a 1302-page published report of the United States Senate. It was compiled in a Watergate-like hearing of the "Select Committee on Indian Traders" during the year of 1888 in an investigation of the policies of the Indian Service in regard to their protection – or lack of it – of the property of the Indians.

The licensed Indian Traders were loggers who chose to operate on the reservations under the conditions imposed by the government. The restrictions on them were not severe, the principal ones being that they had to pay a going price for the stumpage on the allotments and that they should hire Indian labor when it was available. From the testimony presented to the Committee, it was apparent that the licensees were living up to these tenets. Each trader also kept a store for the convenience of his Indian employees and he had to make a monthly report of the prices charged for his goods. The reservation, being a closed area with some controls on its residents, would seem to be an ideal subject for a study of timber yields of our original forests. However, other than for the season of 1887-1888, complete records of source and yield were not available but we can make use of what we have.

The first contract for the sale of timber on the reservation would appear to be one made between William A. Rust of Eau Claire and the Lac Courte Oreilles band, Ah-ke-wain-ze being the chief signatory. According to Louis V. Corbine in testimony in 1888, the said Rust "proposed that he would give them (the Indians) $50,000.00 for the pine timber on their reservation." It would appear that Rust and his sub-contractors cut and removed about fifty million board feet from the shores of Lac Courte Oreilles and the Couderay River for which the band received only $1,000.00, a distributed share of seventy five cents each (this was in the days before allotment in severalty).

Dobie, Stratton and Thayer were the first licensed company buying timber on the reservation, opening an office at Thad Thayer's trading post in 1882 and banking 3,000,000 board feet the first year. Thayer left the company in 1883 and Dobie and Stratton moved their headquarters to the west side of Little Round Lake. From this base-camp, store and farm they harvested 14,000,000 feet in 1883-84, 19,000,000 in 1884-85, 29,000,000 in 1885-86, and 53,000,000 in 1886-87 for a total of 118,000,000 board feet of prime timber, worth on the bank, according to prices furnished by Weyerhaeuser, about $817,646.

The Valley Lumber Company also started buying timber on the reservation in 1882 and they and other traders probably moved out about twenty-three million feet by the 1887-88 season. Records show that besides D & S, other traders cut 36,670,880 feet during this time. Thus, through the season of 1886-87, a total of 228 million board feet of virgin pine worth $1,596,000 had been removed from the 69,120 acres of the reservation. This would appear to be a large sum of money, even in these days when the above values would have to be multiplied many times to get a comparative value.

Analysis of the Cost and Yield of the Pine Harvest on the LCO Reservation in the Season of 1887-88

Contracting Trader	Total Bank Board Feet	Cost Per M	Trader Paid Out	Cost of Banking	Owner's Net Gain	Paid Stpg	Cut Acres	Yield Av @ A
Dobie & Stratton	52,423,650	$6.46	$338,455	$206,174	$132,280	$2.52	10,720	4,890
Valley Lumber Company	12,252,190	6.03	73,850	40,650	33,200	2.72	6,400	1,914
England, Thomas & Clark	20,683,310	5.78	119,479	74,615	44,864	2.17	5,600	3,693
D. F. Carroll	1,706,250	6.00	10,244	5,494	4,752	2.65	880	2,041
Charles Bergeron	1,191,940	6.00	7,151	3,576	3,576	3.00	240	4,966
Totals and Averages	88,347,340	6.05	549,180	330,509	218,672	2.61	23,840	3,501

An analysis of the table which delineates the sums and averages of the harvest of timber in 1887-88 will show the usual hard facts of business and contracting. The standing timber was purchased from the Indian allottee who received on an average $6.05 per thousand board feet on the bank. He had to pay the logger (usually the buyer although he could do this job himself) the costs of cutting it down, making the roads and hauling it to the bank; he then received an average of $2.61 per thousand stumpage. He also had to pay half of the scaling cost, from six to ten cents per thousand, the other half being paid by the jobber. The scalers were hired by the government to insure fairness to both parties.

The logging contractor received about $7.50 from the Chippewa Logging Company, more familiarly known as "the pool," Weyerhaeuser's log buying agency, or some competitive buyer. The jobber had to make his profits from the difference between the banking cost and what he got from the buyers, unless he had a built-in markup in his book-keeping or depended for profits from his store. The cost of driving the logs to Eau Claire was about 75 cents per thousand and the mill manufactured them in marketable lumber for $3.75, putting the product out to the eventual consumer at $12.00 per thousand feet.

The yield-per-acre column shows a wide disparity in the stand of timber harvested by the various companies. D & S cut mostly on the sandy flats on the north end of the reservation near their headquarters at Round Lake, a natural white pine area. Valley, whose store was at Reserve, cut mostly along the Couderay River, and I would conclude from their yield per acre that much of it was "second choppings," perhaps on land that had been cut over by Rust in 1872. Thomas had contracts south of Reserve, around Devil's Lake and on many scattered eighties and their stand was fair.

Excerpt from Dobie & Stratton's Records Showing the Sums of Each Contract with an Allottee

Name	Description	# of feet	Per M	Total	Cost of Banking	Net gain
Bosh-king	W ½ NW ¼ Sec. 4, T. 40, R. 8	1,765,810	5.75	10,153.40	6,180.33	3,973.67
Bazil Dennis	S ½ NW ¼ Sec. 84	28,290	5.82	164.61	113.16	51.45
Ellen Porter	E ½ SE ¼ Sec. 13	713,150	7.00	4,992.05	285.60	2,139.45
Sa-ga-a-ga-ne-kwe	E ½ SW ¼ Sec. 4	249,680	5.75	1,435.66	749.04	686.62
Mary Op-ti-gi-ji-go-kwe	W ½ NE ¼ Sec. 28	1,462,120	6.50	9,503.78	5,473.50	4,030.28
Eliza Lumbar	S ½ SE ¼ Sec. 23	103,830	6.50	674.80	363.40	311.49
Aga-sa	W ½ NE ¼ Sec. 12	570,220	6.00	3,421.32	2,708.54	712.78
Ka-ka-ga	Lot 3, Sec. 1	75,680	6.25	473.00	378.40	94.80

The best stand of timber harvested this year was on the 56-acre allotment of Boshking (John Barber) east of the road where Hwy. 'K' enters the reservation, which yielded 31,536 board feet per acre, bringing him a net of $3,973. This was part of a solid stand of white pine which covered the Round Lake flats, probably the largest and best in the Hayward area. In the twenties the Extension Division of the University staged stump-pulling demonstrations on the land now owned by the 5-RK ranch – the stumps were so close together that little moving of the machine was necessary. Another allotment near Devil's Lake brought its owner $7,566 net but it was of eighty acres. Many of the allotments had suffered from serious fires in the past and had little timber thus lowering the average per acre yield for the reservation drastically. There are several hardwood-hemlock ridges of large area and these supported very little white pine, further lowering this figure.

After the big push to clear the reservation of white pine in the two years before the Senate investigation in 1888 when 164 million feet of timber was cut, it was estimated that there was from fifty to one hundred million feet of pine left standing and one source predicted that it would be "wiped out" by 1890. In June of 1888, Dobie & Stratton, who had been harvesting most of the timber until this time, sold out to Valley Lumber Co. and moved their headquarters to Douglas County.

In January of 1893, Valley was to bank 40 million but they closed their store in Reserve in July. In September it was reported that there was 35 to 50 million feet of timber left. Obviously some pine scavenging must have continued, but in July, 1900 the newspaper reported that "the pine is mostly gone"! Some scattered virgin pine was missed because when I worked in the camps on the reservation in 1920 on Pipestone Hill, there were a few old pine trees mixed in with the hardwood.

Perhaps the exact total yield of pine timber on the reservation is recoverable. We can safely estimate that with the 228 million feet harvested before 1887-88, the 88 million feet harvested from the allotments during that year and a loose estimate of 100 million since that date, we have a grand total of better than 400 million board feet of prime pine timber harvested from about forty thousand acres of land on the reservation on which pine was the principal forest. The value of the hoard would have been about $3,000,000 on the bank, the stumpage paying the Indian owners about one million dollars!

The pine timber taken off the western half of the reservation in the eighties was moved to the downriver mills by way of Grindstone Lake, Lac Courte Oreilles and the Couderay River. That on the eastern part went out on the Chief River to the Chippewa West Fork. When the market for hardwood became active about 1902, railroads were the key to moving the crop. The Soo Line put a branch up to Reserve, tapping the stands near there. The timber on the ridges in the southern part of the reservation was mostly hardwood. When the Omaha built a road along the south boundary, Couderay Village became the outlet for most of it with Eddy Creek as a sister "Indiantown".

The early explorers left no record of Couderay area. David D. Owen, the geologist, in his survey of the Chippewa River system in 1848, went up the Couderay River on his way to Lake Superior. His comment on this portion of the river was: "A succession of rapids, with very little still water, continue (above the falls at Radisson) for 14 to 16 miles.

Whenever the water is swift, the bottom of the stream is covered with boulders, and huge blocks of crystalline or trappean rocks project out of the water, either in place or not far removed from the parent mass."

It is odd that there is no record of roads or habitation along the Couderay river before the village was established. The fact that Belille was logging here before 1852 would indicate that there was plenty of activity in this fifty-year period. During the seventies the speculators in timberland had gained control of most of the forested land from the government. Soon the cutting, which had gone on before the purchase as trespass, increased as southern pineries were cut out. New territory had to be found where the pine was easy to get to. By 1880 there were loggers along the lakes and streams who skidded their timber to the water and drove it down to the mills. The Hayward newspaper in April of 1884, mentioned that *"the log drive on Lac Court Oreilles was successful."* All of the timber around the lakes at the head of the Courderay River – Sand, Grindstone, Whitefish and Courte Oreilles – had to be driven down its length. This included the 150 million feet reported still standing on the Reservation in 1888, much of it tributary to these lakes.

The first known business in Couderay was a sawmill which had been hauled in from Bruce by wagon and erected in 1902 by Eli Felton and P.M. Parker before the railroad was in operation. It was bought by the Chippewa Hardwood and Hemlock Company (the Heffelfinger interests) by 1904. In 1905 this company built a new mill on the lower pond and in 1907 the big boarding house was erected nearby. They also built 18 row-houses to accommodate 28 families, the street in front of them running from the boarding house to the village. This company ceased operations in 1908 through bankruptcy.

There were many works along the river used for the control of the water when driving logs. The wings of the Swift dam just above the bridge on C.T.H. "C" are still favorite vantage points for fishermen and it is a fine picnic spot. Billy Boy dam above Hwy. 70 was rebuilt by the WPA in the thirties. Each lake of the chain had a water-control dam and log chute at its outlet. There were two dams on Devil's Creek claimed to have been built by Joseph Trepania, founder of Springbrook, about 1881. Malcolm Dobie, for many years a big logger on the Reservation, had a law passed in 1887 to give him control of the water on Devil's Creek for driving. He built (or rebuilt) a dam in the northwest quarter of Section 3 at this time. Eddy Creek, which enters the river just east of Couderay, had two dams at its lower end but the ponds formed were "wash ponds" into which the logs were dumped before sawing to remove the gravel adhering to the bark before the logs reached the saw.

Couderay came near to losing its ascendency as a town when Adolph O. Nustad came from Westby and built a sawmill on Eddy Creek, about one and one-half miles northeast of town, to manufacture lumber from the timber being cut on the Reservation. The village which grew up there became known as Eddy Creek and had a boarding house, a store and several homes. After this mill failed in 1909, the boarding house, with the Nustad family living in it, was moved to Couderay by windlass and horse-powered capstan a few hundred feet each day – the washing hung on branches in the morning being left far behind by the time it was dry.

In August of 1903, J. C. Signor and J. S. Crisler formed the Signor-Crisler Company and announced that they had a contract to cut 100 million feet of logs on the Reservation. They built camps at Billy Boy dam and on Eddy Creek and by October were employing 100 men. Apparently their output near Couderay was put through the Nustad mill but they built their own mill on the east side of the river above Billy Boy dam and sawed there for several years, ceasing all operations in 1909. The company kept a commissary near their mill and a village called Signor grew up around it. A postoffice was listed here from 1906 through 1913.

The new era of prosperity came to Couderay with the advent of Martin H. Bekkedahl, a tobacco processor from Westby, who purchased the Nusted and Heffelfinger properties in 1910 and reorganized the sawmill business. In 1917 the old Eddy Creek mill burned and the next year he built a new mill at a cost of $80,000 on the pond east of town, just north of the present historical marker, which was in operation until 1932.

The principal source of timber for the Bekkedahl mills was again from the Reservation. He bought logs from jobbers and operated his own camps when the supply was inadequate. In 1920 (possibly before) he purchased steam haulers to move his logs to the mill cheaper and faster. These mechanical monsters, forerunner to the present crawler tractor, could haul a train of up to ten sleighs loaded with logs, replacing forty horses and the teamsters needed to drive them. Roads for their use had to be built with a fairly flat gradient and cutting and leveling of one of these roads was my first job in Bekkedahl Camp #2, located about two miles southeast of Blueberry Lake, when I went to work there in October, 1920 at the age of fifteen.

The companies who contracted for timber on the Reservation employed a large percentage of Indians, perhaps as a stipulation in their contract. These men were excellent woodsmen, often holding the skilled jobs. As I remember Camp Two, the most common languages heard were Chippewa and Polish! The Eddy Creek settlement was on the reservation line and most of its residents were Indian families. Single men lived in shacks or the boarding house and commuted by way of the old Indian trail to Reserve on weekends.

Log Rafting on Lake Superior

by Howard Peddle
Iron River, Wisconsin

The towing of log rafts on the western end of Lake Superior appears to have commenced in the year 1868. At that time, the first steam tug, the Agate, arrived at the Head of the Lakes and that same year brought a raft from the mouth of the Bad River to a sawmill in the Duluth-Superior harbor, a tow of some 90 miles. The size of the raft was not given in that early newspaper account.

However, by the turn of the century, large and powerful tugs were commonly handling rafts along the south shore, containing as much as 3 and 4 million board feet of logs. In 1897, the tug *Keystone* arrived at Bayfield with a raft of between 6 and 7 million feet, the largest seen in that area up to that time. That volume of logs kept the average mill of the period sawing for a month or more.

Many of the sawmill-operating lumber companies had one or more tugs of their own, while others depended on independent towing companies for the delivery of their log rafts.

Only softwoods having sufficient buoyancy, such as pine, cedar and hemlock, could be successfully rafted, while the hardwoods were loaded aboard scows and barges when transported by water. Most of this hardwood, logged in later years, came from the Apostle Islands to mills around Chequamegon Bay.

One company tried shipping logs from Canada across Lake Superior to the U.S. aboard a huge steam barge and a converted car ferry, but soon discovered it was costing them almost twice as much per thousand board feet to transport them that way as by rafts, so the practice was abandoned.

Lake rafting was usually begun as soon as the ice left the lake shores and the spring storms were over – about May 15th – and continued until mid-September when bad fall weather was expected.

Rafts were occasionally lost by breaking up on the open lake, but more commonly the rafts would break when being driven onto rocks, such as during a bad "northeaster" along the north shore. All water transported logs were marked by end stamps so that they could be legally appropriated by the owners, although such salvage operations were expensive and time-consuming, the logs often being scattered for miles upon reaching shore following the break up of a raft.

Aside from break ups, there were other hazards attendant to towing log rafts across the lake. Since the speed was generally only a mile or so an hour, and that in calm weather, a good part of the trip across the lake or along shore had to be made in the hours of darkness and sometimes dense fog. And since the shipping lanes had to be crossed, there was real danger of a lake freighter or other large vessel ramming the raft, resulting in a break up or even sinking of the vessel itself.

To guard against such a collision, several precautionary measures were prescribed by the Maritime Commission. In addition to the usual running lights rigged on the tug itself, four others were carried on the raft in times of reduced visibility, one at the front end, one at the rear and one at the mid-point of each side. These raft lights had to be mounted at a height of eight feet above the water line and were commonly provided by coal oil lanterns rigged from the tops of steel rods which had been driven into the tops of certain of the boom sticks.

In addition to these warning lights, a distinctive whistle signal was sounded at frequent intervals denoting a tug with log raft in tow. This signal was made by a "Modoc" type steam whistle which produced an undulating pitch or tone and was the source of much annoyance to those of the crew attempting sleep.

At a speed, or rather, progress, of only a mile an hour in good weather, a lake crossing would normally require several days, the tug and raft being out of sight of land much of the time. At such times an engine break down or severe injury or illness to a member of the tug crew could be a real crisis. Up until 1900 no means of ship to shore communication had been devised. The SOS distress signals sent out by wireless by the stricken Titanic in 1912 were almost the first ever sent.

But in the fall of 1898, a Booth Fisheries boat, the *Dixon,* was erroneously reported sunk with all hands in a bad lake storm. When it later turned up safe,the Booth company inaugurated the custom of using homing or carrier pigeons to provide ship to shore communication between their boats and their offices at Duluth, Bayfield and Sault Ste. Marie. The pigeons proved a complete success and were shortly after adopted by some of the larger lumber companies such as Merrill & Ring, Red Cliff, and the John Schroeder lumber companies. Pigeons were also kept at some of the lake shore rafting grounds so as to be used to alert the home office when a raft would be ready for pick up by a tug. The pigeon borne message would reach the home loft in a very few minutes. Previously it had been necessary to dispatch a man on foot a distance of 15 or 20 miles to the nearest telegraph office to send the same message.

Head winds were a very great hindrance and could hold a raft stationary, or even carry it backwards, for days at a time. One old time fireman on the tug *Schroeder* recalled being hit by a sudden and severe snowstorm in October while towing a raft from one of the Apostle Islands to a sawmill at Ashland only 20 or 30 miles distant. The searchlight proved useless and by the time the storm had abated and visibility was restored at daylight, the tug crew found itself 70 miles up the south shore and within six miles of the Superior entry!

The rafts themselves consisted of a mass of free floating logs enclosed by a 'necklace' of three-foot diameter white pine 'boom sticks'. These last were linked together end to end by heavy chains run through three or four inch holes bored crossways through the boom sticks a short way from each end. From two to four hundred of these 22 foot long boom sticks would be required for a fair sized raft. The tow line, at least in the later years, was a 2½ or 3 inch diameter wire rope covered with a burlap-type material. In towing, a distance of 600 or so feet had to be kept between the tug and the raft, so that the strong backward current created by the tug's huge propellor would be dissipated before reaching the raft and the tug would not be working against itself.

The make-up of the tug crews probably varied as to number but the crew of the Schroeder tug *Saugatuck* berthed at Ashland in 1920 consisted of eight men as follows: the Captain, mate, engineer, fireman, cook, boom-master and two deck hands. An auxilliary gasoline launch was also used in moving the booms along the shore and other light work.

Lake rafting of sawlogs continued as long as the large sawmills along the south shore kept operating – along about the mid-1920's. Thus ended one of the more vital components of the lumbering business in northern Wisconsin.

Father Went to the Woods

by Diane McMillion Schmidt
Eau Claire, Wisconsin

My father was the oldest of eight children born to a German immigrant family.

My Grandfather, August Nischik, was a music master, and though not much appreciated in northern Wisconsin's rough territory, he was always protected by his wife, Marie.

Grandpa's children stood in awe of him and understood that "Pa" could not do hard manual labor because a violinist had to protect his hands.

Grandma was the practical one! She always kept a cow or two, some chickens, and a big garden. Her fingers were never idle. A set of needles with a sock or a mitten on them were always nearby. A minute's sitting meant a minute's worth of knitting to that industrious little lady.

Times were hard for an immigrant's family during the early 1900's in Gillett, Wisconsin. Grandpa gave music lessons and directed the church choir, but that didn't bring much income. Grandma tended her chickens and cows and sometimes sold a little cheese or butter, but as she said,"Ends never could be pulled on hard enough to meet." It became a simple and practical matter that my Father, the oldest, went to the woods at the age of fourteen to help out the family.

When I grew up there was still plenty of logging around Wabeno, Laona, Crandon and northward. There were still winter camps in operation in the early 1940's. I know, because I remember going with Father to visit Uncle Joe Pleshak, camp cook, in Newald, Wisconsin when I was a little girl.

My dad was short, stocky and energetic. He never wasted many words – sometimes a whole hour's conversation would consist of babble from me and a few well-placed "yups" and "noops" from him. He loved music and could create a tune on almost any instrument he picked up. He also loved a good joke and would sometimes wait for the humor to emerge from some of the indiscernible actions he took...All of his life, he was driven by an inner need to get ahead and make things secure and stable.

Perhaps that's why, even though he was young and little more than an errand boy during the first few years, he went "a-logging"; he was soon sought after by the crews preparing to go north of Gillett and logging for the winter. Logging camps run by Ed Kusvabob, Cal John, John Magee and John Larson were among the camps that my Dad may have worked in, according to my Aunt.

On mother's side of the family there were loggers, too. Grandfather, Walter Welch, was a partner and foreman in some of the same camps. During the winter, even Grandmother Bernice went up with the men to cook. My uncles on that side of the family logged too and were the same age as my dad. I suspect that those winter friendships led to my parents meeting, subsequent marriage, and to my own eventual appearance in this world.

As a child, I heard about logging over and over again during "stove logging" sessions in our big, warm kitchen. I came to the conclusion that the men must have loved that hard and dangerous work or they would not have been so prone to pay such enthusiastic testimony to it, so often.

Wonderful tales about horses, skidding, train loading, tree topping and fast sawing were told around the stoves. There were also many tales about tricks and games that they played.

I particularly remember being told about Jim Popelka who was supposed to have wrestled a bear and won! Not once, but **three** times! This sturdy lumber jack eventually became our neighbor and indeed, his feats of strength **were** awesome. After observing his power and hearing many testimonials from some of his fellow "jacks", I, too believed that story.

I also clearly remember that during the time when Jim Popelka was our neighbor, he had a wondrous old car with no doors on it. Mother couldn't drive and when she **really** needed something and my father was away, Jim would take us "on errands". I shall never forget careening across narrow, sand and gravel lake roads in the car with no doors! Any man who has wrestled a bear and won is not apt to be a timid driver. Well, let me tell you, Jim was as brave behind the wheel as he was in the ring with the bear! Even though I was usually tucked safely in the middle, (so my mother would fall out first), I can still see my mother's small whitened finger tips clutching the dash board and hear her lips muttering incoherent prayers as the dust and gravel flew past our ears. Needless to say, these trips did not occur frequently. My mother's recovery often took three to four months or longer.

My father loved "the woods" – in **any** form: he hunted it, he fished it, he cut it, he built with it, he even split it to burn for winter warmth.

He used the woods in a way I wish people would today. He first made a commitment to it by building his home there. And then, one by one, he dealt with the problems that arose because of that decision.

He harvested trees for lumber and fuel, but he also planted trees for the future. He took game for sport and for food, but he also helped care for the deer herds in winter and planted fish in spring. He tuned his life to the demands of nature and then sought harmony within that frame work.

My loyal mother never was really asked how she felt about all this, but I don't ever remember hearing her complain. She cooked the partridge, venison and trout. She cheerfully stoked the cookstove with us, smiling when the yarns were spun.

My father went to the woods and fell in love with them. He took us there with him and I'm awfully glad he did. If he hadn't, I couldn't be telling you today, almost thirty years after I've left it, how great it really was. And I couldn't travel in my mind's eye to those special green, fragrant places of peace and remembered smiles when stress, worry and the pace of today's living become too much for me.

I grew up in the woods and all my life I will be thankful for that. I will be thankful that I was able to experience the wonderful inconveniences that many people my age have only heard about; such as woodcutting, woodburning cook stoves and heaters, kerosene lamps, water pumping and "outdoor plumbing", ice cutting, ice houses and ice boxes, river swimming and skating, homemade sledding, snowshoeing and gathering bittersweet.

I never knew that I had had a disadvantaged childhood until I went to college and in that wise and knowledgeable place they told me so.

Lakewood, Wisconsin is **my** Camelot, because my father, Emil "Buck" Nischik, just **had** to go to the woods.

The Chippewa Valley Now

by Richard L. Pifer
Eau Claire, Wisconsin

Today we have heard about logging, about rafting on Lake Superior and about pine forests, but it has all been in the past tense. I would like to use this brief time to bring us up to the present, and to look selectively at "The Chippewa Valley Now." To begin, I would like to mention two examples from the past as a means of placing the present in perspective, and as a means of illustrating some of the broader foundations of the Valley's settlement.

Lucy Hastings was a pioneer woman who settled in Eau Claire in 1857. She and her husband moved to the area in search of a bright future, and they found it. She wrote from Oxford, Wisconsin in January 1857:

> *Smead has now traded away our farm, and done well. He has bought 102 acres of first rate land, about 160 miles north west of here. We may never go there to live, and yet may go this spring, have not yet decided. We find it a very good way for poor folks out here, to go onto Government land make improvements then sell, and after awhile get to farming in good shape. There is a great call for land where he has bought, and if he has a chance that suits he will let it go and we perhaps get to Kansas yet. His land is in the valley of the Chippewa river, about 90 miles from the Mississippi river. Timber there is plenty and cheap. Here it is very high and scarce. Still we like here and if he had a team and farming tools sufficient to make a business of farming without working out, he probably would not have sold.*[1]

Two months later they were in Eau Claire, and she wrote:

> *We arrived at this place about two weeks since, but have been so busy have not found time to write until now. Mr. Hasting's land is about 4½ miles from here. He intends to work at Carpentering this summer. Wages are good, can get from 2 and ¼ to 3.00 dollars a day. Our prospects were never so good as at the present time. This village is new, nearly all the houses that are here were built last year. It is expected there will be 200 houses built this year. It is situated on the Chippewa river about 50 miles from its mouth, and at the mouth of the Eau Claire. It is the head of Steamboat navigation except in high water, then they go 12 miles farther at the Chippewa falls. There is every prospect of a large place. The land is excellent, and farming is the best business one can have, and will be good a man's lifetime or more, on account of the extensive Pineries on the Chippewa and its tributaries. Wheat is 2.00 dollars a bushel, Corn 1.25, Oats 1.00, Potatoes 1.25, butter 30 cts a lb, Pork 16, Cheese 20; thus you see it costs something to live.*[2]

This pioneer family came to the Chippewa Valley seeking a future built upon the fact that even lumbermen must eat. They needed farmers to provide this food.

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[1]Lucy Hastings to Brother and Sister, January 25, 1857, Lucy Hastings Collection, University of Wisconsin - Eau Claire Area Research Center. Lucy Hastings wrote with out the use of periods and with sporadic capitalization. To make the quotes readable, periods and capital letters have been added where necessary. Otherwise, the quotes are as she wrote them.

[2]Lucy Hastings to Brother and Sister, March 22, 1857, *Ibid.*

Sixty years later another generation was encouraged to come to the Valley, but they fared less well. When the pines were gone and lumbering was but a shadow of its former self, the lumber companies and real estate dealers urged urban dwellers and immigrants to come to the "cut over" region to settle, and to find a dream in farming.

One such organization was the Wisconsin Colonization Company which built the model community of Ojibwa in Sawyer County, and urged settlers with promises of rich farmland, profitable crops, and the imagery of rural health. The project did not survive the depression, and perusal of a land use map will demonstrate quickly that the principal use of the land today is not agriculture but forest.[1]

Today there is a new type of "empire" built on trees in northern Wisconsin, tourism. Each year millions of people visit the Chippewa Valley in search of camping and recreation in the region's many lakes and rivers, and in its forests. For example, between 1968 and 1977 approximately a million people a year visited the American Legion/ Northern Highland State Forest. The number reached a high of 1,417,802 in 1972 and a low for the period of 812,140 in 1977. By contrast the Flambeau River State Forest showed a remarkable increase from 20,472 in 1968 to 97,859 in 1976.[2] In addition, untold numbers of people visited Chequamegon National Forest and canoed the many lakes and rivers of the Valley. Other people come to this region to hunt pheasant, quail, muskrat and deer, and to fish for muskies, pike, bass, and trout. When viewing all of these activities together, one finds one of the modern staples of the Chippewa Valley economy.

While emphasizing the importance of tourism one should not ignore the continuing importance of wood and wood products for the economy of the region. Trees are still felled, and sawmills still cut logs into lumber. In addition, the forests of the Valley provide the raw materials for millwork, veneer, plywood, wood containers and furniture. Likewise, the Valley's forests supply the pulp necessary for paper production. Today the Chippewa Valley has paper mills at Eau Claire, Ladysmith, and Park Falls.[3] Unlike the lumber barons of the past, who recklessly stripped the forests with little or no concern for replenishing the resource, the modern paper and lumber industries depend on forest management for the maintenance of their raw materials. This reflects not only a change in corporate attitude, but a change in public attitude as well. The values of the nineteenth century which accepted the stripping of the forests as a price of progress and a necessity for creating farmland have given way to public concern for preservation of the forests as a resource and as a wilderness area.[4]

The soil and climate of Northern Wisconsin which was so beneficial to forest growth, however, has not provided equal benefits to agriculture. Whereas approximately the northern 3/5 of Wisconsin were once forested, and the Chippewa Valley was estimated

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[1]Wisconsin Colonization Company Collection, University of Wisconsin - Eau Claire Area Research Center.

[2]Wisconsin Department of Administration, *Wisconsin Statistical Abstract,* September 1979, Table D-2, p. D-2.

[3]Charles W. Collins, *An Atlas of Wisconsin.* Madison, Wisconsin: American Printing and Publishing, Inc., 1972, pp. 126-28.

[4]Robert C. Nesbit, *Wisconsin, A History.* Madison: University of Wisconsin Press, 1973, pp. 309-10.

as having 1/6 of the pine west of the Adirondacks; much of this region was stripped of its white pine timber by the turn of the century. One indication of this is the fact that in the 1860's the Daniel Shaw Lumber Company contracted only for white pine with a minimum diameter of 18" at the small end of the log. This standard gradually shrank so that by the 1890's the company was using the rule of thumb of eight logs to furnish 1,000 board feet and only a small portion of these were white pine. Despite the heavy logging, sixty years later not more than 1/16 of Northern Wisconsin's pinery was being utilized as agricultural land, the claims of the Wisconsin Colonization Company notwithstanding.[1] The once great pine forests of the Chippewa Valley have been replaced by forests of aspen, northern hardwoods, spruce and tamarack.[2]

Nonetheless, one should not forget Lucy Hastings' assessment that "the land here is excellent, and farming is the best business one can have." Portions of Dunn, Rusk, Chippewa, Clark and Eau Claire counties are productive farmland with less than 15% of their land area in trees. The rest of the Southern part of the Valley consists primarily of agricultural land with less than 50% of the area in trees. Because of the soil and the climate, these areas often are best for forage crops, and they support a healthy dairy industry. This is particulary true in Barron, Chippewa, Dunn, and Clark counties.[3]

The lumber barrons are gone now although some companies, such as Weyerhaeuser, live on. Their legacy lives on in the importance of wood-related products for the Valley's economy. Likewise, Lucy Hastings was not far off when she predicted the future of agriculture for the area around Eau Claire. Perhaps the one change which separates the pine era from "The Chippewa Valley Now" is the development of tourism, mass sympathy for conservation, and the use of the forests of the Chippewa Valley for recreation and relaxation.

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[1]Robert C. Nesbit, *Wisconsin, A History.* Madison: University of Wisconsin Press, 1973, pp. 296-7, 309-10.

[2]Collins, *Atlas of Wisconsin,* p. 69.

[3]*Ibid,* pp. 32-33, 64, 69, 82.

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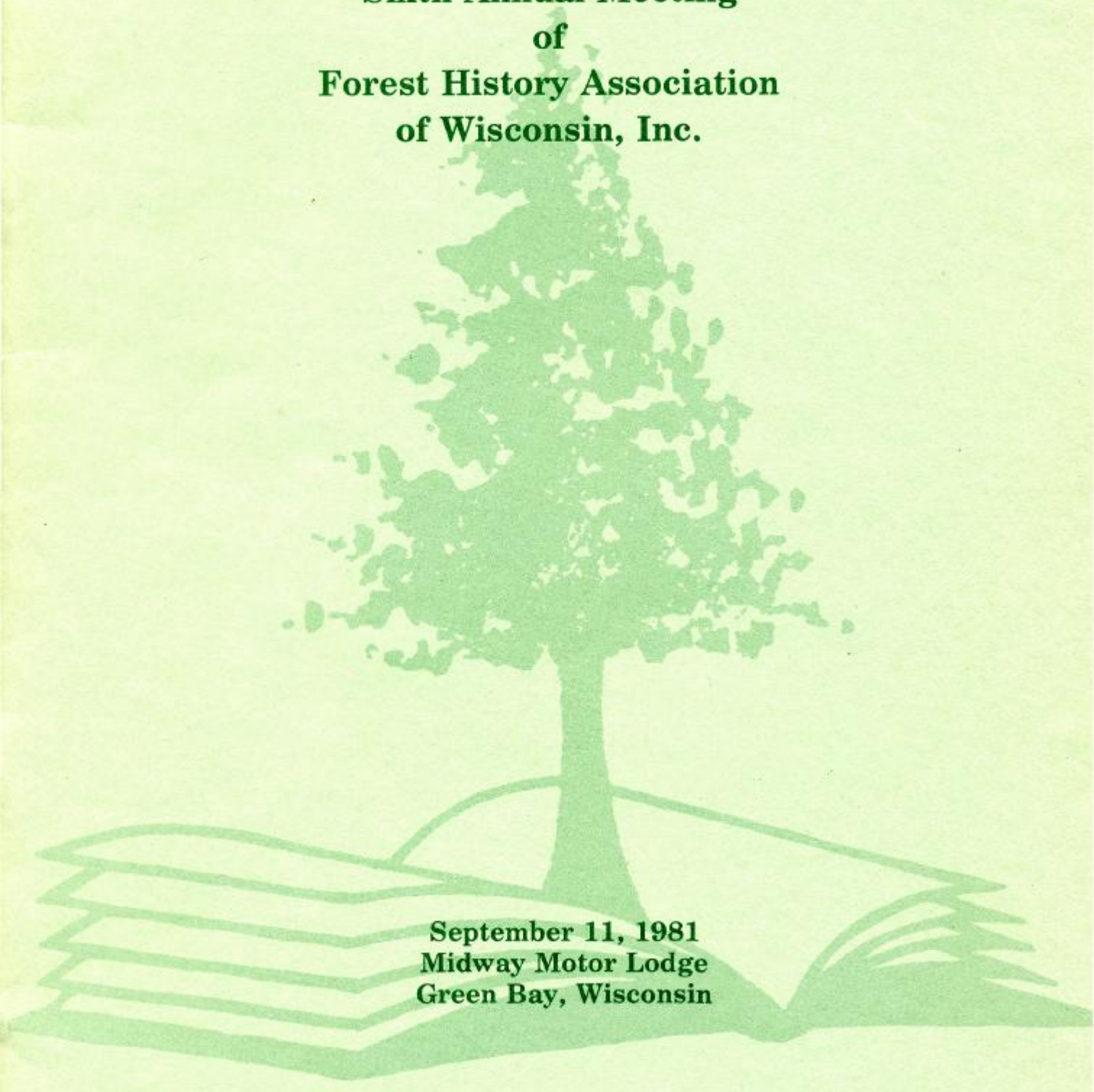
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Proceedings
of
Sixth Annual Meeting
of
Forest History Association
of Wisconsin, Inc.



September 11, 1981
Midway Motor Lodge
Green Bay, Wisconsin

The Forest History Association of Wisconsin

The Forest History Association of Wisconsin had its beginnings early in 1975 when a group of representatives from the wood products industries, conservation agencies and the University of Wisconsin met to discuss a potential cicentennial project which would remind our citizens of the importance of forests in Wisconsin's past, present and future.

Their discussions led to the organizing of the Forest History Association of Wisconsin, Inc., as a non-profit, tax exempt endeavor whose principal objective would be to preserve Wisconsin's forest heritage. Membership currently numbers about 270 individuals, corporations and institutions.

A seven-member Board of Directors serves as the Association's governing body. Officers and directors for 1981-1982 are: Mrs. Gordon R. Connor, president; John H. Saemann, vice-president; Frank N. Fixmer, secretary-treasurer; William D. Johnson; Jacque D. Vallier; Kennell M. Elliott, and Milton Reinke.

The Association has published a number of booklets which should have appeal to the forest history enthusiast:

History of the Nicolet National Forest
Some Historic Events in Wisconsin Logging
Some Events in Wisconsin Forest History
Bibliography of Wisconsin Forest History
Chips and Sawdust (quarterly newsletter)

The current publishing effort "Firsts in Wisconsin History" is under way with completion planned in 1982.

Further information on any aspect of the Association's program and policies may be obtained by writing to

Secretary
Forest History Association of Wisconsin
403 McIndoe Street
Wausau, Wisconsin 54401

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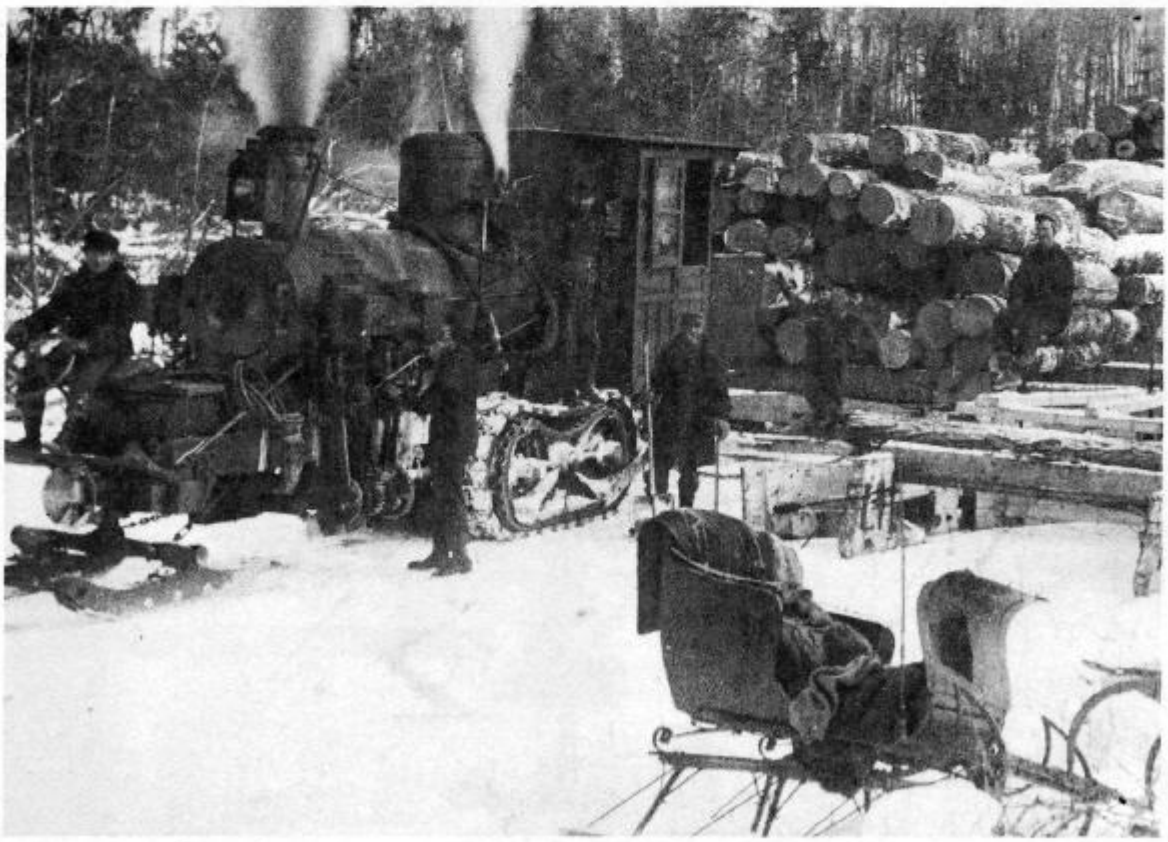


Founded 1975

403 McIndoe Street
Wausau, Wisconsin 54401



Laona and Northern Railroad - 1916. McGiffert Steam Loader unloading horsedrawn sleighs. (Connor Forest Industries Photo)



Steam hauler and log sleighs along side ice rutter and foreman's sled. - 1918. (Connor Forest Industries Photo)

Foreword

The following text comprises the official transactions conducted, and the written papers presented at the Sixth Annual Meeting of the Forest History Association of Wisconsin on September 11, 1981 at the Midway Motor Lodge, Green Bay, Wisconsin.

These proceedings are dedicated to the memory of L. G. Sorden who passed away June 27, 1981. Mr. Sorden was a co-founder and director of this association since its inception. Among his many accomplishments were his services as co-founder of the Rhinelander Logging Museum and his work in Rhinelander heading a land purchase program that relocated some 500 isolated settlers from zoned sub-marginal farm and public forest areas of northern Wisconsin. In 1977 the Forest History Association of Wisconsin presented him its first Distinguished Service Award. His passing leaves a void that will be difficult to fill.

This meeting was held in conjunction with 36th Annual Lake States Logging Congress and presents but two formal papers. The number of formal papers was limited to permit Association members the opportunity to view Logging Congress exhibits.

The Board of Directors is most grateful to all who contributed in making the meeting the success it was.

William A. Sylvester, Publications Editor



Sanford Fowler addressing meeting.



Gordon R. Connor presenting paper.

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Program

of

Sixth Annual Meeting

of

Forest History Association of Wisconsin

Friday, September 11, 1981

Midway Motor Lodge

Green Bay, Wisconsin

8:00 A.M.	Viewing of exhibits at Logging Congress in adjacent Arena. – Visit Assocation's booth.
11:00 A.M.	Registration – Midway Motor Lodge
11:30 A.M.	Welcoming remarks by President, Mrs. Gordon R. Connor
11:35 A.M.	*"History of Logging on the Menominee Indian Reservation"* – Sanford Fowler
12:20 P.M.	Lunch – Peyton's in the Midway Motor Lodge.
1:15 P.M.	*"Logging Methods in the River Era, Railroad Era and Today's Gasoline Era"* – Gordon R. Connor.
2:00 P.M.	Business Meeting; Distinguished Service Awards.
3:00 P.M.	Adjournment
3:00-5:00 P.M.	Continue viewing Logging Congress exhibits and demonstrations.

History of Logging on the Menominee Indian Reservation

By Sanford Fowler
Gresham, Wisconsin

Foreward

I wish I could say I was born in a logging camp, but I was denied that distinction. My folks were engaged in logging or working in the sawmill at Morgan siding, which was owned and operated by O. E. Morgan. The sawmill operated from the early 1900's until the timber ran out about 1930.

My first recollection of a logging camp was when I was five years old. It was a camp operated by my grandfather. After the death of my mother in 1919, I went to live with an uncle who was logging for O. E. Morgan. His camp was located east of the Soo Line Railroad south of the Menominee Indian Reservation. I used to go to camp on Saturdays and vacations, riding back and forth on horse-drawn sleigh loads of logs.

The first camp I worked in was on the Red River about three or four miles north-west of Morgan Siding and operated by the late James Anderson of Shawano. Anderson was logging for Brooks and Ross Lumber Company. My first job was to stamp loads of logs with a hammer embossed with the letters B&R. The logs were hauled to the Brooks and Ross headquarters located in the now Stockbridge-Muncie Indian Reservation. The log sleighs were hauled by a steam hauler. My next job at this camp was as a "cookie," a job consisting of peeling spuds, waiting on tables and mopping the shack floor.

My first job on the Menominee Reservation was at Camp 21, late in 1928, as a roustabout. That job was mostly sawing wood for the camp and filling in for a man that did not show up for work. However, I did not stay on this job very long. Next, I worked nights in the Neopit saw mill as an edging catcher.

After that, there was a job ripping up steel on the old Wisconsin Northern Railroad which went from Neopit to the west side of the Menominee Reservation. Subsequently, I worked with the railroad section crew out of Neopit maintaining tracks and laying steel to Camp 33, which in 1930 was under construction.

Having gotten married in early 1930, I worked for a jobber in the South Branch Area who was jobbing for the Menominee Indian Mills. This was my first encounter with truck logging. The truck was a Ford Model A. Everyone said it would not work and never would replace railroad logging. How wrong they were.

Then came successive assignments at camps–

–Camp 33, about 4 years
–Camp 26, briefly-blow down job
–Camp 28, briefly-blow down job
–Camp 29

Finally in 1941 I was hired by J. W. Libby, Chief Forester, and subsequently worked on various forestry projects for Chief Foresters, W. Ridlington, L. B. Winner, Richard Delaney and L. O. Grapp, Hackenson, J. Heinz and Marshall Pecore.

Sanford Fowler retired from Menominee Enterprises Inc. in 1978. He spent over 30 years as Chief Timber Marker for Menominee Enterprises and worked in other woods work positions for the Menominee Tribe and various private logging contractors.

Introduction

Because of its comparative youth, we have had limited opportunities to judge the long term effects of management practices on the Menominee Forest.

First, I would like to elaborate on how this Reservation and its huge timber resource came about. At one time, the Menominee Indians owned or claimed most of Wisconsin from Michigan to Illinois. However, with the influx of the ever-increasing number of white settlers seeking land, the Menominee had to sell millions of acres for a few cents per acre. Prior to 1854, the government wanted to move the Menominees to Minnesota. A delegation went of Minnesota and returned to tell the government that they did not like it out in Minnesota. So, the government let them stay at their present home, letting them keep twelve townships figuring it was worthless land and unsuitable for agriculture.

About 1856, the Stockbridge-Munsee tribe of Indians from New York suffered the same fate of the Menominees and had to relinquish their lands to their white brothers, whom they had befriended. The Menominees then ceded two townships to the homeless Stockbridge-Munsee leaving ten townships or 360 square miles to compromise the Menominee Indian Reservation.

Early Exploitation

With the creation of the Menominee Indian Reservation in 1854, there was no provision for cutting or selling timber for use off the Reservation, so the government bought a saw mill at Keshena Falls. The mill was built about 1845, by whom we do not know. It was pretty well rotted out by 1854. The mill was restored to running order in 1867, according to the Indian Agent at that time. Timber cutting was first authorized, on a year to year basis, by the Indian Commissioner or local Agent, for local consumption by the Indians.

The amount of cut varied. For example, in 1865, 300,000 board feet were cut. In 1866 nothing was cut. For the ensuing 20 years the amount cut by this mill never exceeded the 1865 output.

A new mill was built in 1865-1866, powered by water. This mill had a capacity of 15,000 board feet per day. On a forest covering 360 square miles this production was negligible.

During this period, supervision of the Reservation was inadequate as the office of the Indian Agent was in Green Bay. It was not until 1871-73 that the Agent office was moved to Keshena. Timber trespass was a common thing. Flagrant thefts were noted in the Indian Agent Reports of 1865, 1870, and 1874.

There was great pressure from both outside and within the reservation to sell the valuable white pine. In fact, several authorizations had to be made by the Congress to legalize sales of timber which had already been sold.

By congressional acts between April 1876 and March 1882, according to a report by J. P. Kinney in 1945, approximately 100,000 board feet of logs were sold in the period between 1871 and 1890. This figure excluded local use.

Until 1890, the cut consisted primarily of trespass cutting and reservation used material. The management plan, to that date, was simply a restriction against indiscriminate cutting. This did limit the timber drain somewhat.

Since the pressures for selling timber were so great, Congress finally passed the Act of June 12, 1890 authorizing the cutting of logs for sale. This Act set the annual allowable cut at 20,000,000 board feet. The basis for this cut has not been determined. It certainly was a reasonable amount and later proved to be conservative. With no volume or growth data available as guides the 20,000,000 board feet annual cut was a providential decision, at least for those early years.

As already noted, there were no inventories or growth determination. There was no organized forest protection program. Silviculture was largely ignored and sustained yield was not an objective in the management of the Reservation during this early period.

River-Driving

The factors most influential in determining the manner in which the early logging was done were (1) the river-drive system of transportation, (2) the high demand for pine and (3) a "highgrading" silviculture system.

Almost the entire forest was accessible to driveable streams through the use of sleigh hauling. The first areas to be cut, however, were those where pine was the dominant species. These areas were primarily in the north central and north eastern part of the reservation. Timber cut in the north eastern part of the reservation was driven down the south branch of the Oconto River. The remainder, or north and central areas, was driven down the Wolf River to Oshkosh and other mills to the south of the Reservation. Hardwoods were largely ignored at this time because the market was almost exclusively for pine.

As a consequence, much of the western four townships were left untouched. Other areas were passed by because for the most part they included lands claimed by the State of Wisconsin. These lands consisted of Section 16 in each township (claimed for school purposes) and all swamp lands.

Prior to the Act of 1890, cutting was supposed to be restricted to dead and down timber. Much of this material was hemlock and probably defective. Consequently, there began the illegal practice of burning to reduce good standing timber to the desired condition of being dead.

Forest Enemies

During the late 1880's, the two destructive forces which received most attention were fire and windstorms. The Agent's report in 1882 described the forest as being rapidly destroyed by wind and fire. These fires burned primarily in cutover areas. In 1884, an Agency report said that the 20% residual stand on the cutover areas was destroyed by fire, probably due to lack of slash disposal methods. According to reports, probably two-thirds of the area within the six eastern townships had been burned over one or more times prior to 1908.

With the great volume of mature and over mature timber in the forest, wind has been and continues to be a great hazard to the Tribes' forest. This belief has its origin in the historic blowdown of 1810. Chronic blowdowns occurred from year to year. There was a

particularly devistating blowdown in 1905. The wind came from the southwest and hit the western part of the Reservation blowing down mostly northern hardwoods. The storm created an unequaled dilemma as there were few roads and hardwoods would not float. As they could not be driven downstream, millions of board feet of hardwood were lost to rot before they could be salvaged. It is estimated that 40 million board feet of hardwoods and hemlock blew down in the 1905 storm.

The 1905 catastrophe set the proper minds to thinking there was a definite need for construction of one or more sawmills on the Reservation. At the same time, there was much opposition to the idea from outside the reservation. The original idea was to build three small sawmills at three locations where the blowdown logs were being decked. There is no record of these three small mills being built. Nevertheless, I know that there are remnants of mill site #3 which are still visible.

The final decision was made to build one large sawmill on the west branch of the Wolf River in the present Village of Neopit. This modern mill, having two head saws, was completed in 1908-1909. The west branch of the Wolf River was dammed to form a pond to hold approximately 100,000 board feet of logs which could be cut in one 10 hour shift.

Transportation

The move to include hardwoods in the harvesting program, which resulted from the 1905 blowdown, necessitated a change in hauling methods. Since automotive travel was in its infancy, the only other means of transport was the railroad. The Wisconsin-Northern Railroad Company, now the Soo Line, had built a line from Shawno to Neopit. In the fall of 1908 a branch line was built to the western boundary of the Reservation, ending near the village of Phlox in Langlade County. This railroad system was later expanded as the logging operations moved to the northern and central parts of the Reservation. Stream driving was still used to deliver the lighter material to the mill.

Sometime, about 1925, the Menominee Tribe decided to invest in its own railroad. They had two Lima engines. A large engine to haul logs to the mill and a smaller engine to make up trains of about 20 cars of logs, daily, to be hauled to the mill. This railroad comprised 30 to 40 miles of track, 30 to 40 Russell cars, a few flat cars, a caboose and several box cars for transporting horses. In the woods were four mechanical jammers or loaders, two steam hoisters and two gasoline powered hoists. Road construction equipment consisted of a gasoline powered shovel and many horse drawn wagons and scrapers which were used to move dirt fill. This was before the era of bulldozers and caterpillar tractors.

Forest Inventory

I can not say that the thought of making a forest inventory did not exist in the early days on the Reservation; however, it was not until 1914 that the first cruise was conducted on the Reservation forests. Prior to that date, only estimates of volume were made, primarily for pine. In 1911 and 1912, the estimate was 1,750,000,000 board feet. The 1914 cruise provided more tangible information concerning the status of the forest. Results of the 1914 inventory which was a strip cruise of 10% of the forest land indicated the following:

Total Volume 1,146,608,000 Board Feet —

This total volume included 242,544,000 Board Feet of poles and posts and cordwood. The species distribution of this volume was Hemlock 53%, Pine 20% and 21% hardwood and miscellaneous cordwood, poles and posts. The average volume per acre was listed at 5,000 board feet.

The 1914 cruise was the only comprehensive information available until another cruise was made in 1941. This was a line and plot cruise with two lines through each forty acres.

I remember the 1941 cruise quite well, since I was personally involved in it. The cruise was conducted in logged-over areas. We ended up with a good timber type map and all of the roads located on each forty. However, this cruise was never completed. Why? I do not know. A possible reason is that there were many changes in forest managers. Each succeeding forester, in my opinion, had different ideas and plans. This seemed to be the story all the while I worked there. The average stay of a forest manager was 6.71 years during my tenure as a timber marker from 1937 to 1980.

Another inventory was started in 1953. This cruise consisted of about 1100 circular 1/5 acre permanent plots in which trees with a 5 inch or larger merchantable top diameter were numbered. The locations of these plots were predetermined on a map of the Reservation.

However, the same old story again: the plots were again abandoned because they were "not stratified." A second set of plots were set in place using much the same procedures. There were two remeasurements of these plots while I was there. Each time the inventory results showed substantial gains in volume. The most recent, showing an inventory of over a billion board feet and recorded a gain of 52 million board feet over the last previous inventory. This was surprising to me because of the high mortality of hemlock and removal cutting of all elm as result of "Dutch Elm Disease."

The Present

Marshall Pecore, the present Chief Forester, has given me the following current information to share with you:

Tree Planting - Since 1965 has averaged 125 acres per year of red pine.

Timber Stand Improvement - Large scale program started in 1978. Approximately 8,000 - 9,000 acres of pine and hardwood have been completed.

Logging Costs - The increase in logging costs from 1968 to 1981 have been from $24 per thousand board feet to $55 per thousand board feet.

Annual Cut Sawlogs - Since 1940 the annual cut of sawlogs has held fairly steady at about 20 million board feet a year.

Sawtimber Inventory Volumes

1963	Inventory	-	1,527,380,590 board feet
1970	Inventory	-	1,516,722,507 board feet
1979	Inventory	-	1,569,516,957 board feet

Elm Removal - Between 1970-1979 approximately 99,000,000 board feet of elm was removed because of Dutch Elm Disease.

Pulpwood - Over recent years pulpwood production has increased from a few thousand cords annually to 50-60,000 cords annually. Many loggers have become major pulpwood producers in the last 5 years.

Conclusion

With the listing of the current status of forestry activity on the Menominee Reservation, I leave you on a positive note. I feel fortunate to have been able to contribute to the progression of events which give the Menominee Tribe the forest it has today.

I also want to express my appreciation to Dr. James G. Newman, Assistant Dean, College of Natural Resources, University of Wisconsin - Stevens Point for the data on the early forestry history of the Reservation. This data is available in his Ph. D. Thesis, "The Menominee Forest of Wisconsin: A Case History in Forest Management."

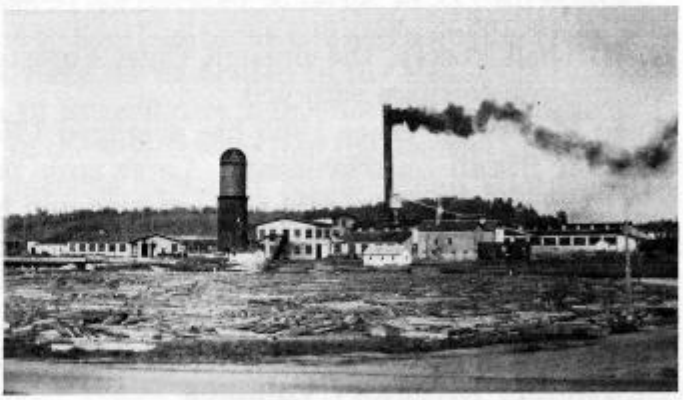
Thank you.



Northern Hardwood-Oak stand after logging. Stand was marked for harvest by Sanford Fowler.
(Menominee Enterprises Photo)



Forestry Crew - 1951
Sanford Fowler 5th from left.
(Menominee Enterprises Photo)



Menominee Indian Mills - 1932
(Menominee Enterprises Photo)

Logging Methods in the River Era, The Railroad Era, And in Today's Gasoline Era

By Gordon R. Connor
Wausau, Wisconsin

Log harvesting in Wisconsin can best be characterized by three historic areas, River and Waterpower, Railroad and Steam and, finally Gasoline and Diesel power.

The Logging Congress we are attending is a dazzling display of machinery which was not even imagined fifty years ago.

As machines take over today, the ancient methods of oxen, horses and brawny man power with axes and cross-cut saws are a fast fading memory. Today's techniques achieve three to four times the production per man hour obtained in the white pine days.

To a certain extent, different tree species, different topography and the times have influenced logging methods.

River Era

The River Era existed prior to the 19th century railroad penetration of the north.

Main settlements in central and northern Wisconsin were situated on rivers where the mills, driven by water power, sawed logs. The logs, which had been driven down stream and stored in boom ponds, were then sawed into timber and shipped on rafts to Great Lakes or to lower Mississippi River ports. Think of the importance of that water and waterpower to the development of not only the lumber industry but to the development of Wisconsin!

Because only white pine and cedar could be floated down rivers by hardy rivermen, the hardwoods, spruce, hemlock and lesser conifers were ruthlessly burned off for farm clearings by settlers swarming into the north.

Early lumberjacks were armed only with axes, cant hooks and their river pike poles. Cross cut saws, peavey hooks and stamp hammers were developed late in the 19th century. Oxen and the horses skidded the logs. In the 1890's when James Peavey of Maine added a point to the cant hook, his peavey was thought to be such an advanced technological tool, that as the proud inventor, he even had his peavey hook carved on his tombstone.

Winter logging was sleigh-hauled by huge one-ton horses. Logs were decked along river banks until they were "watered" down the rollways into the swollen streams. Sluice dams, built in the previous fall along these rivers and their tributaries were blown open to release water for the spring log drives.

Only skilled men and those in wanigan cook and store shanty boats went down the rivers. Horses and their farmer owners retired from winter woods work and went back to spring and summer farming.

The great and often dangerous river drives had been dreamed about, talked about all winter and were eagerly awaited by the 'jacks. From the northern pineries, log drives could take months of wet, exciting and risky work before the logs would arrive at downstate mills.

Gordon R. Connor is Chairman of the Board of Connor Forest Industries, Wausau, Wisconsin.

By the turn of the century, the River Era gave way to the railroad. A few spring drives were made until about 1920. On the Wisconsin River the heavy concentration of new paper mills combined in 1907 to establish the Wisconsin Valley Improvement Company which built larger dams and reservoirs for water power and to stabilize the river flow. To do this they bought out twenty smaller sawmill "improvement" companies. The Wisconsin River Valley Improvement Company's larger dams and reservoirs made river drives virtually impossible.

Railroad Era

When railroads spread north, at least 600 sawmill towns dotted Wisconsin. Soon many lumber companies built their own short line railways from their camps to their mills or to connect their mills with the main lines. Some logging railways were narrow gauge; most were standard gauge. The 1912 State of Wisconsin Official Railroad Map lists thirty-six intra-state or short line railways operated by timbermen.

As the years went on, not all small short line railroads flourished. In Michigan, one logger, named "Hungry Louie," because he carried into camp in his packsack his meager cookhouse supplies, had trouble during the depression in paying his rail rental to The Duluth Southshore and Atlantic Railroad. He finally shipped out all of his camp equipment, in flat cars well concealed under hay and straw, on the Connor Line. When the Duluth and Southshore Railroad realized this they went in and pulled up all his rails from both ends of his engine. His engine remained trackless in the forest.

Railroads ended independence on winter logging with its sleigh hauling. The railroad facilitated year round harvesting of all species, not just white pine or cedar. With rail development, Wisconsin in 1900 became the predominant lumber and logging state of the nation. This production helped foster westward expansion as Wisconsin's white pine, mighty hemlock, spruce and hardwoods became a part of the nation's building expansion.

Railroad development opened up hardwood shipping to great furniture manufacturing centers at Grand Rapids, Michigan, Rockford, Illinois and Sheboygan, Wisconsin. These manufacturers could take many a lumberman's entire annual hardwood cut. Other furniture plants flourished at Stevens Point, Marshfield, New London and Manitowoc. Now oak, yellow birch, elm, basswood, maple and ash could well be utilized. The demand for railroad ties was an active market which provided new settlers income through their hewing of ties and timbers.

It was an age of steam power, with steam locomotives, steam loaders and steam haulers. Loggers found Lima Shay locomotives with their side pistons and geared power a must for hills and switching.

In addition to trains, steam haulers, sometimes called "Snow Snakes," hauled virtual sleigh "trains" on iced roads to mills or railroad sidings. Operating through the World War I decade, they forshadowed the caterpillar tractor. Their steam whistles would echo around the mills and towns.

Steam haulers, with their steering wheel drivers freezing out in front of the boiler while the engineer sat in his cab, could haul up to thirty sleighloads, depending upon terrain. They could feasibly make five to ten mile hauls on iced roads built up to a depth of eighteen inches to two feet. These solid blocks of ice roads sometimes lasted into late spring.

The rugged work of icing sleigh roads was accomplished by water barrel and water sleighs, watering nightly over sleigh tracks carved by horse drawn heavy ice rutters. Chopping icy water from streams to fill those water wagon tanks was an endless cold night task.

Today, we know of only three steam haulers, all in museums.

Steam haulers for sleigh trains were replaced after World War I by the famous ten ton Holt tractor. The Holt tractor was the forerunner of today's caterpillar tractors. They had fifty gallon gasoline tanks and twelve inch cylinders and a roar that could be heard for miles. When Holt tractors came into towns with their longtrain of sleighs, they were as exciting to crowds of townspeople as the daily arrival of the main line mail trains.

A-frame or swing boom loaders were used with sleigh hauling and railroad logging. Their power lines were pulled by horses.

For railroad logging the principal steam powered loaders were the Cody, the McGiffert and the so-called "Slide-Ass" loaders.

The Cody loader passed empty cars over the humps of its own wheels, which remained of the railroad track until switched out to a siding under its own power. This took place once all cars were loaded, while waiting more empty cars.

The McGiffert loader raised up its wheels and supported itself by lowering its frame onto the railroad ties. Empty cars rolled freely through the loading machine.

As a railroad logger, myself, from 1929 through the next 16 years I operated briefly in Stratford, Wisconsin and then in Upper Michigan's rugged terrain, where I ran fifty-five miles of railroad, I preferred the McGiffert loader, as did most larger logging companies. In addition during this period I operated several lumberjack camps and mills at Ironwood, Michigan, Saxon and Park Falls, Wisconsin, Wakefield, Michigan and the Soo.

The so-called "Slide-Ass" loader skidded itself along on flat cars. It was usually used by small loggers, if they owned anything beyond an A-frame and a horse powered or gas powered jammer.

Once loaded, there were hazards in getting these heavy log cars from camps to town, especially during the spring breakup. I well remember my father, W. D. Connor, writing to me every spring to look out for certain sections of our tracks, so as to avoid wrecks on the rails.

There was the memorable 1936 winter at Park Falls when I worked for the Roddis Lumber and Veneer Company. One day we had a log train split in two going up a hill. Half of the cars broke away down the back side of the hill crashing into the other half of the train coming down into the valley. I then had ten carloads of logs and pulpwood sprawled over many acres, hills and valleys. It was an unholy mess.

Railroad car couplings were often of inadequate quality. Lincoln couplers had only pins and links, with no air brakes. I marvel now that there were not more railroad logging fatalities.

We had one Michigan incident when several cars broke loose in route to town and crashed into a locomotive in front of our Camp 6 cookhouse. Why it did not explode, I don't know.

As a railroad logger, until we ended railroading and lumber camps in 1948-49, I experienced all of the logistics and hazards of running lumber camps, building one mile of

new track a month and of ensuring food and supplies for men and horses. It took so many horses at these camps that until 1943 my father, even at almost 80, undertook with great delight, annual trips to Iowa to buy truckloads of big horses. Each camp operated with from 10 to 15 teams.

Railroad Camp Era

Keeping supplies, men in camp for the $1 per day charged them for board and keep, and keeping trains running through mountainous Upper Peninsula snow drifts was no easy task. We could always kill camp pigs for meat when the supply train could not get through, but the logs couldn't move out. Thus at times the men were marooned. Their only amusements were cards, storytelling, occasional music, or in less sanitary days, when we had to fumigate often for bed bugs, they would occasionally heat tobacco tin cans and bet on whose bed bugs could jump the highest and farthest from the hot cans.

Logging camps became organized in 1937 when organizers came in from Duluth instituted sit down strikes and demanded better conditions including fresh fruit.

The first lumberjacks into the cook shanty would grab all the fruit from the tables and hide it in their shirts. One cook thought he could foil that by making a fruit cup. As he stood in the meat house, he overheard a lumberjack ask another "how'd you like the fruit?" His partner said, "Why, that damn cook even makes hash out of the fruit!"

The organizers, meanwhile, tied up the whole Upper Peninsula's logging camps. Logs were spilled from trucks all over the highways. Michigan's Governor Frank Murphy did nothing what ever about this four month tie-up of the entire Upper Peninsula nor the sit down strikes in Michigan factories.

Railroad camps ended during and after World War II. We then had an entire new modern technology and what we can call the Gasoline Era. Remote railway logging camps gave way to permanent roads built by big bull-dozers. Lumberjacks became settled family men, owning their own tools and driving to work in the family car. The industry finally had a more stable work force as well as many independant jobbers on which to rely.

Parenthetically, before leaving the subject of railroad logging, those remote lumberjack railroad camps could not have been possible without the tide of immigration, which for decades saw struggling farmers hire out with their teams for a winter's work. Thus they earned a stake to clear their farms.

We also had vagarants, from the cities and bars, who were hired by "mancatchers." These "mancatchers" received $1 per head for each man delivered with boots and suitcase to the company office where his clothes were held until he worked out his train fare. These vagrants were picked up from as far away as Chicago, Minneapolis, St. Paul and Hurley. Often these suitcases would break open and a piece of concrete would drop out making a poor payment towards his advance fare.

With today's different type of work force, the legendary days of "sin and gin," as the lumberjacks hit town from those remote camps, are over. (At least until rugged loggers get to a Logging Congress!)

Many a Christmas time we received anguished phone calls from lumberjacks who had been "rolled" of all their money in Hurley, Wisconsin, begging for an advance on future pay. In one incident we did stop check payments of over five-thousand dollars to one

missing jobber. We searched for him in Hurley for over two weeks. He was found dazed and starkly naked and told that we had stopped payment on his check. He blinked and said "I don't know whether I want that." When asked "Why not?" he said, "Well, I might want to come back here sometime."

To go back to railroad logging, in another parenthetical comment, it must be noted that the practice of laying rails and then pulling them out to move on to new lumberjack camp locations fostered "cutout and getout" clear cut logging. Without ready access of permanent roads there was neither adequate fire protection nor good economics in going back for a second or selective cut, for windfalls or an improvement cut. As a consequence, everything in sight was logged.

The small timber could be used for mining timbers and car stakes. Paper mills took the pulpwood. The heavy concentration of paper mills in Wisconsin soon consumed far more pulpwood than the state produced. Aspen, formerly considered an inferior tree, began to be widely used. Chips from sawmills supplemented pulpwood.

Modern Technology and the Gasoline Era

Steam power, manpower and horses were replaced after World War II with modern technology. We then had power saws, bulldozers, power skidders, crawlers, rubber tired tractors, loaders and an array of big gasoline or diesel powered machinery.

With the power saw, whole armies of "Ma and Pa" and family pulpwood cutters entered the woods. They still turn out a goodly pulpwood harvest for the state's hungry paper mills.

Power saws did not really come into full use until after World War II. Apparently the first power saw was invented in Germany in 1926 by the Stihl's. Power saw development and usage was slower in the United States.

I think we had one of the first power saws in the Lake States. This was a German saw. At Connor Forest Industries we had one early 150 pound two man Titan power saw during World War II. Manpower was short and the pressure was on to use power saws and power machinery.

One can laugh today, but we used these early two-man Titan power saws mainly for cutting wood at the logging camps. Camps required at least two men to constantly cut and provide firewood for the bunkhouses and cook shanty. These heavy, unhandy, hard to handle saws were not seriously considered for woods work until the single man power saws were developed in 1946-1948. Even then we had loggers who could cross-cut saw trees faster than a power saw. Two of our jobbers, the Miljevich brothers of Wakefield, Michigan, demonstrated in New York on national TV's "I've Got a Secret" their ability to crosscut faster than power saws.

Modern power saws are lighter, have less vibration and a range of cutting chains adaptable to big or moderate size trees. They are more dependable and less dangerous to operate. Power saws have been available from Titan, Homelite, Mercury, Stihl, Jonsereds, Sacks-Dolmar, Carlton and many other companies. Power saw sales is a highly competitive field.

Bulldozers of the 1940's and big caterpillar tractors made possible permanent road systems which in turn hastened the evolution of bigger trucks, bigger skidders and bigger

loaders. The transition was fortunate because the railroads were providing no inovations and were not providing sufficient log cars. Many loggers regarded the first big equipment dubiously. When my brother, Richard M. Connor, bought his first bulldozer with its 12 foot blade, the woods crew asked how they could ever be expected to get through the forest rocks and trees with a twelve foot wide blade.

Initially, woods machinery development lagged behind agricultural machinery advances. Today we have a great array of machines.

Crawler tractors, used as skidders before big rubber tired skidders, did much damage to residual timber by causing roots of young trees to be torn up. Deep muddy ruts were cut into the ground and skid trails.

Rubber tired skidders greatly reduced such damage and have a better speed and efficiency. They have alleviated the damage to the land caused by the older tractors.

With skidders, it was the Timberjack which led the way. The main skidder companies have included the John Deere Company, the Michigan, Clark Company, Cary Lift and others. The development of the hyraulic power grapple or claw eliminated winches and chockers for skidding.

A major success was the invention by Heikkenen of the Prentice Loader at Prentice, Wisconsin. The Prentice loader, with its grapples, really expedites log handling. Now the truck driver, working alone, with his long arm loader can swing logs onto his own truck. This eliminated the need for loading and unloading crews, formerly one of the most dangerous of all woods jobs. Heikenen has since sold his Prentice Loader Company and turned to the manufacture of automatic machines for harvesting fuel wood.

The development of large trucks was a major logging improvement. Single axle trucks, inadequate for the job, were replaced by multiple drives and trucks were equipped with much larger tires. The increase in the hauling capacity of these machines was outstanding. Larger engines, heavier frames and springs, along with diesel engines, improved hauling and handling of timber harvests. Two tier trucks have now become common, along with a loaded truck pulling an additional load on a pup trailer.

With in the Lake States, I think that I initiated the first tree length logging operation at our Michigan operation in 1948. We discontinued this after twelve years because we could use the system only on our company roads and not on public highways.

Within the last decade industrial machinery's major innovations have largely been in whole tree harvesting, delimbers, bunchers and whole tree chipping.

The Morbark whole tree chipper was introduced in the 1970's. This machine consumes a whole tree – trunk, bark, leaves, needles and all, with no waste. When you consider that one-third of a tree, consisting of the stump, limbs, roots and leaves was previously left in the woods, this was the first attempt at almost complete utilization of everything but the whisper of the pine needles.

Chipping whole trees produced an astounding tonnage of cellulose. One drawback is that bark is not suitable for many grades of paper. Except in low grade paper, the use of whole chipped trees is limited. However, the percentage of allowable bark seems to be rising in paper manufacture.

More recently, there have been "feller buncher" machines and "hydro-ax" machines which end the need for sawyers and delimbers. They can crush off several trees at a time

without having the trees even touch the ground. As they go through a timber stand, they cut a complete swath and delimb these trees in one operation.

This is fine for pulpwood stands, which regrow more rapidly than hardwoods. The system is less feasible for permanent cycle selective cutting. These machines crush tree stems making them unsuitable for saw timber needs. Some machines operate with a large circular saw. Drott now has developed a cutting bit for hardwoods and sawtimber. The bit cleanly cuts off hardwood stems without crushing them.

The cost factor is such a current drain on all but the largest operators that it places a burden on machinery manufacturers. They must keep costs down if their machinery is to be sold on a wide enough market. Present machinery prices have skyrocketed to almost unaffordable levels for trucks, big cats, bulldozers and timber harvesters.

In fact, the cost of feller bunchers at over $200,000 apiece has led to day and night logging in the state of Maine. The Great Northern Nekoosa Corporation runs these machines day and night. Day and night operations can amortize these costs more rapidly. Day and night operations are nothing I would wish to get into in selective cutting of hardwoods and mixed tree stands.

It is impossible to here give credit to all who have contributed to these major inovations. Many of these developments have been instigated in the mid-west and in our own state. Sales have spread nation-wide and internationally. Foriegn manufacturers of new small wood machinery are increasing competition in harvesting methods for small trees, tops and especially for fuel wood processing.

Wood chippers and imported small fuel making machinery have advanced the use of wood and waste for fuel. As the cost of power from coal, oil and gas escolates, the use of wood for fuel becomes more important. Currently, the cost of energy is becoming one the the highest manufacturing costs.

In Sweden, most public buildings are heated by wood waste. The Swedish are importing our wood chips from our south. The Japanese import our wood chips from our west coast at over three times the price paid in our midwest for chips.

In Wisconsin, wood waste is being used more extensively for fuel. The Flambeau Paper Company and school system at Park Falls, Champion International's big new mill at Quinnesec, Michigan, the Lake Superior District Power Company at Ashland and our own company, Connor Forest Industries have all turned to this great energy savings, wood. Ecologically it is a sound move. One does not have to dump waste wood any longer. Chippers have provided much of this fuel.

You can see all of today's machinery marvels here at the 36th Logging Congress in Green Bay.

As one of the instigators of the first Logging Congress, held in Houghton, Michigan with the help of the Michigan Technological University Forestry School, I recall that very little equipment was shown there. It was very hard at that first Logging Congress to interest and educate loggers in demonstrations of care of tires, grease requirements for maintenance of new machinery or to get them to attend power loading demonstrations featuring the use of grapples for loading logs. The loggers came for fun. They had little idea of facing up to new problems, new methods and opportunities.

I can only say that progress in the past few decades of the Gasoline Era has been visibly enormous and exciting. It is sometimes hard for us to realize that today's events are tomorrow's history. As one looks back, the span and changes are monumental.

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Mr. Connor then showed slides of modern logging equipment in action. These slides were made available from the Maine operations of Great Northern Nekoosa Corporation.



Two man German chain saw - 1941. Used to cut logs to length and fuel wood for camps. (Connor Forest Industries Photo)



Prentice Loader
(Connor Forest Industries Photo)

Minutes of the Sixth (6th) Annual Meeting of the Forest History Association of Wisconsin

Friday, September 11, 1981

Midway Motor Lodge
Green Bay, Wisconsin

Immediately following the presentation of the two papers and the interposed luncheon, as outlined in the agenda found elsewhere in these proceedings, the business meeting of the Association was convened by President Mrs. G. R. Connor. Approximately forty members, guests and visitors were present.

The president's annual report was given by Mrs. Connor, in which she reviewed the principal activities of the Association and its accomplishments. She noted the need for greater support from wood-using corporations and further reported the initiation of a capital fund campaign designed to make the Association's financial base more secure. Special mention was made of the death of L. G. Sorden and tribute paid to his contributions to the founding and growth of the Association.

Secretary-Treasurer Fixmer then presented highlights of his annual financial report. He further commented on the need for new members to replace losses due to normal attrition, noting that the roster now lists 270 members of all classes. His detailed membership statement is available to any member upon request.

The chairman of the nominating committee, Ken Elliott, presented that committee's slate of nominees for directorships to succeed those whose terms have expired, namely: W. G. Johnson and F. N. Fixmer, to succeed themselves, and Milton Reinke to succeed L. G. Sorden. On proper motion by K. Elliot and second by Dr. R. C. Brown, it was approved that further nominations be closed and that a unanimous ballot be cast by the secretary for the aforementioned individuals to serve two-year terms as directors.

Upon motion by Dr. Brown and second by I. Isenberg, the official acts of the board of directors and officers during the past year were ratified and duly approved.

President Mrs. Connor then proceeded with the presentations of the Association's 1981 distinguished service awards. Plaques decorated with log marks and an engraved citation were presented to Eldon M. Marple, Hayward, and to the Peshtigo Historical Society for their contributions to the preservation of Wisconsin forest history.

An open floor discussion was then held. Dr. Brown suggested that more members might find it more convenient to attend annual meetings if they were held on Saturdays, due to their employment responsibilities. Eldon Marple expressed an opinion that any membership drive should place more emphasis on younger and middle-age people as replacements for those older members who will gradually pass away. K. Elliot proposed that membership promotional efforts include the sale and wearing of buttons which would advertise the Association's existence and its objective of preserving forest history. President Mrs. Connor concluded the discussion with the assurance that all of these suggestions would be given due consideration by the Board.

Upon proper motion, the meeting was declared adjourned at approximately 3:30 P.M.

Frank N. Fixmer
Secretary-Treasurer

Annual Report of the President

In January 1981, when I unexpectedly at mid-year became your president, I found myself among a very knowledgeable, hardworking, interesting group of Directors. Much has been achieved with the production of several high calibre publications, including the 1980 milestone, the first Forest Bibliography of Wisconsin. At this point there were more ideas than money!

Basically, therefore, my main priority has been to increase membership, both individual and corporate. I also undertook to initiate a new capital fund. As it grows, this money market fund can stabilize and enhance your organization's great potential.

Thanks to contributions from several foundations, individuals and corporations, I am happy to report a modest start on this money market higher-interest investment fund.

On membership, our goal is to enlist at least 100 more corporate members at $30 dues and at least 200 more individual members. To those paper and lumber companies, and foundations or individuals who do not stop at the $30 1981 corporate dues but give us $150, $300 or $750 and up in annual working capital, may your tribe increase!

On individual memberships, some attrition due to deaths and moving away has now been overcome and we are gaining.

Your Board of Directors met five times this year. Forest History Scholarships of $100 each were given to Steve Ziobro of the University of Wisconsin-Stevens Point and to Terry D. Droessler, University of Wisconsin-Madison. Distinguished Service Awards were presented to the Rhinelander Museum and to our own Frank Fixmer.

Again this year your Association maintains a Logging Congress exhibit. Its River Day display was designed by the Marathon County Historical Society. To Frank Fixmer's work on this and for his recent August 29th Antigo exhibit at the Wisconsin Northern Council of Local History, our thanks. John Saemann, your vice-president, also formally represented us at Antigo.

In June we were saddened by the death of University of Wisconsin Professor Emeritus, L. G. Sorden, a founder and director of this Association, a founder of the Rhinelander Museum and author of "Lumberjack Lingo." "L. G." was our sparkplug, our inspiration and idea man. It was he who goaded us on to the impossible. One of his dreams was the ultimate publication of a forest history for each Wisconsin county. We share that aim.

When Mr. Sordens' $1,000 bequest is received it will be allowed to grow a bit along with the half of the present $500 in Sorden memorial gifts. The Sorden gifts have been designated the L. G. Sorden Forest History Scholarship Fund.

The other half of the Sorden memorial gifts is earmarked to help publish "Forestry Firsts in Wisconsin" by Frank Fixmer. This project was planned for this fall by both Jay Cravens and L. G. Sorden.

Books published by member-authors in the past year include Malcom Rosholts' "Wisconsin Logging – 1839-1939," a treasure of photographs and history; Howard Peddle's "Wisconsin Log Marks," a must for collectors of this unique bit of Americana; and Dr. R. G. Brown's "Rails Into the Pines," which covers phases of Chippewa Valley, Weyerhaeuser and Edward Hines Lumber Company history.

We have been asked to provide slide lectures for high school classes, a project now under consideration.

Our "idea factory" further includes adding pictures to our publications, if money permits, as well as a future new lumberjack song book. Ultimate updates of the Forest Bibliography are under the direction of Professor William Sylvester of the University of Wisconsin-Stevens Point. We urge you to send your added input to him.

To the Board of Directors and to Frank Fixmer, your versatile, hardworking Secretary-Treasurer and publications editor of the quarterly "Chips and Sawdust" newsletter, must go our special thanks. Frank Fixmer is tireless and invaluable.

Appreciation is also expressed to the planning committee for this annual meeting, Walter Naab, Karl Bauman, John Saemann and Tom Albrecht. Thank you so much.

We are encouraged by a broadened new interest in preservation of this history of both past and present forest events.

Mary Roddis Connor,
President



Pettibone Cary-Lift Loader
(Connor Forest Industries Photo)

Annual Report of the Secretary-Treasurer for Fiscal Year 1980-1981

My financial report for the fiscal year ended June 30, 1981 contains no great surprises or unusual transactions. Happily, we are still solvent, having ended the year with total cash assets on hand of $3,761.44. This was an increase of $573.71 compared to the same date last year, even though there was an operating loss of $626.29. The reason for this apparent paradox is that we received donations which were designated as capital fund grants and therefore were not included as operating income. These capital funds were invested and will generate interest income for the operation of the Association. It should be noted also that in keeping with the downward trend of the general economy this past year, we effected a 50% reduction in our spending, compared to 1979-1980.

Perhaps the major disappointment was that revenue from membership dues was only $40.00 more than last year. This reflects an acute need for more growth in membership, particularly the corporate sector. On the other hand, we all know that economic conditions of the past year were hardly conducive to such growth, so perhaps we should consider ourselves fortunate to have been able to maintain the level we did.

Your Board of Directors, at its meeting of May 19, 1981, approved an increase in dues, starting January 1, 1982. Individual dues will then be $8.00 annually and corporate dues $40.00. I am sure you need no recital of increasing costs as a justification for this quite modest increase. Nevertheless, we will still need a very substantial increase in our membership numbers if we are to fulfill our total financial need for the Association's functions and activities.

Those who desire to study my detailed financial report may pick up a copy after this meeting, or request it by mail. It will also be published as usual in the next issue of the Proceedings.

With regard to the status of our membership, we had a total of 238 members on June 30, 1981, consisting of 216 individuals and 22 corporations. Although we lost 46 members for a variety of reasons during the course of the year, I am glad to report that those losses have been replaced since July 1st with 32 new members, so that as of today we are 270 strong, with additions to the roster coming in almost every week.

As the result of the resignation of our former publications editor last year, I accepted the responsibility of editing and following up on the publishing details of the annual Proceedings. Also, as in past years since its inception, I produced four issues of Chips & Sawdust. It has been a busy year. Well over 400 hours – ten normal work weeks – were devoted to Association business and activities. But even when the boring routine of bulk mailing procedures seemed burdensome, I enjoyed every hour. Thank you for the opportunity to serve as your secretary-treasurer.

Frank N. Fixmer

September 11, 1981

Forest History Association
of Wisconsin, Inc.
403 McIndoe Street
Wausau, Wisconsin 54401

Officers and Directors, 1980-81

Mrs. Gordon R. Connor, President
Pres., Connor Foundation
Wausau, WI 54401

John H. Saemann, Vice President
Retired U.W. Extension Forester
Florence, WI 54121

Frank N. Fixmer, Secretary Treasurer
Retired Industrial Forester
Mosinee, WI 54455

Kennell M. Elliott
Retired U.S.F.S. Ranger
Rhinelander, WI 54501

William D. Johnson, Sr.
Pres., Johnson Timber Co.
Hayward, WI 54843

L. G. Sorden
Professor Emeritus, U.W.-Madison
Madison, WI 53711

Jacque D. Vallier
Logging Historian
Milwaukee, WI 53217

AUDIT STATEMENT

TO WHOM IT MAY CONCERN:

The undersigned have examined and audited the financial records kept by the Secretary-Treasurer of the Forest History Association of Wisconsin for the fiscal year beginning July, 1, 1980 and ending June 30, 1981.

This audit included the examination of all transactions involving both receipts and disbursements, as well as the authority to make certain purchase. Bank statements were also cross-checked with all records of receipts.

All items were found to be in agreement with the Secretary-Treasurer's summary financial report as attached hereto.

As of June 30, 1981, the Association's checking account balance was $ 735.01, the savings acount balance was $ 26.43 and the investment account (money market fund) contained $ 3,000.00, for a total cash balance on hand of $ 3,761.44.

Respectfully submitted,

Ralph G. Swanson

Ellen Sabetta

7/29/81
Date

Forest History Association
of Wisconsin, Inc.
403 McIndoe Street
Wausau, Wisconsin 54401

Officers and Directors, 1980-81

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Professor Emeritus, U.W.-Madison
Madison, WI 53711

Jacque D. Vallier
Logging Historian
Milwaukee, WI 53217

Financial Statement
for
Fiscal Year July 1, 1980 thru June 30, 1981

RECEIPTS		
Membership dues	$ 2259.00	
Donations - unrestricted use	1233.00	
Publication sales	297.45	
Annual meeting registrations	467.00	
Interest income	134.22	
Reimbursements	20.08	
Total receipts		4410.75
DISBURSEMENTS		
Postage; mailing permit	398.50	
Stationery; office supplies	448.22	
Bonding; insurance	111.00	
Publishing	1962.00	
Annual meeting	531.56	
Scholarships & Dist. Serv. Awards	319.68	
Salaries, travel, phone, office mtc.	1209.38	
Miscellaneous	56.70	
Total disbursements		5037.04
NET OPERATING LOSS		(626.29)

RECONCILEMENT OF CASH		
Checking Account - July 1, 1980	795.52	
Savings Account - " " "	2392.21	
		3187.73
Less: Net Operating Loss, as above		(626.29)
		2561.44
Add: Restricted-use Donations		1200.00
Total Cash on hand, June 30, 1981		$ 3761.44

SUMMARY OF CASH ACCOUNTS		
Checking Account	735.01	
Savings Account	26.43	
Investment Account (Money market fund)	3000.00	
Total Cash on hand, June 30, 1981		$ 3761.44

Frank N. Fixmer
Secretary-Treasurer

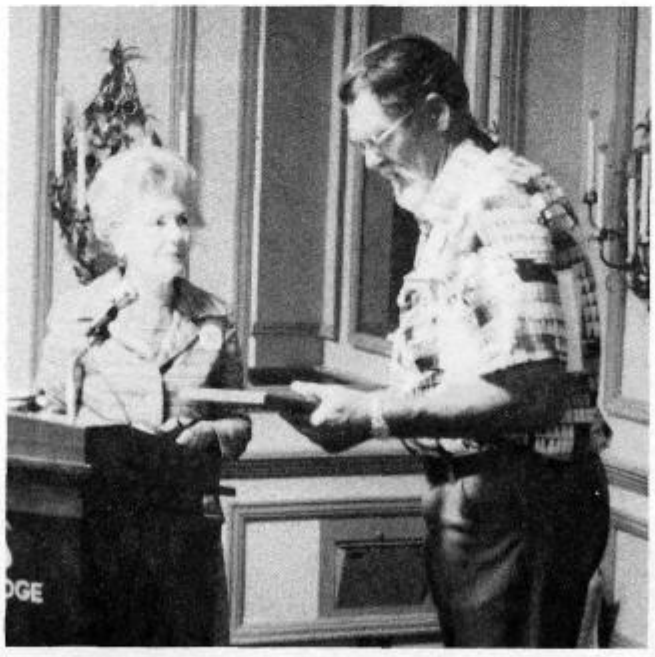
September 11, 1981

CITATION
for
Distinguished Service Award
to
ELDON M. MARPLE

Eldon Marple of Hayward, WI, is widely known as the Sawyer County Historian. As the author of two books on the history of the Hayward Lakes Area, and as a regular columnist for a local biweekly magazine, he has made significant contributions to the public's knowledge and understanding of the history of that region.

In 1980, Marple was the recipient of the Award of Merit from the State Historical Society. For the past year, he was a driving force in the organization and successful observance of Hayward's Centennial celebration. His research formed the basis for much of the series of 52 feature articles that appeared in the Sawyer County Record prior to Centennial Week.

Marple's vignettes of people, places and events of the Namekagon River Valley included many that dealt with early-day logging, lumbering and lumberjacks. His research on logging on the Lac Court Oreilles Indian Reservation was the subject of a paper given at our Association's 1980 annual meeting. We are indeed proud to present this plaque to Eldon Marple in recognition of his outstanding contributions to the preservation of the forest heritage of his part of Wisconsin's Northwoods.



President Connor presenting Distinguished Service Award to Eldon M. Marple.

CITATION
for
Distinguished Service Award
to
PESHTIGO FIRE MUSEUM
and
PESHTIGO HISTORICAL SOCIETY

From its initial organization in 1961 to the present, the Peshtigo Historical Society has been inseparable from the Peshtigo Fire Museum and Cemetery. Through the dedicated efforts of its members and board of directors, a unique memorial was established to commemorate to disastrous forest fire of October 8, 1871 that claimed the lives of an estimated 1,200 pioneers of Peshtigo. The Peshtigo Fire Museum, aquired in 1962, has since maintained a permanent exhibit of artifacts, relics and other memorobilia that survived that holocaust. Both the museum and the adjoining cemetery have been put on the National Register of Historic Places. It is estimated that nearly 300,000 people have visited these memorials since their establishment.

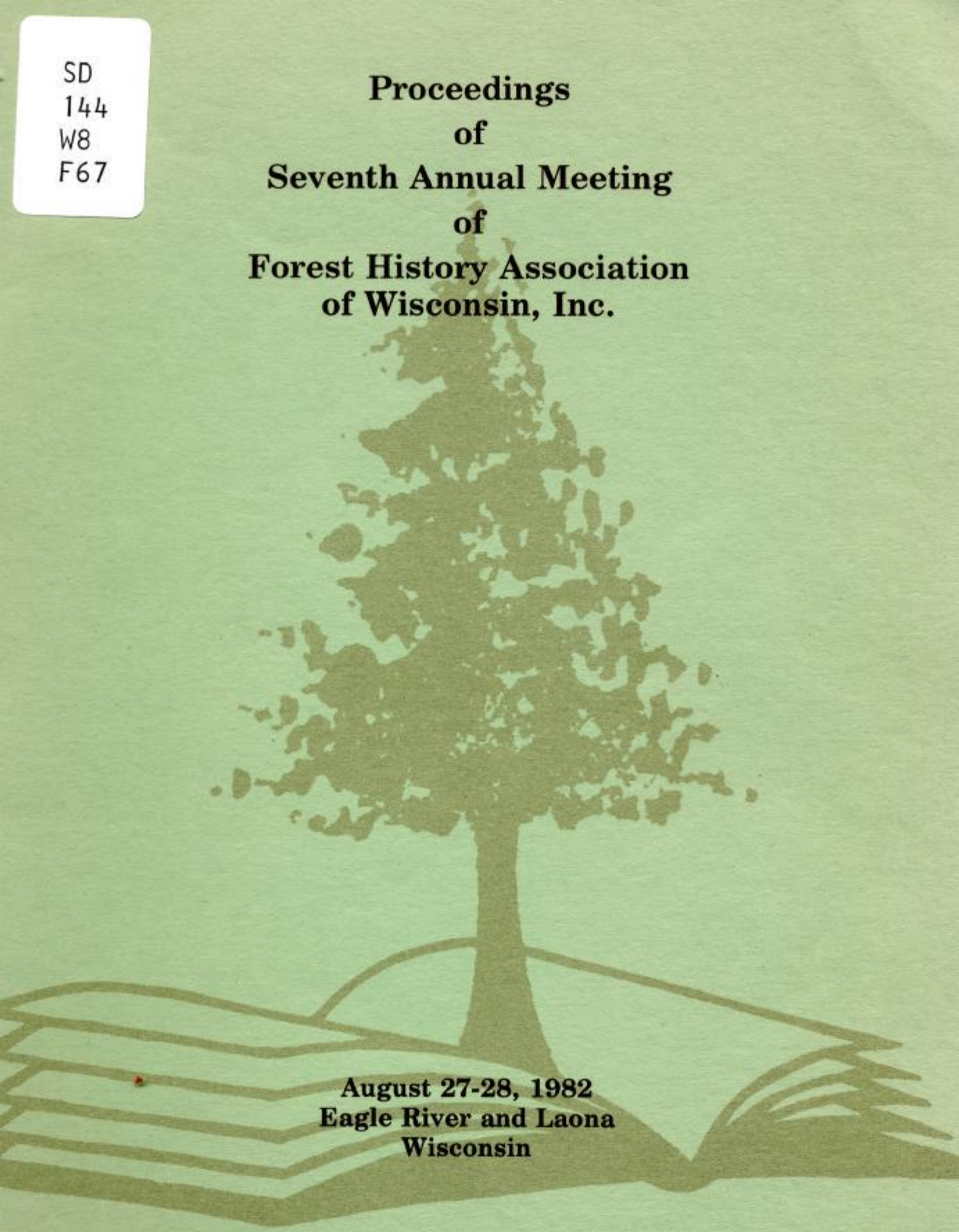
The Forest History Association of Wisconsin therefore takes pride in presenting this plaque to the Peshtigo Historical Society, and to its first and only president to date, Mr. William Hammes, in recognition of its outstanding record or accomplishment in the preservation of its local history and forest heritage.



William Hammes receiving Distinguished Service Award for Peshtigo Historical Society.

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Proceedings
of
Seventh Annual Meeting
of
Forest History Association
of Wisconsin, Inc.



August 27-28, 1982
Eagle River and Laona
Wisconsin



The Forest History Association of Wisconsin

The Forest History Association of Wisconsin had its beginnings early in 1975 when a group of representatives from the wood products industries, conservation agencies and the University of Wisconsin met to discuss a potential centennial project which would remind our citizens of the importance of forests in Wisconsin's past, present and future.

Their discussions led to the organizing of the Forest History Association of Wisconsin, Inc., as a non-profit, tax exempt endeavor whose principal objective would be to preserve Wisconsin's forest heritage. Membership currently numbers about 300 individuals, corporations and institutions.

A nine-member Board of Directors serves as the Association's governing body. Officers and directors for 1982-1983 are: Arlen Wooden, president; Jacque D. Vallier, vice president; Frank N. Fixmer, secretary-treasurer; Thomas R. Albrecht; Robert Brisson; William D. Johnson; Edwin Nagel; William G. Rector and Milton E. Reinke.

The Association has published a number of booklets which should have appeal to the forest history enthusiast:

History of the Nicolet National Forest
Some Historic Events in Wisconsin Logging
Some Events in Wisconsin Forest History
Bibliography of Wisconsin Forest History
A Chronology of "Firsts" in Wisconsin Forest History
Chips and Sawdust (quarterly newsletter)

Further information on any aspect of the Association's program and policies may be obtained by writing to

Secretary
Forest History Association of Wisconsin
403 McIndoe Street
Wausau, Wisconsin 54401

Proceedings
of
Seventh Annual Meeting
of
Forest History Association of Wisconsin, Inc.

August 27-28, 1982
Eagle River and Laona,
Wisconsin



Founded 1975

403 McIndoe Street
Wausau, Wisconsin 54401



Big wheel log skidding as used on Apostle Islands.

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Foreword

The following text comprises the official transactions conducted, and the written papers presented at the Seventh Annual Meeting of the Forest History Association of Wisconsin on August 27-28, 1982. The August 27th portion of the meeting was convened at the Trees For Tomorrow Resources Education Center in Eagle River, Wisconsin. Connor Forest Industries, Camp Five Farm, Laona, Wisconsin was the scene of the August 28th portion of the meeting.

These proceedings are dedicated to the memory of Kennell M. Elliott, a director of this association, who passed away September 28, 1982 at Rhinelander, Wisconsin. Elliott was the president of the Wisconsin Chapter of the National Association of Civilian Conservation Corps Alumni and actively engaged in the construction of a C.C.C. museum adjacent to the Rhinelander Logging Museum. He retired from the U.S. Forest service in 1969 after 38 years of service. Although not professionally-trained as a forester, his practical experience and self-study earned him an honorary forestry degree from the University of Wisconsin - Stevens Point in 1981. He authored the "History of the Nicolet National Forest", published in 1978 as a joint project between the U.S. Forest Service and the Forest History Association of Wisconsin.

The Board of Directors is most grateful to all who contributed in making this meeting the success it was.

William A. Sylvester, Publications Editor



Sawmill and log pond – Chequamegon Bay



Lumber raft – Chequamegon Bay

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– Charles E. Twining

A History of Logging in Vilas County 1856-1982
(including some personal reminiscences) 22
– Walter Mayo

The Old Surveyor and The New Surveyor 29
– Milo Stefan

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Kiwanis Club of Eau Claire and Paul Bunyan Logging Camp 32

PROGRAM
of
Seventh Annual Meeting
of
Forest History Association of Wisconsin
Friday and Saturday, August 27-28, 1982

Friday, August 27th – Trees For Tomorrow Resources Education Center, Eagle River, Wisconsin.

1:30 p.m.	Registration, Display of Exhibits
2:30 p.m.	Business Meeting Welcome and Introductions *"Trees" Story* – Henry H. Haskell, Executive Director Minutes of last meeting President's Report Treasurer's Report Amendment to By-Laws Election of new members to Board of Directors Approval of actions of Board and Officers during the past year.
3:30 p.m.	*"The Apostle Islands and the Lumbering Frontier"* – Charles E. Twining
4:15 p.m.	*"A History of Logging in Vilas County 1856-1982 (including some personal reminiscences)"* – Walter Mayo
5:00 p.m.	Social Hour
6:00 p.m.	Dinner
7:00 p.m.	Evening Program Presentation of Distinguished Service Awards Film – *"Narrow Gauge Railroad"* (Thunder Lake Lumber Co.) *"The Old Surveyor vs. the New Surveyor"* – Milo Stefan, *"Life of Gene Shepard, Rhinelander Pioneer"* – Lee Mayer

Saturday, August 28th – Connor Forest Industries, Camp Five Farm, Laona, Wisconsin.

7:30 a.m.	Paul Bunyan Breakfast at Trees For Tomorrow
9:00 a.m.	Depart for Laona (own transportation)
10:00 a.m.	Board Lumber Jack Special at Laona for Camp Five
10:30 a.m.	Tour and view exhibits at Camp Five
12:00 noon	Lunch at Camp Five Choo-Choo Hut
1:00 p.m.	Continue tour at Camp Five
2:55 p.m.	Take Lumber Jack Special back to Laona and depart for home

Minutes of the Seventh (7th) Annual Meeting of the Forest History Association of Wisconsin

August 27, 1982

Trees-for-Tomorrow Resources Education Center
Eagle River, WI.

The meeting was called to order by President Mrs. G. R. Connor promptly at 2:30 p.m. with approximately 42 members and guests present.

The executive director of Trees-for-Tomorrow, Henry Haskell, welcomed the group with a brief review of the Center's program and facilities.

Secretary-Treasurer Fixmer then read the minutes of the sixth annual meeting, held on September 11, 1981 at Green Bay. There being no corrections or additions, the minutes were approved as read.

President Mrs. Connor gave her report of the Association's activities and accomplishments during the past fiscal year. Highlights included the campaign for capital fund grants, establishment of a permanent repository for Association records and other historic reference materials, publishing of Educational Leaflet No. 1 – *'Firsts' in Wisconsin Forest History.*

Secretary-Treasurer Fixmer then reviewed his annual financial report, a copy of which is appended, along with the auditor's statement confirming the year's transactions and cash balances. He also reported on the current status of membership in some detail.

Following an explanation of the need for two amendments to the By-Laws, which have previously been made by the Board of Directors but now need further approval by the membership-at-large, it was moved by Lee Andreas, seconded by Mrs. Jacque Vallier, and unanimously approved, that (1) annual dues for individual members shall be increased to $10.00, for corporate members to $40.00, and for Life members to $200.00, beginning January 1, 1983; and (2) that the number of directors be increased to nine (9), effective immediately. By further appropriate motion and second, all acts of the directors and officers during the past fiscal year were duly approved.

The written report of the Nominating Committee, consisting of James Newman and William Sylvester, both of the University of Wisconsin-Stevens Point, was then read by the Secretary. The slate of nominees included;

Tom Albrecht - D. N. R. forester, Shawno
Ken Elliott - retired U. S. Forest Service, Rhinelander
Ed Nagel - sawmill operator, Land o' Lakes
William Rector - professor of history, U. of W.-Platteville
Jacque Vallier - historian, Milwaukee
Arlan Wooden - county forest administrator, Marinette

There being no further nominations from the floor, it was moved by Michael Lehor, seconded by Lee Andreas, and approved that further nominations be closed and that the Secretary cast a unanimous ballot for the foregoing nominees and that they be duly elected to the Board.

President Mrs. Connor then presented Distinguished Service Awards to Fred G. Wilson of Madison, Malcolm Rosholt of Rosholt and the Kiwanis Club of Eau Claire for their respective contributions to the preservation of Wisconsin's forest heritage. Their citations are made a part of the **1982 Proceedings.**

Papers were then read by Charles Twining, history professor at Northland College, Ashland, and by Walter Mayo, retired county forest administrator, Eagle River. Their presentations are also made a part of the **1982 Proceedings.**

Following the social hour and dinner, the evening program included a slide review by Executive Director Henry Haskell on the resource education program of Trees-for-Tomorrow; a film on the logging and sawmill operations of the Rib Lake Lumber Company in 1938; a talk by Milo Stefan, surveyor for the U. S. Forest Service, on the contrasting techniques and procedures of early-day surveyors and modern surveyors; and a review by commercial artist Lee Mayer of Rhinelander of the life of Gene Shepard, Rhinelander pioneer, timber cruiser, prankster and perpetuator of the Hodag myth.

The program on the second day of the annual meeting consisted of a trip to the Camp Five Museum complex near Laona, which was reached via the "Lumberjack Special", a 1916 Vulcan "4-Spot" steam engine and coaches on the Laona & Northern Railway.

Frank N. Fixmer
Secretary-Treasurer



Grandfather Mayo's cook shanty
Referred to in paper, *"History of Logging in Vilas County 1856-1982"*

Forest History Association of Wisconsin
President's Report

7th Annual Meeting – August 27-28

Eagle River & Laona, Wisconsin

We welcome members and guests to our 7th Annual Meeting – especially in this significant setting of the Trees for Tomorrow Resources Education Center at Eagle River.

This two day meeting, with tomorrow on the Lumberjack Special and Camp 5 Museum and Farm Complex at Laona, was designed to afford you a better acquaintanceship and fun, along with history.

Projects

For 1982 we note that publication of "Forest History Firsts" by Frank Fixmer has been achieved. This excellent pamphlet will go to schools, historical and forestry societies, and libraries.

Two forest essay scholarship awards were made – one to Carla Cares of the University of Wisconsin, Stevens Point, and one to Timonth Prunty of the University of Wisconsin, Madison.

A $100 grant was given to the CCC (Civilian Conservation Corps) for a 1983 50th anniversary project of reconstructing a CCC camp at Rhinelander's Pioneer Park. This major project and 1983 national reunion is being chaired by Ken Elliott, one of our directors. He is also your host at this camp.

As a tax exempt organization we do not lobby, but many of your directors have favored a re-constituted civilian conservation corps to better manage our forests, to aid in youth employment and to be a stimulus to our economy. A bill, the American Conservation Corps, has been favored by Wisconsin's Senators and Congressmen to re-instate such a program. In the 1930's the CCC was probably the most popular and effective of recession enactments and a tonic to better forestry management.

The program of the State Historical Society of Wisconsin's annual meet at Wisconsin Rapids this June included a repeat of our Society's 1981 program on the "River Era, the Railroad Era, and the Gasoline Era" by Gordon R. Connor, and a number of libraries requested copies.

Frank Fixmer represented us at the recent State & Local History section in August at Wausau.

The 1981 slide photograph file project, to reproduce interesting old company and individual forestry or logging pictures, needs much more participation by all members. Our director, Milton Reinke, chief forester of the DNR, has undertaken what should be an extremely valuable program, but it needs your active help! All pictures will be returned to you. Please send them to him c/o the DNR. You may recall that last year we had high school requests for slide programs, and this project could help.

Your Association has welcomed the offers of the University of Wisconsin at Stevens Point to be a repository for forestry historical papers, books, and pictures, from old documents, or corporate records, to forest related and land use publications.

They have also proposed that we launch a Forestry Hall of Fame. This would be a continuing project throughout the years, and it will take long endeavor and financial contributions to screen and to implement the various nominations and placques needed.

Fiscal Progress

As your President, my main interest has been to try to improve membership. I also launched an Investment Fund to generate added interest income, to supplement our meager dues, to improve our budget, and to eliminate previous deficits.

I am delighted to report that, despite these austere economic times, our Investment and Money Market Fund, in which we occasionally add, periodically, any temporary working funds, has increased our working funds by $995 earned interest. This produced a $571.07 fiscal surplus for 1982 instead of a $626 deficit in 1981.

Money market rates are now dropping, but to those who have built our Investment Fund, we thank you. Like Oliver Twist, we still hope for more! Capital contributions are still needed in addition to annual dues.

My goal was $50,000. We now have had over $6,500 including the Sorden bequest of $1,000, and have added $1,000 today, so with over $7,500, we are on our way.

Your Board of Directors gratefully acknowledges capital contributions from the Hamilton Roddis Foundation, Wausau Insurance Co., Consolidated Papers, the Connor Foundation, Nekoosa Paper Foundation, Konrad Tuchserer and several private donors as well as the L. G. Sorden Memorial Fund bequest.

Annual operating funds have also been generously augmented by Owens Illinois, Johnson Timber Co., the Roddis Foundation, the Pukall Lumber Co., plus help from Mosinee Paper Co. and others. The backbone for our efforts continues to come from corporation dues and individuals.

I would like to recommend to your next Board of Directors that some of this surplus be made available for more secretarial and press secretary help to Frank Fixmer.

Thank you for the opportunity to serve you. I would like to continue but am restricted by conditions beyond my control. But, I leave you afloat and viable, and I thank all of the committees and directors who have worked so hard to help us.

In closing, I will also say that it will be my pleasure tomorrow to welcome you aboard the Lumberjack Special steam train ride and visit to Camp Five Logging Museum, Farm and Ecology complex at Laona. I am very proud that the AAA (American Automobile Association) has starred this as one of the State's top 25 attractions. The star is for "special interest and quality". I am pleased that you asked to come this year. Camp Five has been my special project for 13 years, and we have some excellent new exhibits this year.

Thank you

Mary Roddis Connor,
President

Secretary-Treasurer's Report

To sum up the year's financial activities as briefly as possible, our total receipts, exclusive of capital grants, were about $1,000 more than the previous year, our expenditures were a couple of hundred dollars less than the previous year, and we ended up with a net operating profit of slightly over $600 compared with an operating loss of $626 the year before.

That relatively small net income, however, was supplemented by capital grant donations of $5,488.00, reference to which has been made in our president's report. The net result was a considerable improvement in our cash position: from a cash-on-hand balance on June 30, 1981 of $3,761.44, to $9,870.51 on June 30, 1982.

The audit was conducted by Walter S. Terhune of the U. S. Forest Service and Harold E. Berndt of the D.N.R., both in Rhinelander. Their report is attached to the detailed financial statement which is appended to this report. Interested persons may pick up a copy of the report at the conclusion of this meeting.

With continued emphasis on a conservative budget for 1982-83, potential increases in membership from a more active drive for members, and the further promotion of capital grant donations for investment and interest income, we can look forward to another year of successful operations from a financial standpoint.

With regard to our membership status, a revision of our membership roster indicates that on July 1st there were:

Individual members	Individual members –	236	*(including 12 Life members)*
	Corporate members –	30	
	Honorary members –	8	
	Affiliate members –	3	
	Exchange members –	3	
		280	

As usual, we had a number of "drop-outs" this past year, but these were replaced with enough new members to result in an total net gain of about 4% over the status of a year ago. While not spectacular, we have experienced a steady growth in membership despite the adverse economic conditions of the past two years. Hopefully, these will improve in the near future and help to improve the support of many potential members in the depressed logging and wood-using industries, which should be a major segment of our Association's membership.

In addition to the Secretary-Treasurer's normal duties of handling correspondence, membership and financial records, there have been several occasions to represent the Association, notably at the 1981 Logging Congress in Green Bay and the annual meeting of the Northwoods Region of the Wisconsin Council for Local History. As most of you are aware, I also edit our quarterly newsletter "Chips & Sawdust". However, the job of editing and distributing the Annual Proceedings for 1981 was well-handled by Bill Sylvester of the University of Wisconsin – Stevens Point, for which I was most grateful inasmuch as it permitted me to continue to bask in Florida's sunshine at that time. Again, I felt privileged to serve as your secretary-treasurer and look forward to another year of interesting activity in that capacity.

Frank N. Fixmer

Audit Statement

To Whom It May Concern:

The undersigned have examined and audited the financial records kept by the Secretary-Treasurer of the Forest History Association of Wisconsin for the fiscal year beginning July 1, 1981 and ending June 30, 1982.

This audit included the examination of all transactions involving both receipts and disbursements, as well as the authority to make certain purchases. Bank statements were also cross-checked with all records of receipts.

All items were found to be in agreement with the Secretary-Treasurer's summary financial report as attached hereto.

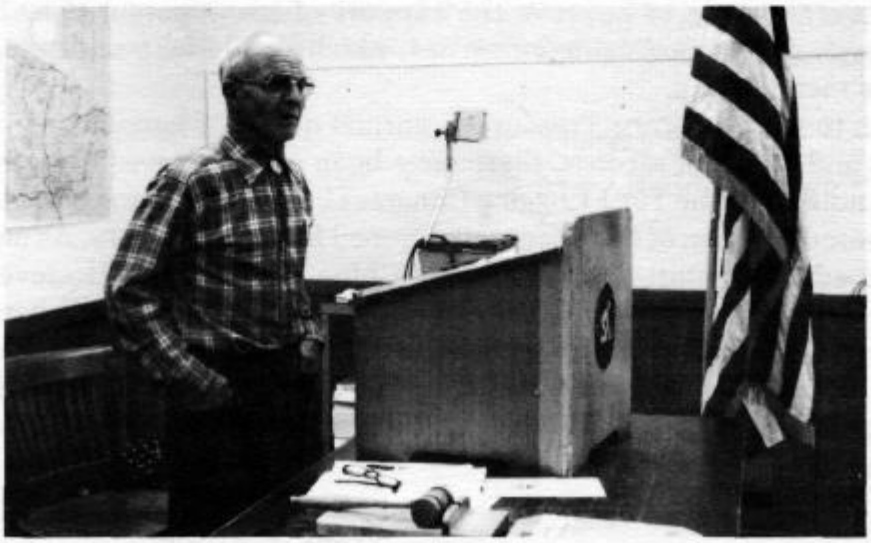
As of June 30, 1982, the Association's checking account was $848.66, the savings account was $27.85, and the investment account (money market fund) contained $8,994.00 for a total cash asset balance on hand of $9,870.51.

Respectfully submitted,

Walter S. TERHUNE

Harold E. BERNDT

Date: August 9, 1982



Walter Mayo presenting *"A History of Vilas County Logging 1856-1982"*

Forest History Association of Wisconsin
Treasurer's Report
for
Fiscal Year July 1, 1981 thru June 30, 1982

RECEIPTS		
Membership dues	$ 2552.00	
Donations - "unrestricted use"	1371.26	
Sales - publications, photos, buttons	277.50	
Annual meeting	287.00	
Interest Income	995.42	
Other	-	
		$ 5483.18
DISBURSEMENTS		
Postage; mailing permit	$ 314.85	
Stationery; office supplies	340.00	
Bonding; insurance	111.00	
Publishing	1941.42	
Annual meeting	268.85	
Scholarships; Dist. Service Awards	329.68	
Donations	100.00	
Services, travel, phone, office mtc.	937.20	
Membership promotion	384.44	
Miscellaneous	134.67	
		$ 4862.11
NET OPERATING PROFIT		621.07

RECONCILEMENT OF CASH

Checking Account - July 1, 1981	$ 735.01	
Savings Account	26.43	
Investment Account	3000.00	
		$ 3761.44
Add: Operating profit or (loss) as above		621.07
		4382.51
Add: "Restricted Use" Donations		5488.00
		9870.51

SUMMARY OF CASH ACCOUNTS

Checking Account - June 30, 1982	848.66	
Savings Account - June 30, 1982	27.85	
Investment Account June 30 1982	8994.00	
		$ 9870.51

Frank N. Fixmer
Secretary-Treasurer

August 9, 1982

The Apostle Islands and the Lumbering Frontier

Charles E. Twining
Professor of History – Northland College, Ashland, WI

Initially, it is important to recognize that the experience of the Apostle Islands and the Chequamegon Bay shores was a very small piece of an incredibly large effort. What is of particular interest, however, has to do with the special but significant contribution of the island forests, as well as with the adaptation of mainland logging methods to the island circumstances.

There is no question that it was the presence of immense quantities of pine that attracted loggers to the forests of the Lake States in the latter half of the 19th century. Indeed, the forest was known as "the pinery." Since the major effort centered on the pine, it became natural to assume that those operations involving hemlock and hardwoods were merely the result of an eventual and inevitable lack of choice, something of a cleaning up exercise for those second-rate operators who chose not to follow the real frontier on to the Pacific Northwest.

But as we look more closely – and there is no better vantage for such a view than that provided by the Apostle Islands and the neighboring Bayfield Peninsula – we find that coincident with the harvesting of pine were operations involving hemlock and hardwoods. Why? Obviously, this was not simply the cleaning up of what had been left behind. There had to have been a simultaneous demand for the products of the hemlock and hardwood species, there being no record of anyone logging for the pure pleasure of the thing.

The why, as always, had to do with the possible or, more precisely, the practical. Hardwood operations were simply limited to those areas where the movement of the product could make economic good sense, and in no area was that opportunity more apparent than on the Apostle Islands and along the shores of Lake Superior. It all had to do with the distance from stump to shoreline, and the subsequent availability of water to transport to mill and marketplace. Thus it is insufficient to generalize that the region's major logging effort of the 19th century involved the pine. In order to understand better why this was so, it is of help to study why and where it was not so.

The loggers had started their invasion in the Michigan territorial days, but their activities in the Wisconsin pineries did not approach the significant until the decade of the Civil War. As with other American frontiers, the progress of the lumberman was generally westerly, although his bent encompassed a northerly bias in Michigan, Wisconsin, and Minnesota. Thus the forests of the Lake Superior country would be, again generally, the last in the line of exploitation. The fact is, however, that while there was this logical unfolding which corresponded to an exploitation of successive opportunities, the spatial sequence was modified by the realities of relative accessibility, the economic qualifications imposed by considerations which involved transportation and logistics. So, just as sections of less accessible pine were passed by – but not forgotten – areas of unusually accessible pine were exploited in advance of the normal progression. Such was the case with the pine of the Apostles, although in this instance it was not just the pine which attracted the logger's attention.

Even a cursory investigation of past relationships will indicate that areas which nature has bound together will become economic units unless some extreme difficulty interposes. Politics has seldom proved a sufficient obstacle, as the history of Canadian-

American relations in forest products well illustrates. It is not to belittle man's efforts that one approaches a study of his experience from the ground up, that is beginning with a consideration of geography. Indeed, it speaks to man's wisdom that he early recognizes the advantages and limitations which nature has imposed. With the exception of the most precious of minerals, distance and difficulty will govern the movement of things. Employing an equation involving bulk, weight, and value, man learns just what can be moved to advantage. He does, or he fails in the attempt.

There are few examples which express more clearly the problems involved, and the dictates of geography, than the movement of logs and lumber.[1] When reduced to the lowest common denominator, considerations of friction and gravity are foremost. Winter skidding and sleighing and spring log drives on swollen streams are only the most obvious of man's adaptations. In this regard, nature proved the ultimate partner to Wisconsin operators, not only producing the forest but also providing the means for its efficient harvest.

Inevitably the movement of logs and lumber for any distance has involved water-borne opportunities. Recognition of this fact was implicit in the early reference to the so-called logging districts in the Lake States pineries, these coinciding with the great river systems that in Wisconsin and Minnesota flowed generally southward from their myriad sources – the Wisconsin River, the Chippewa, the St. Croix, and the Mississippi itself. It was along these rivers and their tributaries that early logging was possible. On their waters the logs would be driven to sawmill sites downstream. And on their waters the lumber would continue its journey, bound tightly in huge rafts, from sawmills to transshipment points at the west bank railheads.

There were, however, other water-borne opportunities, and these involved those areas to the northern and eastern side of the divide, where relatively shorter rivers and streams flowed swiftly into the waters of Lake Superior or Lake Michigan. The term "basin" has common usage in describing the area drained by a single river system, but it seems even more appropriate when used in defining the watershed of a bay such as Chequamegon. In terms of logging activities, the Chequamegon basin constituted an economic unit. If a pine was felled (or, as the loggers said, "falled") anywhere within the basin, it could be transported anywhere within the basin, and for some distance along the Lake shores in either direction. Thus, a log from the Sioux River might end up in the sawmill booms of Bayfield, Washburn, Ashland, or even Duluth. So too might a log from any of the Apostle Islands. The Bay served as a gigantic mill pond, the logs moving easily, cheaply and for the most part, safely though.

Just what did those early loggers see as they viewed the forest of the Lake Superior region? Well, generally it had a very familiar appearance, only slightly different from the more southerly portions of that vast timber belt which covered most of the nothern half of Wisconsin. The description by John C. Curtis is doubtless as accurate as can be recreated.

> . . . . The wet lands contained either conifer swamps, dominated by tamarack, black spruce, and white cedar, or hardwood swamps with black ash and yellow birch. The dry lands were dominated by pine, with jack and red pine on the

[1]This point is not original. One of the important studies to which the subject is central is William G. Rector's *Log Transportation in the Lake States Lumber Industry, 1840-1918.* Glendale, California: A. H. Clark Company, 1953

lighter sands and white pine on the sandy loams. The heavier soils were typically covered by mixed conifer-hardwoods, with white pine, hemlock, balsam fir, and white spruce as the conifers, and sugar maple, basswood, yellow birch, beech, American elm, red oak, and ironwood as the deciduous species. Some boreal forest stands of spruce and fir were found in the coldest localities, and combinations of hardwoods typical of the southern forests were present near the tension zone.[2]

It is, however, one thing to read a description of that old-growth forest and quite another to picture it in the mind's eye. Although today we can obtain and idea as to the variety of trees simply by taking a walk through the woods, we must remember that our forest, while beautiful, is relatively young. That which was viewed a hundred years ago may have differed only a little in kind, but it surely differed greatly in its character. One of those who had come northward with the construction crews of the Wisconsin Central Railroad in the 1870's noted the pine, hemlock, ash, maple, elm, spruce and balsam, "all virgin timber," and in addition he recalled the scene. "It was certainly a nice open high trees timbered country [sic] . . . a person or hunter could see a deer from a distance of a mile as there was no underbrush, except alders along the creeks and rivers."[3]

Although Frederick Merk accurately observed that in 1860 "the invading loggers were yet thundering only at the outer gates of the vast forest solitudes of Wisconsin,"[4] in the Chequamegon Bay area there had been unusually early efforts, just as had been the case with the fur trade. Indeed, the first of these was in relation to the activities of the American Fur Company. Sometime in the 1840's that Company constructed a little sawmill on Section 21 of Township 50 North, Range 4 West, doubtless at or near the mouth of what came to be known as Pike's Creek. But this was almost at the end of that fur company's involvement, so the sawmill operated only briefly, the site being purchased by one of the area's first important pioneering entrepreneurs, Julius Austrian. There were a number of other small and premature efforts over the next two decades.

In 1860, a shingle mill was constructed at the Pike Creek location, this by the partnership of Taff & Dunn. Following the war, they sold the property to R. D. Pike, son of a noted local pioneer farmer, Elisha Pike. The shingle mill was destroyed by fire some four years later, Captain Pike deciding to rebuild at La Point on Madeline Island. Certainly the assult on Madeline's timber began in earnest at that time, but tragedy again intervened, an explosion demolished the mill, killing three of the workers and wounding others. Steam power may have been romantic, but it was also dangerous. Captain Pike moved back to the mainland for his next effort, constructing in the spring of 1869 a shingle mill, to which he soon added a sawmill, probably at the time of the shutdown of the Red Cliff operation. The structure measured only 40 by 60 feet, had one circular saw and a small edger, and could produce upwards of 10,000 feet per day.

It was this effort that became the progenitor of the Bayfield sawmilling industry, to be of importance not only in what it produced for a growing community but also as a vital economic activity. Captain Pike was forever rebuilding and adding on. By 1880, the daily sawing capacity of his plant had reached 40,000 feet, and this amount was soon to be

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[2]John C. Curtis. *The Vegetation of Wisconsin.* Madison: University of Wisconsin Press, 1959, p. 177.

[3]Reminiscences of W. G. Nohl, The State Historical Society of Wisconsin MSS, Madison, Wisconsin.

[4]Frederick Merk. *Economic History of Wisconsin During the Civil War Decade.* Madison: The State Historical Society of Wisconsin, 1971 edition, p. 60.

doubled. In 1892, the R. D. Pike Lumber Company would produce 18,000,000 of lumber and 2,000,000 shingles. Although far from being the largest operation on the Bay – the Bigelow mill at Wasburn, for example, reported a cut in 1892 of nearly 47,000,000 feet – to early Bayfield, the Pike Lumber Company was **the** industry. [5]

In 1871, the year that Captain Pike added a planing mill to his facility, he also constructed a small steamer which he named the **Mocking Bird**. Thus not only did he furnish finished lumber, he could deliver it to other Lake ports; and he could also bring in the great rafts of logs to the relatively safe perimeters of his sawmill booms. One of the sources for the logs was the forested islands.

It is difficult to follow these early logging operations in any specific fashion. The loggers were only of local importance, and many only briefly so at that. Even were they given to recording their activities, hardly a likely possibility, there was little time and energy for doing so. Plat maps and weekly news items might tell us who they were, but little else. We do know, however, that they were there, and we also know why they were there.

Sawmill operators such as R. D. Pike might employ their own logging crews but, more often than not, they purchased logs from independant loggers. Some times these were simply farmers, combining their need for cleared fields with a demand for what they had cut down. But there were others who made a speculation in lands and logging a cooperative venture. On the Apostle Islands and along the shores of Chequamegon Bay, these operators initially sought out the stands of timber that stood closest to the water's edge. The movement of logs over land was costly. It was only when the logs reached the water that difficulty and expense gave way to relative ease and economy.

In the case of the islands, the distance between stump and shoreline was never very far. As a result, many of the considerations that had been important in other logging districts were here of less importance. For example, traditionally a single sawlog was skidded, dragged, from the stump site to something of a staging area where a number of these logs would be loaded on to a sleigh, then to be transported to a landing on or beside a frozen lake or stream. On the islands, the skidding operation alone would often suffice, there being no need for an intermediate step. This was true not only because of the short distances usually involved. Topography also contributed to the ease of log movement. Indeed, if one were to make topographic maps of each island, the arteries of the logging operations could be readily determined since, for the most part, they would coincide with the network of gullies and draws that fan outward and downward from height of land to shoreline. One element that has changed very little over the past one hundred years is the lay of the land. The gullies and draws are where they were, and a good deal can be presumed if not concluded simply by following these indentations inland.

There is additional evidence available. For example, the grooved trace that parallels one of the draws on Oak Island is obviously the result of recent human activity. Very likely this was a skidding trail, with log after log gradually wearing the pathway that has remained. But it may also have been the center of a roadway used by the big wheel teamsters. This seems likely for a number of reasons. Because of the relatively short distances and downhill grades, summer logging was managed on the islands during a period when it was not even considered for mainland operations. The big wheels were the

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[5]George W. Hotchkiss. *History of the Lumber and Forest Industry of the Northwest.* Chicago: G. W. Hotchkiss & Company, 1898, p. 469; *Bayfield Press,* November 9, 1889.

summer solution to the winter skidding on snow and ice, the saw log being raised and attached to the axle of the big wheels, thereby allowing it to be moved over the bare ground more easily. Oftentimes, however, the log was attached off-center, allowing the back end to drag, and this would be the case when downhill grades were at all worrisome, thereby digging grooves in its passage. The other obvious reason for conducting summer logging on the islands had to do with those efforts which focused on hardwoods. Since they could not float the hardwood logs anyway, there was no reason to think in seasonal terms. Cut in winter, the piles would wait. Cut in summer, hardwood logs could be loaded directly into barge or boat.

All of which serves to reintroduce the most basic difference between logging operations on the islands and those on the mainland – the difference which had to do with the fact that island operators were involved in a number of different efforts, each of which utilized a different species for special purposes. Their mainland contemporaries went from pine stump to pine tree, reasonably confident of market demand but also knowing that for the present there was little choice. The island logger enjoyed far greater freedom, which did not mean that he was the more profitable because of his freedom.

For example, he knew, or soon learned, that his operations were part of an economic opportunity which geography had put together and which politics had failed to separate. For many years, the Lake Superior district of Wisconsin was involved in the square timber trade of Canada, having replaced the prior contributions of Michigan forests. By and large, the square timber trade preceded the decade of the 1890's, but for several years, Ashland, Washburn, and Bayfield mills had shipped significant amounts of timber to dealers bordering the St. Lawrence. Just how much of the local product went to England by way of Quebec is impossible to determine, but it is clear that large quantities of oak, elm, ash, birch, and tamarack, were shipped, these in addition to the pine. The total has been estimated at upwards of ten billion board feet, this not including some 165 million oak staves.[6] In any case, it was not a trifling connection.

As always in any account of regional development, people did what was profitable, and around the rim of Chequamegon Bay, including the Apostle Islands, circumstances permitted the exploitation of hardwood as well as pine. As stated previously, the demand for hardwood existed, but not at any price, and it was only in limited areas such as those facing the shores of Superior where the hardwood could be harvested to advantage. Indeed, nothing could have been more accurate or succint than an announcement which appeared in the **Bayfield Press** of November 28, 1877. "Bayfield is settling down to its regular winter's business," further explaining that "cord wood, pine logs, oak timber, steamboat wood and fish are the staple products, and the supply is unlimited." Although the supply was hardly unlimited, it must have seemed so at the time.

In addition to cord wood, sawlogs, timbers and deals, staves, piling, posts, and poles, there were three additional lumbering involvements that were of more than passing importance. One had to do with the harvesting of hemlock bark, the source of tannic acid then in use by the tanning industry. The other two had to do with providing the materials essential for construction in the railroad and mining industries. As to the latter, it is not difficult to appreciate the vast amounts of timber that went into the production of dimension stuff, the materials that supported and lined the mile upon mile of shafts and tunnels of the iron ore mines of northern Wisconsin and the Upper Peninsula of

[6]Hotchkiss, *op. cit.*, p. 67.

Michigan. The imagery of entire forests being converted to be inverted is too obvious to ignore. But in this age of the open pit, it is natural enough to forget what was.

Just as poorly remembered was the effort that went into the expansion and maintenance of the nation's railroad network. Why this relationship should have received so little attention is impossible to explain, especially since it has been estimated that in the last three decades of the 19th century, American railroads consumed up to a quarter of the entire timber production of the country. In the early years, the fuel for the locomotives was more than likely wood and, of course, wood was used in the construction of bridges, tunnels, docks, and all the many buildings associated with the rail industry from maintenance shops to depots and warehouses. In addition, most of the rolling stock was largely of wood construction; and what respectable track would be without its parallel in telegraph poles.

But by far the greatest amount of wood went for crossties. An average of nearly 2,700 ties were required for each mile of track, and since the ties in general use throughout the period measured seven by nine inches by nine feet, this translated into more than 125,000 feet of lumber for each mile of new construction, with an annual renewal or replacement rate estimated at 15% or some 400 ties per mile.

As to the total amounts of crossties required, it has been estimated that in 1870 39 million were used in new construction or as replacements, and it was further estimated that this would have required a depletion of nearly 200,000 acres of timber. The total had increased to some 89 million ties by 1890, 70 million of which were replacement, with a corresponding increase in timber consumption. In addition, by 1890, railroads were consuming over three billion feet of boards and timbers annually.[7]

Hemlock constituted a very different opportunity and one that has been even less noted, perhaps because it is no longer utilized for the same purposes. Eastern hemlock was not a particularly attractive source for lumber, and certainly not when compared with the neighboring pines. Hemlock is fairly light in color, not particularly strong, about average in weight, fairly coarse in texture, and not resistant to decay. It was, however, the principal source of tanbark, which was, in turn, the principal source of tannin, a natural chemical that aided in transforming animal hides into soft but durable leather.

In the earlier years, it was only the hemlock bark in which the loggers were interested. But the price of the bark was usually sufficient to attract workers to the woods. Prices during the 1870's and 1880's varied considerably, although they generally ranged between three to five dollars a cord. In addition, there were other reasons for an interest in such operations. In at least two respects, the harvesting of hemlock bark was complementary to other activities. First, the time of prime collection was during May, June, and July, or those months when normal logging activities were at a standstill. Thus, for those who tried to be loggers on nearly a full-time basis, the barking operations helped to complete their calendar. In this connection, it should be noted that if winter held the disadvantage of extremely cold temperatures, there were many who greatly preferred that condition to the black flies and mosquitoes which drove man and beast to distraction during the hemlock harvest. Few loggers quit the woods on account of the cold, but the same was not ture regarding the heat and humidity, and the bugs that went with it. The second of the complementary considerations developed as hemlock became increasingly

[7] "Consumption of Wood Preservatives and Quantity of Wood Treated in the United States in 1910," U. S. Department of Agriculture, Forest Service, Circular No. 186, 1911.

important to the pulp industry. For this utilization the logs had to be debarked anyway, and the fact that this could be accomplished to separate advantage made the total operation all the more economical.

Large populations of hemlock grew on most of the Apostle Islands. Years later Henry J. Wachsmith recalled that "better hemlock than anywhere else" grew on island locations.[8] In these operations, the methods of logging varied but little from those followed on mainland sites. That it was done in the late spring and early summer had, of course, to do with the relative ease of peeling the bark during that season. Because about as much effort was involved in peeling larger trees with thick bark, these specimens were initially sought out. And since it was important that the bark be obtained in pieces that were regular in size and intact, the fallers often found it necessary to prepare a bed of boughs and smaller trees to cushion the fall of the hemlock, thereby avoiding any unnecessary damage. Once the branches had been removed, the bark of the trunk would be split lengthwise, and then removed by peeling it off in four foot sections, the peelers cutting around the circumference with a sharp knife.

There were different problems associated with the handling of hemlock bark as opposed to sawlogs. On the islands, it was not uncommon to construct slides or chutes down the steeper gullies, on which the slabs of bark could be slid to a beach stacking area. These were not flumes in the sense that water furnished a portion of the power for movement. Rather these hemlock chutes simply depended upon gravity to move things along, and given the grades involved, this was sufficient. The slabs of bark were then laid out to dry, inner side up, this prior to stacking in the cord-sized piles.

The loading on to a boat was often accomplished by an intermediary step, from shore to ship via a scow. These scows were usually propelled by manpower, the crew simply pulling the scow out and back by means of a rope between the boat and the shoreline. Much of the local product went to Duluth, but tanneries near and far became customers for hemlock bark which had been harvested on the Apostle Islands.

These matter-of-fact descriptions of activities seem to suggest that those who were involved were akin to automatons. Such was anything but the case. The energies and attitudes which supported the effort clearly reflected the excitement of the moment and the faith in continuing expansion and development. For most, the whine of the saws at the Pike mill seemed to provide a virtuous expression of progress.

Attitudes are always interesting, and they are particularly so when intervening years have so altered circumstances as to render them alien. Such is the case with so much having to do with the 19th century lumber industry, and, indeed, with the 19th century industry in general. It is nearly impossible to believe that there was a time, not so distant, when smoke, noise, commotion, and even some factory wastes were looked upon as evidence of promise and progress, the inevitable by-products of civilization. In this connection, a poem printed in the December 17, 1887 issue of the **Bayfield Press**, is worthy of note. Entitled simply, "Sawdust," it recaptures much of that contemporary feeling and faith.

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[8]Taped interview with Henry J. Wachsmith, September 20, 1955. The State Historical Society of Wisconsin MSS collection. Northland College Area Research Center, Ashland, Wisconsin.

Sawdust

The mill saw with its teeth of steel
Bites through the log upon the tram
And drops the dust like golden meal
Into the stream below the dam.

It floats in long procession down
Puts golden fringe on water's edge
Or rests in nooklets green and brown,
And shines like sparks among the sedge

Now swims a particle away
And minnows push it here and there
As boys at football love to play
On summer days in summer air.

The water shouts in cheering tones
As float the shining masses down
Around the curves, around the stones,
And past the busy trade-blind town.

And still the saw with teeth of steel
Bites through the log upon the tram
And drops the dust like golden meal
Into the stream below the dam.

For those not given to watching "golden meal" drop into streams, the activities could be curiously various. For example, in August of 1888, one could learn that "a large crew of men (were) at work on Michigan Island getting out hemlock for street work in Ashland," at the same time being informed that the "Pike's sawmill shut down Tuesday to let the hands go to Ashland to see the elephant," the reporter adding, "Most of them went."[9]

But for the most part it was work, and on a May day in 1890, the Bayfield editor cheerily observed, "Everybody is busy." And so they were. But panics would come. Resources would decline. Tastes would change. And whatever it was that progress had promised, that would prove something of a siren's call, for this was not a part of the expected progression. Perhaps there is no clearer admission of the difference than that which had been noted in the previous June. Matter-of-factly, it was mentioned that George Osborn, manager of the lath mill of the Pike Lumber Company, had gone to Pratt (now Grandview), there "to make final proof on his homestead." To this the reporter had casually attached a most important comment: "Mr. O. is one of the few Bayfield homesteaders who has lived on his land the full five years."[10]

Throughout, one thing had remained very much the same, and that was the natural beauty of the area. In all of the race to become a vital part of the modern state, it was perhaps inevitable that the only enduring resource would be overlooked. But the beauty could wait, and it did, and one day after the noise and the bustle had moved on, and the forest had begun to renew itself, those who remained looked about them and announced, mostly for themselves, "you know, this isn't such a bad place after all." And over the years a great many who lived and worked elsewhere have agreed.

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[9]*Bayfield Press,* August 11 and August 18, 1888.

[10]*Bayfield Press,* June 8, 1889.

A History of Logging in Vilas County 1856 - 1982
(including some personal reminiscences)

Walter Mayo
Retired Vilas County Forest Administrator

This paper covers the history of logging in Vilas County from the early 1850's to the present. It is about the early explorers, fur traders, trappers, settlers and of course the loggers to the present day of modern mechanized logging.

The information was taken from several texts, including the Eagle River Centennial Edition (1957) commemorating the 100th anniversary of Eagle River. I will also relate some of my personal experiences that pertained to the logging industry.

Before the Railroad

Early settlers came to the area about 1853; they were Bethuel Drapier and "Dutch Pete" Cramer. The first logging done in Vilas County was on the Eagle River chain of lakes in 1857 by the partnership of Fox & Helms. Fox built a good house prior to that time, approximately 1855, along the east shore of Eagle Lake. He cleared about two acres or more and planted potatoes and other garden vegetables with much success. (This was the site where the present Eagle Waters Resort is now located.) H. B. Polar operated a trading post on Yellow Birch Lake.

Fox's partner, Helms, previously had received a contract from Marathon County to build a road from Jenny (now Merrill) to the state line of Michigan. They followed an old Indian trial which was blazed through the woods by fur traders, also the old military trail, built during the Civil War, which had been used as an escape route for prisoners and slaves. The road was built just wide enough for a team of oxen. It extended from Wausau to Merrill, to Rhinelander, to Eagle River, then to Ontanogan, Michigan.

Fox and Helms brought ninety men and ten teams of oxen to start their logging operation. A young man by the name of John Curran, who had come to the area a year before, was their foreman. He was 19 years old and had helped the man called "Dutch Pete" Cramer cut marsh hay along the Wisconsin River. Curran later settled in the Rhinelander area. Cramer built a home in the area. Curran and Cramer brought a canoe load of supplies to Eagle River from Merrill by way of the Wisconsin River a short time previously. They cut marsh hay to feed a team of oxen that belonged to a man by the name of Bonneville who had built a home at the mouth of the Deerskin River. This site was later to become a logging camp.

Helms started a bank called the Marathon Bank which was also referred to as the "Kim-me-con", also the "She quan-agon" Bank. $50,000.00 of worthless notes were issued. Helms left the country before the defrauded loggers found out about this. There are a few of the three dollar bills that were issued that are still in the possession of some old time residents. They possibly are worth a small fortune now as collectors items.

Logging along the Eagle River chain of lakes was rather easy, compared to some other areas. The pine was of excellent volume and quality, but the proximity of the timber to the lakes and streams was an added advantage to loggers. They could cut and deck the logs on the lakeshore with a rather short skid to landing sites. With the logs decked in large piles on a pair of skids, they were blocked so they couldn't roll into the water until the proper time. When the logs were ready to be floated down the river or lake, the blocks were pulled out so the logs could roll down the skids and into the water. Then they would

"raft" the logs for a trip down the river to Stevens Point. This operation took place in the spring of the year to take advantage of the high water from the spring thaw and runoff. The trip took two years to complete and proved to be too costly, so it was discontinued. Supplies were also hard to get.

In 1865 the Government Land Office survey for Vilas County began. The vast stands of pine in this area aroused the interest of the timber barons. When the survey was completed the Government sold timber tracts for $1.25 per acre.

In 1878 the lumbermen of the Wisconsin Valley built a dam on the Wisconsin River at the head of the Otter Rapids. John Phelps, who owned an interest in a large tract of timber, built several logging camps on the banks of the Eagle River. One was located just east of the present Highway "45" bridge on the south side of the river. All skidding and hauling was done by oxen. In 1879-1880 Frank Tambling and Al Bradford built camps on the north shore of Duck Lake and the north shore of Cranberry Lake. Dan and Finlay McDonald had a large camp on the north shore of Silver lake. (This is now the location of Trees for Tomorrow.) About the same time, several camps were built on the Deerskin River and several dams were built to raise the water level to float the logs down to the chain of lakes.

The Railroad Era

In 1883, the Chicago & Northwestern built its railroad into Eagle River. This changed logging operations in the area as well as opening the country to settlers. The railroad received every other section of land as an incentive to build the line. Supplies, as well as horses and feed for them, could be shipped by rail. Machinery for a sawmill was shipped and the first sawmill was built in the area. Now logs could be sawed and the lumber shipped out by rail. Horses were being used because they were faster than the oxen, but they needed grain along with hay to survive. Oxen could get along on the marsh hay which was plentiful along the streams. The coming of the rail line eliminated the hard task of poling a canoe loaded with supplies up the Wisconsin River from Merrill or points south. Later, several more sawmills were built in the area, but river drives were still being made. According to the "New North", a newspaper published in Rhinelander, the log cut in the winter of 1885-1886 in the Eagle River area was estimated at over fifty eight million board feet.

Logging camps were built northward to Conover, Rummels and the Land O'Lakes area as the railway was built to Land O'Lakes and Watersweet, Michigan. The Upper Wisconsin River was the site of many camps and was widely used, as were the streams flowing into it, to float logs to the mills at Eagle River. Several dams were also built to control the water levels.

Arbor Vitae

Logging started in other parts of Vilas County with the advent of the railroads. Around 1894-1895, the Brooks & Ross Lumber Company started logging in the Arbor Vitae area. They built their own railroad lines to connect with the Chicago-Milwaukee-St. Paul main line at Minocqua. They also built a sawmill at Arbor Vitae a short time later. Several logging camps were built to supply the mill. Brooks & Ross ran this operation for several years, then sold out to Yawkee-Bissell who operated the mill till it was closed in 1912.

The population of the Village of Arbor Vitae was 1800 in 1908 which probably is as many as the whole township now has. Shingle mills were being set up here, as well as in

many other areas throughout the county, when the main logging subsided. The abundance of good white cedar in the swamps offered employment opportunities for many people, in the woods as well as in the mills. Shingles were cut for local use as well as for shipment to distant markets. Cedar proved to be a boon to the loggers when utility companies starting building telephone and power lines in the county. The use of line poles created many jobs. New settlers who had live-stock needed fence posts to fence their property. This was more or less a help-yourself deal, as there was plenty of the material left in the swamps for the taking. This is how the Bonifas Company of Watersmeet Michigan got its start. Mr. Bonifas was an office clerk for one of the large logging and lumber companies. He did not like to see all the waste of timber which occured when a logging job was in progress. He hired a small crew on his own to salvage this leftover material, especially the cedar. He would cut it into mining timbers to be used for shoring up the passageways in the iron and copper mines of the Upper Peninsula. This proved to be a very profitable and lucrative business. He made a substantial fortune doing this. Of course he had other logging and sawmill operations later.

Boulder Junction

When the Brooks and Ross Lumber Company was in operation in 1895-1896 in the Arbor Vitae area, they acquired timber tracts in the Boulder Junction area. They extended their rail lines into this country and hauled the logs to the Arbor Vitae sawmill. This lasted for a period of time till the timber was exhausted. The timber cut in this area was said to be some the prime timber harvested in the county. Brooks and Ross also had several large camps in the area.

Star Lake

In 1868, the State of Wisconsin created a public park in the general area of Star Lake and Ballard Lake. In 1872 the 1868 act was nullified and the land was sold to lumber companies. Politics and policies were very controversial then as now. In 1885 the Land and Log Company of Milwaukee bought a hugh tract of timber in the Star Lake area, part of which the village is now located on. Logging started in the Star Lake area in the early 1890's and, in 1894, Allen Williams and Hamilton Salsich moved their mill from McKenna in central Wisconsin to Star Lake. They had seven camps operating in the area which took in parts of Sayner and St. Germain. The Chicago-Milwaukee-St. Paul built a rail line into Star Lake from Minocqua. Other companies involved in the Star Lake area included: The Goodyear Lumber Company, Hoffman Brothers of Merrill, Brown Brothers of Rhinelander, Weyerhaeuser of Chippewa Falls and Yawkee-Bissell of Arbor Vitae. It has been estimated that 1½ to 2 billion feet of logs were cut in the Star Lake area. Company 650, the Star Lake Civilian Conservation Corps Camp, was established in 1934. I was an enrollee in that camp for two and one-half years and remember the train loads of logs still being shipped by rail. The mill had been closed for some time. The train crossed a tressel a short way from the camp and was always an attraction to everyone.

One regret I have, is the fact that I have forgotten the locations of some of the old logging campsites which I came across. I wish I had made notes of their locations. The sites were fairly well identifiable even 40 years after having been abandoned. These would be prime targets for my metal detector, which hasn't been getting to much use of late.

Winchester

The community of Winchester came into being in 1892. The Turtle Lake Lumber Company started its operation in 1885. At first, logs were shipped by rail, but shortly after, a sawmill was built. In 1907 a larger mill was built. The smaller mill was converted to a shingle mill as there was plenty of good white cedar in the swamps. There were 140 men in the village to run the mills and 200 in the various camps in the woods. An estimated 15 million feet of white pine was cut.

Presque Isle

The town of Presque Isle began in 1905 as Fosterville, named after J. J. Foster, President of the Vilas County Lumber Company. Five years later, Wm. S. Winegar took over the mill operations and renamed the town, Winegar. By 1924 there were 350 men in three camps and the mills which were in an area three to eight miles from the village. In the 1930s the name was changed to Presque Isle.

Phelps

Phelps was another busy sawmill town for many years. The Hackley-Phelps-Bonnell Company built a sawmill in 1903. This occurred several years after much of the white pine was cut and rafted down the Wisconsin River to the Eagle River mill. Although there was quite a bit of pine left to cut, there were stands of top quality hemlock and hardwood stands of maple and yellow birch available in the vicinity. A chemical plant was built three years later. I remember my father saying that some of the mills in the area would refuse to saw hemlock logs because they were too hard on the saws. Hemlock has very hard knots and it takes a good sharp saw to cut it into lumber. The Phelps mill sawed and planed or milled the best hemlock framing lumber I've seen and used. It was very uniform and straight and the same can be said of the ship-lap sheathing lumber milled. They used to ship a certain amount of hemlock bark to the tanneries for use in the hide tanning process. There are very few stands of hemlock left in the area because of poor natural reproduction and deer-browsing.

At Phelps, the hard maple and yellow birch stands were cut into box and veneer bolt to be milled into paneling, flooring, trim material and veneer stock. The rest of the hardwood was used in the chemical plant until the plant was closed. The main mill operated until 1957 when it closed because it was obsolete and inefficient. Labor costs made mill operation an uneconomical operation. The Chicago & Northwestern Railway built a track from its main line at Conover to the village of Phelps. The logging company which had been purchased by C. M. Christianson built many miles of their own railroad from the mill to their logging camp sites. Several large tracts of land in the township were acquired by the U.S. Forest Service in 1934 and made part of the Nicolet National Forest.

Agriculture

In 1912 the Blue Grass Lumber and Land Company of Kentucky bought up large tracts of cutover land. They advertised and sold tracts of land for farming. Some of these areas, as in much of the county, were unsuitable for farming due to the weather, and due to the fact that fires had burned the slash covered areas to a point where the land was infertile and unproductive. This, because the rich humus was burned to the subsoil,

which in most cases made the burned areas prone to erosion. There also were many frost pockets which added to the woes of the settlers. There are a few farms left in the county which grow potatoes, hay and grain. Much of this land went on the delinquent tax rolls and was eventually acquired by the County, State, and Federal governments and entered into their respective forests and forestry programs. In my opinion, this was the best thing that could have happened to these lands after they became tax deliquent. They now are managed for forestry, recreation and other multiple forest uses.

Personal Reminiscences

Now, I will try to relate some of my personal experiences in regard to the early logging days in this area. I can still remember my dad hauling logs out of the Deerskin area; this was before I was in the graded school. The logs were hauled to a mill in Eagle River by sleigh. Generally one team was used, sometimes two teams. In my childhood estimation the loads of logs seemed to be as high as our house. They would make one trip per day, leaving home before daylight and getting home after dark. My grandfather operated a logging camp prior to my time and, later on, had a shingle mill. However, its power plant was inadequate to do the job properly.

Forest Fires

I can also remember the forest fires of my younger years. The Wisconsin Conservation Department developed a fire prevention and suppression program in the 1930s, after which I had many opportunities to fight fire. It seemed each time we had a dry spell one could see smoke rising above the horizon indicating forest fires. I remember one burning very close to our home. My mother had us kids fill every pail, tub, can or what ever we could find, with water from the outside pump. Many of these fires were set by settlers clearing land. Some would deliberately set fire to the land to clear it for farming, not knowing the real damage they were doing to the soil. Many of the fires were left to burn out in hope that it would rain.

Logging

One happening I will never forget is a time when the area farmers had some sort of a meeting and a picnic along the Chain of Lakes road near Eagle Lake. I had a bad habit of running off on my own to explore, leaving my parents wondering where I was. On this occassion I heard this "chug-chug" sound toward the lake. I remember crawling thru hazelbrush, blackberry briars and what not until I reached the shore of the lake. My eyes must have popped out of their sockets. The whole lake appeared to be nothing but floating logs being towed by a gasoline-powered launch on its way to one of the Eagle River sawmills. Needless to say, I got a good thrashing when I got back to my parents. Nevertheless it was worth it and my curiosity had been satisfied.

Another sight I will always remember is that of a man named Callum who used a 5 ton Holt Crawler tractor to pull several sleigh-loads of logs on a winter woods road in the swamp near home. We always ran to a place where we could get a good look at the operation. The logs were being hauled out of the Deerskin area.

As a youngster in about the 6th or 7th grade I had the opportunity of going to one of the Stange Lumber Company camps 12 miles west of Land O'Lakes and south of Palmer

Lake. My aunt, grandmother and I rode a gasoline-powered "pede" from a siding on the northeast side of Palmer Lake for about three or four miles to the camp. This was on one of the lumber company's railroads. The time was the first part of December and there was about a foot of snow on the ground. The camp foreman's name was Ray Hook. He and his wife were good friends of my aunt and uncle. When we reached camp we had a good lumberjack meal. We then used the "pede" to go as far into the woods as the rail line was built. From there we walked and rode a sleigh back to where the men were cutting a large tract of big white pine.

It was quite a sight to see those large trees fall. They were cut into log lengths and horse-skidded to a landing site where they were loaded on sleighs with wide bunks and runners. Loading was done with an "A" frame cable jammer using horse power. When the top loader had a good load the logs were wrapped with a chain. The chain and stakes held the logs in place on the sleigh. The load was then started to the rail siding. The sleighs with their wide runners were fairly stable, and with the extra long bunks, larger loads could be hauled. Sleigh roads were rutted and iced so the sled would slide easily and stay in the ruts. Because of the wide runners the horses would walk inside of the rutted icy track. The unit that was used to make the rut-track was mounted on a set of sleigh runners with a large wooden tank for water. A sort of flange or chisel was set so it would make a track or rut. Then water was sprinkled in this rut to freeze. A team of horses could easily pull a very large or heavy load on a sleigh with such an iced track.

On the top of each grade there was a pile of hay or sand. This was used to "chink" or put in the ruts as a brake so the sleigh would not get going too fast and outrun the team. The term "chink" came from other areas where loggers used Chinese laborers to do this job. At the rail siding the logs were loaded on flat cars, using a steam powered jammer, for rail shipment to the Stange mill at Merrill.

Civilian Conservation Corps

I worked in the woods quite a few times. When I served in the C.C.Cs in 1936 I was on a crew doing timber stand improvement. I was on a crew cutting logs and in a fairly large swamp to salvage dead and down tamarack. This had been a prime stand 50 years earlier. The ranger told us it was hit by an infestation of the tamarack saw flies which killed the stand. The trees were down flat on the swamp floor and covered with about an inch or more of moss. We used two-man crosscut saws to cut the trees into logs which ranged from a foot to two feet in diameter at their butts. After cutting through the moss and an inch of rotted bark, the interior wood was just as sound as it had been when standing over 50 years before. We sawed them into 16 foot logs and decked them at the edge of the swamp. The Wisconsin Conservation Department hauled them away for use as logs or had them sawed into lumber. Several logs were obtained from each tree.

Many large areas around Conover were open prairies after the fires ravaged the country. Our camp planted most of the areas with jack pine. The foresters said at that time if a 60% survivial rate was attained they would be happy. The survival rate was closer to 90%, leaving some stands rather crowded.

For years trainloads of logs and pulpwood were shipped out. Now the rail line is abandoned after almost a hundred years of operation. A sad happening for the area. I was dispatcher at the Conover Ranger Station and would watch many of these trainloads go by using two engines for pulling. Ironwood poles were used for stakes on the flatcars to

confine the loads of logs and pulpwood. The railroads, finally, were required to furnish steel stakes on their cars to cut down on the waste of wood stakes which once used were discarded.

Later

After I got out of the C.C.C.s, I went to work for the Standard Oil Company's Eagle River bulk plant. One trip I had was delivering gasoline, diesel fuel, etc. to one of the Vulcan Corporation camps located north of Mamie Lake into Michigan. There, horses were used for short skidding, but heavy machinery was used for road building, hauling and other jobs. I would generally leave the bulk plant timing my arrival at the logging camp so as to get everything unloaded by dinner time. The foreman would always invite me to eat before leaving camp. He did not have to repeat the offer twice, as a young man of 20 years old, I always had a good appetite.

It was a typical logging camp with cook shack and everything that went with it. Tables were pile with food. No one spoke except when passing the food around. That winter I worked for Carl Schels of Eagle cutting logs and pulpwood in the Nicolet National Forest, skidding with horses and a 5 ton Caterpillar tractor. We used cross cut saws and "Swede" saws for cutting, and loaded the pulp and box bolts by hand. I also hauled logs and worked in Schel's mill a short time.

When I took the position as Vilas County Forest Administrator in 1965, jobbers working on the forest were using horses to skid or a small crawler tractor with a cable jammer to skid load the pulpwood. A few were still using "Swede" saws. Some had chain saws, and later on, all were using chain saws which had become quite reliable.

Next they started using rubber-tired skidders as more new equipment was introduced, they were in the market for it. Some loggers purchased more equipment than their budgets could stand. Trucks, then, became equipped with hydraulic knuckle booms for loading. Several young fellows came into my office inquiring about county owned timber and were "gung ho" to get into the logging business. Some would mention the equipment they intended to buy. I would listen for a while realizing that they did not realize the money that would have to be tied up in equipment. I generally would advise the buying of an axe and a chain saw and hire out to some jobber to see if working in the woods would be for them. Or, if they wanted to be on their own, to get a skidding horse or some used crawler tractor with a string jammer along with a chain saw and an axe. Some took the advice and started out slow and made a go of it. Others went all out and the finance company ended up with the equipment to sell.

The Old Surveyor Versus The New Surveyor*

Milo E. Stefan
Land Surveyor U. S. Forest Service

The Bible speaks to the old surveyor and the people several times. The verse with special significance to landowners in today's society is "Thou shalt not destroy thy neighbor's landmark."

Our rectangular system of survey was born out of an Act of Congress on May 5, 1785. Rectangular in that six mile square units (townships) were carved out of the public domain westward into a virgin forest and prairie to form a new nation. These townships were again broken down into one square mile units (sections). Homesteaders and lumber barons then took ownership by various ways across millions of acres for the next 200 years.

The landmarks (section and quarter corners) set in the rectangular survey are of the utmost importance even today. Where these corners were set the position does not change, and it is up to the old and new surveyor to find these positions and restore them. The old surveyor placed them there with what we would consider some rather crude tools by today's standards; however, he did some excellent work and up in the ninety percentile was done correctly and in good faith.

Oh yes, we hear of the barroom surveys and the ones made in a tent; but under the adverse conditions and hardships and lack of inspection, the government got its money's worth on nearly all those contracts.

For most of the original surveys, the only tools used were a large staff compass for direction of the line and the Gunther Chain to measure the horizontal distance. These tools are only museum pieces today.

As the new surveyor came along to restore the original survey, many technological changes were to come along – the solar compass by William Bert in 1834; transits came along about 100 years ago; the Gunther Chain was replaced by a steel band about 1910; Theodolite (an optical reading transit) was being perfected in the 1930s.

Probably the greatest innovations have come about in the last twenty-five years. The National Space Administration's requisite to have the exact distance to the moon resulted in the development of an electronic distance measuring unit to supply the vital information. This method of measuring distance with a beam of light has revolutionized the field of measuring horizontal distance. The land surveyor is able to obtain remarkable accuracy, and this allows him to work with greater confidence.

Surveyors today are using the Theodolite for measurement of angles to one second of arc and electronic distance meters (EDM) to measure distances to the one thousandth of a foot.

In a few short years, a whole new array of technical developments will be arriving on the scene. Some are already here – the Laser Range Pole and Autoranger. More are around the corner – remote sensing of Doplar and Radio systems with satellite becoming of ever increasing value in finding our position on the face of the earth. Photogrammetric systems are being used and will be perfected to a much finer point.

The old surveyor will always take great pride in the fact that where the original corner was established it is as he placed it, and the landmark will remain forever. It is the new surveyor's task to find those corners of the past and **restore** and **record** them for the future.

* *This is a brief of the extemporaneous talk given by Stefan. His presentation also included a display of a number of instruments used by early and modern surveyors as well as explanations of their use and accuracy for various objectives.*

CITATION
for
DISTINGUISHED SERVICE AWARD
to
FREDERICK G. WILSON

The Association's Board of Directors authorized this year the presentation of distinguished service awards to two individuals, rather than the customary one.

The first of these awards goes to a professional forester who, during his 41 years of service with the former Wisconsin Conservation Department, was responsible for, or associated with, many of the major milestones of accomplishment in forestry in Wisconsin.

Frederick G. Wilson became one of the state's first forest rangers in 1911 and, in the succeeding years, established the first state forestry headquarters, the first system of lookout towers for fire detection,and the first state tree nursery. Subsequently, he became Wisconsin's first extension forester, and as such, was instrumental in advancing the principles of land use zoning, which later led to the establishment of 2½ million acres of tax delinquent land as county forests. Wilson also promoted and assisted in the organization of the first cooperative forestry research program between the Wisconsin Conservation Department and the University of Wisconsin in forest soils, genetics, pathology and entomology.

During his tenure as Superintendent of Cooperative Forestry, Wilson implemented a program of state-wide forestry assistance with an expanded staff of foresters, whereby private landowners were provided with forest management advice and information which could be applied to their small woodland tracts.

It is with the greatest of pleasure that we present to Frederick G. Wilson, pioneer of forestry in Wisconsin, this token of esteem for his most distinguished service to the cause of forestry and for his many contributions to the state's forest heritage.



President Connor presenting Distinguished Service Award to Frederick G. Wilson.

CITATION
for
DISTINGUISHED SERVICE AWARD
to
MALCOLM ROSHOLT

The Association's second 1982 award for distinguished service by an individual is presented to a member who is well-known to most of us with any interest in Wisconsin's forest heritage: Malcolm Rosholt, historian and author of numerous books dealing with pioneer days in the pineries of central Wisconsin.

Rosholt's classic story of "The Battle of Cameron Dam" was retold by him at our third annual meeting in Madison in 1978. At that time, he had already received the State Historical Society's Award of Merit for his "Photo Album of the Past: Pioneer Scenes and Portraits from Central Wisconsin". This was followed by Volume II with the same title, and subsequently by "A Photo Album of Marathon County 1850-1925".

Portage County history also became his subject for a series of articles in the Stevens Point Daily Journal. Eventually these were collected into his 1979 book "Pioneers of the Pinery" in which he made events and people live again for his readers.

More recently, Rosholt's "Wisconsin Logging Book, 1839-1939" represents another innovative approach to a review of our state's first century of logging and lumbering by means of historic photographs. At the present time, his newest work, "Lumbermen on the Chippewa" is being printed and is expected to be available for distribution in the near future. Additionally, he has written many articles of historical significance for magazines, journals and newspapers.

So, we are happy to recognize on this occasion, the many contributions of Malcolm Rosholt has made to the preservation of Wisconsin's forest heritage and take pleasure in presenting this plaque to him as a token of our appreciation for his achievements.



Malcom Rosholt receiving Distinguished Service Award.

CITATION
for
DISTINGUISHED SERVICE AWARD
to
KIWANIS CLUB of EAU CLAIRE*
and
PAUL BUNYAN LOGGING CAMP

The Paul Bunyan Logging Camp at Eau Claire, WI, is a memorial to the era when logging and lumbering in the Chippewa River Valley was in its hey-day.

Planned, collected and organized by the Kiwanis Club of Eau Claire, that service organization also paid for all construction costs other than the labor provided by the city of Eau Claire. Dedication of the Camp took place in 1936, at which time it was formally turned over to the city, which has maintained it ever since, as well as made numerous additions and improvements.

Although there are several museum-type logging camp replica in Wisconsin, none has a more significant location than the Paul Bunyan Logging Camp. Situated in scenic Carson Park, it is surrounded by Half Moon Lake, which was one of the two natural log reservoirs on the Chippewa River within the city limits and the former site of several of the largest sawmills of the late 19th century.

The several buildings that comprise the total exhibit are authentic reproductions of a typical logging camp of the 1890s. They all house a large collection of artifacts and photos that help the viewer's imagination to recreate the life of the lumberjack, riverman and sawmill worker of that era.

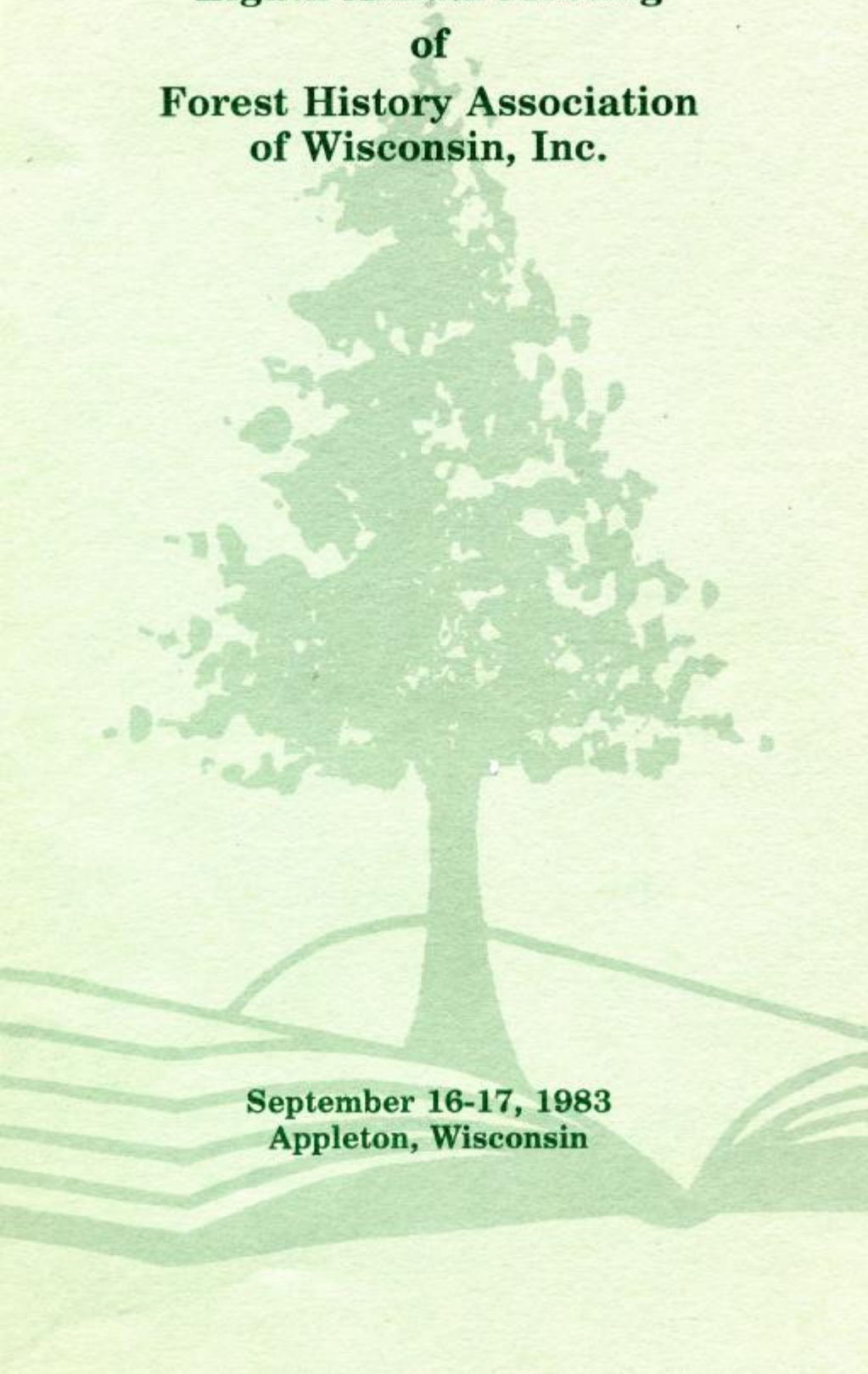
For its contribution to the preservation of a vital chapter in the forest history of the Chippewa River Valley, we are pleased to present this plaque to the Kiwanis Club of Eau Claire and the Paul Bunyan Logging Camp.

* *Award accepted by past president Frederick E. Roadt of Eau Claire.*



Frederick E. Roadt receiving Distinguished Service Award for Kiwanis Club of Eau Claire

Proceedings
of
Eighth Annual Meeting
of
Forest History Association of Wisconsin, Inc.



September 16-17, 1983
Appleton, Wisconsin

The Forest History Association of Wisconsin

The Forest History Association of Wisconsin had its beginnings early in 1975 when a group of representatives from the wood products industries, conservation agencies and the University of Wisconsin met to discuss a potential centennial project which would remind our citizens of the importance of forests in Wisconsin's past, present and future.

Their discussions led to the organizing of the Forest History Association of Wisconsin, Inc., as a non-profit, tax exempt endeavor whose principal objective would be to preserve Wisconsin's forest heritage. Membership currently numbers about 275 individuals, corporations and institutions.

A nine-member Board of Directors serves as the Association's governing body. Officers and directors for 1983-1984 are: Arlan Wooden, president; Jacque D. Vallier, vice president; Frank N. Fixmer, secretary-treasurer; Thomas R. Albrecht; Robert Brisson; Edwin Nagel; William G. Rector; Milton E. Reinke and Ellen Sabetta.

The Association has published a number of booklets which should have appeal to the forest history enthusiast:

History of the Nicolet National Forest (now out of print)
Bibliography of Wisconsin Forest History
A Chronology of "Firsts" in Wisconsin Forest History
Chips and Sawdust (quarterly newsletter)

Further information on any aspect of the Association's program and policies may be obtained by writing to

Secretary
Forest History Association of Wisconsin
403 McIndoe Street
Wausau, Wisconsin 54401

THE STATE HISTORICAL SOCIETY OF WISCONSIN
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1846

Proceedings
of
Eighth Annual Meeting
of
Forest History Association of Wisconsin, Inc.

September 16-17, 1983
Appleton, Wisconsin



Founded 1975

"The past is but prologue to the future"



Dinner meeting prior to the presentation of the Association's Distinguished Service Awards.

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8th

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FOREWORD

The following text comprises the official transactions conducted, and the written papers presented at the Eighth Annual Meeting of the Forest History Association of Wisconsin on September 16-17, 1983 at the Institute of Paper Chemistry, Appleton, Wisconsin. As indicated by written papers, the theme of the meeting centered around the 50th Anniversary of the Civilian Conservation Corps and Log Transportation.

The Board of Directors is most grateful to all who contributed in making this meeting the success it was.

William A. Sylvester,
Publications Editor



William G. Rector, history professor at the University of Wisconsin – Platteville, and Association director, presenting his paper on *"The History of Log Transportation"*.

ANNUAL MEETING
FOREST HISTORY ASSOCIATION OF WISCONSIN

– PROGRAM –

September 16-17, 1983
The Institute of Paper Chemistry
Appleton, Wisconsin

Friday, September 16

2:00 p.m. - 7:30 p.m.	Registration
2:30 p.m. - 4:30 p.m.	Paper Mill Tour (optional) Midtec Paper Corporation
6:30 p.m. - 7:30 p.m.	Reception
7:30 p.m.	Banquet w/Entertainment Distinguished Service Awards

Saturday, September 17

7:30 a.m. - 8:30 a.m.	Continental Breakfast/Registration
8:30 a.m. - 9:45 a.m.	Annual Business Meeting
9:45 a.m. - 10:15 a.m.	**"History of the Wisconsin Civilian Conservation Corps"** —John Pager, environmental communications specialist, U.S. Forest Service, Milwaukee, Wisconsin.
10:15 a.m. - 10:30 a.m.	Coffee Break
10:30 a.m. - 11:15 a.m.	**"History of Log Transportation,"** —William Rector, University of Wisconsin-Platteville.
11:15 a.m. - 12:00 p.m.	**"Last Logging Railroad Operation in Wisconsin"** —Robert Rusch, Attorney at Law, Medford, Wisconsin.
12:00 p.m. - 1:00 p.m.	**Lunch**
1:00 p.m. - 2:30 p.m.	**Tour:** Dard Hunter Paper Museum
2:30 p.m.	Adjournment

MINUTES of the EIGHTH (8th) ANNUAL MEETING of the FOREST HISTORY ASSOCATION OF WISCONSIN

September 17, 1983
Appleton, Wisconsin

The meeting was held in the Continuing Education Center of the Institute of Paper Chemistry and was called to order by Vice-President Jacque Vallier at 8:55 A.M. with approximately 26 members and guests present. These were later joined by 10 members of the Fox River Chapter of the Wisconsin Section of the Society of American Foresters whose fall meeting happened to be held at this time.

The minutes of the 1982 meeting were read by the Secretary. There being no additions or corrections, the minutes were approved as read.

In the absence of President Wooden, Vice-President Vallier presented the annual report of the Association's activities and accomplishments during the past fiscal year. His report is appended hereto.

Secretary-treasurer Fixmer then gave his review of the status of the Assocation's membership and finances. His detailed report and financial statement is also attached to these minutes. At the suggestion of Vice-President Vallier, a general vote of thanks was extended to the Secretary for his diligent services during the past and previous years.

The report of the Nominating Committee was then read, being in the form of a letter from its chairman, Ralph Swanson. Nominated to continue for two-year terms were Milton Reinke and Frank Fixmer; also nominated was Ellen Sabetta, museum curator at Wisconsin Rapids, to replace William Johnson, whose term had expired. There being no further nominations from the floor, motion was made and duly seconded to close any further nominations and to have the Secretary cast a unanimous vote for the above named directors of the Board; approved.

Upon appropriate motion by John Saemann, and duly seconded, the acts of the Association's officers during the past year were ratified.

An open floor discussion then followed on several subjects, including:

1. Renewal of a campaign for capital funds, with the general membership to assist in such an effort on a continuing basis.
2. Promoting of new memberships, particularly wood-using corporations, as well as continued emphasis on membership retention.
3. Selection of sites and dates for future annual meetings and the factors affecting those selections.

There being no further business, the meeting was declared adjourned at 9:55 A.M.

Frank N. Fixmer
Secretary-Treasurer

FOREST HISTORY ASSOCIATION OF WISCONSIN

PRESIDENT'S REPORT

8th Annual Meeting - September 16-17
Appleton, Wisconsin

We welcome members and guests to our 8th Annual Meeting. It is especially significant that the meeting is being held here in Appleton on the campus of the Institute of Paper Chemistry. The Institute has contributed much to the forest history of the State and Nation. I am sure you will enjoy the trip through the Dard Hunter Paper Museum at the conclusion of this meeting.

Your Board of Directors has met on five occasions during the past year to facilitate the operation of the Association.

Highlights of the year's activities include:

Again, awarding two $100 forestry scholarships, one each to a student at each of our forestry schools. This years recipients were Steven K. Edge of the University of Wisconsin-Stevens Point and Richard Hallett of the University of Wisconsin-Madison.

Your Association contributed $100 to the CCC Museum in Rhinelander for the Kennell Elliott Memorial located in that Museum.

Frank Fixmer completed an update of the Directory of Members.

We cooperated with the Wisconsin Academy of Science, Arts and Letters by providing speakers for their meetings and made a set of our mailing labels available to them for use in acquainting our members of their activities.

Our status with the State Historical Society of Wisconsin has been changed from probationary membership to a permanent basis.

During the past year we tried to increase publicity of our activities through press releases issued not only to newspapers but to newsletters and other publications of forestry related organizations as the Timber Producers Association, Wisconsin Society of American Foresters, Wisconsin Woodland Owners Association, Department of Natural Resources Magazines, etc. This project is being undertaken by your Publicity Committee consisting of Tom Albrecht, Frank Fixmer, William Rector and William Sylvester.

The importance of our Capital Endowment Fund must not be forgotten. The fund represents an integral part of our financial operation. Increased receipts from this fund are a MUST in the continuation of our program. I ask each of you to try to secure additional contributions to this fund.

We are all in debt to Frank Fixmer for the great amount of time and effort he has expended on behalf of the Society during the past year. Thank you, Frank.

In closing I want to thank those on the planning committee who made this meeting possible. Tom Schmidt was chairman and assisted by Larry Easton, Irving Isenberg, John Wollwage, Lyman Precourt, Paul Litwen and Ron Jones.

Thank you

Arlan Wooden
President

SECRETARY-TREASURER'S REPORT

Membership reports of past years have generally been favorable, usually noting some net gain each year. Unfortunately, this was not the case for the past fiscal year, perhaps reflecting the economic situation of the period. An up-dating of our membership roster on June 30, 1983 showed the following:

Individuals	207	- including 13 Life Members
Corporate	24	
Honorary	7	
Affiliate	3	
Exchange	3	
Total	244	

This represents a loss of 36 members over the previous year. It behooves all of us to increase our efforts toward replacing those losses with new members. A good start has been made since the beginning of the new fiscal year with the addition of 9 new members to the rolls.

In addition to the four issues of "Chips & Sawdust" and the 1982 Proceedings of the last annual meeting, our publishing efforts included Educational Leaflet No. 1 - "Firsts in Wisconsin Forest History". These were sent not only to our membership, to all libraries and local historical societies, but also to the history departments of all high schools and colleges, with our covering letter offering to provide additional copies, as desired, free of charge. The response was gratifying and indicative of the interest generated. Total distribution to date has been nearly 3,000 copies.

The financial aspects of the Association's activities during 1982-83 are not particularly cheerful reading. Regrettably, we ended the year with an operating deficit of $1,211.42; however, this was covered with accumulated surpluses from the earlier years of our existence when donations were more liberal and somewhat easier to come by. Paradoxically, we did manage to **increase** our cash assets slightly, due largely to the addition of $1,800 in capital grants by the Gordon R. Connor Foundation (Wausau) and the Hamilton Roddis Foundation (Marshfield).

It became obvious this past year that subscribing membership dues, in spite of the increase last January 1st, are inadequate to maintain our publishing schedule and level of other services. We need substantial increases in donations, and further increases in income from the interest and dividends resulting from our investment of capital and temporary surplus funds. Donations need to be "unrestricted", that is, given with the understanding that they can be used for current operating expenses. It should also be understood that capital grants are one-time cash gifts and "untouchable" for meeting operating costs. You will hear more on that subject, and the urgent need for a renewed capital funds campaign, as this meeting proceeds.

The detailed report for the past fiscal year is appended hereto, along with the auditing committee's verification statement. In brief, this shows total receipts of $4,099.55 and total disbursements of $5,310.97, resulting in the operating loss already mentioned. For an organization of our size and scope, this is indeed a quite modest budget. The prospects for any expansion of either program or services in 1983-84 will depend wholly on the response of members to appeals for increased financial support.

Copies of the detailed operating statement and cash position of the Association are available upon request, and will also be included, as usual, in the Proceedings to be published later this year.

Frank N. Fixner
Secretary-Treasurer

AUDIT STATEMENT

To Whom It May Concern:

The undersigned have examined and audited the financial records kept by the Secretary-Treasurer of the Forest History Association of Wisconsin for the fiscal year beginning July 1, 1982 and ending June 30, 1983.

This audit included the examination of all transactions involving both receipts and disbursements, as well as the authority to make certain purchases or payments. Bank statements were also cross-checked with all records of receipts.

All items were found to be in agreement with the Secretary-Treasurer's report as attached hereto.

As of June 30, 1983, the Association's checking account balance was $135.69, the savings account balance was $29.40 and the investment account balance (money market fund) was $10,319.00.

Respectfully submitted,

Thomas R. Albrecht

Thomas R. Albrecht

Orton G. Henning

Orton G. Henning

Dated: August 28, 1983

FOREST HISTORY ASSOCIATION OF WISCONSIN
TREASURER'S REPORT
for
Fiscal Year July 1, 1982 thru June 30, 1983

OPERATING STATEMENT

RECEIPTS	1982-83	1981-82
Membership dues	$ 2,728.00	$ 2,552.00
Donations - "unrestricted use"	204.00	1,371.26
Ken Elliot Memorial	100.00	–0–
Sales - publications, buttons, photos	41.00	277.50
Annual meeting	–0–	287.00
Interest and dividend income	1,026.55	995.42
Other	–0–	–0–
	$ 4,099.55	$ 5,483.18
DISBURSEMENTS		
Postage; mailing permit	$ 431.62	$ 314.85
Stationery; office supplies	258.75	340.00
Bonding; insurance	124.00	111.00
Publishing	2,899.41	1,941.42
Annual meeting	15.35	268.85
Scholarships; Distinguished Service Awards	363.37	329.68
Donations (K. Elliott - C.C.C. Museum)	100.00	100.00
Services, travel, phone, office mtr.	1,020.54	937.20
Membership promotion	—0—	384.44
Miscellaneous	97.93	134.67
	$ 5,310.97	$ 4,862.11
NET OPERATING PROFIT OR (LOSS)	$(1,211.42)	$ 621.07

RECONCILEMENT OF CASH

Checking Account - July 1, 1982	$ 848.66	$ 735.01
Savings Account - July 1, 1982	27.85	26.43
Investment Account	8,994.00	3,000.00
	$ 9,870.51	$ 3,761.44
Add: Operating profit or (loss) as above	(1,211.42)	621.07
	$ 8,659.09	$ 4,382.51
Add: "Restricted Use" Donations	1,825.00	5,488.00
	$10,484.09	$ 9,870.51

SUMMARY OF CASH ACCOUNTS

Checking Account - June 30, 1983	$ 135.69	$ 848.66
Savings Account - June 30, 1983	29.40	27.85
Investment Account - June 30, 1983	10,319.00	8,994.00
	$10,484.09	$ 9,870.51

THE CIVILIAN CONSERVATION CORPS PROGRAM WITH EMPHASIS ON WISCONSIN

John Pager

In 1933, President Franklin Roosevelt created what would become the single most productive conservation program in our history - the Civilian Conservation Corps (CCC). The CCC was a conservation program in a double sense for not only did it replant forests and check soil erosion but it reclaimed the lives of thousands of young men. In the words of the historian John A. Salmond, the CCC "was important because of its effects on the nation's natural resources and the health of its enrollees, ... It marked the first attempt by the federal government to provide some specific solution for the problems of youth in an increasingly urban society."

Nineteen eighty three marks the fiftieth anniversary of the CCC. The anniversary is important because CCC projects accomplished much needed natural resource work that otherwise would not have been done. Many buildings and recreation areas that were built by the CCC and many roads and trails constructed by the CCC are still being used. Projects such as forest improvement and tree planting are adding benefits to today's economy. The generation that served the CCC is not yet fully retired. Many former enrollees look back on their experiences as the most significant in their lives.

Employment

The number of Wisconsin men given employment between 1933-42 was 75,242. The figure included 63,965 junior and veteran enrollees, 2,190 Indians, and 9,087 non enrollee personnel of camp officers and supervisory workers. The number of individuals who worked in Wisconsin, regardless of state of origin, was 92,094.

Rural areas had many unemployed people who benefited by CCC employment. Referred to as "local experienced men", they had experience of working in the woods and were used to train and supervise the city boys. They played a vital role in the program because they were skilled in many trades and shared their skills with the young men who were eager and willing to learn.

The CCC program had tremendous economic impact in many of the small communities in northern Wisconsin by providing groceries, clothing, bedding, tools, lumber, ... you name it . . . all the things needed to outfit an army of civilian conservation corps workers – each of whom was being paid $30 a month ($25 of which had to be sent home).

Camps

The average number of camps operated in Wisconsin was 54. The average distribution of the camps, by operating service, in June 1937, was as follows: National Forests 26, State Forests 19, Soil Conservation Service 17, and State Parks 14.

The stories of the early days of the CCC program told to me by the CCC'ers seemed to follow a pattern. After a long train ride, they arrived at a small northern Wisconsin railroad station and were greeted by an Army officer and a work leader. One of the enrollees recalled a comment made by a city boy after seeing the burned over terrain, "where are the trees?" An enrollee answered, "we're here to plant them, not to find

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them." Enrollees were loaded into Army trucks and driven to a remote location and literally dumped. Also unloaded were tents and equipment that included dull army axes, blunt saws, and old shovels. Their instructions were explicit: if they wanted to have a place where they could sleep and eat, they needed to clear away the underbrush and cut the trees needed for a camp site. The same refrain was heard from many CCC'ers. Somehow by nightfall the recruits managed to have enough tents in place for a field kitchen and sleeping accommodations for a much needed rest.

As the program grew, permanent camps were established that included the following facilities: barracks, kitchen, bathhouse, maintenance shops, education and recreation halls, and ball fields.

Two good examples still exist in Wisconsin that give a visitor an idea of the physical layout that was typical of many permanent CCC facilities - Trees for Tomorrow in Eagle River and Wyalusing State Park near Prairie Du Chien. At Rhinelander, in Pioneer Park, a Wisconsin CCC museum was recently dedicated as part of the 50th Anniversary commemoration of the CCC's. The museum is a shortened replica of a typical barracks containing artifacts, pictures, and other items that give a visitor an idea of what happened in a typical camp.



CCC crew planting trees in cut-over, burned-over lands on Nicolet National Forest.



Typical CCC plantation today (1983).

DIFFERENT AGENCIES ASSIGNED CAMPS

National and State Forests

From the inception of the CCC program, the federal and state CCC camps were mostly located in northern Wisconsin and engaged in almost every phase of forestry and conservation. Work included forest fire pre-suppression, forest fire fighting, erection of fire lookout structures, construction of forest protection facilities, transportation improvements, hazard reduction, nursery development and maintenance, forest planting and seeding, forest stand improvement, disease and insect control, landscaping, recreational development, wildlife and other related activities.

The CCC is remembered primarily for the millions of trees they planted. In my opinion, for the first time, adequately trained crews became available through the CCC to gain control over the historically bad fires that burned regularly in northern Wisconsin. Enrollees relate that it was standard operating procedure that 15 minutes after the fire bell sounded they were dressed, loaded, and headed to fight the fire. The crews stayed as long as it took to bring the fire under control. The 4,390 miles of minor roads and fire lanes built by the CCC were extremely important to gain access to fight the fires.

At the peak of the CCC program in 1935-36, the Nicolet National Forest had 22 camps. One camp was a Veteran Camp. All of the enrollees were veterans of World War I.

Fish and Game

The CCC boys got out at 3 a.m. routinely and backed their tank trucks up to loading stations at the fish hatchery to hasten their trip to a lake or stream where the fish were to be planted. When these boys heard about newspaper reports of boondoggling, they knew that their critics were not up in the woods on frosty mornings to watch them plant fish.

State Parks

Devils Lake State Park, in the southern part of Wisconsin and the largest park in the state, received complete park development with the aid of the CCC enrollees. Several of the original camp buildings have been retained and improved for the use of such agencies as the Boy Scouts, Girl Scouts, and similar organizations.

Many roadside and state parks were developed and enlarged by the CCC. Facilities installed included buildings, water systems, and sewage disposal systems. Grounds were landscaped and timber stands in adjacent areas were cleaned up. There was development of roads, trails, and nature trails. Springs and ponds were cleaned out.

Soil Conservation Service

Many of the CCC camps assigned to the Soil Conservation Service were located in large watersheds in areas with a great deal of erosion.

The first, and one of the most successful of the demonstration projects, was the Coon Creek watershed in southwestern Wisconsin. CCC Company 1697 arrived on May 4, 1934. This area of dairy farms, located in the Driftless area of narrow steep valleys, was perfectly suited to a demonstration of soil conserving measures, especially the strip cropping that still dominates the landscape today. Enrollees worked on various wing dams along Coon Creek to stop the erosion that clogged the stream. They shaped the banks, built willow mats to be placed on the banks, planted willow shoots, fenced off

woodland, built terrace outlets, and plugged gullies. Today the area is a show place for soil conservation. A recent study of the watershed revealed the rate of erosion is less than one-fourth that in 1934.

CCC WORK ACCOMPLISHMENTS IN WISCONSIN

Bridges, all types, number	483
Telephone lines, miles	4,040
Truck trails and minor roads, miles	4,390
Trees planted, reforestation, number	265,631,000
Fighting forest fires, man-days	269,447
Fish stocked, number	517,792,648

EXPENDITURES IN WISCONSIN

Total expenses (est.)	$96,549,503
Allotments to dependents by enrollees (est.)	$16,465,146

NATIONAL PROGRAM COSTS

Nationally the total cost of the CCC program was $2,969,000,000. Individually the program cost about $3,000 per person involved with 40% going to enrollee dependents via monthly allotments.

50TH ANNIVERSARY OF CCC AT EAGLE RIVER, WISCONSIN

In 1977, a reunion of CCC veterans in California stimulated and motivated the establishment of the National Association of Civilian Conservation Corps Alumni (NACCCA). The organization has 10,000 members in 60 chapters representing all 50 states.

Wisconsin has three active chapters - Chapter #23 in Rhinelander, #54 in Waupaca, and #73 in Neenah covering the Fox River Valley area. The three chapters have an aggregate membership of 400 members. Chapter 23 is hosting the third NACCCA Biennial Convention in Eagle River in September 1983. 2,500 CCC'ers and their wives plan to attend the convention. Chapter #23 spearheaded the drive to raise the funds to build the Wisconsin CCC Museum in Rhinelander.

FROM BOYS TO MEN

To honor the accomplishments of the CCC, the Forest Service asked the two National Forests in Wisconsin to provide some type of recognition during 1983. Generally these were in the form of reunions, picnics or special dedications that included CCC alumni and their wives. In discussion with a former CCC'er, who can easily be your next door neighbor retired from the military, forestry, a construction worker or business man who likes the outdoors, one theme sticks out, "the CCC made a man out of me . . . it really did . . . it toughened me up . . . taught me to give and take."

Listed below are several comments from a lengthy letter to a Forest Supervisor from a former CCC'er who attended a reunion in late summer:

". . . It was some of the best days of my life and words cannot express the wonderful memories it brought back to me. May 30, 1940 is a very important time in my life as it was then that I met the girl I later married and have been with for the past 38½ years. We met

at a camp-sponsored dance there at the recreation hall and started going together. After five years, after my discharge from the Navy, we got married, December 25, 1945, Christmas Day. I was taught and learned to operate heavy equipment and did run it on road jobs. I was a driver salesman for a bakery where I stayed for a total of 42½ years. One year ago I retired at age 62."

The CCC program helped develop the Nicolet and Chequamegon National Forests into two of the finest forests in the East. The program provided manpower and funds to drastically rehabilitate burned and cutover lands. The dams, recreation areas, roads and trails, and trees planted are still continuing to pay sizeable dividends to Wisconsin's economy. It is one government program that I know of that I have never heard anyone say wasn't worthwhile.



Camp Pine River - Nicolet National Forest Company at Retreat.



Interior of barracks.

THE HISTORY OF LOG TRANSPORTATION

William G. Rector

To give the history of log transportation in a thirty minute paper is much like asking Congress to balance the budget in a single day. Lumber processing is the oldest form of commercial manufacturing in the history of the United States and the establishment of the first commercial sawmill in the country in all probability predates the landing of the Pilgrim Fathers at Plymouth Colony.

Lumbermen usually divided the industry into five functional stages: (1) the acquisition and maintenance of timberland or stumpage; (2) logging; (3) the transportation of logs from the logging site to the sawmill; (4) milling; and (5) the distribution of lumber and other wood products to the consumer. Many of these five main functions, especially log transportation and lumber distribution, could be and were broken down into further subdivisions. Usually, the personnel performing one function was different than the personnel performing the next function and quite often the legal ownership of the wood changed hands as it moved from one stage to another.

To many lumbermen, the log transportation stage of the industry presented problems which were the most difficult to solve and this stage also posited the highest costs in the entire process. A number of studies indicate that log transportation often represented one-third to one-half of all costs involved in the production of lumber and in addition the greatest waste of lumber usually occurred in the log transportation stage. Historically, reducing the cost factor in log transportation was a primary goal for most lumbermen.

Prior to the post-Civil War development of logging railroads, which gave a national commonality to log transportation, the movement of logs developed differently in the various regions of the United States as defined by geography and climate. The presence of long, snowy winters in New England and the Lake States necessitated the development of log movements by sleighs and driving streams, but when some of these lumbermen migrated to the Pacific Northwest, they found that the snows were too deep and the mountain slopes too steep to permit the use of log sleighs. The southern forests, of course, had little or no snow with which to work and log transportation in the mountains of Appalachia presented an entirely different set of problems than the coastal rivers of the southern Atlantic states or the bayous of Louisiana on the one hand, and the numerous southern swamps on the other. In all times and all areas the basic problem was the same. How does one take a heavy, bulky product, which has a low intrinsic value, and move it a long distance, sometimes hundreds of miles, with a minimum of time, cost, and wastage.

Until recent decades, there was so much lumber in the United States that historically it was a low cost item. This meant that profit margins were small and it was difficult for a firm to build up a supply of surplus capital. Furthermore, a great deal of capital was of necessity needed to acquire stumpage and stumpage prices have risen consistently throughout the history of the United States. Lumbermen were faced with the dilemma that an oversupply of lumber on the market kept lumber prices relatively low while stumpage prices were constantly increasing as the basic supply of available timberland decreased. Within this narrowing margin between stumpage prices and lumber receipts must come all production and distributing costs, including the cost of log transportation.

Small profit margins and increased stumpage prices were offset at least in part by

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relatively low labor costs. This factor was abated somewhat by a potentially large labor pool of prospective new timber workers. Young men raised on the frontier and on the small farms of the nation possessed a basic familiarity with axes, saws, draft animals, wagons, and sleighs. With this background of basic skills it was relatively easy for them to learn the basic competencies of logging and log transportation.

Another answer to the problem of small profit margins was to increase the supply of merchantable timber. Throughout American logging history there has been, from the commercial viewpoint, two American forests. One forest was the total forested area of the nation. The other forest was that portion of the total forest that could be profitably logged. Improvement in and development of new logging and log transportation techniques resulted in the expansion of the commercial forest at the expense of the total forest until society decided to legally limit the activities of the logger. The history of American logging is replete with example after example of a specific stand of timber that one generation of loggers considered to be inaccessible and too costly, or impossible to exploit. The next generation developed the transportation means to harvest that particular acreage. One classic example of this phenomenon should suffice. In the fall of 1840 Elam Greeley took a crew to cut logs on the Apple River in western Wisconsin. He brought them out of the woods a month early, having failed to find enough timber for a full winters work. After the Apple River had been improved for log driving, a countless stream of logs poured down that river, averaging perhaps twenty million feet of lumber in logs per year. By 1883, it was estimated that over three billion feet of logs had been harvested along the Apple, a river that supposedly had been logged off some forty years previously.

Rafting of logs, not the driving of loose logs, was the first form of log transportation over any distance in the United States. Logs were rafted downriver to furnish the building materials for all of the colonial seacoast cities and when Jefferson purchased Louisiana territory, rafted logs were arriving in New Orleans.

The first industrial transportation of logs to a mill was probably the movement by man and cattle power of the log over a short land distance from a nearby stump. For many years it was assumed that a mile was the maximum distance that logs could be skidded economically, so a sawmill soon exhausted the log supply within skidding radius and the felling of trees moved upstream along the banks of the river. The influence of the demand for sailing ship masts influenced the logger in the woods. Until after the Civil War loggers in Maine and in the Lake States were still skidding loggs, sometimes 150 feet in length, to the river bank where they were bucked into sixteen feet lengths.

When such a log is skidded there is a tendency for the front end of the log to dig into the dirt. To overcome this a crotch of a hardwood tree was fashioned into a V-type sleigh and the end of the log was rolled onto the crossbar attached above the two branches. Called "travois" by some and "mogie" by others, most Americans called it the "go-devil" and it was widely used until replaced by the "dray," actually a set of bobs, after the Civil War. The dray was not efficient on snowless ground so around the turn of the century manufacturers started developing various skidding pans. One of these reminds one of a giant handleless scoop shovel, others of giant saucers, and at least one resembles half of a huge egg shell, or a missle nose cone, which is fitted over the end of the log. By the 1960's environmentalists were complaining that these damaged the forest floor and increasingly today the arch, or other heavy metal frame is attached to the rear of a skidding machine. With this elevation, the log is raised free of the ground and there is an increase in the

number of logs that can be skidded simultaneously.

In the first logging operations, bulls, steers and cows were used indiscriminately to haul logs. By the mid-eighteenth century, the cattle population had become large enough so that oxen could replace the other bovines. Called "bulls" in the Lake States and "steers" in the Far West, the ox was being replaced by the more agile horse in the north and the mule in the south during the nineteenth century. Later both would be partially replaced by steam power which in turn gave way to the internal combustion engine.



From the collection of the Marathon County (WI) Historical Museum.

In the northeastern states, winter logging was natural. Trees could be cut and the logs hauled over the frozen, snow covered ground to a riverbank and when spring came could be driven down the river to the sawmill. Since Maine developed a commercial logging industry before other states, Maine would be the incubator of many ideas concerning skidding logs, driving streams, and experimenting with various driving and booming associations. Thus, in 1828 the Maine legislature granted authority for the building of a logging dam. In 1827, it granted permission for a log driving association to operate on the Kennebec river and even before that, in 1789, Maine loggers had received permission from the New Hampshire and Massachusetts legislatures, Maine being part of Massachusetts until 1820, to build a boom across the Androscogging River. Following the Maine precedent logs were driven down driving streams and stopped by sorting booms, not only in the New England states, but in Pennsylvania, New York, and the Lake States, and the Far West. There would also be a somewhat limited use of them in the South.

It was the Maine loggers, too, who first developed the bark mark. In order to thwart "log lifting" a distinct mark was cut into the bark of each log. Marks were registered to protect the legal owner, but an axe could also cut off a bark mark, so in 1859 Michigan required that all logs be stamped on the end with a registered end mark.

Logs float, but all logs don't float equally well. Lumbermen learned early that there was a difference between a larger amount of logs that splashed off a rollway into the driving stream and the smaller amount of logs that arrived at the boom. Some logs sank. Others were scattered over the valley floor by highwater. Farmers, sawmillers, and other river bank dwellers helped themselves. As early as 1821, a Maine law stated that logs with their marks cut off were prima facie evidence of theft. The actual loss of driven logs from all sources has been computed to have been 10% on the Mississippi, Cumberland, and Tennessee Rivers and in Montana; 25% to 40% for hardwoods in Pennsylvania, 20% to 30% for yellow pine in southern rivers. In the Lake States a ten percent shrinkage rate was considered normal and as one lumberman put it, he lost one years cut out of each ten years of cutting.

At the boom, logs were ownership sorted and formed into rafts, rather flimsy rafts for those logs destined for nearby mills and more solidly constructed rafts for the logs destined for a longer journey. In Maine and the Lake States a driving stream sometimes entered a lake and then exited it from another shore. As early as 1800 Maine loggers were roping logs together into an endless string to form a circle or rectangle and the loose logs were trapped inside of this boom. This would form the basic idea for the bag boom developed on the Great Lakes by 1885.

Before the Civil War, most river rafts were of a rigid construction. Parallel logs were bound together by two or more crossbars. The crossbars were fastened tightly to each log by boring holes in the logs on each side of the crossbar. A rope was stuck into a hole then run over the crossbar and into the other hole. Driven hardwood pegs held the rope ends tightly in the logs and kept the crossbars tight against the log. A number of these sections, or brails, were similarly connected end to end to form a string and any number of strings fastened alongside of each other to form a raft. The final size of the raft depended upon the size of the river to be navigated, the size of the crew, the width of the various bridge spans, and the length of the voyage. The crew manned large sweeps at the bow and stern ends of the raft to steer it and the current formed the motive power. The men lived and slept aboard, but usually tied up at night. The largest rafts and the longest voyages were on the Mississippi River where it was not unusual for rafts to float the 632 miles from Minnesota to St. Louis.

In the South there were numerous rivers and bayous not fit for log driving and southern loggers evolved other types of rafts. Although many different types of rafts were fashioned, a common form was to fasten brails together with a rope stem to stern and leave a space between the brails so that there could be a hinge action. The long, spineless rafts floated downstream with boats at the head and stern to guide the rafts and sometimes boats along the sides. Kerosene, naptha, and gasoline engines replaced the oarsmen in the early twentieth century, but no matter what power source was utilized the biggest problem was often the water hyacinths or other plants that clogged the river.

Log slides or chutes were sometimes devised where the terrain was sufficiently steep. A wooden, open topped trough, sometimes formed of logs, served as the transportation artery. Logs were rolled into the top of the chute and gravity did the rest. By the time of the Civil war, there were several operating in the southern states and at least one in New

York. Much more common was the use of a pair of wheels and axle which, in the south and during the snowless winters in the north, often replaced the go-devils or drays. By the end of the nineteenth century, some of these wheels had grown so large as to justify the name "Big Wheels."

After the Civil War when the nation made a rapid transition from Jeffersonian agrarianism into the industrial age, the logging industry moved with it. Until the Civil War the muscle power of man and beast and the principle of water flotation were the main ingredients of log transportation. After the Civil War it became more mechanized. The first major change was the bucking of tree trunks into sawlogs in the forest and moving them to the landing on sleighs. This entailed a larger capital expense for road building, logging sleighs and snowplows. Rut cutters were perfected and sprinkling sleighs created an ice road. West Coast lumbermen developed the skid road. Relative short log lengths were laid on a grade much in the manner of giant railroad ties and oxen pulled the long trees downslope. Skidroads were expensive to build and could not reach all of the timber. even when the logs were bucked into shorter lengths and tied together end to end to form a "turn" of logs. By the 1850's West Coast loggers were developing tramways and pole roads to feed logs to the skid road and in 1854 there was a reported twenty miles of tramways near Eureka, California. In 1852 a steam railroad was hauling logs to the Tioga River in New York using wooden rails and about the same time a California pole road was equipped with steam power. On the eve of the Civil War numerous loggers were experimenting with homemade steam locomotives on pole roads and tramways, none of which were particularly successful.

The first steam logging railroad which used iron rails may have been the short-lived Arapahoe, Jefferson and South Park Railway which, in 1868, hauled railroad timbers to Denver for the building of the parent Denver Pacific Railroad and in 1870 the Brown brothers built a logging railroad in New Hampshire. This was followed in 1871 by the California lumbering firm of Smith and Dougherty in the redwoods, the Guala Mill Company used a steam locomotive for redwood hauling a year later, the Humboldt Bay and Mad River started hauling in 1874, and the nearby South Bay Railroad in 1875.



From the collection of the Marathon County (WI) Historical Museum.

The droughts of 1872 and 1876 left millions of feet of lumber stranded in Michigan streams and lumbermen searched for alternative means of transportation. As one result, W. Scott Gerrish and his associates incorporated the Lake George and Muskegon River Railroad with ten miles of track laid with twenty-five pound iron rails, two locomotives and fifty logging cars. It started hauling a half million feet of logs a day on January 28, 1877, and was an instant success. Its first year's earnings netted twenty-eight percent on the capital investment and its success story was widely publicized in the lumber trade journals. Ten years later the **Northwestern Lumberman** reported there were 422 logging railroads in the nation, operating 486 locomotives on 3,042 miles of trackage. Michigan lead with 89 railroads, Pennsylvania had 45, and Texas was third with 34 railroads. More than half of these were narrow gauge roads, but by 1900 most logging railroads had standard gauge tracks and equipment.

By 1870 some Lake States lumbermen were negotiating "milling-in-transit" contracts with non-logging common carriers. Under these agreements sawlogs were hauled to the mill at a cheap rate provided the lumber was shipped to market on the same carrier. Some millers extended the life of their sawmills by several years in the closing days of Lake States pine lumbering by sawing milling-in-transit logs often brought from as far as 200 miles away.

The last quarter of the nineteenth century saw a great increase in the number of log transportation related patents. In 1878 Charles Beagle patented an aerial cable system which did not become popular, but John Dolbeer of Eureka, California, patented his steam "donkey" in 1882 which did. The donkey was a self contained unit of boiler, steam engine, gears, and a marine winch mounted on a sledge and it was very versatile. It replaced ox teams; it could move, raise, and lower logs. Its use spread rapidly up and down the West Coast and innovative loggers soon had it performing tasks that were not in the original concept.

The encroachment of steam power into the woods stimulated improvements in the more traditional modes of log transport. In the early 1870's a sleigh load of logs ran about 3 MBF. Wider sleighs and improved ice roads allowed an increase in average sleigh loads to about 8 MBF by the end of the century. Meanwhile, record sleigh loads had been set with a Michigan load of 30,068 feet in 1884, and an 1892 Minnesota load of 31,480 feet and during that same year the 36,000 feet load hauled near Hinckley, Minnesota.

Between 1862 and 1874 steam power replaced raft oarsmen on the Mississippi River. Since the 1840's lumbermen had used steamboats to tow log rafts across Lakes St. Croix and Pepin. By the Civil War they were splitting the raft and advancing the steamboat one-half of its length into the rear of the raft. This eliminated some oarsmen, but they were still needed on the bow of the raft. Attempts were made to improve this by running a line from each of two capstans on the steamboat to the stern corners of the raft. By changing the angle of the steamboat to the raft, the boat could become a large powered rudder. An attempt by Captain George Winans in 1863 was unsuccessful, but the next year Captain Cyrus Bradley equipped the sidewheel "Union" with stronger capstans and towed a raft 250 miles to Clinton, Iowa. In 1869 when Captain R. A. Young replaced the hand powered capstans on the "Minnesota" with a two line steam capstan, and placed the towboat at the rear of the raft rather than partially in the raft, there were twenty-one raft boats on the Mississippi River.

There was a good reason for the rapid increase of raft boats. Prior to 1868 raftsmen encountered only two bridges across the Mississippi from the mouth of the St. Croix to

St. Louis. In 1868 four more were completed and by 1874 there were ten bridges across the river, all deadly enemies of oar steered rafts. That year Chauncy Lamb, of Clinton, Iowa, invented the double spooled steam winch with which one operator could control the relationship of the raft boats and the raft. Within three years ninety-five percent of the raft boats were equipped with the steam "nigger" and the raft oarsmen were unemployed. The last major improvement in Mississippi River rafting was the utilization of a bowboat lashed across the head of the raft. Responding to the pilot's signals the bowboat engineer could come ahead, stop, or reverse to add more steering leverage. In 1887 there were ninety raft boats plying the river. Six years later there were only 63, even though they were handling twenty-five percent more logs. Rafts grew until they covered acres of river. The largest raft in size covered almost ten acres of water, 1550 feet long and 275 feet wide it was towed the 169 miles from Lynxville, Wisconsin, to Rock Island, Illinois, by the Weyerhaeuser and Denkmann "F. C. A. Denkmann" with the "H. C. Brockman" as bowboat in 1896. It contained two and a quarter million board feet of lumber in logs. One raft contained more than three million board feet of lumber, measuring 1,400 by 276 feet it was a double log raft, literally one raft lying on top of another raft, and was towed by the "J. W. Van Sant" with the "Lydia Van Sant" as bowboat.

Until the 1880's attempts to raft logs on the Great Lakes had been unsuccessful and transporting them in huge barges like the "Wahnipitae" was too expensive. In the 1880's Captain Benjamin Boutell, of Bay City, Michigan, developed a boom by using logs three feet or more in diameter, boring a hole through the log centers and stringing them on a chain to form a nonrigid boom. When towed, the boom trapped the floating logs and formed the shape of a balloon or bag. Bag booms were used to tow pulpwood logs across Lake Superior until 1963.

Attempts at salt water log rafting paralleled rafting on the Great Lakes. In 1884 a raft started from Nova Scotia for New York. It was lost and months later its logs were washing up on the Norwegian coast. Later two rafts were built at Coos Bay, Oregon, one of which reached San Francisco. In the early 1890's at least three "Robertson" rafts were built in California. One broke up in San Francisco Bay and its logs caused havoc to shipping. Finally, in 1894, Simon Benson, a logger on the lower Columbia River developed the Benson Raft. A cradle, or frame, of logs was constructed in the water then carefully filled with wired and chained 60 feet logs. The completed raft was 35 feet thick, 835 feet long, drew 28 feet of water and contained three million board feet of lumber in logs. It was towed the 1,100 miles to San Diego in twenty days. Until World War II several Benson rafts left the Columbia River for California ports each summer.

The search for a steam powered traction machine to replace the ox and horse was not particularly successful. An unsuccessful steam crawler was built in Erie, Pennsylvania, in 1868 and eight years later Martin Mower introduced his unsuccessful steam powered iceboat and George Christian his walking beam sled. By 1888 the firm of Grover and Chandler thought they had a successful steam crawler tractor, but they went bankrupt the following year. Finally, by 1907 the Phoenix Manufacturing Company of Eau Claire, Wisconsin, was producing a steam log hauler that had some success.

In 1883, Horace Butters, of Ludington, Michigan, patented his steam skidder and by 1886 four were operating in the Lake States. As originally designed it consisted of a boiler, engine, gears and a three drum winch. Logs could be raised, moved along a 600 foot aerial cable, and lowered. Never popular in the Lake States it was improved, moved

to the western forests, and made high lead logging possible. It also caused a host of other skidders to be built, such as the Clyde, the American, and finally the monstrous Lidgerwood Skidder which could load logs, skid logs, haul logs through the air, and jockey log cars into position all at once if necessary.

The same Michigan droughts that caused W. Scott Gerrish to build a logging railroad stimulated Ephraim S. Shay, of Haring, Michigan, to experiment with steam power and in 1880 the first lop-sided Shay locomotive was built by the Lima Machine Works. Its piston engines, mounted vertically ahead of the cab on the right side of the boiler, powered an exposed gear and shaft system which in turn powered eight driving wheels. Engine weight was increased and by 1910 there were four truck Shays, the first Climax locomotive was built in 1888 at Corry, Pennsylvania. Piston engines were mounted on each side somewhat like the traditional rod piston locomotive, except the pistons were tilted at about a 45 degree angle from the horizontal. A cross shaft under the boiler powered gears and shafts. A third geared steam locomotive was developed by Charles Heisler and first manufactured at Erie, Pennsylvania, in 1894. This locomotive had a pair of pistons opposed in a V shape with the boiler in the middle. Generally, the geared Shays, Climaxes, and Heislers, in order of popularity, were used by small logging railroads or on the spur lines of the larger railroads. Mainline locomotives were usually the familiar rod and piston type used by the major railroads. Almost 1,000 Climax locomotives were built before the works folded in 1928, fewer Heislers were made, although manufacturing continued until 1945 and the last Shay, number 2,761, was outshopped in 1945. These geared locomotives had a host of competitors and imitators, ranging from the fairly successful cogwheel Blackman to the so-called Willamette Shay, but none were as popular as the Shay.

The rapid expansion of logging railroads after 1892 increased the rate at which forests were devoured. Water driven logs declined in numbers and in 1894 Michigan's Tittabawasse Boom Company ceased operations after handling more than ten billion board feet of lumber in logs. Logging ceased out of the Black River in 1897, out of the Chippewa in 1905 and by World War I, Mississippi River log rafting was over and every major boom in the Lake States was closed.

Lumbermen of the Pacific Northwest used almost every means of log transportation devised by man. They used logging chutes and flumes, river drives and rafting, and developed aerial logging into an art, but the logging railroad was the heart of log transportation from 1900 to 1940. Just as the logging railroad hastened the demise of the Lake States pineries, on the West Coast it enabled the lumbermen to triple their cut in twenty years. All told, California would have about 270 different logging railroads, Oregon the total of about 450 logging railroads and Washington about a thousand logging railroads, the longest being the 194 miles of trackage the Weyerhauser started operating out of Longview in 1929. In 1980, Weyerhaeuser was still operating 55 miles of logging railroad out of Longview, in addition to 29 miles at South Bay, and 10.3 miles at Chehalis in the state of Washington. The depression of the 1930's dealt a death blow to many logging railroads. In 1929 there were a thousand steam locomotives hauling logs on 7,000 miles of track in the western states. By Pearl Harbor, both figures had been cut in half. Miles of track and hundreds of logging cars and locomotives were sold on the world market and when the market dried up, to the scrap metal market. Additional railroad equipment went to the cutters torch when scrap prices rose from $5 a ton in 1930 to $10 in 1942 and $40 in 1946.

Logging trucks were in the forest by 1913 and a two-wheeled semitrailer was in use two years later. As truck technology improved their use expanded. In the 1920's, many logging operators built a truck road instead of a logging railroad spur. At the beginning of the depression of the 1930's, trucks were hauling an estimated six percent of the logs; fifteen years later they were hauling a majority of the logs.

With the truck, another internal combustion powered machine entered the woods . . . the crawler tractor. Many of these were employed in skidding, but they also pulled wagon trains of logs over primitive roads. By 1922 there were 2,000 crawler tractors, in some twenty different models, clanking through the trees. The most popular was the "Caterpillar," a registered trade name of the Holt Manufacturing Company which later became the Caterpillar Tractor Company. The name became so generic that all crawler tractors came to be called "cats," the crawler operators the "cat skinner," and his assistant the "cat chaser," regardless of the make of crawler involved.

By the 1940's the diesel engine had largely replaced the gasoline engine in both trucks and tractors. Their numbers continued to grow through World War II, marking the demise of many logging railroads. The small one man or one family logging operation had been common until about 1875, but had been almost eliminated by the high cost of stumpage and the capital investments required by logging railroads and mechanized logging equipment during the period of 1880-1930. During the 1930's, with the aid of the truck and the crawler tractor, the small logger began to reappear. Stimulated by the chain saw and rising lumber prices after World War II, he pursued scattered clumps of sawable timber that had been previously economically unfeasible to log.

Western lumbermen took Horace Butter's cable system and improved it, evolving two distinct styles, high lead and skyline. High lead logging has a continuous cable running through pulleys located on a tall spar and at two ground level anchors. Skyline logging has two tall spars connected by an aerial cable functioning as a monorail for a wheeled carriage. Numerous variations evolved while the log hauling distance increased from the original 600 feet to a 1980 maximum skyline distance of 5,000 feet.

Since 1960, with the increasing impetus on environmental considerations, four-wheel drive tractors, which do less soil damage, have replaced crawlers on many skidding operations and loggers working on National Forest contracts have to submit environmental impact statements. Court challenges resulted and the 1966 Amendments to the Federal Rules of Civil Procedure opened the doors to more class action suits. In addition to charging environmental damage which would be done by a proposed logging road, one suit alleged that a logging road would "impair the aesthetic enjoyment" of a forest. *(Black Bear Ranch vs. the United States,* 1971.)

Environmental considerations, legal suits, and steadily rising energy costs challenged the supremacy of the truck-bulldozer team that had become the predominate feature of log transportation. Wood chippers, deep in the forests, consumed entire trees and a hydraulic pipeline flushed the chips to a landing. In the late 1950's and early 1960's Swedish and Canadian loggers experimented with balloon logging. This was not a true aerial system but was in effect a balloon lifted skyline. The high capital cost of a balloon system, approximately twice that of a skyline system, and the fact that balloons cannot be operated more than three-fourths of the year and must shut down when wind velocities exceed 25 m.p.h. has meant limited utilization. The same general limitations apply to helicopter logging. In addition, it is capital, labor, and fuel intensive. For maximum efficiency, a helicopter requires two flying crews and a large woods crew,

totalling about thirty persons. A Sikorsky S-61L, capable of a 7,000 pound payload, burns 159 gallons of fuel an hour while the larger Sikorsky S-64E with its 18,800 pound payload consumes 525 gallons of fuel an hour.

By 1980, a number of interesting studies in log transportation were being made. One is a portable monorail system that could transport logs at the rate of 25 m.p.h. and the entire system capable of being moved to a new location with limited environmental damage and a Canadian forest service had experimented with an air cushion vehicle which would carry a log raft six feet above the ground.

From the beginning of large scale commercial lumbering the loggers met with resistance from other societal elements over the use of the environment. For a century the courts ruled that all produce of a region enjoyed equal rights in a navigable stream. This meant that log drivers had just as much right to use a river as did steamboats, pleasure boats, and fishermen. By World War II this attitude was changing. Lumbermen were losing power in society, while sportsmen and environmentalists were gaining influence. In the fall of 1957, two Coos River logging dams were burned in Oregon. They may have been the last active logging dams west of Maine in the United States.

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STEAM IN THE HILLS

The Rib Lake Lumber Company and Wisconsin's last logging railroad

Robert Rusch

For sixty-one years the shrill whistle of the steam locomotive sounded over Rib Lake. Between 1883 and 1948 railroad logging operations of the Rib Lake Lumber Company and its predecessors eminated from this small town in north central Wisconsin. When the mill and lines languished in 1948, an estimated one billion four hundred and fifty million board feet of lumber plus ties, posts, shingles, tan bark and pulp had been pulled from the forests of Taylor, Price and Lincoln Counties.

The Wisconsin Central Connection

The site for the Village of Rib Lake was by-passed by the Wisconsin Central main line. The Wisconsin Central was built through Medford and into southern Price County about 1873. It was a land grant railroad. Congress awarded this railroad every other section of land for approximately eighteen miles on either side of the mainline. This land included vast tracts of timber at and around what was to become the Village of Rib Lake.

J. J. Kennedy is popularly credited with founding the Village of Rib Lake. He headed the establishment of a sawmill on its shores in 1881. Until 1890 he ran the mill owned by the Curtiss Brothers Corporation. The mill was hamstrung by the difficulty of shipping its finished product five miles to the nearest railhead at Chelsea. These five miles were over hilly, glacial moraine. The eventual construction of a spur from Chelsea to the Village of Rib Lake is summarized in the account of Guy Wallace originally appearing in a 1936 edition of the **Rib Lake Herald.**

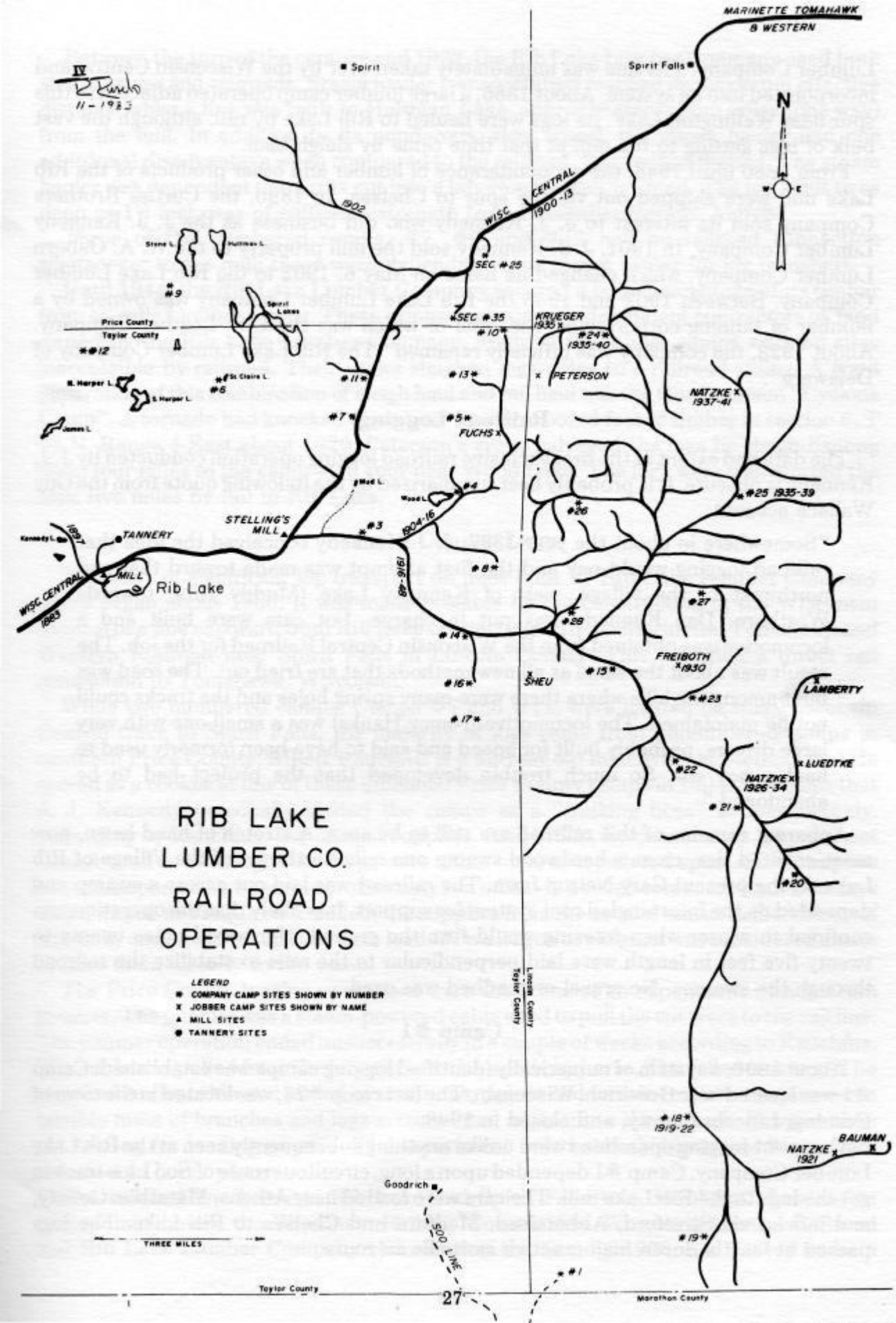
> "Many may wonder that after a fully equipped sawmill with a circular saw and a band mill were installed why the product of that mill were not transported over a railway for two years, only a distance of 5½ miles from the mainline. To make a long story short, Rullell and Parks, railroad surveyors, ran a random and correction line and determined where the branch line was to run. All correct, variations less than four to one hundred, but upon building the road found that they couldn't bridge Wellington Lake. There was no bottom and the railroad company gave up after several attempts to run trains and started a new survey over the original tote road via Little Rib and Black Lake. After the survey was completed, it was declared not feasible on account of the amount of dirt to be removed in the hills with crude equipment.
>
> The government wanted to have the territory settled and sent E. Van Giesen, government engineer, with government equipment for sounding rivers and harbors, who found bottom through water and mud at a depth of 90 feet in the center of a 60 foot span tapering to zero and each shore of Wellington Lake. The railroad was then furnished in 1883 on the original survey and another band of mill was added."

The stability of Van Giesen's work is clear in 1983. The railroad crossing of Wellington Lake stands firm. It is so overgrown with grass and trees that the casual eye mistakes it for a glacial ridge.

The spur between Chelsea and Rib Lake was constructed by crews of the Curtiss

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(Robert Rusch is an Attorney at Law in Medford Wisconsin)



RIB LAKE LUMBER CO. RAILROAD OPERATIONS

LEGEND
- ■ COMPANY CAMP SITES SHOWN BY NUMBER
- X JOBBER CAMP SITES SHOWN BY NAME
- ▲ MILL SITES
- ● TANNERY SITES

Lumber Company. The line was immediately taken over by the Wisconsin Central and incorporated into its system. About 1885, a large lumber camp operated adjacent to this spur near Wellington Lake. Its logs were hauled to Rib Lake by rail, although the vast bulk of logs getting to the mill at that time came by sleigh haul.

From 1880 until 1948, the proponderance of lumber and other products of the Rib Lake mill were shipped out via the spur to Chelsea. In 1890, the Curtiss Brothers Company sold its interest to J. J. Kennedy who did business as the J. J. Kennedy Lumber Company. In 1901, J. J. Kennedy sold the mill property to the W. A. Osburn Lumber Company, which changed its name on May 6, 1902 to the Rib Lake Lumber Company. Between 1902 and 1936 the Rib Lake Lumber Company was owned by a number of tanning corporations, the chief of which was the U.S. Leather Company. About 1923, the company was officially renamed "The Rib Lake Lumber Company of Delaware".

Railroad Logging

The date and extent of the first exclusive railroad logging operation conducted by J. J. Kennedy is obscure. It is probably best summarized by the following quote from the Guy Wallace account:

> "Somewhere in about the year 1897, J. J. Kennedy conceived the idea that railroad logging would pay and the first attempt was made toward that end northwest of the village, west of Kennedy Lake (Muddy Rib), towards Westboro. Dan Kennedy was put in charge. Lot cars were built and a locomotive was obtained from the Wisconsin Central Railroad for the job. The result was about the same as all new methods that are tried out. The road was built among the hills where there were many spring holes and the tracks could not be maintained. The locomotive (Nancy Hanks) was a small one with very large drivers, probably built for speed and said to have been formerly used to haul a pay car. So much trouble developed that the project had to be abandoned."

Apparent remains of this railroad are still to be seen. A stretch of hand hewn, now moss-covered ties, cross a hardwood swamp one mile northwest of the Village of Rib Lake on the present Gary Nelson farm. The railroad was laid out across a swamp and depended on the intertangled root system for support. It is likely that the operation was confined to winter when freezing would firm the ground. Hardwood poles twenty to twenty-five feet in length were laid perpendicular to the rails to stabilize the railroad through the swamps. No gravel or roadbed was used.

Camp #1

About 1900, a system of numerically identified logging camps was established. Camp #1 was located near Goodrich, Wisconsin. The last camp #28, was located in the town of Corning, Lincoln County, and closed in 1948.

Camp #1 logging operations were unlike anything subsequently seen at the Rib Lake Lumber Company. Camp #1 depended upon a long, circuitous route of Soo Line track to get the logs to the Rib Lake mill. The cars were loaded near Athens, Marathon County, and moved via Stratford, Abbotsford, Medford and Chelsea to Rib Lake. The logs passed at least a dozen major, active sawmills en route.

Between the turn of the century and 1922, the Rib Lake Lumber Company used both steam hauler and railroads. Steam hauler transportation reached its maximum effective distance when a line was built to Hultman Lake, approximately seven miles (one way) from the mill. In addition to its ponderous, slow speed, the steam hauler had one additional disadvantage when compared to the railroad. Its roadbed melted. The steam hauler was dependant upon ruts cut into a laboriously built ice road. The ice, built to as deep as 1½ feet, was of sufficient strength from December through March.

Three of the numbered camps, #2, #9 and #12 had no railroad connection whatsoever to the mill; these were dependant upon steam hauler for log transport.

Until 1944, the Rib Lake Lumber Company secured a large percentage of its timber from so-called jobber camps. These camps were run by independent contractors on land owned by the Rib Lake Lumber Company. Many of the jobber camps were on sites inaccessible by railroad. Their crews sleighed logs miles to a railroad siding. A good illustration of this combination of sleigh haul and rail haul was the Olie Peterson "Cyclone Camp". A tornado had knocked down over a million board feet of timber in section 6, T 33 N, Range 4 East about 1920. Peterson's crews salvaged the logs by sleigh-hauling them four miles to the camp #16 spur near Wood Lake. The logs were transported the final five miles by rail to Rib Lake.

Price County Lines

The start of significant log transport on lines built by Rib Lake Lumber Company crews began about 1900. It was made possible by the construction of the Wisconsin Central of a line eastward from Rib Lake connecting with the Marinette, Tomahawk and Western Railroad near Spirit Falls in Lincoln County. This provided a direct rail connection to Tomahawk, Wisconsin.

While two numbered camps, Camps #7 and #11, were located on this Wisconsin Central track to Spirit Falls, the majority of logs came from unnumbered camps in southern Price County. Albert Rauchfus is a 96-year old man living in Stetsonville. He served as a cookee at one of these unnamed Price County camps in 1904. He claims that J. J. Kennedy personally visited the camps as a "walking boss" at least weekly. According to Rauchfus, the camps' supplies, food stuffs, kerosene, soap, etc. did not come by rail even though the camps were either on or near railroad spurs. Such supplies were transported by wagon approximately ten miles via a rough tote road. Rauchfus says that a wagon was required to collect the supplies from the several stores in the Village of Rib Lake and once the supplies were loaded on a wagon or sleigh, it was considered easier to haul them directly to the camp.

The Price County logging operations were the scene of an experiment with a steam jammer. The jammer was a steam-powered cable used to pull the cut trees to the rail line. The jammer operation ended unsuccessfully in a couple of weeks according to Rauchfus. The cable was pulled from the jammer into the woods by horse. The felled tree would be attached to the cable and pulled over stumps, debris and terrain towards the jammer; a terrible mess of branches and logs accumulated adjacent to the jammer. Sawyers then cut the log for loading on cars. The experiment failed and skidding operations were returned to horse power.

The railroad line between Rib Lake and Spirit Falls was the object of extensive proceedings before the Wisconsin Railway Commission. Wisconsin Central Railroad and Rib Lake Lumber Company claimed that the line, by 1908, had ceased to be a

portion of the Wisconsin Central and was merely a private logging railroad. The Railway Commission denied this claim and adjudged the line to have common carrier status. The ruling was largely mooted by the dwindling log and tan bark supply adjacent to the rail line. By 1913, the line was abandoned between Stelling's Mill and Spirit Falls.

Wood Lake Line

About 1903, The Rib Lake Lumber Company constructed a major rail line from Stelling's Mill eastward toward Wood Lake. Stelling's Mill was a small lumber and shingle factory approximately three miles east of the large Rib Lake mill complex. This line originally went to Camp #4 near the shores of Wood Lake. Wood Lake, a 68-acre body of water, was used as a loading works. Sleigh loads of logs were decked on the ice. In spring the logs were floated to a loading site and transferred to the waiting flat cars. Tradition has it that the company delayed the transportation of logs into the Village of Rib Lake beyond May 1st in order to avoid their assessment as personal property; tax authorities could lose logs in the wilds of the Town of Rib Lake but would hardly miss them in the mill pond.

The Camp #4 line was extended northward to Camp #5 and, subsequently, #10 and #13. A spur ran southward to Camp #8. This area had largely been stripped clean of merchantable timber and tan bark when disaster struck.

New Mill

On July 23, 1914 the mill burned. For a long, agonizing year the village wondered if the mill would be rebuilt. According to M. N. "Mully" Taylor, Merrill interests lobbied hard and long to get the mill operations transferred to Merrill. The Rib Lakers sighed with relief as the corporation started the construction of a huge new mill complex at Rib Lake in 1916. The smoke stack was reputedly the highest in the state at 172 feet.

The new mill featured over 80 acres of dry yard criss-crossed by tramway and rail lines. After the wood air dried, it would either be loaded directly onto Soo Line track or routed via rail through the mill for re-saw or planing. It was not until 1938 that a dry kiln was built. According to the last mill foreman, William Radtke, the new main carriage achieved a record cut of 144,000 board feet during a ten-hour shift through choice, hemlock logs.

No discussion of the logging scene in Rib Lake would be complete without at least a mention of the Rib Lake tannery. Between 1892 and 1923, Rib Lake was a site of a tannery complex rivaling in size and employment the Rib Lake Lumber Company. About 1902, the U.S. Leather Company owned both the tannery and the sawmill. The relation was symbiotic. Chipped wood scraps, call hog feed, were rail transported from the mill to the tannery and burned to create steam power. The Rib Lake logging camps were specifically conducted to produce both tan bark and logs. Beginning with the peeling season, roughly May 1st and through approximately July 4th, the logging crews would fell only hemlock trees. The trees would be debarked. The bark would be hauled to the rail heads principally in late summer and fall. Only after the bark had been removed from the woods would the crews return to fell the hardwoods and pine.

Huge quantities of tan bark were transported to the tannery both by sleigh and rail. According to William "Bill" Natzke of Merrill, he was hired in 1922 to haul all of the tan bark produced at a single Rib Lake Lumber Company camp, Camp #18. The volume totalled 2500 cords and required Bill and a crew of three men to work all fall and winter

just to transport the bark piled in the woods by cords, half cords or double cords, to the spurs adjacent to Camp #18. A shortage of flat cars required them to off load much of the bark next to the sidings. Rib Lake logging crews continued to make tan bark well into the 1930's; following the closing of the tannery in Rib Lake in 1923, this tan bark was shipped by rail principally to Kenosha.

Lincoln County Lines

The construction of the new mill in 1916 coincided with a dramatic extension of the privately owned Rib Lake Lumber Company railroad. The line was extended southward from Rib Lake for 24 miles to serve Camps #18 and #19. This line reached its southernmost point when it touched Marathon County.

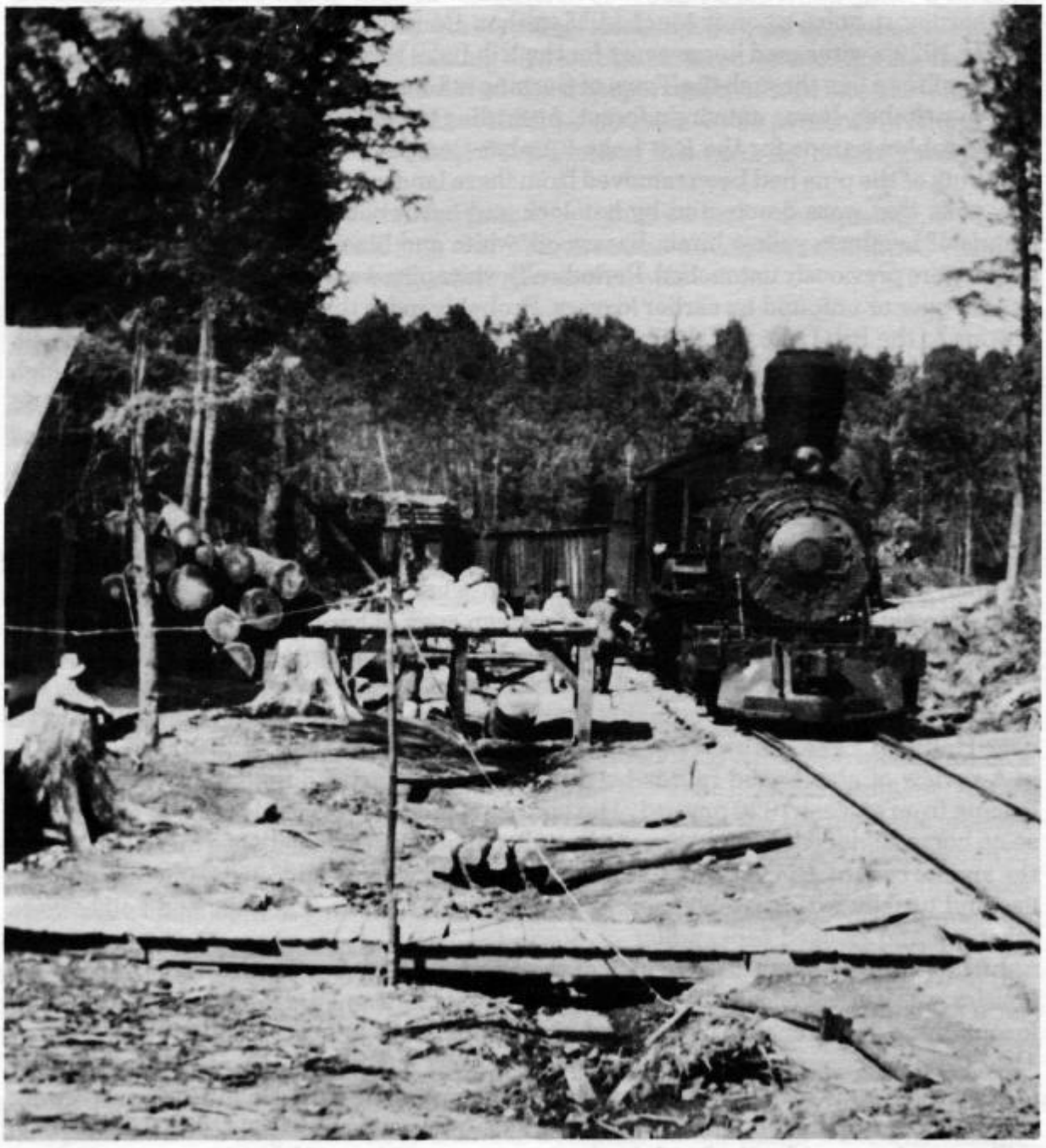
The 1920's witnessed boom years for the Rib Lake Lumber Company. The extension of the railroad line through the Town of Corning in Lincoln County opened up a vast area of heavy timber. It was not virgin forest. According to Bill Natzke, who operated a series of five jobber camps for the Rib Lake Lumber Company between 1923 and 1944, the vast bulk of the pine had been removed from these lands prior to 1900. These lands were clay soils that were dominated by hemlock and hardwoods, however. These beautiful stands of hemlock, yellow birch, basswood, white and black ash, red oak, hard and red maple were previously untouched. Periodically white pine would be located which had been passed over or unfound by earlier loggers. Probably more than half of the volume of logs flowing to the Rib Lake mill during the 1920's was produced by jobbers. As many as 26 jobber camps operated at one time. The James Peterson jobber camp employed as high as 150 men. Many jobbers such as Natzke and Baumann had camps located directly on railroad sidings. Others transported their logs by sleigh to the rail lines. As many as three McGifford loaders were kept busy during a six-day work week. According to the late Frank Erdman, his goal as an operator of a steam jammer was "twenty-five ends" each work day. There were two ends per car. In other words, as long as two sixteen-foot logs could be placed butt to butt on a flat car. Six to eight thousand board feet fit on one car. A ten-man crew routinely worked with Erdman who said the mill was then averaging sixteen to eighteen ends of softwood or fourteen ends of hardwood per day. One loader was kept busy loading peeled hemlock logs which were shipped out to pulp mills.

Beginning in 1923, the Rib Lake Lumber Company was solely dependent upon rail transport to supply logs. It was in that year that the steam hauler from Camp #9, located near Holtman Lake in Price County, ceased operations.

A review of abandoned railroad right-of-ways demonstrate the intensity of railroad logging from at least 1920 onward. The lumber company apparently tried to have a spur so no horse-skidded log would have to be pulled more than an eighth of a mile. This meant the annual construction of spur lines; the same spurs were abandoned immediately after use and usually within twelve months of their construction. The rails and spikes were taken up and re-used repeatedly.

Little is known about the engines of the Rib Lake Lumber Company. John "Hunz" Heisler was employed on the section gang and as a fireman. He claims the only new locomotive ever purchased by the Rib Lake Lumber Company was No. 101 bought about 1917 from a locomotive works in Baltimore; at least one Shay locomotive was routinely kept in the woods for operation on the steep temporary spurs. Engines 67 and 3 were kept busy during the boom years of the 1920's. According to "Hunz" Heisler, the only rolling stock owned by the lumber company was a variety of logging cars, a couple of

cabooses, several box cars for hauling supplies and three tank cars. Several times the tank cars were pressed into emergency service to haul water to douse the huge skidways of logs threatened by forest fires. Gondola cars necessary to transport road bed were periodically rented. These gondola cars were, in fact, ore cars brought temporarily from the north Wisconsin iron belt. They were seldom needed because only the Rib Lake railroad main lines were graveled and they were built perhaps once every three years. Heisler recalls a time about 1920 when a new mill superintendant brought at least two used locomotives from Pennsylvania. They were pulled, unpowered, on the commercial railroad to Rib Lake. One locomotive, #69, proved totally unfit for service since it was so



large that it spread the rails around the tight curves on the Rib Lake line.

The Depression caused the closing of the mill and rail operations on April 15, 1932. In excess of sixty million board feet of lumber lay unneeded and unsold in the company dry yards at that time. Operations resumed on June 14, 1934 with the re-employment of 150 men in the mill complex. Rail operations resumed at the same time.

Final Years

The final segment of railroad logging took place between 1936 and 1948. In 1936, the Rib Lake Lumber Company was purchased from the U. S. Leather Company by A. P. Woodson, D. J. Mylrea, both of Wausau, Frank Handyside and R. J. Brownel. Mylrea had previously operated the Thunder Lake Lumber Company and brought at least one locomotive with him, a standard gauge unit reputedly from Eagle River.

The new owners instituted a policy of "hot logging". Prior to this time the logs would be decked adjacent to the railroad spurs. These decks were built twenty to thirty feet high and required many man hours to build and later unload. The new owners determined that this was wasteful of time and manpower. Under the "hot logging" system, the logs were skidded from the woods and immediately loaded onto flat cars. Caterpillar tractors replaced horses for all long-distance hauls, although horses were routinely used to bunch the logs adjacent to the caterpiller, skid trails.

New management dictated a major change in railroad construction. Until 1936, the company let on bid the construction of railroad rights of way. The walking boss would blaze the proposed rail route. It was divided into one hundred foot segments called "stations". The right to build the right of way was determined on bid. According to Carl H. Rhody of rural Ogema, Wisconsin, the typical successful bidder during the 20's and 30's bid thirteen to sixteen dollars per station. He was required to fell the trees, remove them from the right of way for later salvage as logs, blast apart the stumps by dynamite, remove the stumps by horse and manpower and, using hand tools, level the right of way. In the rocky clay soils of central Wisconsin this was a back-breaking, tool-dulling task. The bidder's task ended once the right of way was built. From the 1920's onward, the Rib Lake Lumber Company employed full time a crew to lay the railroad steel. Unsawed saplings were used for ties on the forest spurs. Beginning in 1936, large bulldozers were used for right of way construction.

Changes occurred in the mill, too. According to Fritz Knop, unblemished basswood boards were much in demand. The men loading the boxcars were furnished clean woolen socks to wear instead of boots. This permitted them to load and walk on boards without marring their clear, white surfaces.

World War II created a tremendous lumber shortage throughout the country as well as at Rib Lake. Piles of lumber dwindled as green lumber, fresh from the mill, was immediately loaded into boxcars and shipped from Rib Lake. Large quantities of logs were shipped into Rib Lake by the Soo Line via Chelsea for milling. According to Jack Mylrea's records on file with the Marathon County Historical Society, a large volume of these logs came from the Upper Peninsula.

Disaster struck the mill in 1945 when flames engulfed the planing mill, dry shed and office. The ultimate disaster struck on February 2, 1948 when the last log fell on the snow-covered ground in the Town of Corning. The entire railroad operation and mill was quickly razed. The Soo Line connection between Rib Lake and Chelsea lingered until 1952 when all rail operations in and to Rib Lake ceased.

CITATION
for
DISTINGUISHED SERVICE AWARD
to
KENNELL M. ELLIOTT

Ken Elliott's career in the forests of northern Wisconsin and Minnesota began as a youngster, working for his father, a full-time logger in Langlade County. In 1929, he became employed in the sawmill of the Fish Lumber Co. in Hiles, leaving there in 1932 to work for the U. S. Forest Service at the Three Lakes Ranger Station on the Argonne Unit of what became the Nicolet National Forest. With the start of the Civilian Conservation Corps program in 1933, he was assigned as a foreman in several camps before the program was discontinued in 1942. Subsequently, Ken progressed through the ranks of Assistant District Ranger, District Ranger and Deputy Forest Supervisor, until his retirement in 1969.

That condensed account of a lifetime in the woods tells only part of Ken's dedication to the protection, development and management of Wisconsin's forests. After retirement he served on the advisory board of Trees-for-Tomorrow, and also as its acting director when that organization was without its top officer for a period of time.

With the enthusiasm and zeal for which he was so well-known, he first collected and compiled, then eventually published in 1977, the "History of the Nicolet National Forest". Ken was also a prime mover in the organization of the Wisconsin Chapter of the National Association of Civilian Conservation Corps Alumni, serving as its first president. At the time of his sudden and unexpected death, he was chairman of the committee planning the national convention which will take place next week in Eagle River to commemorate the 50th Anniversary of both the C.C.C.'s and the Nicolet National Forest. His pet project at the time was the construction of a replica of a typical C.C.C. barracks which would serve as a museum to house relics of that program. That museum has become a reality and will be dedicated to his memory next week.

Although not professionally educated as a forester, Ken's practical experience and self-study earned him the respect of his peers and he was awarded an honorary forestry degree in 1981 from the college of Natural Resources at the University of Wisconsin-Stevens Point.

For his devotion to the cause of forestry, and for his contributions to the preservation of a significant chapter in Wisconsin forest history, the Forest History Association of Wisconsin takes special pride in presenting this plaque to Mr. and Mrs. Mel Johnson, who are representing Ken's wife Elvilda, who is unable to be present on this occasion.



Mel Johnson accepting the Distinguished Service Award honoring the late K. M. Elliott.

CITATION
for
DISTINGUISHED SERVICE AWARD
to
M. N. "MULLY" TAYLOR

The first recipient of our Distinguished Service Award today is so well-known that he almost needs no special introduction with the customary biographical sketch.

Suffice it to say that M. N. "Mully" Taylor, once a Merrill newspaperman, was the inspirational force and guiding light that led to the organization in 1944 of the nationally-renowned Trees-for-Tomorrow at Eagle River. For over 31 years, "Mully" served as the executive director of that institution, which initially concentrated on the reforestation and management of small private land ownerships, and then branched into the fields of conservation education and the interrelationships of people and natural resources. During his regime, he was responsibile for the planting of more than 23 million trees and the preparation of management plans on about 400,000 acres owned by some 11,000 landowners. He was also instrumental in the establishment of the Wisconsin Press Association's demonstration forest, a unique area on which about 50 editors of state newspapers have participated in a 3-day workshop annually since 1958. Following his retirement from Trees-for-Tomorrow, "Mully" became a founder and first president of the Merrill Historical Society, and authored "The Saga of New Wood County". That exceptionally well-researched historical article was subsequently published by the Wisconsin Academy of Sciences, Arts & Letters for distribution to its 1,600 members.

In recognition of his pioneering contributions to conservation education and his role in the restoration of Wisconsin's forests, particularly those on small non-industrial lands, we are most pleased to present this plaque to M. N. "Mully" Taylor.



M. N. "Mully" Taylor expresses his appreciation for the plaque given to him for distinguished service.

CITATION
for
DISTINGUISHED SERVICE AWARD
to
DUNN COUNTY HISTORICAL SOCIETY
and
'EMPIRE IN PINE' LUMBER MUSEUM

The Dunn County Historical Society has been, and continues to be, one of the most active of local historical societies. One of its major projects to preserve the heritage of its area also involves an important part of the forest history of western Wisconsin.

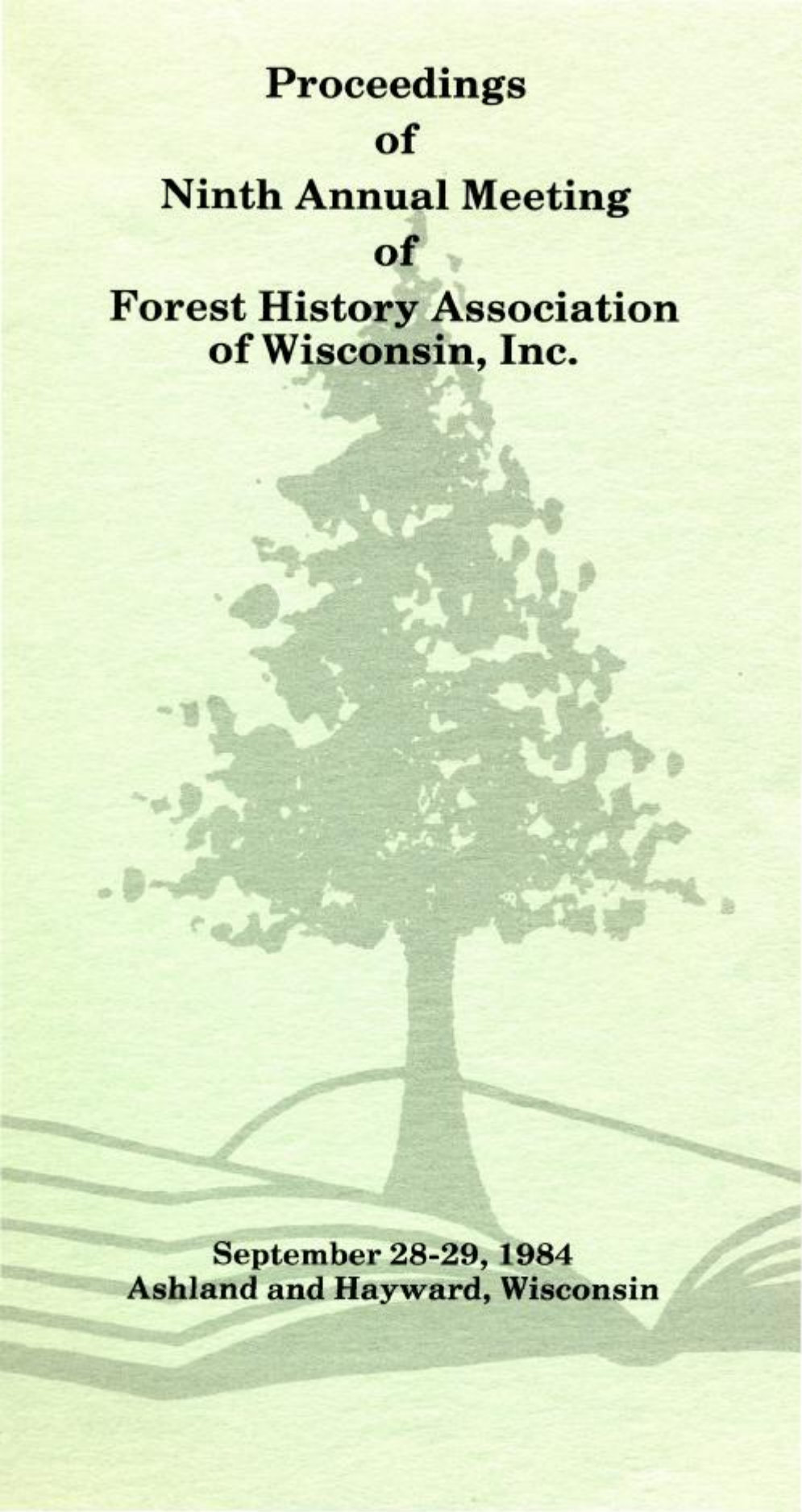
When the Dunn County Historical Society purchased the former Odd Fellow Hall in Downsville in 1972 for use as a museum, it immediately set about the collecting and exhibiting of artifacts representative of the logging and lumbering era made famous in that locality by the operations of the Knapp-Stout Lumber Company. The life-styles of those days have now been re-created by replicas of a typical logging camp's kitchen, bunkhouse and blacksmith shop. A slide-tape program also has been assembled which reviews the early logging era in Dunn County. A 65-foot diorama further depicts what was in the 1880's the largest lumbering operation in the world, when Knapp-Stout camps and sawmills employing 2,500 workers produced 55,000,000 board feet of lumber annually from the 530,000 acres of pine lands owned along the Chippewa, Menomonie and Red Cedar Rivers.

For its contributions toward preserving for posterity the forest history of its area, we are most pleased to present this plaque to the Dunn County Historical Society and its "Empire In Pine" Lumber Museum, represented here by Mr. and Mrs. John Russell of Menomonie, Wisconsin.



Mr. and Mrs. John Russell accepting the Distinguished Service Award on behalf of the Dunn County Historical Society.

Proceedings
of
Ninth Annual Meeting
of
Forest History Association of Wisconsin, Inc.



September 28-29, 1984
Ashland and Hayward, Wisconsin

The Forest History Association of Wisconsin

The Forest History Association of Wisconsin had its beginnings early in 1975 when a group of representatives from the wood products industries, conservation agencies and the University of Wisconsin met to discuss a potential centennial project which would remind our citizens of the importance of forests in Wisconsin's past, present and future.

Their discussions led to the organizing of the Forest History Association of Wisconsin, Inc., as a non-profit, tax exempt endeavor whose principal objective would be to preserve Wisconsin's forest heritage. Membership currently numbers about 235 individuals, corporations and institutions.

A nine-member Board of Directors serves as the Association's governing body. Officers and directors for 1984-1985 are; Edwin Nagel, president; Thomas R. Albrecht, vice-president; Frank N. Fixmer, secretary-treasurer; Dean Einspahr; James Kaysen; Milton E. Reinke; Ellen Sabetta; Charles Twining; and Jacque D. Vallier.

The Association has published a number of booklets which should have appeal to the forest history enthusiast:

History of the Nicolet National Forest (now out of print)
Bibliography of Wisconsin Forest History
A Chronology of "Firsts" in Wisconsin Forest History
Chips and Sawdust (a newsletter published three times a year)

Further information on any aspect of the Association's program and policies may be obtained by writing to

Secretary
Forest History Association of Wisconsin
403 McIndoe Street
Wausau, Wisconsin 54401

Proceedings
of
Ninth Annual Meeting
of
Forest History Association
of Wisconsin, Inc.

September 28-29, 1984
Ashland and Hayward, Wisconsin





Founded 1975

"The past is but prologue to the future"

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FOREWARD

The following text comprises the official transactions conducted, and the written papers presented at the Ninth Annual Meeting of the Forest History Association of Wisconsin on September 28-29, 1984. On September 28th the meeting was held at Northland College, Ashland, Wisconsin. On September 25th the meeting concluded with a field trip to the Drummond Historical Museum and the Johnson Timber Company's wood chip mill and the Louisiana-Pacific wafer-board plant in Hayward, Wisconsin.

This Proceedings is dedicated to two recipients of the Association's Distinguished Service Award who passed away during 1984: Howard Peddle and M. N. Taylor.

The Board of Directors is most grateful to all who contributed in making this meeting the success it was.

William A. Sylvester
Publications Editor

ANNUAL MEETING
FOREST HISTORY ASSOCIATION OF WISCONSIN
— PROGRAM —

September 28-29, 1984
Northland College
Ashland, Wisconsin

Friday, September 28

12:30 p.m. - 1:30 p.m.	**Registration;** get-acquainted period.
1:30 p.m. - 2:00 p.m.	**"Footprints in the Forest: What the Loggers Left Behind"** — Kathleen Lidfors, Historian, Apostle Islands National Lakeshore.
2:00 p.m. - 2:30 p.m.	**"Treated Wood and the Environment"** — Joseph L. Stark, President, Chippewa Industries, Inc.
2:30 p.m. - 2:45 p.m.	**Coffee Break**
2:45 p.m. - 3:15 p.m.	**"Drummond, WI: Rust-Owens Company Town"** Dr. Duane Fisher, Professor of History, University of Wisconsin — Eau Claire.
3:15 p.m. - 3:45 p.m.	**"Reclaiming Pine Land on a Northern Wisconsin Industrial Forest"** — Miles Benson, Services Manager, and William Hensel, Area Supervisor, Consolidated Papers, Inc.
3:45 p.m. - 4:45 p.m.	**Annual Business Meeting**
5:30 p.m. - 6:30 p.m.	**Hospitality Hour** — Host, Malcolm McLean, President, Northland College.
6:30 p.m.	**Dinner** — Holiday House. Presentation of Distinguished Service Awards; prize-winning film, "Timber on the Move", produced by the National Forest History Society.

Saturday, September 29

8:30 a.m.	**Breakfast:** Black Bear Inn, Drummond; brief visit to the Drummond Museum.
9:30 a.m.	**Tour:** Johnson Timber Company's wood chip mill, Hayward, Hwy. 63 south.
10:30 a.m.	**Tour:** Louisiana-Pacific wafer-board plant, Hayward, Hwy. 63 south.
12:00 noon	**Luncheon:** Historyland's log cookshanty, Hayward.

MINUTES of the NINTH (9th) ANNUAL MEETING of the FOREST HISTORY ASSOCIATION OF WISCONSIN

September 28, 1984
Ashland, Wisconsin

The Ninth Annual Meeting of members of the Association was held at the Sigurd Olson Institute, Northland College, and was called to order by President Arlan Wooden at 3:50 P.M. with 46 members and guests registered prior to the proceedings.

The minutes of the 1983 meeting were read by the Secretary. There being no additions or corrections, the minutes were approved as read.

President Wooden presented his report on the Association's activities and accomplishments during the past fiscal year. Highlights of his report included: contributions made to the capital fund campaign, the necessity for reduced services in the coming year due to potential lower revenues, the role of the Association in the establishment of the Wisconsin Forestry Hall of Fame, and the participation of Association members in the publicizing of Association objectives. The detailed report is appended hereto.

Secretary-Treasurer Fixmer then reported on the financial and membership status of the Association as of June 30, 1984. His report indicated that in spite of an operating deficit of $1,631.55, the Association was still solvent, with cash assets at year-end of $9,527.54. He stressed, however, that the future viability of the Association will depend on membership retention and expansion. His detailed report is also made a part of these minutes, along with the report of the auditing committee.

The Nominating Committee's report on candidates for directorships was presented by Chairman John Saemann. Nominated to succeed themselves for another two-year term on the Board were Tom Albrecht, Ed Nagel and Jacque Vallier; nominated to replace Bob Brisson, William Rector and Arlan Wooden, whose terms had expired, were Dean Einspahr of Appleton, James Kaysen of Cedarburg and Charles Twining of Ashland, also for two-year terms. There being no further nominations from the floor, and upon proper motion and second, the foregoing slate of directors was approved by acclamation.

Upon appropriate motion and second, the acts of the Association's officers during the past fiscal year were duly ratified.

Also upon proper motion and second, the amendment to the By-Laws that was adopted by the Board of Directors at its meeting of October 7, 1983, providing for five instead of two classes of membership, and as adopted at its meeting of February 23, 1984, providing for a Student Group membership class, was unanimously approved.

An open-floor discussion then ensued on the following subjects:

1. Capital funds campaign — pledges are acceptable, in lieu of cash, up to May 15th, 1985, under terms of the "challenge grant" that will be given to the Association if the stated goal is met.
2. Membership promotion — several suggestions were made for a broader distribution of the Association's solicitation brochure.

3. Format of future annual meetings — diverse opinions were expressed on a suggestion that programs be expanded to two full day sessions; also suggested was the need for more detailed information about the sites of the meetings.

There being no further business, the meeting was declared adjourned at 4:45 P.M.

Frank N. Fixmer
Secretary-Treasurer

ANNUAL REPORT of the PRESIDENT for 1983-1984

First, I would like to welcome you the ninth annual meeting of the Forest History Association of Wisconsin. We are very pleased to be in this part of the state with its beautiful country, with its historical setting, and the excellent facilities here in the Sigurd Olson Institute on the campus of the Northland College. I would like to thank the Planning Committee for all their work in making the arrangements and planning the details for this meeting. It takes a lot of work to set up a meeting such as this and we appreciate the work of the committee. Thanks to Charles Twining, Chairman, Eldon Marple, William Johnson, Sr. and Jack Walters.

My report will basically be a short report of board and association activities for the past year.

First a sad note. I am sorry to report the death of two charter members to the association, Howard Peddle and M.N. "Mully" Taylor. Both gentlemen had made significant contributions to the association and to forest history in general. They will be sorely missed but, certainly, not forgotten.

If you are not aware of our financial status, I must mention we are walking on thin ice. To put it in a nutshell, the problem is that this past year our "outgo" exceeded our "income" and obviously this cannot continue for very long before we delete our surplus. To counteract this, the Board of Directors has taken several steps:

1. Reduce the number of copies thereby restricting the distribution of the annual "Proceedings".
2. Cut the quarterly newsletter "Chips and Sawdust" to three issues per year.
3. Reduce the amount given for student scholarships.
4. Intensify efforts to increase the capital fund which could provide substantial interest income.
5. Increase efforts to promote new memberships.

Since 1979, two $100 scholarships have been awarded annually to students from UW-Stevens Point and UW-Madison, the two forestry schools. This year, the recipients of these awards were Susan Krebs from UW-Madison and Cole Couvillion from UW-Stevens Point. Cole's paper on the Menominee River Boom Company was so interesting that it was reproduced in the May issue of "Chips and Sawdust".

Several members of the association have participated in other organizations, which

helps to promote our group: Bill Wolff of Lakewood and Carl Rhody of Ogema were guest speakers at the Fall 1983 meeting of the Wisconsin Academy of Sciences, Arts and Letters. Frank Fixmer was a guest speaker at a dinner meeting of the Three Lakes Centennial Museum group which resulted in two donations to our capital fund. He also manned our association's booth at the Logging Congress. John Saemann served as Chairman of the Work Projects Board, which promoted the creation of the Wisconsin Conservation Corps.

Earlier I mentioned one of the goals of the Board of Directors is to intensify efforts to increase the capital fund. Several contributions were made this year: Hamilton Roddis Foundation — $500; Jim Kayser — $100; plus three donations of $25 each, bringing the total of our fund to just under $9,000.

Now for some really good news. Due to the efforts of Frank Fixmer and Stanley Staples, we recently received news of two "challenge grants" from two foundations that have requested anonymity:

1. One has stipulated that if we raise $4,000 by November 15, 1984, the foundation will award a grant of $2,000.
2. The other has promised that if we raise $12,000 by May 15, 1985, it will award a grant of $6,000.

This gives us the opportunity to increase our capital fund by $24,000. This would certainly have a significant, positive impact on the operation of our association. We certainly hope that this will become a reality and ask you to help in two ways:

1. Make a direct contribution. Any size contribution would be appreciated.
2. Promote donations to our association by contacting other potential benefactors.

Your help on these matters would be greatly appreciated.

The Forestry Hall of Fame is going to become a reality with the induction of E. M. Griffith, F. G. Wilson and R. B. Goodman in October of this year. The Hall of Fame will be located in the Natural Resources Building on the campus of UW-Stevens Point. Several organizations, including the FHAW, worked very hard to bring this to completion and several FHAW members made contributions of time and materials. Association members involved in implementing the Hall of Fame were Dan Trainer and Jim Newman, Dean and Assistant Dean of the College of Natural Resources at Stevens Point, Bill Sylvester, retired Stevens Point faculty member, Russ Roberts, Chairman of the Wisconsin Society of American Foresters and Frank Fixmer, Chairman of the Ad Hoc Committee that developed the initial guidelines.

In closing, I would like to say thanks to a few people who have worked hard for the association. Thanks to Fred Braun and Mike Sokasky for serving on the Auditing Committee, John Saemann and Karl Baumann for serving on the Nominating Committee, to Tom Albrecht and Frank Fixmer, for their work on publicity, and especially to all the members of the Board of Directors for the work they do transacting the association's business throughout the year.

Thank you.

Arlan Wooden
President

ANNUAL REPORT of the SECRETARY-TREASURER for 1983-84

For the second successive year I have the unpleasant duty of giving you disappointing news regarding the Association's financial situation.

For the fiscal year ending June 30, 1984, we incurred an operating loss of $1,631.55. Although this was covered with the accumulated surplus of earlier years, that available surplus fund has now dwindled to a mere $153.00, so it is obvious that we cannot continue to incur a deficit for still another year.

Basically, the operating loss for the past year was due to anticipated revenues from new memberships not materializing. Income from members' dues amounted to $3,046.00. The cost of publications alone came to $3,200.44. Other income included $1,046.30 from interest on investments, $120.00 from donations and $79.50 from miscellaneous sales. However, these receipts were wholly inadequate to cover costs of postage, stationery and other office supplies, insurance, scholarship and distinguished service awards and administrative services. A detailed account of the year's receipts and disbursements is available upon request, but will also be published, as usual, in the *Proceedings* of this meeting. In summary, we are still solvent, with total cash assets on hand as of June 30, 1984 of $9,527.54. On the other hand, it should be noted that $8,958.00 of that amount consists of "untouchable" capital funds, of which only the interest income from its investment can be used for operating purposes.

In my role as secretary and chairman of the membership committee, I have attempted to publicize the existence of our Association and to promote membership whenever the opportunity presented itself. Several guest speaking appearances were made in the course of the year and I prepared and manned an exhibit for four days at the national convention of C.C.C. Alumni in Eagle River last September.

During the fiscal year, we enrolled 16 new members but lost 23 individual and 2 corporate members that chose not to renew their support.

As of June 30, 1984, our membership roster consisted of the following:

Individual	201 (including 13 Life Members)
Corporate	20
Student Group	1
Honorary	7
Affiliate	3
Exchange	3
Total	235

Membership promotion will be a major objective for the coming year, and every current member should feel a responsibility for contributing to that effort by enrolling at least one new member. The future financial health of the Association and the viability of its program goals will depend, in large measure, on it being a growing and active organization.

AUDIT STATEMENT

To Whom It May Concern:

The undersigned have examined and audited the financial records kept by the Secretary-Treasurer of the Forest History Association of Wisconsin for the fiscal year beginning July 1, 1983 and ending June 30, 1984.

This audit included the examination of all transactions involving both receipts and disbursements, as well as the authority to make certain purchases. Bank statements were also cross-checked with all records of receipts.

All items were found to be in agreement with the summary financial report of the Secretary-Treasurer, as attached hereto.

As of June 30, 1984, the Association's checking account had a balance of $416.54, the investment account balance was $1,111.00, and a money market certificate of deposit was held in the amount of $8,000, for total cash assets of $9,527.54.

Respectfully submitted,

Frederic Braun

Frederic Braun

Michael Sohasky

Michael Sohasky

Dated: August 16, 1984

FOREST HISTORY ASSOCIATION OF WISCONSIN
TREASURER'S REPORT
for
Fiscal Year July 1, 1983 thru June 30, 1984

OPERATING STATEMENT

RECEIPTS	1983-84	1982-83
Membership dues	$ 3,046.00	$ 2,728.00
Donations - "unrestricted use"	120.00	204.00
Ken Elliot Memorial	—0—	100.00
Sales - publications, buttons, photos	79.50	41.00
Annual meeting	419.00	—0—
Interest and dividend income	1,046.30	1,026.55
Other	—0—	—0—
	$ 4,710.80	$ 4,099.55
DISBURSEMENTS		
Postage; mailing permit	$ 347.46	$ 431.62
Stationery; office supplies	300.44	258.75
Bonding; insurance	124.00	124.00
Publishing	3,200.44	2,899.41
Annual meeting	442.50	15.35
Scholarships; Distinguished Service Awards	347.25	363.37
Donations	25.00	100.00
Services, travel, phone, office mtc.	1,314.62	1,020.54
Membership promotion	—0—	—0—
Miscellaneous	240.64	97.93
	$ 6,342.35	$ 5,310.97
NET OPERATING PROFIT OR (LOSS)	$ (1,631.55)	$ (1,211.42)

RECONCILEMENT OF CASH ASSETS

Checking Account - July 1, 1983	$ 135.69	$ 848.66
Savings Account - July 1, 1983	29.40	27.85
Investment Account	10,319.00	8,994.00
	$ 10,484.09	$ 9,870.51
Add: Operating profit or (loss) as above	(1,631.55)	(1,211.42)
	$ 8,852.54	$ 8,659.09
Add: "Restricted Use" Donations	675.00	1,825.00
	$ 9,527.54	$ 10,484.09

SUMMARY OF CASH ACCOUNTS

Checking Account - June 30, 1984	$ 416.54	$ 135.69
Savings Account - June 30, 1984	—0—	29.40
Investment Account - June 30, 1984	1,111.00	10,319.00
M. M. Certificate of Deposit	8,000.00	—0—
	$ 9,527.54	$ 10,484.09

SPECIAL MEETING of the BOARD of DIRECTORS

September 29, 1984

The meeting was held at the Black Bear Inn, Drummond, WI, prior to the breakfast served to the Association group making the tour from Ashland to Hayward. The purpose of the meeting was to elect officers for the new term.

Outgoing Vice-President Vallier called the meeting to order at 8:20 A.M. with Fixmer, Kaysen, Twining and ex-officio member Saemann present.

Following a discussion of the various possible candidates for office, it was unanimously voted to elect Ed Nagel as president, and Tom Albrecht as vice-president for the two-year term provided by the By-Laws of the Association. Also, Frank Fixmer was re-elected as secretary-treasurer for the usual one-year term.

It was further agreed to hold the next regular meeting of the Board at the College of Natural Resources, University of Wisconsin-Stevens Point, on November 15, 1984. This will give the members an opportunity to view the newly-installed Wisconsin Forestry Hall of Fame.

The meeting was adjourned at 8:45 A.M. to permit time for visiting the Drummond Museum before the tour was resumed.

Frank N. Fixmer
Secretary-Treasurer

HISTORIC LOGGING SITES IN THE APOSTLE ISLANDS NATIONAL LAKESHORE: FOOTNOTES TO A FOREST'S HISTORY

Kathleen Lidfors

Recorded in the folklore of the old Northwest is an exchange between Norwegian pioneer Cleng Peerson and veteran fur trader, Solomon Juneau. In 1833 Peerson trekked north from the tiny settlement of Chicago to Juneau's isolated cabin, where the city of Milwaukee now stands. "What will I find if I continue north from here?" Peerson asked. "Nothing but woods to the world's end," Juneau replied.[1]

Ahead of Peerson lay a forest four hundred miles square—a woods as big as France. And in a far corner of this wilderness, the twenty-two Apostle Islands stretched out into Lake Superior, remote and pristine—but already familiar territory to traders, missionaries and explorers.

In 1970 twenty of those islands and a nearby stretch of mainland shore were established as a unit of the National Park Service. These lands were designated a National Lakeshore to preserve their scenic and recreational qualities in the face of increasing development throughout the region. But the islands are no virgin wilderness. Juneau and his fellow traders would not recognize the forest which covers the islands today. A woods as big as France has been cut, milled, shipped and built into the homes, barns, fences, telephone lines and railroads which have shaped the modern world. A forest of a different age and composition has grown in the big woods' place.

Two elements together have formed and continue to define the essential character of what is now the Apostle Islands National Lakeshore: the long, slow processes of sandstone deposition and erosion and the brief moment in time which was the island lumber industry. That brief moment, less than a century, resulted in complex issues for management of the National Lakeshore woodlands. Should the pre-logging forest cover be reestablished? If so, what stage of the forest's earlier history should be reproduced? Or should the logging episodes be viewed as simply interrupting natural succession and the present forest be left alone to reach its climax stage? Perhaps special management practices should be employed to preserve and sustain the few remaining virgin stands. On the other hand, although they are not natural occurrences, should logging clearings be kept open to retain the ecological diversity and recreational value of the birds, deer, bear and other wildlife which inhabit them? And what of the cultural history lodged in the camps, roads, landings and artifacts of the logging era? In a "natural" area, is it important to preserve the human intrusions which tell how, and—more profoundly—why the forest changed?

Ongoing research at the Lakeshore will provide a basis for long-range forest management plans. The cultural history of the Apostle Islands, of course, is an integral part of this research. But the material remains of the logging era are themselves a separate and valuable resource which requires responsible, long-term management. Logging sites fifty or more years old fall under federal historic preservation mandates. But the entire resource merits attention for its contribution to local and regional history and its potential to enrich the visitor's enjoyment and understanding of the Apostle Islands.

It is unlikely that Apostle Islands sites will contribute surprising new insights into

the history of the lumber industry or logging technology. Operations on the islands were typical of northern Wisconsin, although generally smaller in scale and burdened with logistical problems that might have caused large lumber companies down-state to pass the timber by entirely. Nonetheless, as Charles Twining observed in **The Apostle Islands and the Lumber Frontier:** "the history of the Aspostle Islands has been considerably more than a microcosm of the history of the region . . . the island circumstance has made a difference."[2] Access to deep water transportation placed both pine and hardwoods within the lumberman's grasp long before the railroad reached the Chequamegon Bay area. As mills sprouted up along the shoreline, the Bay became, in Twining's memorable image, "a gigantic millpond, the logs moving easily, cheaply, and for the most part, safely, throughout."[3]

Other aspects of the island circumstance also made a difference in the markets, motives, harvest sequence and technology of the lumber industry in the Apostles. One of the earliest commercial operations, for instance, was an 1870's cordwood cutting operation on Oak Island, which provided fuel for passing steamships. A hemlock operation on Basswood Island shipped schooner-loads of bark directly from the island dock to Duluth tanneries during the 1870's and 1880's—this before the pine harvest got well underway in the area. Cedar, too, was harvested early on the islands to supply the growing towns of Bayfield, Ashland and Washburn with shingles and posts and to provide the commercial fishing industry with barrel stock. Much timber was cut in the 1870's and 1880's—in support of the flourishing island brownstone quarries, both for construction of docks and buildings and fuel for the steam-powered engines.

As to operations, island topography and remoteness from the mainland often dictated departures from customary procedures—which, when successful, became "the way it's done" on the islands. Because supplies could not be brought to the camps on a regular basis, whole herds of cattle and pigs were raised on some islands during the summer to supply winter camp tables. Medical needs, on the other hand, were not dealt with as adeptly, resulting in a strike on Stockton Island one hapless winter. Improvisions, both large and small, may have resulted in a technology that differed in some respects from the common practice on the mainland. It is evident that a kind of "technological lag" existed on the islands, as loggers found the old methods of the Michigan style more suitable to island operations than the use of steam, or later, gasoline-powered equipment. As late as the 1930's, when a railroad was built on Outer Island to make summer logging possible, horses were still used in the woods. A 1930's camp on Bear Island appears misplaced from the 1890's with its log buildings and horse-powered operation.

But after all, what is commonplace about the Apostle Islands sites may be what is most significant. Although the dozen or so Schroeder Company camps, for instance, have mainland counterparts by the hundreds, the mainland site which an archeologist finds intact is a rare find indeed. Among the several Lake states archeologists who have helped to place Apostle Islands sites in a broader perspective, one theme prevails: the integrity of the Apostle Islands sites is unparalleled; they are a repository for study of the logging industry in this region. The two factors which worked hardship upon camp operators—remoteness and inaccessibility—saved the camps for posterity.

A reconstruction of the island forest in the 1850's, developed from the original GLO survey notes by Douglas Frederick and Lawrence Rakestraw (1976), shows a predominantly hemlock and hemlock-yellow birch cover with cedar and balsam fir in lowland

areas, limited areas of white pine-red pine, a few patches of sugar maple and a mixture of pines and northern hardwoods growing among other cover types.[4] The most common forest type on the islands today is dominated by yellow birch or white cedar, with balsam fir, paper birch, aspen and white pine showing in significant number.[5] Hemlock, which dominated the earlier forest, retains but a foothold on the islands today. The modern forest, in fact, is remarkably diverse, given the small area involved and the relatively uniform environment. A study conducted in 1960 by E. W. Beals and Grant Cottam identified sixteen species occurring as either a first or second dominant and twenty-three different combinations of species occurring as first and second dominants in the seventy-five stands sampled.[6] It is the logging and fire history of the islands which largely accounts for this diversity.

Tracks of this century of change in the Apostle Islands forests may be traced through the fifty some known logging sites on the islands as well as through stumps and living trees. Over the past seven years, the Lakeshore research program has followed these tracks through the biological, historical and archeological record. Detailed forest histories are being developed for each island through analysis of pollen in bog sediments, fire scar and tree ring analysis and vegetation mapping. Historical research has taken both general and particular directions: Charles Twining's study, cited above, places the logging of the Apostle Islands in a context of area development and the lumber industry at large, while Lakeshore staff have compiled data from early newspapers, land and tax records, oral histories, photographs, company documents, maps—and the historical sites, themselves.

Material remains at Apostle Islands sites range from a scatter of 1880's bottles and a few foundation berms in mature second growth woods to a handful of collapsing but identifiable frame buildings in an open clearing surrounded by fuel tanks, rusting vehicles, and scattered pieces of equipment. Because the islands were logged repeatedly in successive episodes, it is possible that many of the sites are "layered." Since few useable landings or areas of flat, dry ground exist on the islands, many of the camps may have been used repeatedly, being rebuilt, modified, expanded. Surely that was true of docks and logging roads. Thus, site history becomes a matter for archeologists. The temptation to assign historic significance to a site on the basis of visible remains must be resisted, or at least viewed as a partial assessment until subsurface work can be accomplished.

To date, two archeological studies have been conducted at island logging sites. Both sites are tentatively dated in the 1910's; both probably represent Schroeder Company hardwood logging operations. The intent of the Oak Island "Camp 5" study was to map and evaluate an extensive, obviously undisturbed—but typical—island site to determine its cultural significance and research potential. This study, conducted by Patrick Martin (Michigan Technological University, 1981) served as a paradigm for preliminary assessment and planning concerning the resource as a whole.

A second study, conducted by the Midwest Archeological Center (National Park Service, 1982), carried out test excavations at Trout Point Camp, Stockton Island, to determine the functions of the remaining camp features and provide information for interpretation of the site to Lakeshore visitors.

The Lakeshore's paraprofessional archeology program has accomplished field mapping of numerous sites. Documentation of other sites is limited to base maps prepared by enlarging aerial photos and comparing features visible in the 1936 Soil

Conservation Department Survey with remains presently found in the field.

During the past year, research data and broad management goals for the Lakeshore have been synthesized in a draft Resource Management Plan for the Apostle Islands logging sites. The primary purpose of this plan is to outline short-term and long-range actions to conserve the historic values and research potential of important sites while making the resource available to the public. Careful assessment of individual sites is critical, since logging camp clearings are some of the optimal sites for use as trailheads and campgrounds. Planning which considers ecological issues, cultural significance and recreational needs is essential to serve the best interest of the resource and the public.

Oak Island "Camp 5" and the Trout Point Camp illustrate two management approaches. Similar sites in many respects, they will be treated quite differently. "Camp 5" will remain isolated from public use by virtue of its exclusion from the Lakeshore's trail system and the absence of safe access by water. No active conservation measures will be taken; the site will remain undisturbed for future research. Trout Point, on the other hand, is the terminus of a new trail across Stockton Island. A pre-development archeological survey established a minimal impact route through the camp clearing, and, in the course of the subsequent archeological field work, vulnerable surface artifacts were collected. Sufficient analysis was completed to interpret the site for visitors. The site will be monitored, but no damaging effects from visitor use are anticipated.

No logging camp reconstructions are planned at the Lakeshore. Interpretation of logging sites will be treated in the context of a particular island's history and the overall forest and logging history of the Apostle Islands. On-site interpretation will be limited to camps which best represent a theme or phase of island logging history. In most cases, a sign with brief narrative text or a wayside exhibit will suffice. In the special instances where visitor potential is high and camp remains are particularly evocative, a self-guiding interpretive trail may be developed to allow the visitor to explore camp features independently.

But the camps themselves are ephemeral. Built for a season, perhaps two or three, in some cases we are preserving only the shadows they cast on the ground. The forest these camps served to harvest now swallows them up. We attempt to hold back time with microchrystalline wax on rusting dogs, chains, axes and cook pots. We create typologies, make maps and store documentary photographs in climate-controlled conditions to slow their deterioration. These are stop-gap measures. But logging history on the islands was a short moment with long implications—and science and technology can bridge the gap. If we collect the raw material today, a fuller story may be told tomorrow.

And tomorrow will have its own story to tell on the Apostle Islands. Because an Act of Congress brought logging to a halt on twenty of these islands, in the year 2185 a two hundred year old forest will stand. While other Wisconsin forests, public and private, are intensively managed for high productivity, the National Lakeshore forest will be a "woods at the world's end." In its selections, diseases and failures we will track the pathologies of our larger environment. In its growth and renewal we will track the strength of **bios**—its health, our hope.

1. Walter Havighurst, **Upper Mississippi: A Wilderness Saga** (New York, 1944), 99.

2. Charles Twining, **The Apostle Islands and the Lumbering Frontier.** Reprinted from **Wisconsin Magazine of History** (Madison, 1983), 1.

3. Twining, p. 4.

4. Douglas J. Frederick and Lawrence Rakestraw, "A Forest Type Map of Pictured Rocks and Apostle Islands National Lakeshores from the Original General Land Office Survey Records." Report to the National Park Service (Michigan Technological University, 1976), 72-75.

5. E. W. Beals and Grant Cottam, "The Forest Vegetation of the Apostle Islands," **Ecology,** 41 (1960), 750.

6. Beals and Cottam, p. 745.



Schroeder Lumber Company railroad operation on Outer Island. — 1930

TREATED WOOD AND THE ENVIRONMENT

Joseph L. Stark, President,[1]
Chippewa Industries, Inc.

September 25, 1984

Thank you Mr. Twining and members of the Forest History Association of Wisconsin for inviting me here this afternoon to participate in your program. We welcome the opportunity to tell you a little bit of what our company has been doing to both preserve our natural timber resources and also simultaneously to improve the environment. Unfortunately Joe Stark who was originally scheduled to speak this afternoon is out of town in Iowa and unable to attend and he has asked me to substitute. At the end of my discussion this afternoon we will allow time for you to ask any questions and please feel free to do so.

As you know the forest products industry in this country is a very large industry employing thousands of people and making a very significant contribution to our gross national product. Throughout this industry that encompasses the paper mills, saw mills, furniture plants and including the big integrated timber companies, the fastest growing part of this vast industry during the past 10 years has been the pressure treating of wood. And the forecasts for the future indicate the same trend will continue. As wood becomes more expensive there is a built-in incentive to do everything we can to preserve it from its natural enemies, the fungi, rot, termites, fire and other causes of destruction. The idea of treating wood with other chemicals to make it last longer and resist decay is not new. The ancient Egyptians and Babylonians used various natural oils, pitches, and tars to preserve wood especially in their ancient sailing vessels. Marine borers, which have always been and still remain a plague to wood in marine waters, were first reported in 1560 to have caused some damage to wooden piles in the earth and dykes of Holland. By 1700, the damage was so extensive as to threaten the inundation of the country. In 1590, one hundred ships of the Spanish Armada were destroyed by ship worms in the West Indies. The external decay was usually produced by marine borers, and the internal decay by dry rot.

One of the greatest infestations of marine borers of any major seaport in the world today is in the San Francisco-Oakland bay area where approximately 140 years ago sailing vessels from all over the world landed to bring adventure seekers for a fortune in gold and the ships were left at the shoreline to rot and decay. Breeding a cesspool of marine borers that remain today. After the Civil War creosote began to be used in treating railroad ties for the vast transcontinental railroad system that launched our great migration westward. Later, other chemical preservatives, chiefly pentachlorophenol, more commonly called penta, was used to pressure impregnate our telegraph and telephone poles. And more recently, about 30 years ago a water based system of salts began being used in this country, imported from Sweden, that is well known to all of you when you visit the local retail lumber yard to build a backyard patio or dock. This CCA treated wood, copper chromated arsenate chemical impregnation, is the largest volume seller today of treated wood in this country. In all cases, the purpose in pressure

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1. In absence of Mr. Stark this paper was presented by Charles Oslund of Chippewa Industries, Inc.

treating wood was an economic motive or incentive to have the wood last longer and the added cost of treating was felt to be more than paid by the greater longevity given to the wood application. However, in all these cases, there has been a positive economic advantage or trade off vs. the negative damage to the environment. All of the chemicals used are very toxic and are not readily biodegradable. Preservatives make wood toxic to organisms that use it for food or shelter. The basic principle involved was that the toxic chemicals were pressure impregnated into the wood and would kill the various kinds of wood destroyers due to their toxic properties. Various fungi, termites, insects, beetles, etc. that destroy wood would either be discouraged from attacking the wood or be killed by the toxic chemicals. The economic advantages by longer lasting wood applications, for example, creosote railroad ties, far exceeded the negative impact on the environment. But many of these toxic chemicals would subsequently leach out into the ground and contaminate ground water supplies. In years past very little attention has been paid to the environmental damage and pollution that have been caused by treating plant operations and the toxic effects on the consuming public from pressure treated wood. Probably the worst case of pollution has occurred at treating plants using creosote for treating railroad ties. The residue wastes and drainage at these treating plants has accumulated and seeped into the soil for many years and has worked its way down into the underground water supply systems for many cities and suburban areas. These creosote based chemicals are essentially nondestructive and non-biodegradable and once imparted into the soil and leached down into the underground water supply system are practically impossible to correct. I'm sure you are all aware of various specific examples from TV and the newspaper coverage that have been given to various situations in our Northwest area. Just as the toxic effects of handling asbestos by personnel doing insulation work was slow to be recognized and public awareness was even slower in developing, until a serious national health problem existed. A similar slow moving accumulation of personnel health problems is emerging from people with repeated and prolonged exposure to working at treating plant locations and in the retail handling and sale of pressure treated lumber. For example the CCA, copper and cromated arsenate, treated green wood found in most retail lumber yards is not particularly harmful when handled in small occasional quantities. However, repeated and prolonged handling of this treated wood does cause a slow gradual buildup of arsenate poisoning within the human body which is an accumulative toxic poisoning effect and is irreversible. Arsenate poisoning is stored in the fat layers of the human body and cannot be secreted or discharged. Also recent evidence points to severe cases of arsenate poisoning when CCA treated wood is used for kindling or for use in fireplaces. Thus the public, with recent urgings from EPA in Washington, is beginning to become aware of the toxic effects of existing wood treating chemicals. However the economic and conservation benefits of pressure treating wood are thought by most people today to far outweigh the negative environmental and personal health hazards.

Our little company, Cherokee Industries, Inc., a Wisconsin corporation headquartered at Hayward has been working for several years to try to develop technology to preserve wood by pressure impregnation with different chemicals that both preserve the wood and at the same time have essentially no effect, or, at worse, very little adverse effect, on the environment or to individuals at treating plant locations or in retail applications. We currently own three United States Patents and are currently preparing

a fourth Patent application embodying the basic concepts and principals of our technology.

Our basic chemical used is a low molecular weight aqueous phenolic resin that is infinitely dilutable with water and is essentially nontoxic to both the environment and to personnel. The other chemical systems used for treating wood have an acid pH whereas our system is alkaline in nature. This gives us several decided advantages in that we can treat freshly cut green wood whereas the other systems must use air dried or kiln dried wood that has been dried below approximately 30% moisture content. Also we can treat both the heartwood and the sapwood of all species whereas the other systems are limited to treating essentially just the sapwood. Probably one of the biggest advantages of our system and technology is that the phenolic resin is a very small molecule that readily penetrates inside each wood cell and chemically bonds and reacts with the cellulose forming an insoluble complex compound that never leaches out. Instead of injecting a toxic chemical into the wood to destroy the insects, fungi, or termites, we chemically modify the wood so that these same wood destroyers do not use the treated wood for food or shelter. This is the fundamental difference between our technology and other wood treating systems.

When this chemical reaction occurs several hours or days after the treating process —the length of time is dependent upon the temperature conditions — a bulking or swelling action occurs. An analogous situation might be that when water freezes to form ice the volume expands. This is the same phenomena that occurs inside our treated wood and this has several very distinct advantages. For example, checking, splitting, warping, etc. are greatly reduced and in some cases almost entirely eliminated with our treated wood. We have currently installed approximately 60,000 railroad ties at various steel mills and mainline railroad tracks throughout the United States and in all cases these railroad ties were treated dead green and no split arresters or checking irons were used in the end of the railroad tie, yet the appearance after approximately ten years of usage is essentially the same as when the tie was originally installed. This photograph was taken on a very heavy application at a coke oven operation at Bethlehem Steel Company in Bethlehem, Pennsylvania after 4 years of heavy duty usage where a creosote tie would not last even 1 year. Please note the lack of splitting or end checking compared to these photographs taken of railroad ties treated with creosote. As this chemical bonding occurs within each wood cell, the wood fibers are structurally reinforced with the plastic creating a piece of wood that is structurally stronger, yet not brittle. The superior performance of our railroad ties vs. creosote in railroad track application is outstanding proof of this improved structural strength. Incidentally, we have a very active program underway with the American Railroad Engineers Association, which is being spearheaded by the Santa Fee Railroad to adopt our polymer treated railroad ties in lieu of creosote throughout the mainline tracks of the railroads in this country. The railroads are slow to move and there is much inertia to be overcome before we gain widespread acceptance but as of this date the results are all very positive and also very encouraging and we expect within the next couple of years to begin to achieve significant penetration using our treated ties throughout the United States, and even in foreign countries.

Probably one of the most interesting aspects of our wood treating technology is what we can do to wood to make it fire resistant and nonburnable. Using this same basic technology that we have mentioned previously; that is, using a water-based low

molecular weight phenolic resin to pressure impregnate the wood — we can also incorporate other small amounts of chemicals that prevent burning or oxidation of the wood. These chemicals are also chemically locked in or bonded into the wood and will not leach out, and when exposed to high temperatures will give a char layer on the surface of the wood which quickly snuffs out further oxidation or rapid burning of the wood underneath the char layer and thus prevents further distruction by the flames. These roofing panels with Southern yellow pine shingles treated with our fire retardant technology have been through a 1,000 hour weatherometer test at Texas A & M University. This prolonged testing in the weatherometer simulates approximately 35 years of outdoor exposure on the Gulf Coast and these shingles were exposed to over 1,300 inches of rainfall. Core sample tests taken before and after the leaching show that absolutely no chemicals were leached out of our shingles, which is very unusual compared to other competitive products on the market today. Also burn tests conducted by Texas A & M show excellent results. Also note the natural pleasing color of these shingles after the weatherometer testing. Also there is no cupping, warping, splitting, etc. We feel the market applications for this roofing application and other exterior applications will be very significant and we are aggressively pursuing the development and marketing of this technology. Also we are working on other interior applications for FR or fire retardant treated wood, such as stairways, mouldings, paneling, doors, etc. with various leading manufacturers and producers. Incidentally, one of the large scale potential applications for our FR treated wood is in mine timbers where the structural strength advantages of our technology combined with the fire resistant properties offer excellent advantages over existing products.

Incidentally, the cost of our treated wood, including the fire resistant treated wood, compared to other competing systems is very beneficial. For example in treating a railroad tie with our system vs. creosote there is approximately a $2.00 cost advantage with our system per tie. But the more important cost advantage of our technology is the significant improvement imparted to the environment when using our treating technology. How do you value environmental benefits?

In this country our wood resources are plentiful and abundant and we tend not to place a high enough priority on conservation. However, in Europe, for example, where wood resources are much less plentiful, they have a much greater incentive and a much higher priority on conservation and preservation. Although the negative environmental implications of present technology for pressure treating wood is cause for concern, the long range benefits of longer lasting wood products is a positive over-all benefit. We should focus our attention on correcting these negative environmental problems and at the same time help increase the longevity and usefulness of our renewable natural resource, wood, through pressure treating. We feel our company is very much "on track" in spearheading this objective. Thus, we can have preservation without contamination.

Thank you for your attention and in the few remaining allotted minutes I will be happy to answer any quesitons that you may have. Thank you again.

DRUMMOND, WISCONSIN: THE RUST-OWEN COMPANY TOWN

Dr. Duane Fisher

The village of Drummond arose in the wilderness in 1882 as the company town of the Rust-Owen Lumber Company. A medium sized operation, the Rust-Owen Lumber Company never produced as much in a single season as some of the Chippewa river giants and its annual output seldom equalled that of its neighboring mills at Hayward or Mason. But the company sawed for 48 seasons and was the last big "white pine" operation in Wisconsin. When it sawed its last log in 1930, the company had produced over 1,200,000,000 board feet of lumber. Between 1899, when it began paying dividends, and 1941, the company paid out $8,198,822.14 in dividends on an original investment of $300,000.

The Rust-Owen Lumber Company was a family operation, one of several companies created by the heirs of Aloney Rust, a Saginaw lumberman. The original stockholders were William A. Rust and his younger half-brothers, Aloney J. Rust, John H. Rust, Ralph E. Rust, and their brothers-in-law, John S. Owen and Frank W. Gilchrist. In 1881, the Rust brothers began investing their inheritance in Wisconsin in colaboration with their brothers-in-law, who borrowed their wives' inheritance to join in these ventures. Jane Rust also loaned her share of her husband's estate to her sons and her sons-in-law for re-investment. In the 1880's the family clan invested in a couple of Eau Claire sawmills and in several log-selling or sawmilling companies in the Lake Superior watershed.

The greatest of all the family's ventures of the 1880's, however, was the Rust-Owen Lumber Company, formally incorporated in 1882. In 1879, the Chicago, Minneapolis, St. Paul & Omaha, commonly called the "Omaha", absorbed the North Wisconsin Railway Company and persuaded Congress to confer the company's land grant upon it. Before its finances had faltered, the North Wisconsin had managed to complete forty miles of track angling northeasterly from Hudson toward Lake Superior. The Omaha had already absorbed the St. Paul & Sioux City and the West Wisconsin Railway Companies, which provided the Omaha with rail connections to Chicago, Milwaukee, the Twin Cities, Sioux City and Omaha, and could reach other markets out of these railroading centers. Moreover, sawmills located along its Hudson to Ashland line also had access to markets by lake steamers out of Ashland.

In 1880, the Omaha began pushing its rails toward Lake Superior. To finance its program, it contracted to sell pinelands along its route. Besides the Rust family, four syndicates made up of associates of Frederick Weyerhaeuser also bought pine from the railroad company and put up mills at Baronette, Shell Lake, Hayward, and Mason.

In July, 1881, almost a year before the rails reached the site they had chosen, the Rust family clan began laying plans for their sawmill. John S. Owen, who served as president of the family companies, decided to locate upon a small lake that lay astride a creek flowing north out of Long Lake through a series of smaller lakes and marshes to empty into the White River. Owen had explored the region in 1873, as a member of a scouting party selecting timberlands for Michigan and eastern speculators. He was well aware of the dense stands of extremely high quality cork pine in the area (the company's timberlands contained over 80% white pine). To secure control of his log storage and transportation system, Owen bought up lands along the lakes and creek held by

speculators. By November, 1882, he had acquired about 9,500 acres for approximately $95,000. This was enough to commence operations and since he had already made an agreement with the Omaha to buy their timberland in the area, he was assured of control of the lands along the shores of his waterway.

Meanwhile, Owen and his associates proceeded with the building of their mill and company town. In the fall of 1881, W. A. Rust's brother-in-law, Frank Drummond, led a crew to the site to build camp buildings and cut pilings for dams and sorting works. Meanwhile, the Omaha pushed its rails past Hayward and halted for the winter at Cable, about ten miles south of the site. In January, 1882, Owen began ordering materials and machinery. Timbers and lumber were purchased from the Shell Lake and Baronette Lumber Companies and railroaded to Cable and hauled by sleighs to the location. Metal roofing was ordered from Cincinnati. The smoke stack and six boilers were ordered from the Kinney Brothers foundry of St. Paul. A steam engine was ordered from Erie, Pennsylvania. The sawmill, "a heavy #1 mill, with a heavy top saw rig —with reverse motion", was ordered from A. P. Allis & Company of Milwaukee. The boilers and heavy machinery, and the metal roofing, were railroaded to the site after the rails arrived in May, 1882.

In the spring of 1882, work on the mill began. By May 6, 1882, the **Eau Claire Free Press** announced that the frame of the Rust-Owen mill north of Cable had been raised and that machinery was being shipped from "Erie, St. Paul, and other parts". In addition to the sawmill, the plant included an engine house, a planing mill, a shingle and lath mill, a woodworking ship to make doors, sashes, and mouldings, and a blacksmith shop. The ground around the lake selected as a mill pond was soft and boggy. Consequently, the mill had to be erected upon pilings. The engine house, a brick structure, was built upon quaking ground and became a "source of wonder" because of its "breathing wall", a phenomonen described by Ralph W. Owen (John S. Owen's son) as "spectacularly visible to the eye and alarmingly evident to the touch".

The mill was built upon the banks of the third small lake north of Long Lake. The creek flowing northward from Long Lake (shortly to be renamed Lake Owen) was a sluggish stream, flowing through marshes and small lakes. Owen planned to cut timber around the lakes and creek and use the creek to float logs to the mill. The land sloped toward the lakes and creek, providing a general downhill tote for distances of up to four miles at the southern and southwestern ends of Long Lake. Owen planned to use this system until the tote became uneconomical, then build a logging railroad into more remote timber.

To convert the stream into a log transportation system, the Long Lake & Branch Improvement Company was created. In the summer of 1882, under the supervision of John Riggs, the company built a dam at the outlet of Long Lake to raise its water level. When the gates were drawn up, impounded water would carry logs into the creek. The creek was dredged and cleaned of debris. In low areas, dykes were built along the banks to impound more water and a couple of dams were built to raise the water level in the creek.

During the summer of 1882, workmen erected a barn to house oxen and horses. A large boarding house was built to house and feed workmen, and construction of tenement houses for married employees was commenced. A wooden building was put up to house the company store. Company ledgers indicate that by January 1, 1883, construction

costs at Drummond amounted to $40,000 and $30,000 worth of machinery had been installed.

In the fall of 1882, John Riggs led a crew to Drummond (as the settlement was called) and began cutting logs. Sawmilling operations began in April, 1883. Additional tenement houses were put up in 1883 and a school house was erected for employees' children. An Ashland resident who rode the Omaha southward in September 1883, described Drummond as follows:

> The Rust-Owen Lumber Company town is the next station, a bright, thrifty village, clustered around a fine sawmill. New buildings are going up rapidly and people are flocking in and improving the country. The site of the village is somewhat broken and does not present a pleasant view from the cars, but it is evidently destined to become a thrifty business place. The company has erected a large planing mill near their saw mill, and from the huge piles of lumber show they are doing well.

The company built 80 tenement houses, which were leased to family men at $5.00 a month, or four day's wages. At that, the tenement houses were consistant money-makers for the company. They were built with company lumber and cheap labor and were of common construction. Upkeep and depreciation was minimal. Residents burned slabwood from the mill and plenty of hardwood was available for firewood.

The company also ran a large boarding house for single residents or transient workers. Company ledgers indicate that the boarding house lost money every season from 1886 through 1892. Thereafter, it occasionally made a profit, but it was never a consistant money-maker. At first the company store was a hastily contructed wooden building, but in 1887, a large brick building was erected to house the store and company offices above it. A fire gutted the store in 1914, but in the summer of 1914 it was remodeled. The store made a profit more often than the boarding house, but it also requently operated in the red and was never a big money-maker. According to Ralph W. Owen, there were complaints against the company store, and, although many items were sold more cheaply than in stores in Eau Claire, residents of Drummond suspected that they were exploited by the store. Another complaint was that the store stocked a limited number of items and offered little or no variety to customers. The closest town by rail was ten miles, and Ashland, with stores enough to offer variety and competition was around forty miles away. In 1914, the company began selling town lots and let rival businesses enter the town. Thereafter the company store had to offer better service and stock a greater variety of goods, but then complaints arose that things were higher priced than in the good old days.

Except for the Omaha depot, the company owned every building in town until 1914. Even schoolhouses were built by the company and leased to the district. At the height of its operations, the company employed from 600 to 800 men. Logging crews consisted of many transients and were housed in bunkhouses in the woods. Most lumber pilers were also transients, who came in the spring and left in the fall. Most mill hands lived in Drummond the year around, and many doubled as lumberjacks from December to April.

Life in Drummond could not have been very exciting. There were no movie houses in those good old days, and to keep the men sober and efficient there were no saloons in Drummond. There was little to do except admire lumber piles and watch the Omaha chug in and out of town. But in those days, most people lived humdrum existances by

modern standards and accepted it. Ralph W. Owen, who was born in 1884, recalled his boyhood visits to Drummond:

> I can still see the rows of wood-piles behind the houses aligned in even rows down the middle of the blocks. There was a pump on a platform in the center of two or three of the streets, and a water cart, drawn by a dejected old horse, from the source of supply at the mill, up the hill on the plank roadway and through the village streets. The clop-clop of the iron horse shoes on the plank road is one the of characteristic sounds I associate with the place; that and the hiss of the steam from the mill, the roar of the carriage as it dashed back from the saw, the hum of the machinery, the whine of the saws, and the screech of the Omaha train; and over it all the clear northern air scented by freshly cut pine.

Economically, workers at Drummond were as well-off or better-off than mill hands at Eau Claire or other larger sawmill centers. Rents were cheap, there was little to spend money on. Other than a few bosses, there were no "Jones" to create class distinctions and disatisfaction. To attract workers to isolated Drummond, the company paid better wages than sawmills at Eau Claire or most other Wisconsin towns. Mill hands at Eau Claire received 10¢ an hour, or $1.00 for a ten hour day, or $1.10 for an eleven hour shift. At Drummond workers received $1.25 for an eleven hour day, or 11½¢ an hour. Moreover the company store provided credit during periods of slack employment.

The growth of Rust-Owen productivity was reflected in its payrolls. In the company's first book-keeping season, May 1, 1883 through April 30, 1884, the payroll amounted to $15,494.68. The payroll increased to $26,382.31 in 1884-85, and with the installation of band saws and gang saws, and increased productivity, payrolls increased to slightly over $100,000 and remained relatively constant, fluctuating between about $100,000 and $120,000 annually until wages shot upward after 1916.

One of John Owen's jobs as president of the company was to recruit lumber-jacks at Eau Claire each fall and mill hands in the spring. Owen found this a bothersome and thankless task. Sometimes the men he recruited mis-represented their experience or their willingness to work. Occasionally Owen paid the railroad fare of his recruits and made small advances to tide them over until they drew a paycheck. Most men bargained in good faith and took the train to Drummond, but sometimes they cashed in their tickets and pocketed the advances and never went to Drummond. Such incidents embarassed Owen and he frequently received complaints from Frank Drummond about the quality of men he hired or about their failure to arrive as promised. In the spring of 1893, Owen wrote Drummond a tart reply: "I am not quite daft, and I don't pay a man's fare if he has the money for it. I would be obliged to you for the name of any man I have paid a fare for this spring who has not come up. I don't itch for this job and if you can make better arrangements that are more satisfactory to you— do it."

It was always Owen's policy to keep his workers happy and avoid strikes. In the "sawdust war" of 1881, Eau Claire mill workers sought unsuccessfully to reduce their workday to ten hours. When Owen began operating the Westville mill at Eau Claire in 1882, he offered his men 10¢ an hour and let them vote as to whether they'd work ten or eleven hours (they opted for eleven hours for $1.10). When workers struck at a New Richmond, Wisconsin mill in April, 1893 demanding a reduction from eleven to ten hours, Drummond grew fearful that his men also would demand a ten hour day. Owen instructed Drummond to offer to pay 11½¢ an hour for a ten, eleven, or twelve hour day as the men wished. But he instructed him to "come to a full understanding" with the

men and "make it certain that we can run as we wish and as conditions warrant." But he advised running only ten hours in hot weather.

Owen also tried to keep resident employees working the year around, even when he wanted to curtail production during the 1893 depression. In April, 1893, when the economy already was in a sharp downturn, he instructed Drummond to employ a full work force, and if he wished to curtail production, to employ the extra men cutting and piling brush and slashings to "make it more presentable" and prevent fires. In July, 1893, he instructed Drummond to cut back production, but to keep the nucleus of his work force employed somehow.

> It is not so much the men in the woods we have to look after so much as the married men; family men around town — they have got to be kept employed. Do not shut down completely. Keep the men you have employed, only do a little less.

Thus, rather than lay off employees, Owen kept them employed setting back fires, piling brush and slashings, and burning the piles to reduce fire hazards. The isolated position of Drummond, without settlers burning stumps and brush piles, reduced the danger of fires. Nevertheless, in dry spells, slashings were always threatened by sparks from Omaha engines or by lightning. During Owen's presidency, 1882-1899, the company suffered nine fires Owen considered as major and several of lesser consequence. The worst occured in 1894, when fires swept through much of northeastern Minnesota and northwestern Wisconsin, damaging considerable timber in the westernmost part of the Rust-Owen reserves. To salvage the timber, the company built branch lines to their logging railroad much sooner than anticipated, and the southernmost of the damaged timber was sold to a logger named Powers, who sold 12,000,000 board feet to a Weyerhaeuser logging syndicate. Another great conflagation occured in June, 1910, following a long dry spell. Two hundred men were kept in the woods for over two weeks, patrolling and fighting fires. The Hines Lumber Company sent 92 men from Mason, and the 300-man crew dug a trench seven miles long and back-fired up to it to contain the blaze. Then in early July, a heavy thunderstorm drenched it. In May, 1913, high winds dried out slashings, grass, and old needles, and four fires invaded Rust-Owen slashings. Three were ignited by sparks from Omaha engines, one of which began in neighboring loggers slashings. Another blaze resulted when a settler's burning brush piles ignited dried grass and raced before high winds into company slashings. Three were discovered quickly and soon brought under control with little damage to timber. Two hundred men battled the fourth for a day and a half before bringing it under control. The next day a soaking rain squelched it. Fortunately, in the heavy timber, the ground was still frozen under the deep needle cover, and not much damage occured to timber. In 1917, another fire broke out, considered serious enough for President A. R. Owen to report it to his cousin, R. E. Gilchrist.

Another advantage of the isolation of Drummond was that the company could control the spending of tax money. Until 1916, there were no farmers in the four townships controlled by the company to demand roads, services, and schoolhouses. All of the town buildings were owned by the company. Residents were employees of the company and did its bidding. In 1894, John S. Owen boasted:

> At Drummond where our Rust-Owen Lumbering Company is the taxes are the lowest in any town in the state at least in the northern part of the State and

we have as good roads, schools, bridges, etc. as towns where the exorbitant taxes are. It is all because we get a dollar's worth of work for every dollar spent and do not allow it to be stolen.

The company put its sawmill into operation in 1883. Sawmill operations usually begin in mid-April, as soon as the mill pond became ice free, and continued until the pond froze over, usually in late November or early December. In its first sawing season, the mill produced 13,000,000 board feet. In 1884, the company increased its capitalization from $240,000 to $300,000. General-manager, Frank Drummond, and woods superintendent, John Riggs, were sold one-thirtieth interests ($10,000). The rest was divided among the original stockholders. The money was used to make a down-payment on timber purchased from the Omaha and to install a double-band saw mill to eliminate wide kerf sawing. During the 1884 season, the mill turned out 15,000,000 board feet. The next season, production increased to 17,000,000. During the off-season, gang saws were installed. From 1886 through 1893, the company sawed from 24,000,000 to 27,000,000 board feet each season. The company followed book-keeping procedures common to most lumber companies. It sold timber to its own sawmill, not on the basis of investment, but at current prices or at what it could sell timber to outsiders. Profits were put in a timber appreciation account. Lumber companies that acquired large reserves while timber was plentiful and cheap, invariably made more selling timber to their sawmills than on the manufacturing and marketing operations. In its first nine book-keeping seasons, from May 1, 1883 through April 30, 1892, the company earned over $486,000 sawing and marketing lumber, and $755,000 by selling the sawmill timber, compiling a profit surplus of over $1,240,000. No dividends were paid. The surplus was re-invested in plant improvements, in timberlands, in retail lumber yards, and the rest was loaned out at interest. In 1893, the company began investing heavily in southern timber. It invested $350,000 in the capital stock of two subsidiaries and loaned them several hundred thousand to invest in timber.

Meanwhile, the Omaha completed its line to Ashland and could legally sell its land grant. On July 21, 1883, the Rust-Owen Lumber Company bought almost 21,000 acres from the Omaha for $223,363. It paid $28,363 down and gave nineteen notes of $10,500 all due at six month intervals at 6% interest. On March 15, 1884, the company bought almost 22,000 acres for $165,994 on similar terms. Later the company made three small purchases. Altogether, the company bought almost 45,000 acres from the railway company.

The company also bought up all lands with good timber stands within the railroad grant. Most of these acquisitions were made before 1893. Eventually the company logged off over 80,000 acres. Because most of the land was owned by small-scale speculators, most acquisitions were very small — forties, eighties, or 160 acre tracts; but many were of several hundred acres. Only six of the purchases made between 1883 and 1893 exceeded 1000 acres. Amounts and quality of the timber, logging conditions, and distance to the company's waterway or logging railway were all factors in prices paid per acre. But the size of tracts also was a factor. Rival loggers or mill owners were unlikely to buy small or scattered tracts. Holders of such tracts had no choice but to sell to the company at its terms. The company rarely paid over $10 an acre for small tracts and often less. But in 1887, it paid $113,400 for 4,540 acres, or about $25 an acre. As timber prices advanced, the company had to pay more. Back in 1883 and 1884, it was able to purchase almost 4000 acres from four speculators for a total of a little over

$27,000, or only $7 an acre. In 1890, it paid George Lyman $100,000 for 2,480 acres, or about $40 an acre. The top price paid before 1900 was $52.17 per acre, $127.000 for 2,440 acres, purchased from the heirs of Abner Coburn, the Maine lumber baron.

Between 1893 and 1898, only a few small tracts were purchased. The company preferred to invest in cottonwood, cypress and white oak in the lower Mississippi valley, which could be acquired at prices ranging from 10¢ to $1.25. In 1898, the company resumed buying timber at Drummond, when it purchased 2,800 acres from its neighbor, the West Wisconsin Lumber Company for $38,000. Three years later, Fred C. Turner of Los Angeles sold the company 2,440 acres for only $12,734.54. Numerous other smaller purchases were made in the first decade of the 20th century, but at surprisingly low prices. But in 1904, the company paid $60.71 an acre for a 560 acre tract ($34,000). The last significant purchase was made in 1911, when the company bought 1,040 acres from the Potlatch Timber Corporation for $11,500. The company also acquired land by payment of delinquent taxes. Between 1889 and 1901, the company picked up 69 forties (2,760 acres) upon payment of only $208.14 in back taxes. After 1901, each year the company picked up a few forties in this fashion.

Meanwhile, the company was obliged to improve its log transportation system. In 1885, the Long Lake dam was heightened and the company spent over $11,000 building a flume to carry logs over a swampy area. In 1886, a second flume costing over $4,000 was constructed. During the next six years, the company spent from $600 to $3,000 annually to maintain the system. Improvements costing $19,000 were added between 1892 and 1896. Flumes ten feet high carried logs across the swampy area around Mud Lake (now called Lake Rogers). To raise water into the flumes, two dams were built on the creek between Mud Lake and the "Upper Pond", the first of two small lakes at Drummond. Dams were also put at the outlets of the Upper Pond and the mill lake to raise water levels. Sometime in the first decade of the 20th century the system was abandoned.

In 1891, the Drummond & Southwestern Railway Company was incorporated by Rust-Owens stockholders. The company built seven miles of standard gauge railway for $60,000. The track angled southwesterly from a junction with the Omaha. Company engines were allowed to pull logging trains into Drummond. The plan was to harvest timber near Drummond first, then extend the road to the southern extremity of the reserves and build branch lines in a westerly direction into remote timber. Plans were altered in 1894 when a fire swept through the westernmost parts of the reserves. The next year, a branch line was constructed into part of the damaged timber. In 1897, a second branch was built to harvest the remainder. These lines were used until 1911, when the main line was extended into the southernmost part of the reserves. In March, 1913, the company was infomed by the Omaha that, under new governmental regulations, Rust-Owen engines could no longer pull log cars into Drummond. An agreement was reached to allow the practice to continue temporarily, but a cut-off was hastily graded, and in July, 1913, the company bought second-hand rails from the "Soo Line" and laid its own track into Drummond.

Ralph W. Owen recalled riding the Drummond & Southwestern in his boyhood:

> A ride on the Drummond & Southwestern Railway was an adventure. The caboose rocked and rolled like a ship at sea, as did the engine that sometimes left the rails and plowed into the landscape in one of the many soft spots along the right-of-way. There it would stick until the rescue crew assembled with its

equipment to jack up the engine onto the rails again. My cousin, Louise Rust, who as a young girl had heard of these spills, once when the train gave a particularly violent lurch, jumped off to the astonishment of the crew and despite the breakneck speed of the train, sustained only superficial scratches, abrasions, and contusions. The first train in the morning and the last train at night often afforded excellent views of deer, bear, wolves, fox and the various fauna of the the region. Sometimes the fauna failed to get off the tracks in time. The larder of the camp was thus enriched by venison or bear. I have a feeling that all the game to appear on the camp table, especially partridge, was not the quarry of a Drummond & Southwestern engine. One of the discarded, overaged engines stood by the Omaha right-of-way in Drummond for years. My brother Frank and I found it an entrancing place to play. It even retained its brass bell though I have a feeling that was removed before too long at the instigation of the citizenry.

The Drummond & Southwestern was registered as a common carrier until 1912. Under law it had to charge the lumber company the same rate as it would charge any other logger who might ship logs over the railway. This made railway logging more expensive than the waterway. When the waterway was used exclusively, costs of transporting logs to the mill ran from $50,000 to $60,000 annually. In the 1890's when both systems were used, the company paid the railway company from $50,000 to $90,000 annually, while the waterway cost about $30,000 annually. The fiction of being independent companies was maintained until 1912, when common carrier status was dropped. The action was motivated by fears of state regulation under the public utility act of 1912. Moreover the company was considering selling cutover land. Hauling freight and passengers would become a nuisance.

The Rust-Owen Lumber Company made money in spite of the depression of 1893, even on its sawmilling operations which earned $376,000 between May 1, 1892 and December 31, 1897. But Drummond sold better grades, inventoried at mill-run costs, and stockpiled cheaper grades. When the construction trade picked, he pushed his backlog inventoried at the same costs on to the market. Consequently he lost $77,000 in 1898 and $20,000 in 1899, suposedly better years. But timber appreciation made up for these "book losses".

In July, 1899, after several years of feuding with Frank Drummond and W. A. Rust, John S. Owen resigned as president. Frank Gilchrist became president, but he was preoccupied with his own far-flung investments and gave Drummond a free hand. Drummond drove "Owen men" out of the company. John Riggs quit and sold his stock to Drummond, who emerged owning 7.2% of the company. Drummond clamped a policy of secrecy on the company, refusing to supply officers and directors with information except at annual meetings, on the grounds that information about timber values might leak to county tax assessors and to the terrible Progressives at Madison.

As he grew older, Drummond became hostile, bad-tempered, and paranoiac. His tantrums alienated customers and drove off his executives, salesmen, and foremen. Sales declined despite the "good times" of 1900-1907. As sales fell off, Drummond cut production. He held production under 20,000,000 from 1903 onward, but he sold less. In 1906, he cut 19,000,000 and sold 17,000,000; in 1907, he cut 17,000,000 and sold 16,000,000; and in 1908, a year of severe depression, he cut back to 14,000,000 but marketed only 11,000,000. When Owen criticized Drummond, Gilchrist and A. J.

defended him on the grounds that he was making money and paying dividends. Indeed, the sawmilling end of the business had earned $1,097,000 between 1900 and 1909, and Drummond had distributed $1,890,000 to the stockholders. But Owen argued that a better manager would have $12 for every $8. Owen's criticisms received little consideration while Will Rust lived. Owen renewed his campaign to fire Drummond after Rust died in March, 1903, but Gilchrist and A. J. Rust were unwilling to alienate Will Rust's family, who supported "Uncle Frank". But by the fall of 1908 things had become intolerable. The railroad superintendent, a man named Hazlett, had quit; so had the sales manager; everything seemed in chaos. At the annual meeting of June, 1909, Drummond was fired in a rousing session. Frank H. Bartlett, sales manager until 1906, was made general-manager. Hazlett was rehired. Drummond and Will Rust's son, Paul D. Rust retained their seats on the board of directors, but two new positions, "managing-directors", were created and filled by second generation stockholders, Aloney Rust Owen and Ralph E. Gilchrist, who were empowered to act as directors between annual meetings.

Annual meetings from 1910 through 1913 were lively affairs. Drummond and his hot-tempered nephews, Paul and Frank Lee Rust, raised a ruckus at each meeting. Feelings became so strong that the Rust and Gilchrist brothers began packing pistols. Before his death in 1973, Ralph Owen recalled with wry humor how his wife warned him to sit in back of the meeting room near the door so he could escape if shooting broke out. But shouting, not shooting prevailed. But "Lee" Rust died in 1912, and in 1914, Paul Rust sold his stock to the Gilchrists. Without backing, Drummond resigned as a director and boycotted stockholder meetings after 1914.

When the new management took over, things were found to be worse than supposed. Building foundations were crumbling or rotting. The mill was in terrible shape; so was the railroad. Records were in disaray. Tenement houses badly needed paint and repairs. Drummond had been selling better grades; the yard was filled with odds and ends and hard to sell items. The new management reorganized the sales force. New people were employed. Many former employees were rehired. Production was limited to 17,000,000 board feet by the log supply Drummond had put in. Bartlett's sales force sold 23,000,000 and reduced the inventory, but as they pushed the poorer grades stockpiled by Drummond, average prices tumbled from $24.33 in 1908 (a year of severe depression) to $19.53. The mill suffered frequent breakdowns and averaged only 80,000 to 90,000 board feet daily. In September, the mill was shut down and some new machinery was installed. Shortly it reopened, and after the sawing season was over, more new machinery was installed and remodeling eliminated some inefficient procedures. In 1910, the mill averaged 130,000 to 135,000 daily.

In his last years, Drummond made his performance appear better by selectively cutting only the best white pine. Moreover, he had not raised stumpage charges since 1892, and had charged only $5 for white pine. The new management began charging $12.50 for pine, and $4 for other species and began clean-cutting, taking red pine, hemlock, hardwoods, and cull pine and small white pine. This practice made manufacturing operations appear less profitable, but accelerated appreciation profits. In the winter of 1909-10, Rust-Owen crews relogged lands skimmed over by Drummond. The cut of 1910 consisted of 43% pine, 34% hemlock, and 23% hardwoods. Much of the pine was "pig iron Norway", small white pine, and cull stuff. Production was limited to 20,000,000 so that Bartlett could clean out the yard. The sales force sold 26,000,000; but

to move the cats and dogs accumulated by Drummond, prices were slashed and averaged only $16.10. But the inventory was reduced to 20,000,000, mostly green lumber. Marketing operations lost $36,000 in 1910, and in 1911, when the 1910 cut was sold, prices averaged only $17.00 and the company lost $32,000. But the losses were illusory, for revenues from selling timber to the mill were $194,000 in 1910 and $282,000 in 1911.

In the fall of 1910, loggers began cutting virgin timber. Production was stepped up to 30,000,000 in 1911, of which 88% was pine. Thereafter, except for 1912, when the cut was 81% pine, pine constituted from 87% to 95% of the annual production until the mid-1920's. In 1911, the sales force sold 26,000,000, cleaning out the old inventory and 6,000,000 of the 1911 cut. The mill turned out 29,000,000 in 1912, but the lumber market took a sharp downturn. Despite having a lot of high-quality pine to sell, the sales force could move only 23,000,000 and for a disappointing average of $20.75. Production was cut back to 23,000,000 in 1913.

Changes were also forthcoming at Drummond. Until 1910, Drummond was without telephone service. A primitive road connected the town with Ashland, but no road existed through company lands to Cable. In February, the Edward Hines Lumber Company, which owned mills at Hayward and Mason, proposed that the lumber companies build a phone line from Hayward to Ashland. This provoked a response from the Wisconsin Telephone Company, which announced it would build the line, and commenced work in the spring. In July, 1910, the wires arrived at Drummond.

But as long as conservative-minded Frank Gilchrist headed the company, and as long as Drummond and Paul Rust were directors, no road would be built to Cable; no competitive businesses would enter Drummond; and no settlers would be allowed to enter the Rust-Owen domain. But in February, 1912, A. J. Rust died; in May, Lee Rust died; and in December, 1912, Frank Gilchrist died. In 1914, Paul Rust sold out, and Frank Drummond resigned his directorship and boycotted stockholders meetings. In 1914, the board of directors consisted of President A. R. Owen, Vice President Ralph Gilchrist, Manager Frank Bartlett, and John S. Owen, and two other sons, John G. Owen and Ralph W. Owen.

At the annual meeting of 1914, the directors resolved to sell town lots and open Drummond to competitive businesses. They also decided to sell cutover land and to build a road to Cable. This enabled John S. Owen, a member of the State Highway Commission since its creation in 1911, to designate the road from Trego to Ashland as a federally funded highway under the federal highway act of 1914. Although the directors intended to make money selling cutover land and town lots they also seemed concerned that Drummond should survive the sawmill and become the hub of a farming community. In 1916, A. R. Owen, as president of the newly created California & Oregon Lumber of Brookings, Oregon, expressed his opinion of company to the general-manager, his uncle, Jim Owen. Owen declared that the company towns were "old fashioned for this day and age" and that "free towns" were "healthy" and survived after sawmills were gone. Encourage business and investment, he wrote. Let others take the chances and the troubles of managing businesses. "Build a real town," he urged. He summed it up:

> You will want to adopt a policy in your town that will permit a man to come into it, own his own property, and live like a free American. That appeals to

people. Laboring men as well as other classes, don't like paternalism. I don't like it, and I don't think you do.

But making Drummond the hub of an agricultural community was a forlorn hope. The company set up a land department in 1915, and began advertising land. In 1916 it began making sales, and by December 31, 1920, the company had sold 19,310 acres and had placed about 200 families on the land, which must have delighted businessmen in Drummond. The company had already deeded 7,702 acres, on which it had collected $118,000 and had realized profits of $78,000. The company had 106 land contracts in force on 11,608 acres. It had collected $59,000 on these contracts, and had credited itself with "realized profits" of $44,000. Almost $148,000 was still due, and the company calculated another $69,000 in deferred profits. But a farm depression had already set in, and it lingered through the decade, and then got worse. The company sold only 578 acres in 1921, 240 acres in 1922, and 160 acres in 1923. Collections dried up. In 1921, the company collected $17,716 from its settlers. In 1922, collections fell off to $6,343.32, and in 1923 to $4,343.32. On December 31, 1922, the company held 118 contracts. Payments on 81 were overdue, totaling $23,575. By 1922, some were already abandoning their farms, and the exodus increased throughout the decade. During the next decade, 1924-1933, the company sold about 1300 acres, mostly on land contracts. Collections were poor. But a few paid off their farms, the hopes of building Drummond on an agricultural base must have appeared bleak.

Meanwhile, the sawmill remained the heart and soul of Drummond. After being overhauled in 1909, the old mill performed well for a few years, but in 1913, John S. Owen likened it to the one horse shay. It suffered frequent breakdowns, and in June, two huge 15,000 pound flywheels began making strange noises. An inspection revealed cracked spokes. The mill was shut down twelve days while new flywheels were shipped in and installed. A week after getting back into operation, a tornado roared through the Rust-Owen timber, flattening 4,000,000 feet. The twister whipped through the yard, scattering lumber piles and ripping down the smokestack. During the 16-day layoff, Owen put in two new matchers and another finishing machine, costing $5,200 total, and also installed a new steam engine in the planing mill. but the sawmill continued to perform poorly, cutting only 112,000 to 114,000 a day. In 1914, the mill cut 24,000,000, but Owen decided it lacked power, and in the off-season installed a new steam engine and new boilers. But despite power galore, it averaged only 117,000 a day in 1915, and Owen wrote R. E. Gilchrist that his sawyer at Owen could feed frozen birch faster than the Drummond sawyer could feed pine. Meanwhile, prices of lumber remained almost constant as the depression in the lumber trade lingered. Prices received averaged $22.82 in 1913, $21.69 in 1914, and $21.20 in 1915. The mill had turned out 26,000,000 in 1915, and anticipating rising prices, Owen put in enough logs to cut over 30,000,000 in 1916. But the mill continued to perform poorly, and in July, 1916, Owen ordered two new band-mills and installed them. Thereafter the mill cranked out 150,000 daily and by the end of the season, turned out 31,000,000. Prices did not climb as rapidly as Owen had hoped (averaging only $22.60 in 1916), but he had a big inventory on hand when prices rose in 1917, averaging $27.70. Anticipating further inflation, Owen crowded his mill. He wanted to run two shifts, but he could not get men enough for his mill, or to cut enough logs. But his mill turned out 32,000,000 in 1917, 29,000,000 in 1918, 32,000,000 in 1919, and 28,000,000 in 1920 when an early spring break-up shortened the logging season. Meanwhile, average prices received for lumber climbed to $38.30 in 1918, to

$38.70 in 1919, and then soared to $54.96 in 1920. Meanwhile, Owen handsomely rewarded the stockholders, between 1913 and 1920, he paid out $3,890,000 in dividends.

Drummond was spared the labor unrest that traumatized many communities. Perhaps this was due to its isolation. There were no competitive industries in town. And the sawmill paid as well as mills in nearby towns. Before 1914, there were no self-employed businessmen. No sizable professional or middle class existed. Except for a few executives and bosses, most were in similar economic circumstances, and all worked for a common employer. Under such circumstances feelings of inferiority or discontent may not be as likely to develop, especially in the isolation and insulation that residents of Drummond enjoyed (or suffered) in the days before movies, automobiles, paved roads, and television. Perhaps residents had come to regard the mill as their own, and developed toward it the loyalties that small town people can toward their institutions. Transient labor would not share that loyalty, but they were unskilled, and unorganized. Their wages were subject to seasonal supply and demand and fluctuated more than the mill hands.

In the late 19th century wages had been almost constant — $1.25 a day for mill hands at Drummond, and $26 a month, with room and board, was considered the standard for common woods labor, although this fluctuated. Heavy immigration kept down any rapid wage inflation in the 1900-1907 "boom" period. And during the lingering depression of the lumber industry after 1908, lumbermen depressed wages to around 19th century standards. In August, 1914, the outbreak of war in Europe frightened bankers. Money dried up and widespread unemployment followed. In the fall of 1914, Bartlett was able to recruit woodsmen at $24 a month, and in the fall of 1915, he was again able to hire woodsmen at $24. But the economy heated up. Wages advanced, and even from their isolation in the woods, Bartlett's crews got wind of the situation and threatened to quit. Bartlett raised wages to $28 in January, 1916 to hold them, and to $30 in April. And when A. R. Owen tried to recruit more woodsmen for a late season push in April, 1916, he got no one, even though he offered $35 and $37.50. Bartlett opened the mill in April, 1916, paying $1.75 to mill hands, but Owen wrote R. E. Gilchrist that others were paying more and they have to raise. When he sent a man to Duluth to try to hire lumber pilers, Owen learned that common laborers were getting $2 a day, so he raised wages at Drummond to that standard. When the mill opened in April, 1917, Bartlett paid mill hands $2.30. As young men were drafted, chronic labor shortages developed. In the fall of 1918, Bartlett tried to recruit woodsmen at $45, but could get only 40% of the men he wanted. In December, Owen advised Bartlett to raise to $55 to attract more men. But the hopes Owen expressed in January, 1919, that the return of servicemen would depress wages failed to materialize. In the fall of 1919, despite offering $60, Bartlett could not get all the woodsmen he wanted, in January, 1920, he still had only 75% of the men he wanted. In January, 1920, Owen wrote R. E. Gilchrist that the Timber Workers' Union of the A. F. of L. had organized mills at Rhinelander and were very active at Antigo and Wausau, that they had partial success at Stanley, and had "nosed around" at Owen, but with little success. "I presume they will try Drummond soon," he wrote, adding that he and Bartlett had already discussed how to combat the union. A week later, he reported that Wausau, Antigo, and Mellen were 100% organized, that most workers at Stanley had joined the union, and that organizers were working the "Soo Line" from Abbotsford to Ashland. But no organizers showed up at Drummond. The Union scheduled a general strike for May 3, 1920, demanding an eight

hour day, wage raises, and other consessions. In late April, employers held a conference at Milwaukee and voted to shut down and starve the strikers into submission. But A. R. Owen wrote Gilchrist that he anticipated that there would be no strikes at Owen or Drummond. His men at Owen had rejected the Union, and there had been no attempt to organize at Drummond. As Owen predicted, no strike occured at either mill. Many mills in Wisconsin closed, but the employers broke the strike. In mid-1920, the economy took a downturn. By the spring of 1921, there was widespread unemployment. When Bartlett opened the mill in April, he cut wages back from $3 to $2.50. When he informed A. R. Owen of his action, Owen agreed that he had done the "right thing", but he added that he disliked cutting wages while other prices remained high. Owen suggested to Bartlett that he cut prices at the company store to make the wage cut more palatable. Lumber prices dropped dramatically in 1921, from an average of $54.96 in 1920 to $35.01 in 1921. Perhaps this made the wage cut easier to take. Prices continued to sag, averaging only $32.12 in 1922. Wages stabilized after 1921, and food and clothing prices declined and then stabilized also. Lumber prices recovered in 1923 and 1924, and averaged $37.39 and $38.46, but dropped again to $35.70 in 1925 and then bellied out. Except for 1927, when the average price dipped sharply to $30.63, from 1926 through 1929, average prices received hung between $34.10 and $34.44. In 1930 prices declined only to $32.19, then dipped sharply to $24.26 in 1931 and to $15.31 in 1932, as the company sold off its last remaining lumber. Production remained high in the early part of the decade. The mill turned out 26,000,000 in 1921, and exceeded 28,000,000 in 1922 and 1923. For some reason not explained in company records, production slumped to 20,500,000 in 1924, although sales and prices had improved in 1923 and 1924. Production climbed to 27,700,000 in 1925, then hovered around 25,000,000 for the following three years. Productivity dipped to 18,000,000 in 1929, and in its final season the old mill turned out 20,000,000. The production decline of the late 1920's seems not to be associated with declining sales or prices. Perhaps the capacity of the aging mill was declining. No doubt scavenging activities, which produced more of the saw-resistant red pine, hemlock, and hardwoods was a factor; or perhaps the management chose to extend the life of the sawmill by cutting less, to furnish employment for loyal millhands. Shortened sawmill seasons would not necessarily mean less employment at Drummond, for mill hands could work in the woods, and less recruitment of transient labor would be necessary. To residents of Drummond the late 1920's must have seemed much like the onset of senior citizenship. Each time a board dropped off the saw, and the carriage dashed back, the old way of life was ebbing. No doubt the closing of the mill was a terrible blow to the town, however much anticipated. But the little town survived somehow through the dreadful depression of the 1930's, testifying to human resiliance.

RECLAIMING PINE LAND ON A NORTHERN WISCONSIN INDUSTRIAL FOREST

M. K. Benson & Wm. Hensel

The earliest published timber type map of Wisconsin shows about 3.4 million acres of pine type, or 10% of Wisconsin's land base.[1] These figures do not include pine cover in the oak Savannah types in the central part of the state. Studying that map, it becomes evident that most original pine acres are still in forest types while much of the oak Savannah types have been converted to agriculture.

1970 FOREST INVENTORIES

Present forest inventories estimate Wisconsin pine cover to be 1.2 million acres of 1.45 million commercial forest acres. Most of the original forest acres typed as pine are still in commercial forest, but approximately 2/3 of those acres have grown back to other species.

Consolidated Papers, Inc. presently owns a bit more than 269,000 acres in Wisconsin. Its acreage composition in 1970 had less than 1% pine. This was a concern for a company with a recently constructed kraft mill that would be utilizing much softwood. Even more disturbing were the 1970 timber inventory figures for both the nation[2] and the state.[3] The national inventory indicated a tightening supply-demand situation for soft-woods. It estimated the growth of softwoods, under the present management systems, would be surpassed by demand about the year 2000. The state inventory showed softwood stocking increasing but raised the question of how much would be available as a wood product. Some ownerships were beginning to consider managing forest land for other than timber crops.

All this information was developed at the same time the state was reducing its softwood planting efforts. At that time, most readily available open acres had been planted, so several nurseries (public, industrial, and private) were shut down. The Consolidated Papers, Inc. nursery at Monico, Wisconsin was among them.

FOREST PRODUCTIVITY STUDIES

The 1970 published forest inventories suggested a change was needed in management techniques to head-off an eventual growth that wouldn't meet demand. That, and the suggestion that commercial forest land was being withheld from timber production, encouraged the Forest Industries Council to study the picture further. Studies were conducted in the 25 major timber producing states by this group using local forest experts from the universities, various public agencies, the industry, and other knowledgeable individuals. Each of the 25 state studies described the current situation and alternatives for increased intensity of forest management using "state of art" silvicultural practices.

The summary of the 25 studies was published by the Forest Industries Council in 1980.[4] The Wisconsin study[5] was concluded and published in 1979. The Wisconsin study listed 15 opportunities to increase productivity in Wisconsin forests. Reclaiming pine lands and converting poor hardwood stands on sites better suited to growing pine were among them.

ASSESSMENT OF WISCONSIN'S FORESTS

During the late 1970's Wisconsin Department of Natural Resources conducted a new assessment of Wisconsin's forests.[6] This assessment stated "Industry demand for roundwood is rising beyond the supply availability of Wisconsin's forests," and that "Providing imports remain unchanged, future roundwood demand can likely be met by Wisconsin's forests. This will require more intensive management and increased investment in forest practices." This report again indicated a continued concern for loss of commercial forest for timber production, increasing demand, and possible harvest exceeding growth about the year 2000 unless more intensive forestry is practiced on the remaining commercial forest lands. It was estimated Wisconsin's forests are growing half their capability under more proper management. The softwood concerns were also expressed. It stated only 20% of softwood fibers consumed by Wisconsin mills were Wisconsin grown and mentioned opportunities for increasing softwood production. With these facts it becomes apparent that there is room to use more Wisconsin grown softwood at home but, to do so, more intensive management of our timber resource is necessary.

GOVERNOR'S COUNCIL ON FOREST PRODUCTIVITY

In 1981 another study into forest productivity[7] was commissioned by the governor to advise him on the "issues pertaining to Wisconsin's forests and to provide policy direction for Wisconsin's forest management efforts." Again recommendations included the use of more intensive forest management and to convert hardwood cover to softwoods.

WHAT'S BEEN DONE TO DATE

Many studies have been stated but, what's been done to date in softwood planting? The first replanting of softwoods recorded on public lands in the state was instigated by E. M. Griffith, the state forester in 1910. His plans were to establish a forestry headquarters and nursery at Trout Lake. The nursery was for growing planting stock for reforesting cutover pine lands.[8] In 1913 the first planting was put in a secluded spot near Star Lake, Wisconsin. A once booming lumber town, Star Lake is reduced to 4 houses today. There are many accounts of the progress of that plantation, which has been managed in a classical way for its lifetime.[9] The result of that planting gives quite different cover than those left to nature. Figure 1.

The trend of planting commercial forest crops can pretty well be demonstrated by the annual distribution of trees from state forest nurseries. Figure 2. A small beginning in 1911, a peak during the Civilian Conservation Corps period, a two-stage peak from the post World War II period to the end of the soil bank program and now tapering off to less than half the peaks. Don't be fooled by the graph's scale. While all pine plantings in Wisconsin amount to more than 2/3 of the present pine cover type, the whole cover type is only 1/3 of its potential size. Clearly more could be done to reclaim the original pine types.

CONSOLIDATED PAPERS, INC. PLANTING PROGRAM

During the course of the Wisconsin Forest Productivity study, plans were begun at Consolidated Papers, Inc. to reclaim its pine sites for pine growth. Because of a shortage of pine nursery stock the new technology using container stock was tried in 1975 and

found suitable. The greenhouse operation, located at the old Monico nursery was expanded, as the technology was proven and accepted, to a present production level of 2.3 million seedlings. Figure 3.

The 1979 restrictions on the use of 2,4,5-T caused many modifications to the company's planting program. At that time, only 2,4,5-T was considered practical for release of pine plantings from supressing hardwood and raspberry vegetation. Intense mechanical site preparation was utilized to try to minimize the need for chemical release from competing vegetation and to provide for possible mechanical release should chemicals not become available.

The results were mixed. Mechanical site preparations often cause greater vegetative competition than no treatment. However, it made for better planting conditions and eventually, as new herbicides were found, proved for more efficient chemical release at minimum treatment levels.

Establishing plantations has a number of risks and incidental costs. Roads must be maintained to tend the plantings. Insects, diseases, animals, and climatic factors all prey on young plantations. If the plantings are tended properly, doubling and tripling growth of natural stands can commonly be obtained. Figure 4. But costs are high and risks are many so investment in plantations are not easily justified.

One argument is hard to beat. If we don't find a way to reclaim pine sites, where will the raw material come from to sustain our industry? Pine wood and pine fibers have unique properties not duplicated in other species.

Eventually, the company plans to reclaim about 15 to 20% of its acreage in pine. That's similar to the total percentage of land that once were pine sites that are presently within the commercial forest lands of Wisconsin. If others follow the practice Wisconsin can once again be the land of the tall pines and sustain a large wood products industry. Next time around maybe we'll be wise enough in Wisconsin to perpetuate those pine stands.

When dealing in growth of trees history takes on a different time frame. This has been a blend of history and present activity; but, aren't the present actions of people generally founded in previous occurrences — history?

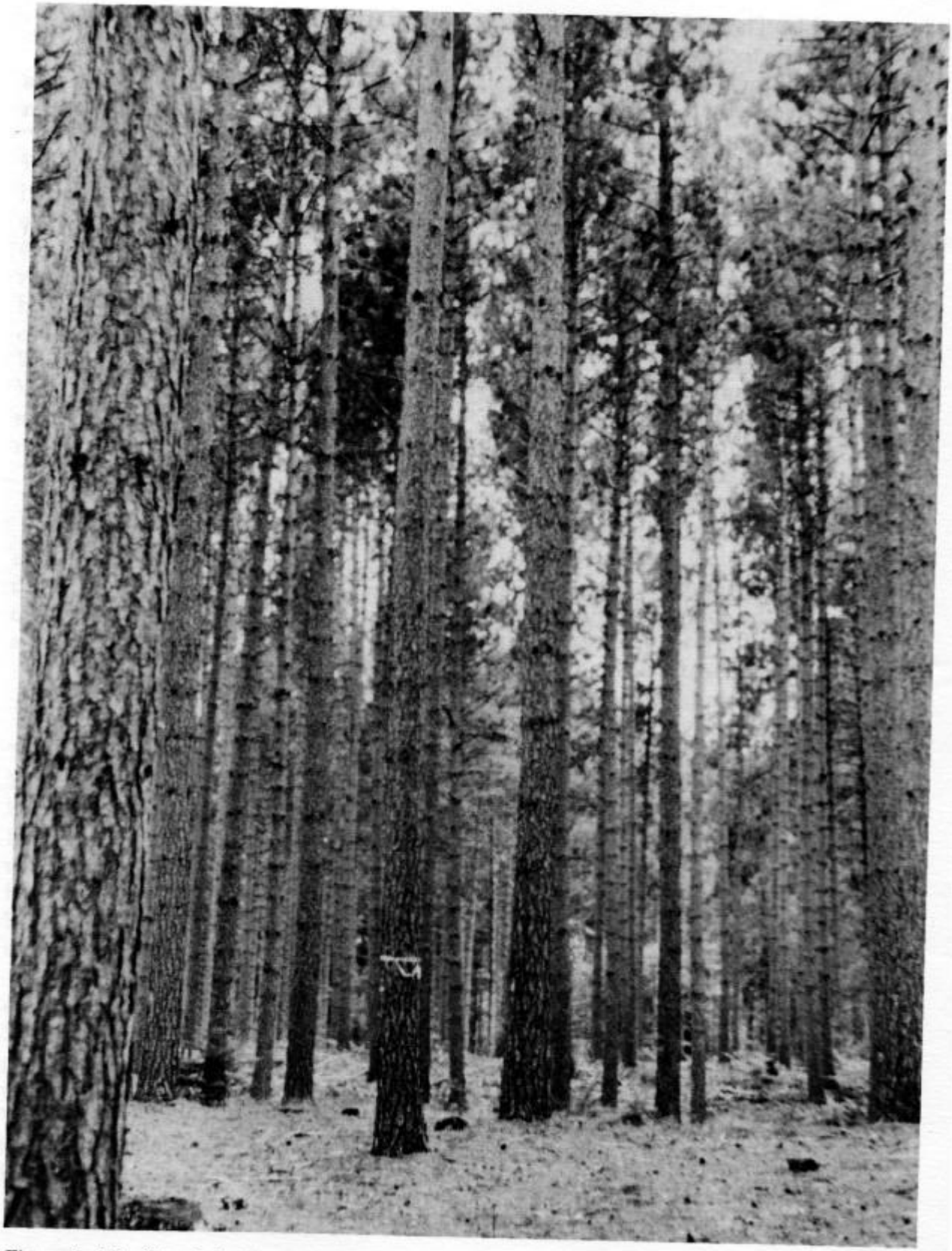


Figure 1. The Star Lake Plantation at 80 years from planting. The earliest of Wisconsin's red pine plantations shows result of reforesting a harvested pine stand and classical tending.

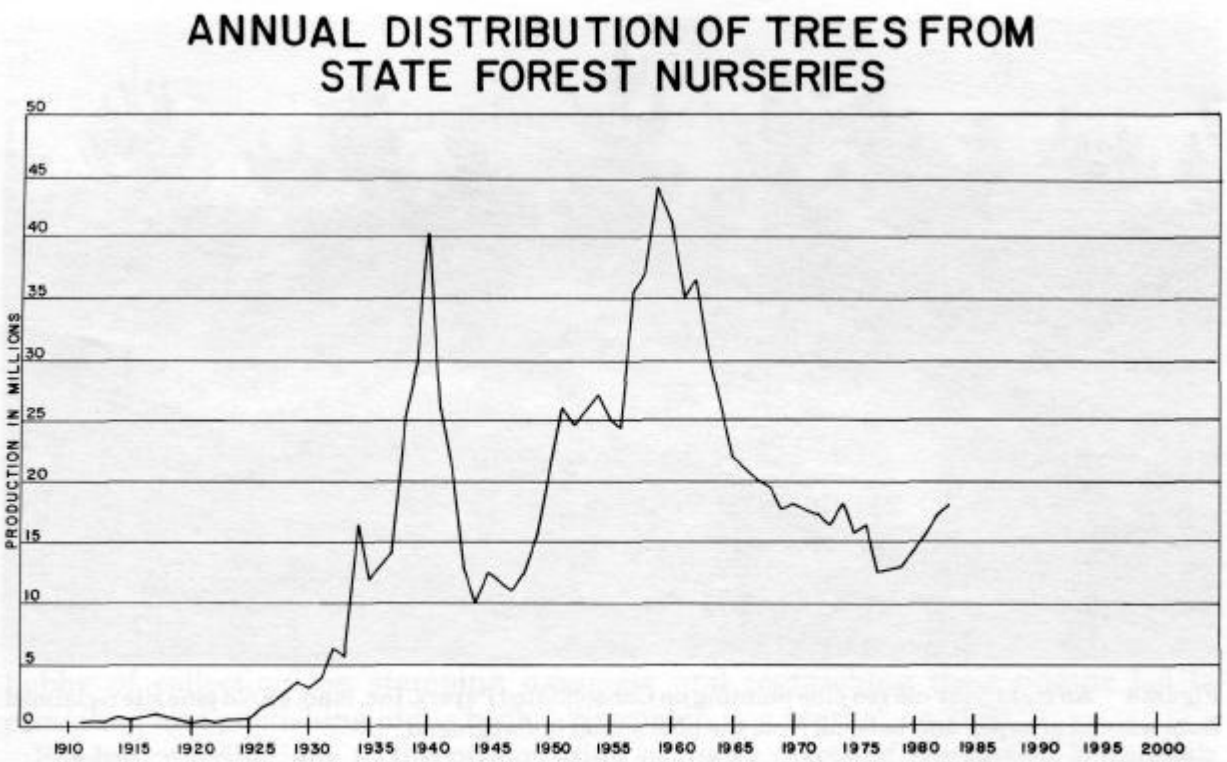


Figure 2. Graphically displayed, the annual total State of Wisconsin nursery seedling production since 1911. The trendline closely resembles the trend of planting activity in Wisconsin. Source: "Wisconsin's Forests and assessment"[6]



Figure 3. One of Consolidated Papers, Inc. greenhouses at Monico, Wisconsin where 2.3 million containerized seedlings are grown annually.



Figure 4. An eight-year-old red pine planting on Consolidated Papers, Inc. land, an old pine site reclaimed from a stand of aspen and balsam. Note the pine stump in foreground.

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CITATION
for
Distinguished Service Award
to
HOWARD PEDDLE

The first recipient of our 1984 award for distinguished service is, most regretfully, not with us. Howard Peddle died on January 11, 1984, at the age of 68, at his home in Iron River, Wisconsin.

Howard was a charter member of the Forest History Association and actively participated in a number of our annual meetings. Some of you who were there at the time will recall that he was a guest speaker at the Association's 5th annual meeting in 1980 at Eau Claire. He helped to make that meeting an especially outstanding success.

Although Howard was well-known as an authority on railroad logging and many aspects of sawmill history in the Lake Superior region, he was even better known as an ardent collector or "camp iron". In his retirement years, he spent countless days locating former logging camp sites throughout Douglas and Bayfield counties. His hobby of collecting log stamping hammers and researching their origins led to compiling and publishing of his book, "Wisconsin Log Marks", in 1980.

For his contributions to the preservation of many facets of Northwest Wisconsin logging and lumbering history, we award this plaque posthumously to Howard Peddle, and present it to his long-time close friend and fellow railroad buff, Frank King of Duluth, Minnesota.

CITATION
for
Distinguished Service Award
to
RICHARD C. BROWN

The second recipient of our Distinguished Service Award for 1984 is truly remarkable since it is a rare individual indeed who can combine a professional career in obstetrics/gynecology with an avocation as a logging and lumbering historian.

Richard C. Brown, M.D., better known as "Doc" Brown, of Eau Claire, has been of member of F.H.A.W. since 1977, has served two terms as a director for the Chippewa Valley Historical Museum and is also a member of the Rusk County Historical Society. As if service to those organizations were not enough to fill his available spare time, he has also acted as a consultant for the Kiwanis Club of Eau Claire in their rebuilding of the Paul Bunyan Logging Camp, which received our Association's organizational award for distinguished service in 1982.

"Doc" Brown's ardent interest in railroad logging history resulted in his writing and publishing two books: "Rails Into The Pines" (1980), a history of the Chippewa River & Menomonie Railroad, and "Logging Railroads of Rusk County, Wisconsin" (1982). His paper on "Pine Logging in the Chippewa Valley", presented at the 1980 annual meeting of the Association, will be remembered by those in attendance as an outstanding example of scholarly research.

For his contributions to the preservation of the history of the early logging era of the Chippewa River Valley, we are most happy to present this plaque to "Doc" Brown.

CITATION
for
Distinguished Service Award
to
TIMBER PRODUCERS ASSOCIATION OF WISCONSIN-MICHIGAN

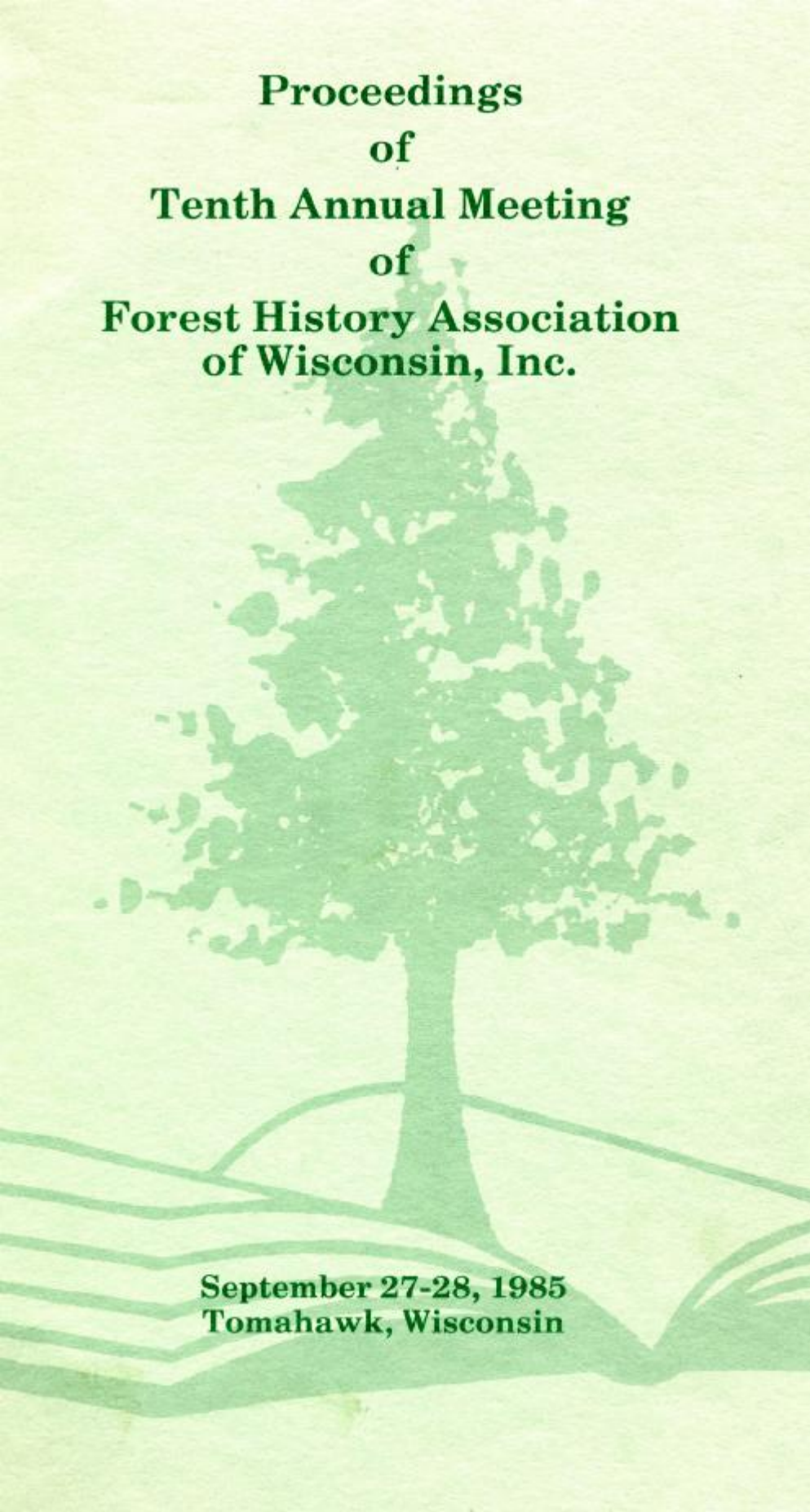
The organizational award for distinguished service is presented today to a group which has served the timber industry in general, and its individual members in particular, for the past 39 years.

Loggers, truckers, sawmill operators, equipment manufacturers and distributors, as a matter of fact all segments of the wood-producing and wood-using industries, have benefited from the Timber Producers Association's program of representing them, and keeping them informed, on many matters of concern to them. That program includes the promotion of improved wood markets, more efficient methods of timber production, utilization and manufacturing, and the maintenance of good relationships with those governmental and regulatory agencies that influence the timber industry.

Those objectives have been, and continue to be, achieved through its monthly publication, **The Timber Producer** magazine, and by a number of very active committees, which are dedicated to serving the best interests of all its diverse membership. Over the years, **The Timber Producer** has also published many articles and photos which have recalled the life of the early-day logger and logging camps, thus fostering a continued interest in Wisconsin's forest heritage.

In recognition of its outstanding service to the timber industry, we take great pleasure in presenting this plaque to the Timber Producers Association of Wisconsin-Michigan and its executive secretary, Carl Theiler of Tomahawk, WI.

Proceedings
of
Tenth Annual Meeting
of
Forest History Association of Wisconsin, Inc.



September 27-28, 1985
Tomahawk, Wisconsin

The Forest History Association of Wisconsin

The Forest History Association of Wisconsin had its beginnings early in 1975 when a group of representatives from the wood products industries, conservation agencies and the University of Wisconsin met to discuss a potential centennial project which would remind our citizens of the importance of forests in Wisconsin's past, present and future.

Their discussions led to the organizing of the Forest History Association of Wisconsin, Inc., as a non-profit, tax exempt endeavor whose principal objective would be to preserve Wisconsin's forest heritage. Membership currently numbers 251 individuals, corporations and institutions.

A ten-member Board of Directors serves as the Association's governing body. Officers and directors for 1985-1986 are; Thomas Albrecht, president; Charles Twining, vice president; Frank N. Fixmer, secretary-treasurer; Dean Einspahr; Walter Goldsworthy; Eugene Harm; James Kaysen; Thomas Moore; Ellen Sabetta; and Jacque D. Vallier.

The Association has published several booklets which should have appeal to the forest history enthusiast:

History of the Nicolet National Forest (now out of print)
Bibliography of Wisconsin Forest History
A Chronology of "Firsts" in Wisconsin Forest History

A newsletter, "CHIPS AND SAWDUST", is sent to Association members usually four times each year. Copies of the PROCEEDINGS OF ANNUAL MEETING are distributed to libraries and local historical societies throughout the state, upon request, and free of charge.

Further information on any aspect of the Association's program and policies may be obtained by writing to

Secretary
Forest History Association of Wisconsin
403 McIndoe Street
Wausau, Wisconsin 54401

THE STATE HISTORICAL SOCIETY OF WISCONSIN
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Proceedings
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September 27-28, 1985
Tomahawk, Wisconsin



Founded 1975

"The past is but prologue to the future"

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FOREWORD

The following text comprises the official transactions conducted and the written papers presented at the Tenth Annual Meeting of the Forest History Association of Wisconsin on September 27-28, 1985 at the Treehaven Field Station of the College of Natural Resources, University of Wisconsin-Stevens Point, located ten miles east of Tomahawk, Wisconsin. Treehaven has been selected as the location of the Associations' 1986 annual meeting.

The meeting concluded with optional field trips of the Edward Steigerwaldt and Sons Christmas Tree Farm and Bradley Park at Tomahawk or the Logging Camp Museum and Civilian Conservation Corps Museum in Rhinelander.

The Board of Directors is most grateful to all who contributed in making this meeting the success it was.

William A. Sylvester
Publications Editor



Treehaven Field Station
University of Wisconsin-Stevens Point
College of Natural Resources

TENTH ANNUAL MEETING
FOREST HISTORY ASSOCIATION OF WISCONSIN

September 27-28, 1985
TREEHAVEN, Tomahawk, Wisconsin

— PROGRAM —

Thursday, September 26th

4:30 p.m. - 6:00 p.m.	**Early Arrival Registrations;** "ice breaker"
6:00 p.m. - 7:00 p.m.	**Dinner**
7:00 p.m. - 8:00 p.m.	**Film/Slide Presentation**

Friday, September 27th

7:00 a.m. - 8:00 a.m.	**Breakfast**
8:30 a.m. - 9:30 a.m.	**Registration;** Inspection tour of Treehaven facilities
9:30 a.m. - 9:45 a.m.	**Welcoming Remarks** by President F.H.A.W. and Director of Treehaven
9:45 a.m. - 10:15 a.m.	**"Our First Ten Years"** Jacque D. Vallier, Director, F.H.A.W.
10:15 a.m. - 10:30 a.m.	**Coffee Break**
10:30 a.m. - 11:15 a.m.	**"Use of Navigable Waters for Log Driving and Lumber Rafting"** Christy Hauge, Forestry Specialist, University of Wisconsin-Extension
11:15 a.m. - 12:00 noon	**"Life and Death of a Lumber Town"** Dr. Randall Rohe, Professor, University of Wisconsin, Waukesha
12:00 noon - 1:00 p.m.	**Luncheon**
1:00 p.m. - 1:30 p.m.	**"Destruction of the Big Block"** Sally Roberts, 1985 Student Award Winner.
1:30 p.m. - 2:45 p.m.	**"History of Forest Fire Protection in Wisconsin"** Neil LeWay, former Chief Forest Ranger Wisconsin Department of Natural Resources **"Film"** - "Up in Flames"
3:00 p.m. - 4:00 p.m.	**Inductions into Wisconsin Forestry Hall of Fame** Wisconsin Society of American Foresters
4:00 p.m. - 5:00 p.m.	Late registrations; get acquainted period; inspection of facilities
5:00 p.m. - 6:00 p.m.	**Hospitality Hour**
6:00 p.m. - 7:00 p.m.	**Dinner** **Distinguished Service Awards**

Saturday, September 28th

7:00 a.m. - 8:00 a.m.	**Breakfast**
8:30 a.m. - 10:00 a.m.	**F.H.A.W. Business Meeting**
10:00 a.m. - 10:45 a.m.	**Slide Presentation** The Society of American Foresters - Russell Roberts
10:45 a.m. - 11:00 a.m.	Assemble for tours **Tour I** to Rhinelander, **Tour II** to Tomahawk
12:00 noon	**Picnic Lunch** at Pioneer Park in Rhinelander or Bradley Park in Tomahawk
1:00 p.m.	**Adjournment**

MINUTES of the TENTH (10th) ANNUAL MEETING of the FOREST HISTORY ASSOCIATION OF WISCONSIN

September 28, 1985
Tomahawk, Wisconsin

The Tenth Annual Meeting of the Association was held at Treehaven and was called to order by President Albrecht at 8:45 A.M. Although 51 members and guests had registered for the previous day's proceedings, only 19 were present for this business portion of the session.

The minutes of the 1984 meeting were read by the Secretary and approved without any additions or corrections.

President Albrecht reviewed the Association's activities during the past fiscal year; his report is appended hereto. Secretary-Treasurer Fixmer then reported the financial and membership status of the Association as of June 30, 1985; his report is also made a part of these minutes. By appropriate motion and second, the financial report was accepted and approved as read.

The nominating Committee's recommended slate of directors was then read by Chairman John Saemann. Nominated for two-year terms were Frank Fixmer, Ellen Sabetta and Eugene Harm. There being no further nominations from the floor, and upon proper motion and second, the Secretary cast a unanimous ballot for the three named nominees.

Upon appropriate motion and second, the acts of the Association's officers during the past fiscal year were duly ratified.

An open-floor discussion then ensued on the following subjects and actions taken as indicated:

1. Membership promotion: It was suggested that consideration be given to the setting of a lower level of dues for individuals employed in the timber industry, viz., loggers, truckers, etc. No action was taken.
2. Membership retention: It was recommended that members make a special effort to urge former members and currently delinquent members to renew their support of the Association.
3. Student representation on the Board of Directors: Following considerable discussion, it was moved by Dr. Brown, seconded by Jacque Vallier, and unanimously approved, to amend Article II - Section 1 of the By-Laws to read as follows:

   "The affairs of the Corporation shall be managed by a Board of Directors consisting of ten (10) directors. The tenth director shall be the president/chairperson of a Student Chapter of the Wisconsin Society of American Foresters, with full voting privileges."

   It was then moved by Russ Roberts, seconded by Dean Einspahr, and unanimously approved, that the Board appoint a student representative from the Student Chapter of Wis. S.A.F. at the University of Wisconsin-Stevens Point as an ex-officio member of the Board until the next annual formal election of directors.

4. Student (Scholarship) Awards: It was announced that Dr. Brown had made a special donation of $200.00 to be used for annual student awards. Discussion resulted in a motion by Wally Youngquist which was duly seconded and then unanimously approved that a separate sub-account be maintained in the capital funds account, with the investment income from that sub-account to be used exclusively for annual student awards, in amounts to be determined by the Board of Directors from year to year.
5. Continuation of Capital Fund Campaign: On Treasurer Fixmer's recommendation, there was general agreement that no further solicitation be done among previous donors, but that personal approaches be made to those corporations or foundations which have not yet responded.
6. Next year's annual meeting: Because the facilities, food and general environment were so outstanding, the concensus was that next year's meeting should be held here at Treehaven at about the same time of year.

The meeting was declared adjourned at 10:15 A.M. and followed by a slide presentation by Russ Roberts on the founding and development of the forestry profession in the United States. Subsequently, attendees divided into two groups for the tours to Tomahawk's Bradley Park and Rhinelander's Pioneer Park where brown-bag picnic lunches were enjoyed before dispersing.

Frank N. Fixmer
Secretary-Treasurer

ANNUAL REPORT of the PRESIDENT for 1984-1985

Welcome to the Tenth Annual Meeting of the Forest History Association of Wisconsin! We are most pleased to be meeting here at Treehaven, in a really beautiful part of Wisconsin. The facilities in particular are excellent, as you will all agree. A sincere "thank you" to our planning committee, Jacque Vallier and Frank Fixmer, for all their work in setting up this meeting.

My report will be a brief summary of the more important activities of the past year.

Due to business pressures, Ed Nagel resigned as our president earlier in the year and I, as vice-president, was appointed by the Board of Directors to replace him. Chuck Twining then agreed to take over the vice-presidential duties.

The capital funds campaign over a six-month period increased our endowment fund from $9,100 to $24,400.00. This will greatly improve our financial stability. It should be noted that the use of this fund is limited to the investment income only, and cannot be used for ordinary operating expenses. With interest rates falling, and most of our recurring operating costs rising, we are not yet "out of the woods" financially. Anticipated increases in expenses include four issues of "Chips & Sawdust" versus the three of this past year, a somewhat larger edition of the annual Proceedings, and such other essential items as office supplies, postage and the continued funding of the following projects.

This past year we awarded Sally Roberts of the College of Natural Resources, U.W.-

Stevens Point, $100.00 for her paper, which most of you heard presented yesterday, on the history of the blowdown of 1977 in the Phillips area.

We also donated $200.00 toward the construction costs of the Forestry Hall of Fame, located in the College of Natural Resources at Stevens Point. It will be well worth your time to visit that unique facility that honors outstanding contributors to the progress of forestry and conservation in Wisconsin. We were very happy to host the induction ceremonies during the proceedings yesterday that placed M. N. "Mully" Taylor, Fred Trenk and Cal Stott into that select group.

As I've said, this is only a brief summary to this past year's activities, and is not intended to lessen the significance of those actions not mentioned.

In closing, I would like to say "thank you" to others besides our Board members who have worked in behalf of the Association, particularly John Saemann and Jacque Vallier for serving as a nominating committee, and to Bill Kauth and Jim Hensel who performed as the auditing committee. Not to be overlooked is the service of Bill Sylvester in editing the annual Proceedings. And a special thanks to Frank Fixmer, our energetic secretary-treasurer who keeps the Association moving forward as much as our financial condition permits.

Thank you for coming to this meeting and I hope to see you all again next year.

Tom Albrecht
President

ANNUAL REPORT of the SECRETARY-TREASURER for 1984-85

At our annual meetings the past two years, I had the unpleasant duty of reporting unpleasant financial news. Unfortunately, that is my lot once again. I hope that none of you will feel inclined to want to follow the example of that Greek emperor — or was it a Chinese emperor? — who had the bearer of bad news executed. So, perhaps to put you all in a more charitable and relaxed frame of mind, I'll start off on a lighter note: It seems that at a certain P.T.A. meeting, after the usual reading of the minutes of the previous meeting, Madame President called on the treasurer for her financial report. Madame Treasurer proceeded to report that $1,200 had been grossed from a recently-held carnival. She went on to state that disbursements were $800 for the furniture for the teacher's lounge, $400 for a set of encyclopedias for the school library and $75.00 for a bicycle rack for the playground. "Since this added up to $1,275, she said, "we have a deficit of $75." Madame President then asked "What shall we do about that $75 deficit?" One of the ladies spoke up, "I move that we give that $75 deficit to the Red Cross". Madame President then said, "You've heard the motion, any discussion?" Another lady then spoke up, "I would like to amend that motion; I move that we give 75% of the deficit to the Red Cross and 50% to the Salvation Army".

I think I need one of those ladies on our finance committee to help me get rid of our financial problems!

Before I come to the "bottom line" of my financial report, I would like to present some

of the details of our financial operations this past year. (As summarized in the accompanying financial statement).

You have already been informed, through CHIPS & SAWDUST and your president's report, that our capital fund campaign while not a total success, was a rewarding experience. Our capital fund account now stands at $24,388.50 Interest and dividend income from that account will go a long way toward helping us continue some of our services and activities. But, we need considerably more in that account if we are to finance an expanded publishing effort or increased exhibition or display activity, both aimed at making the general public more aware of the importance of the state's forest heritage. Finances have been, still are, and probably always will be, critical to the on-going program of our Association. We also need to renew our efforts to enroll more members, and equally important, to bring former members back into the fold as supporters of our goals and programs. This past year we lost 12 members, and although we did manage to recruit 15 new members, that net gain of only 3 does not represent an adequate growth trend. At one time, we had as many as 25 or more corporate members; today we are down to only 14. We need to convince more representatives of the wood-using industries that commitment to a forest history program is not only good public relations but also a sound long-term investment in creating a better understanding on the part of our younger citizens of the contributions that the forest industry has made, and is still making, toward the economic and social welfare of Wisconsin.

In regard to my duties as secretary, these have consisted of quite a bit more than the usual conducting of correspondence, as most of you are aware. Membership records; preparation, editing and distribution of our newsletter; preparation and manning of several exhibits; these activities comprise a substantial part of the average 475 to 500 hours per year necessary to provide those services. Beyond that, this past year has included considerable time in connection with the activation of the Wisconsin Forestry Hall of Fame, for which our Association is one of seven sponsoring organizations. It's been a busy year. But it was also another interesting one, and from that standpoint, was personally rewarding. Thank you for the opportunity of having served you as your secretary-treasurer.

Frank N. Fixmer
Secretary-Treasurer

AUDIT STATEMENT

To Whom It May Concern:

The undersigned have examined and audited the financial records kept by the Secretary-Treasurer of the Forest History Association of Wisconsin, Inc. for the fiscal year beginning July 1, 1984 and ending June 30, 1985.

This audit included the examination of all transactions involving both receipts and disbursements, as well as the authority to make certain purchases. Bank statements were also cross-checked with all records of receipts.

All items were found to be in agreement with the summary financial report of the Secretary-Treasurer, as attached hereto.

As of June 30, 1985, the Association's checking account had a balance of $633.90, the investment account balance was $15,424.00, and a bank certificate of deposit was held in the amount of $8,000 for total cash assets of $24,057.90.

Respectfully submitted,

James S. Hensel

William W. Kauth

Dated: September 13, 1985

FOREST HISTORY ASSOCIATION OF WISCONSIN
TREASURER'S REPORT
for
Fiscal Year July 1, 1984 thru June 30, 1985

OPERATING STATEMENT

RECEIPTS	1984-85	1983-84
Membership dues	$ 2,608.00	$ 3,046.00
Donations - "unrestricted use"	32.00	120.00
Sales - publications, buttons	59.00	79.50
Annual meeting	730.36	419.00
Interest and dividend income	1,325.51	1,046.30
	$ 4,754.87	$ 4,710.80
DISBURSEMENTS		
Postage; mailing permit	$ 419.08	$ 347.46
Stationery; office supplies	396.17	300.44
Bonding; insurance	124.00	124.00
Publishing	2,401.75	3,200.44
Annual meeting	538.54	442.50
Scholarships; Distinguished Service Awards	449.75	347.25
Donations	210.00	25.00
Services, travel, phone, office mtc.	633.47	1,314.62
Membership promotion	197.15	—0—
Miscellaneous	145.10	240.64
	$ 5,655.01	$ 6,342.35
OPERATING PROFIT OR (LOSS)	$ (900.14)	$ (1,631.55)

RECONCILEMENT OF CASH ASSETS

Checking Account - July 1, 1984	$ 416.54	$ 135.69
Investment Account - July 1, 1984	1,111.00	29.40
Bank Certificate of Deposit	8,000.00	10,319.00
	$ 9,527.54	$ 10,484.09
Add: Operating profit or (loss) as above	(900.14)	(1,631.55)
	$ 8,627.40	$ 8,852.54
Add: "Restricted Use" Donations	15,430.00	675.00
	$ 24,057.90	$ 9,527.54

SUMMARY OF CASH ACCOUNTS

Checking Account - June 30, 1985	$ 633.90	$ 416.54
Investment Account - June 30, 1985	15,424.00	1,111.00
Bank Certificate of Deposit	8,000.00	8,000.00
	$ 24,057.90	$ 9,527.54

OUR FIRST TEN YEARS

*Jacque D. Vallier**

The Forest History Association of Wisconsin was founded in 1975. A review of its first ten years of operation reminds us of a quote by the late L. G. Sorden, co-founder of the Association: "The past is but prologue to the future".

Our first president, Tom Fulk, then supervisor of the Nicolet National Forest, presided at the first annual meeting of members at Rhinelander on September 24, 1976. The membership roster at that time listed 75 individuals and 21 corporate members. Co-founder Frank Fixmer became our first treasurer and reported a bank balance of $890.00. The most important item of business that day was to agree upon a program of annual awards for distinguished service in the preservation of Wisconsin's forest heritage.

The year of 1977 saw President Fulk move to a new position in California. He was replaced by Ned Revie, then woodlands manager for Wausau Paper Mills. The Association adopted its present address in Wausau as its official corporate address, which is also the home of the Marathon County Historical Museum. The highlight of the year was the publishing, in cooperation with the U. S. Forest Service, of the late Ken Elliott's "History of the Nicolet National Forest". Distinguished Service Awards were made for the first time: to L. G. Sorden and to the Menominee Indian Logging Museum.

John Saemann became our president in 1978. The annual meeting that year was highlighted by the presentation of historical papers by Malcolm Rosholt, George Corrigan, Mary Roddis Connor, Jim Kaysen and Ralph Swanson. Awards for distinguished service were given to George Corrigan and the Camp Five Logging Museum at Laona.

At the annual meeting in 1979, Walter E. Scott received the Distinguished Service Award and Trees-for-Tomorrow, represented by the late M. N. "Mully" Taylor, was the recipient of the award for organizations. Two $100.00 student scholarships were also awarded for the first time.

With John Saemann continuing as president, the Association moved into its fifth year. Among the finest of all of our annual meetings was the one held at the Chippewa Valley Museum in Eau Claire on September 27, 1980. Under the direction of "Doc" Brown and his most capable committee, that meeting will be remembered as one of our most successful. Distinguished Service Awards were presented to Frank Fixmer and the Rhinelander Logging Museum. Our Association became officially associated with the State Historical Society of Wisconsin as an affiliate member.

The Sixth Annual Meeting of Members was called to order by President Mary Connor in Green Bay during the Annual Logging Congress. The Association then had 230 individual and 22 corporate members. Distinguished Service Awards were made to Eldon Marple and to the Peshtigo Historical Society for its unique Peshtigo Fire Museum. The Association was saddened by the death of L. G. Sorden, who had been the "spark plug" of the Association since its founding. "L. G." was, and still is, sorely missed by all of us.

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*Jacque D. Vallier is currently a member of the Association's board of directors and has served since 1980. A well-known collector of logging artifacts, he developed the nationally-famous Menominee Indian Logging Museum at Keshena, WI, which he subsequently donated to the tribe's foundation. He and his wife, Dory, were also donors of the 960-acre forested tract upon which the Tenth Annual Members Meeting was held.

The Seventh Annual Meeting of the Association took place at Trees-for-Tomorrow in Eagle River on August 27, 1982. Two student scholarships were again awarded, as had become customary, and Distinguished Service Awards were made to two living individuals, Fred G. Wilson, the state's oldest living forester, and Malcolm Rosholt, historian of note. The organizational award went to the Kiwanis Club of Eau Claire for its renovation and maintenance of its Paul Bunyan Logging Camp.

President Arlan Wooden called the Eighth Annual Meeting to order on September 16, 1983 at the Institute of Paper Chemistry in Appleton. Joining in the meeting were 10 members of the Fox River Chapter of the Wisconsin Society of American Foresters. In addition to the usual two student scholarships, a special donation was also made to the Civilian Conservation Corps Museum in Rhinelander as a memorial to Ken Elliot, a director of the Association at the time, who passed away suddenly during its construction. The organizational distinguished service award was given to the "Empire in Pine" Lumber Museum at Downsville. Individual service awards were made posthumously, not only to Ken Elliot, but also to M. N. "Mully" Talyor who, with his wife Billie, had perished earlier that year in a tragic fire at their home in Merrill. The Secretary-Treasurer announced that there were now 207 individual members, including 13 Life Members; there were also 21 corporate, 7 honorary, 3 affiliate and 3 exchange members.

The Ninth Annual Meeting took place at the Sigurd Olson Environmental Institute at Northland College in Ashland. Approval was given to establish a Student Group member classification at a reduced dues rate to encourage participation by the student chapters of the Wisconsin Society of American Foresters. Service awards were made to Dr. Richard C. Brown of Eau Claire and posthumously to Howard Peddle of Iron River, with the organizational award going to the Timber Producers Association of Wisconsin & Michigan for its long-time sponsorship of its Annual Logging Congress.

Today we are convened for the tenth time — an historic occasion and a milestone in our Association's existence. Perhaps one of the most significant accomplishments of the Association has been the leading role it has played in the founding and implementation of the Wisconsin Forestry Hall of Fame. Our hosting later today of the additional inductions into that Hall of Fame should be a further source of pride in that accomplishment.

During the ten years since the founding of the Forest History Association of Wisconsin several other significant accomplishments have been realized. Among these were the establishment of our official depository for archival material at the University of Wisconsin-Stevens Point, the publishing of a "Bibliography of Wisconsin Forest History", the first of its kind in this field, and the publishing of the educational leaflet "A Chronology of 'Firsts' in Wisconsin Forest History".

These first ten years have not "come easy". There have been continuing and dedicated efforts to raise money to establish a more firm financial base. It's been a continual struggle to enroll new members and to retain those who joined. We suffered the loss of a number of outstanding and dedicated members who did so much to further the progress of the Association, specifically, the late George Corrigan, Ken Elliott, L. G. Sorden, Howard Peddle and "Mully" Taylor. We are indebted to all of them for their contributions to the preservation of the state's forest heritage.

We now look forward to the next ten years with hope and enthusiasm for ever greater progress toward fulfilling the objectives for which we were organized.

LOG DRIVING AND THE RAFTING OF LUMBER IN WISCONSIN

*Christy T. Hauge**

Logging history in Wisconsin has left us with reminders of hard working lumberjacks who used whatever methods that were practical for the season to move logs to the mills and lumber to the markets. From hand labor, horses, big wheels, oxen and iced logging roads, to railroads, trucks and water.

In this paper I will attempt to highlight a survey of the Public Service Commission of Wisconsin as prepared by Adolph Kanneberg on March 25, 1944. This survey dealt with the various statutory provisions pertaining to the use of navigable water for log driving and the rafting of lumber.

When the State of Wisconsin was admitted into the Union on March 4, 1849, the act so doing read in part as follows:

> "Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled, that the State of Wisconsin be, and is hereby, admitted to be one of the United States of America, and is hereby admitted into the Union on an equal footing with the original States, in all respects whatever — and the river Mississippi and the navigable waters leading into the Mississippi and St. Lawrence and the carrying places between the same, shall be common highways and forever free, as well to the United States, without any tax, impost or duty therefor."

The Legislature of 1895 by Chapter 328 of the Laws of that year declared meandered lakes to be public waters and defined the rights and privileges of all persons thereon. The act was incorporated in the Statutes of 1898. The next change in the statutes defining navigable waters was made by Chapter 652, Laws of 1911. It enlarged the definition by providing that not only shall all rivers and streams which have been meandered and returned as navigable by the surveyors employed by the government of the United States be declared navigable water, but in addition thereto "all rivers and streams, meandered or not meandered, which are navigable in fact for any purpose whatsoever" shall be declared navigable.

Section 328, Laws of 1895 (section 1607a, Statutes of 1898), was amended by Chapter 335, Laws of 1917, by adding to the existing definition the provision that all lakes which are navigable in fact, whether meandered or not meandered are also declared to be navigable and public waters. These are the main changes which have been made in the statutes and were renumbered to be section 30.01, Statutes.

Various court cases have held that a stream which in its natural state is capable of floating logs to market during the spring freshets, which usually last about six weeks, is a public navigable waterway for the transportation of logs and timber although during the remainder of the year it may not be particularly useful for such purpose without the aid of flooding dams. It has also been held that it is not essential to the public easement that this capacity be continuous throughout the year, but it is sufficient that a stream has periods of navigable capacity ordinarily recurring from year to year and continuing long enough to make it useful as a highway.

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*Christy T. Hauge is a Forestry Specialist, University of Wisconsin-Extension located at University of Wisconsin-Stevens Point.

The Sawlog Test of Navigability

The State of Wisconsin lies in two large drainage basins — the St. Lawrence River and the Mississippi River. It is bounded on the north by Lake Superior and on the east by Lake Michigan, the largest fresh water seas in the world. These lakes are a part of the Great Lakes waterway system lying within the St. Lawrence River basin. The lake ports, particularly that of Chicago, were the principal markets for the lumber manufactured in the Wisconsin sawmills within the St. Lawrence River watershed. Along the western boundary flows the Mississippi River which drains the large prairie lands of Iowa, Illinois, and Missouri, and those of other States farther downstream. These States absorbed practically all of the lumber produced in the Wisconsin mills on streams tributary to the Mississippi River.

The white pine regions of the State lay mostly in the north. The regions are traversed by a network of navigable and floatable streams. Among the more important of the navigable streams in the white pine region within the St. Lawrence watershed may be mentioned the Wolf, Fox, Oconto, Peshtigo, and Menominee. The principal streams of the white pine region on the Mississippi River watershed are the Wisconsin, Chippewa, Black, and St Croix.

When the sawmills first came into the pineries, the only highways were water highways. There were no markets within hauling distance from the mills. White pine timber, however, is light and floats high in the water. Pine logs could be floated down small tributaries to the sawmills located on the main stream or to the mills on the shores of Lake Winnebago, Superior, and Michigan of the St. Lawrence River basin. After the logs were converted into lumber, the lumber was shipped in sailing vessels from the lake ports to the markets on the Great Lakes or floated in lumber rafts in the navigable streams to the markets along the Mississippi River.

A not navigable stream is the private property of the owner of the land through which it flows, whereas a navigable stream is a public waterway. The circumstance that Wisconsin had an abundance of white pine timber which would float was one of the factors, or perhaps the direct reason, for the adoption in Wisconsin of the so-called "sawlog test of navigability." This test or rule brought into the classification of navigable streams every rivulet which for a week or two during the spring or other freshlets has sufficient navigable capacity to float a sawlog, however small, to the mill.

Log Driving and the Rafting of Lumber

The only rivers in Wisconsin, according to Kanneberg, which were used for the transportation of lumber in rafts were the Wisconsin, the Chippewa, the Black and certain of their tributaries. Lumber rafts were also floated to the Mississippi River by way of the St. Croix River which forms part of the western boundary between Wisconsin and Minnesota.

Sawlogs, on the other hand, were floated to the mills in both large and small streams. Creating floods, by means of flooding or water storage dams, was the most frequently used device for driving logs downstream regardless of whether the stream was large or small, where the natural flow was sluggish or was insufficient to carry logs over the rapids and sand bars or other obstructions without exposing the drive to the danger and expense of piling up in a dangerous log jam. Log jams which extended upstream 3 to 4 miles were common. The greatest danger was when the river was very high. The object of the drive was to keep the logs moving downstream and to prevent a jam which would

cause the logs to land on the banks or in the timber adjoining the river.

The loggers of the eastern States brought with them, among other things, the tote team; the logging sled with a bunk 6 feet long, which in the Lake States was lengthened to 8 feet, 12 feet, and finally to 16 feet; the sprinkling sled; also such tools as the branding axe with its steel die for imprinting the brand or make of the owner on the end of a log; the go-devil; the snubber; the swamp hook; the cant hood, and peavey, invented by Joseph Peavey of Bangor, Maine. The crosscut saw in the New England States was used only for cutting into lengths the pine trees after they had been cut down with the double-bit axe. In the Lake States, the saw superseded the axe for felling the trees, thereby saving both labor and wood. The loggers even brought with them the dinner horn or gong.

The log driving the loggers brought with them, the calked boots, the bateaux, and the wangan, called wanigan in Wisconsin. The "wanigan" in Wisconsin consisted of a large flat-bottom boat especially built to carry the provisions and supplies as the drive moved downstream. In Maine the "wangan" was horse-drawn.

Rafting of lumber down the Wisconsin River was practiced before the 1840's, however, by then it had reached such proportions that the Legislature in 1849, by Chapter 62 of the laws of that year, provided that every dam on the Wisconsin River shall be furnished with a slide or chute for the passage of rafts and watercraft, the slide or chute to be 60 feet in width and constructed of hewn timber. In the Laws of 1881, this was changed to 40 feet, on some streams and on tributary streams to 25 feet.

Rafting rough lumber to market appeared to have reached its peak just prior to the coming of the railroads. The Wisconsin Central reached Stevens Point in 1871. The Wisconsin Valley Railroad reached Wausau through Wisconsin Rapids and Mosinee in October 1874.

When the railroads came to the mills on the Wisconsin River, rafting rapidly declined. One of the chief reasons, besides the fact that deliveries were more certain, was that the lumber could be finished at the mills and a greater price obtained for the finished lumber than could be obtained for water-soaked and otherwised soiled, rafted lumber. Planing mills were soon added to the sawmills on the river. Rafting from Wausau ceased in 1875. A few more rafts went down the river below Wausau thereafter, but rafting ceased completely in 1883.

Boom Companies

In preparation for the log drive, the winter's cut of logs were hauled to the stream and unloaded in the ice or piled up along the banks to be rolled into the stream with the spring breakup. Under the law, the logs were allowed to drift as single sticks indiscriminately with the current and became mixed with those of other loggers. After the logging industry was well underway and many loggers banked their winter's cut in the same stream, the logs of the different owners became so intermingled that it became essential that some method be provided whereby each owner might receive his own logs with the least delay and expense. This gave rise to the formation of booming corporations.

The first charter granted by the Legislature to a booming company was by Chapter 351, Laws of 1851, incorporating the St. Croix Boom Company. About 75 charters authorizing the maintenance of booms in Wisconsin streams were granted by the Legislature up to 1873.

Agreements were frequently entered into by a number of owners for an interchange of

logs, which obviated the necessity of segregating the logs, each owner receiving his proportionate share from the common mass, quantity and values being considered.

After the General Corporation Law authorizing the formation of boom companies was adopted, no corporate charters appear to have been granted by the Legislature authorizing the construction and maintaining of booms for the collection of logs and timber and delivering the same of their respective owners for tolls or boomage with one apparent exception.

Chapter 137, Laws of 1891, granted to Cyrus C. Yawkey, George W. Lee, and Andrew Jackson, their heirs and assigns, authority to dredge a canal between Lake Katherine and the Tomahawk Lakes in Oneida County and take possession of logs to be driven between said lakes and receive and collect reasonable tolls and fees for the use of the canal and improvements.

Log Marking

Various rules and laws were passed over the years governing methods of identifying logs placed in the waterways of Wisconsin. One such law involving the floating of logs on the Wisconsin River was enacted in 1898, and provides as follows:

> "Every person who shall put any logs, timber or other floatables into the Wisconsin River or any stream flowing into said river for the purpose of rafting or floating the same thereon shall impress in a conspicuous place or places upon the end and surface of each such log, stick or timber or other floatable some mark or marks previously selected and recorded, which mark or marks shall also be recorded in the office of the inspector of every lumber district through which such logs, timber or other floatables are to be rafted or floated on said river or stream, and written notice of which mark or marks shall be given to each log-running or booming company doing business thereon. All logs, timber or other floatables so put into said river or stream, when marked as herein provided, shall be assumed to be the property of the person in whose name the mark or marks used thereon shall have been recorded. Any person violating any provision of this section shall forfeit ten dollars, one-half of which shall be for the use of the person prosecuting therefor."

Construction of Dams on Navigable Waters

The need for water power dams lead to the enactment of the Water Powers Law in 1915, after several prior attempts to develop such a law failed. No franchises or permits for the construction of dams were granted directly by the State Legislature after 1909. The time had come when the legislature no longer had time to study each application or bill authorizing the construction of a dam and that in consequence thereof it became imperative that a general dam act be adopted to be administered by a State Commission.

Among other jurisdictions and powers, the 1915 Statutes invest the Public Service Commission (formerly the Railroad Commission) with exclusive jurisdiction over the granting of permits to construct dams in navigable streams.

With the formation of the Wisconsin Department of Natural Resources in 1968, Chapters 30 & 31 were taken from the jurisdiction by the Public Service Commission and reassigned together with staff to the Department of Natural Resources.

LIFE AND DEATH OF A LUMBER TOWN

*Dr. Randall Rohe**

When one hears the term ghost town, most people immediately think of the West. It is a term that conjures a vision of old false front, clapboard buildings, loose doors swinging in the desert wind and tumble weeds rolling down dry, dusty streets. Few people associate Wisconsin with ghost towns. Yet the state has more than its share and most of them originated in during the lumber era.

Lumbering was the untimate cause of the settlement of much of the state and the industry gave life to hundreds of towns. After lumber operations ceased, however, there was often no reason for the continued existence of a town. Towns developed almost overnight, flourished briefly, and then declined and disappeared as the transient industry moved on. "Cut out and get out" and "follow the timber" were the bywords of the industry. Many towns were left as stragglers in the wake of this advance.

Fire was the scourge of the lumber industry and sealed the fate of more than one mill town. It was a rare sawmill that was not burned to the ground and rebuilt at least twice. Lumber towns, flimsily built of wood, were periodically swept by flames. Many lumber companies simply moved out and on after a destructive fire. A case in point is the Heineman Lumber Company and its company town, Heineman.

The history of Heineman begins with a headline in the *Merrill Advocate* of May 29, 1900 entitled "An Embryo Town". The *Advocate* reported that Emil Thomas, a Merrill logging contractor and timber owner, proposed "to build a saw mill, store, blacksmith shop, dwelling houses and other structures necessary for the convenience of the residents of a village, at a point two miles below Bloombille where his logging camps were recently built". Additionally Mr. Thomas intended to construct a telephone line to Merrill and build good roads out to the main Dudley road.

Emil Thomas, the son of August Thomas, was born in 1863 in Berlin, Germany. In 1865 his family migrated to this country and settled in Dodge County, Wisconsin. Six years later they moved to Seymour, where August Thomas engaged in lumbering and farming. He came to Merrill in 1884 and continued in the lumber business until 1888, when Emil succeeded him.

Thomas planned to build the mill on the banks of the Prairie River and float the logs down to the mill from above. The lumber cut at the mill, after being piled in a yard and dried, was brought to Merrill by wagon for shipment. The original plans called for a good sized mill powered by a seventy-five horse power engine with both band and rotary saws.

The proposal site for the mill was in the heart of the forest and although considerable clearing would be necessary, Thomas reported that he expected "to have the mill running full blast by October 1st." There were already two logging camps at the site with about 100 men at work. Thomas had about 20,000,000 feet of standing timber in the vicinity, and expected the operations to last twenty years.

The *Advocate* referred to Thomas' plans as a "grand project," the "largest and most important project" launched by a citizen of Merrill and felt that the new town should be named in his honor. Apparently, the settlement first acquired a name in mid July. It's Trout City announced the Merrill paper and elaborated that "If you want to know why

*Dr. Randall Rohe is a Professor at University of Wisconsin-Waukesha.

they call it that ask Emil. He has caught more trout there than anyone else and besides he named the town."

At the end of July the work of getting out timbers for the mill and the laying of foundation began under the supervision of millwrights John Jenny and G. B. Hathaway. The *Advocate* of July 31st described the future mill in greater detail.

> The structure will be a good sized one, will be equipped with all conveniences and will furnish employment for at least one hundred men. The cutting facilities will consist of an Allis band mill, which will allow for a cut of 35,000 feet daily. The timber for sawing will be logged at that place and hauled to the Prairie river and floated to the pond, which shall be formed after a dam is constructed by Mr. Thomas, which he intends to accomplish soon.

The *American Lumberman* characterized the mill as "quite an up-to-date institution in equipment" and the *Advocate* claimed it was "the first of its kind ever put in operation." The edger, for instance, was equipped with patent rollers to prevent a board coming back and thereby reduce the possibility of accidents. The engine room, built in the style of a Dutch oven, was one of the first of its kind.

The band mill for the sawmill was purchased from the Phoenix Manufacturing Co. of Eau Claire and arrived along with other mill machinery in Merrill in the latter part of August. All of the machinery for the mill was produced by the Phoenix Company except for the boilers which were made by a Minneapolis firm.

By this date work on the mill was "just flying", the foundation had been completed and the frame was rapidly being constructed. While a large force of men was employed, Mr. Thomas found it difficult to secure all the laborers he wanted. By late September all the machinery had been placed in position, the building was entirely enclosed, and the smoke stack had been raised. Everything was nearly ready for sawing to begin. Within a few weeks the saw mill was running full blast.

By the New Year according to the *Advocate*, things were "just rushing" at Trout City with some sixteen houses for the workmen under construction. Numerous teams could be seen on the road between Trout City and Merrill, some hauling lumber to the latter, others bringing hay, grain and supplies to Trout City. It was claimed that from fifty to seventy-five farmers visited Trout City daily.

Initially, a temporary structure was erected to serve as a store, but by February that had been replaced by an imposing two story structure with a large basement. The upper portion was partitioned off for sleeping apartments and the rear contained a storehouse. The stock of the store consisted "of everything to eat, wear, and drink, with the exception of liquor," which was not allowed in the town. An *Advocate* reporter wrote that "You could call for nothing in the line of staples or fancy groceries, but what they could furnish you". The storehouse contained over $1,000 worth of meat, beef hearts, liver, bacon, sausages, boneless hams and nearly a carload of feed and flour besides groceries, etc. The basement contained syrups, vinegars, vegetables, etc. and the total stock was valued at nearly $5,000. As illustrative of the business transacted at the store, the *Advocate* reported that between November 10 and February 5 over 4,000 cigars had been sold.

The village now contained twenty-two houses, a boarding house, a rooming house, a blacksmith shop and other sundry structures. The reporter of the *Advocate* remarked that it almost bordered on the miraculous that where there was nothing but forest the

1st May there was now a bustling little village. Thomas did not rest on his laurels and contemplated future improvements. New saws and a dynamo had been ordered and it was his intention to hire more men and run the mill nights, and even light every building in the place with electricity. There was talk of building a spur from the Milwaukee and St. Paul Railroad in the Spring. Besides the many improvements in his manufacturing facilities, Thomas tried to enhance life in the village. He set aside a 17 acre tract of land along the river above the town for the development of a park and made plans to build a summer cottage there. As there were some fifty children in the town, plans were formalized for the construction of a school house.

Subsequently the pages of the *Merrill Advocate* tell of the completion of these plans and the formulation of new ones. By mid-February, the mill was running night and day, turing out about 60,000 feet of lumber daily. Construction began on a drug store and plans for a hotel were unveiled. The drug store opened in mid-March and the *Advocate* said of it "not only is it up-to-date in its appointments but it is stocked with a costly supply of drugs and druggists sundries." The paper also related that there were indications that a first class barber shop would soon be added to the business at Trout City.

The growing population at Trout City soon necessitated regular mail service. A petition with two hundred signatures was sent to Washington requesting the establishment of a post office there. In the Spring the government did establish a new post office at Trout City and appointed Henry F. Horton as postmaster. The post office was located in the general store.

During the winter of 1901 the Wisconsin legislature passed a bill authorizing the construction of a dam near Trout City to provide a mill pond, and soon Thomas had men engaged in its construction. Piers and booms were constructed to provide areas for holding, sorting, and storing logs.

By April Thomas had completed plans for a two story hotel capable of accomodating seventy-five guests and work began on its construction. Within a month a dance was held in the hotel and it was opened to the public. The hotel was an impressive structure with a balcony built around both the first and second floors. It became especially well known for the trout dinners it served. A visitor to the Heinemen hotel wrote:

> The table is provided with everything the market affords and the wayfarer can get as good fare at the Heineman hotel as he can at any ordinary hotel in this section of the country.

In April the Chicago, Milwaukee and St. Paul Railroad signed articles of agreement to construct a branch line from Schulze Spur to Trout City. By June the surveying for the extension was complete and the actual construction of the road began. It was expected that trains would be running by August. Perhaps in anticipation of this improvement in transportation, Thomas obtained two new band saws which gave the mill "a fine line of saws as any mill in the state." During the summer Thomas also added a new planing mill. By mid-summer the mill had a stock of about 6,000,000 feet of lumber on hand. Thomas employed sixty men in the mill, but this was said to be about half the number he would have employed if he could have gotten them.

During the spring and summer, work on the park continued and it was constantly being improved. It had been cleared of stumps and underbrush, leveled, and seeded to grass. A trout pond was constructed in the rear of the mill. Picnicking, fishing, and swimming were among the major recreational activities in the village.

About this time the town changed its name from Trout City to Earling to avoid confusion with other places with similar names. Undoubtedly it was so named in honor of A. V. Earling, general superintendent of the St. Paul Railroad. The *Merrill Advocate* in late July wrote that "Trout City now boasts of a first-class store, drug store, hotel and saloon." The later was quite a rarity for a lumber company town. Lumber companies usually made special efforts to keep liquor out of their towns and very few of them actually operated a saloon.

In the fall of 1901 Trout City was described as "the busiest burg in the country"; the grading on the railroad was finished, new houses were being built, the new planing mill was running, etc. In December 1901 it was announced that Sigmund Heineman had purchased the plant, equipment, and all the buildings at Earling, plus some 6,000 acres of timber land, containing between 40,000,000 to 50,000,000 feet of hemlock and hardwoods, from Emil Thomas. Thomas retained only the lumber manufactured previous to the transfer. The exact consideration was not given, but was estimated at between $65,000 and $75,000.

The new concern, known as the Heineman Lumber Co., consisted of Sigmund Heineman and his son Harry, who was to be in charge of operations at Earling. Sigmund Heineman, whose gigantic lumber operations earned him the appelation of "the lumber king of the Wisconsin Valley," was born in Germany in 1852. He acquired a common school education there and at the age of eighteen came to seek his fortune in America. He settled first near Appleton, Wisconsin where he found employment in a general store and carefully saved his earnings. In 1880 he moved to Merrill and opened a small general store, which eventually became one of the leading businesses in the city. Heineman entered the lumber business in 1893 when he formed at partnership with George E. Foster. This partnership endured until the formation of the Heineman Lumber Company and the purchase of the property at Earling.

Upon purchasing the operations at Earling, Heineman decided to greatly increase the capacity of both the saw and the planing mill and contemplated the addition of a heading mill. A petition was sent to Washington requesting that the post office name be changed from Earling to Heineman and that daily mail service to the town be established. These requests were granted and in June the Heineman Lumber Company moved its office from Merrill to Heineman.

During 1902 the Heineman Lumber Company made some very extensive improvements for its first lumbering season. They entirely rebuilt the saw mill and added a new band mill, manufactured by the Union Iron Works, with a capacity of 50,000 feet in ten hours. The company equipped the mill with entirely new machinery of improved patterns including a Filer and Stover carriage, an eleven-saw trimmer made by Union Iron Works, a five saw edger manufactured by Murray Manufacturing Company, and slashers, niggers, logkicker, etc. built by the Merrill Iron Works. The engine room was rebuilt and a new battery of boilers for additional power was added. The engine house contained a new 250 horse engine and a large electric motor to light the plant and surrounding buildings. Besides putting in new machinery the mill proper was enlarged and the timbers strenghtened. The foundation was rebuilt of cement and concrete giving it "a foundation as solid as the rock."

The new mill started up for the first time in early February and it was expected to run day and night, and "make things hum from now on". The company planned to have a stock of from 10,000,000 to 12,000,000 feet of lumber by the following season. Besides

lumber the company manufactured lath and shingles and produced hemlock bark, cedar poles, piling and cross ties. It produced about 5,000 cords of tan bark and between 75,000 and 100,000 cross ties, and considerable quantities of hubwood during the year. The company contemplated the construction of an excelsior mill and already had several hundred cords of bolts piled on the grounds.

By this date Heineman was described as "an industrial center of no mean proportion." At times it must have been a very busy little place because one correspondent of the *Advocate* wrote in mid-July that "there were so many people and rigs one could hardly walk up Main Street." Besides the extensive manufacturing facilities of the Heineman Lumber Company, the town contained two large hotels, a drug store, school, a large general store and about thirty-five residences with new ones in the course of construction. Through the efforts of Harry Heineman, the district school clerk, "a neat and cozy school house" had been fixed up. It served about 25 students; the *Wisconsin State Gazetteer* gave the town a total population of 150.

By the New Year Heineman had a railroad depot, an agent, and daily passenger trains. In February the *Merrill News* related that "business in Heineman is rushing" and an *Advocate* reporter portrayed it as an "industrial beehive."

> The saw mill and planing mill are running full blast. The lumber yard is filled with large piles of fine lumber. Great piles of logs cover every available space along the river as far as one can see. Bark, railroad ties and excelsior bolts are piled up ready for shipment.

The great activity at Heineman so increased the mercantile business of the Heineman Company that it was decided to erect a large modern store. The company also decided to replace the old log stables and shanties with a large barn, to erect a dance hall and to build a large number of houses. The houses were 28 x 48 feet, one and one-half stories high and were described as "modern in construction" and "as neat and comfortable". The homes of the managers were thought to be especially beautiful, luxurious and comfortable.

By 1905 according to the *Wisconsin State Gazetteer* the population of Heineman had increased to 300. Once again the *Lumberman* told its readers of the plans of the Heineman Company to enlarge and improve its plant. The company installed a large horizontal band resaw in the sawmill and increased the capacity of the planing mill. At this time, the company had more orders booked than at any previous time in its history.

In 1907-08 the Heineman Company acquired additional timber land, almost an entire township, increasing its run another eight or ten years to perhaps twenty years. The company built eleven miles of railroad into this tract in 1909. Apparently the company practiced some form of selective cutting for the *American Lumberman* described it as:

> One of the manufacturing concerns that believes in modern forestry methods and it is cutting its timber in such a manner that it has figured in the next few years that it can go back and secure another crop.

During much of 1909 the mill was shut down as the company once again enlarged its capacity through the addition of a new power plant, two engines and other equipment. It was claimed that the plant was "so equipped that they can cut stock to order and get logs from the woods through the mill within forty-eight hours." In early December the mill started up again and the "little town" was "again alive with business". The company planned a long season of logging and sawing. To this end an extra logging

train was put on the Long Lake line between Heineman and Elm City to haul some 10,000,000 feet of logs to the mill. During January 1910 the Heinemans added an amusement hall to the properties at Heineman. By this date the town contained an opera house, school house, livery stable, saloon, meat market, general store, depot, hotel, etc. and about 75 dwellings. The *American Lumberman* reported the mills were running day and night turning out 140,000 feet of lumber daily and shipping out ten or more cars of finished lumber a day. At this time the company employed about 150 men at the mill operations and nearly 300 more in its sixteen logging camps. The average payroll was about $1,000 daily. Just when operations at Heineman seemed to be reaching a peak, disaster struck. As the *Merrill Advocate* told it.

> Last Monday, during the noon hour, fire was discovered in the Heineman sawmill at Heineman, and although the local fire department and all the residents turned out promptly, the building was burned to the ground, the fire proof boiler house being saved. The planing mill was saved, although it caught fire several times. The flames were also prevented from spreading to the lumber.

While this loss threw many men out of work it could have been worse. The loss was largely covered by insurance and the company determined to rebuild as soon as possible. The company received an insurance settlement of $37,500 and decided to use it to build a "strictly modern, fire-proof plant, thus avoiding in every possible way" another loss by fire.

Soon afterwards the Heineman Company closed a deal for 80,000,000 feet of standing timber, mostly hemlock and hardwoods, in Lincoln and Oneida counties. The company made arrangements to have that season's log cut sawed elsewhere, and began cleaning up the old mill site preparatory to the erection of a new mill. Disaster, however, again struck on July 20. The headline in the *Tomahawk Tomahawk* read HEINEMAN IS SWEPT BY FIRE:

> The village of Heineman was totally destroyed by forest fires Wednesday evening. There were about 25 families living there and all, men, women and children were driven from their homes by the flames, leaving behind everything they possessed to be devoured by the fire-head. A number of farmers in the vicinity lost their homes. The Heineman Lumber Company lost about eight million feet of lumber.

The *Advocate* prefaced its story of the fire with the headline "Nothing But An Unpleasant Memory Now Remains"

> All that stands today, to mark the spot where stood the Heineman Lumber Company's large sawmill plant and its attendant buildings, lumber yard, business houses, hall and many cozy cottages, are two cottages, the school house, and the blackened smokestacks, silent sentinels over a charred domain.
>
> Words fail to depict the terribleness of that brief twenty minutes of warning allotted to the inhabitants to flee to safety. Many had not time to save more than they carried away on their backs, others saved some few things.

The fire was believed to have started on a farm eleven miles north of Merrill. Up to about one o'clock the inhabitants of Heineman did not realize that they were in any

danger. The air was filled with smoke, but no fire was seen. The fire had burned by, but then the wind "veered round and drove it back with fearful fury." The company had a fire-proof power house and several thousand feet of hose were immediately taken out and the fire was held at the edge of the village for three hours, when a sudden change in the wind threw the whole firefront into the village and lumber yard. According to some witnesses three big fires met right at Heineman. One coming from the southwest, one from the west and one from the north. They seemed to rendezvous in the lumber yard. "making it impossible to combat the fire with any measure of success." Once the lumber piles were on fire, the intense heat and flying embers dashed any hope of saving the planing mill. Practically the entire plant was aflame within a few minutes.

> From the lumber piles it rapidly spread to the planing mill and to the stables, residences, Maccabee hall, and the other business places. The sight was unimaginable.
>
> The cries of women and children as they left their happy little homes, and the scenes gone through by the people, can better be imagined than described. The flames were mountain high and the roar was terrible.

It was estimated that the wind was blowing 50 to 60 mph and that flames leaped more than 200 feet. Refuges said that the town burned rapidly, in only an hour Heineman was no more.

> The desolation beggars description. For a mile or more south of the road leading down to Heineman from the Dudley road and also a strip to the north of the road, west of Heineman, everything was burned clean, only charred trees and stumps standing.
>
> In the smoke could be seen the school house and what appeared to be two more residences; the smoke stacks on the engine house of the mill—everything else was wiped out slick and clean. Not a vestige could be seen of the huge piles of lumber that stood there only yesterday.

The refugees from Heineman found shelter at Bloomville, Gleason, Dudley, and Merrill. At the time of the fire, the population was estimated at between 350 and 400 people with 25 families. Most of the inhabitants were taken to safety on railway flat cars. A few escaped in wagons and autos. Scores of automobiles from Merrill went as near the scene as possible to bring aid to those fleeing in front of the fire.

The *Milwaukee Journal* claimed that the saving of many lives was due the the actions of Harry Heineman, who took a St. Paul train without waiting for permission, and ran the train back and forth until everybody was safely out of the village. He also saved fifteen freight cars which were on a sidetrack.

The fire continued raging in some slashings between Bloomville and Gleason and west of Bloomville. Because the wind was blowing from the west, it was thought that these towns were also in danger. All night long refugees from the burned town of Heineman and the threatened villages of Gleason and Bloomville poured into Merrill. Scores of men from Heineman, their own houses in ashes, turned their attention to saving Gleason and Bloomville.

The forest fire was portrayed as the most serious disaster that had ever happened in Lincoln County. The loss to Heineman Company was approximately $200,000 but it was largely covered by insurance. The planing mill, business and dwelling houses were covered by insurance amounting to $227,000. A few of the residents carried a small insurance but most had none at all. "It means a homeless colony which has scattered

here and there as fate seemed to direct" said the *Herald.*

The *Advocate* did not think that the Heineman Company would rebuild at Heineman "for the destruction was too complete to attempt it". The company, however, still had a 20 year cut of timber and so it moved its operation to Merrill and built a large new mill there. Today little remains at Heineman. One of the company houses still stands and the road that passes through the site is known as Heineman Road. It is hard to imagine, however, that just seventy-five years ago a busy mill town with a population of some 400 people stood there.



Lumber Yard
Heineman, WI
1908



Cottage Avenue
Heineman, WI
1908

DESTRUCTION OF "THE BIG BLOCK"

*by Sally L. Roberts**

My interest in forest history began when I was growing up in a small town in northern Wisconsin. My grandfather had been one of the pioneers in the Phillips area, choosing to harvest wood with a team of horses. Later my father followed in his footsteps gradually replacing the team of horses with machinery. Even though he switched methods of operation, my father still kept a team of work horses and the wooden drays to remind him of a time when working in the woods was quieter. A time when the jingle of a harness on a skid trail was the only sound heard in the forest.

As a girl, I was encouraged to take an interest in this part of my family history and I did, choosing to go into the forestry profession early in my high school career. I became very active in school groups and helped form the Price County Junior Board of Supervisors while in school. This group was designed to assist the county board in carrying out conservation practices throughout the county by using the talents of the high school students serving on the board. We were an active group, taking part in fairs, meetings, and sponsoring events. However, our real work did not start until the summer of 1977.

On July 4th, 1977, Washburn, Sawyer, Price, and Oneida counties were hit by a violent windstorm that came from the northwest at forces up to 150 m.p.h. and covered vast areas. Acres of state, county, and private forests were toppled by these winds which had been termed a "downburst" by scientists studying such forces. The storm was originally thought to be a tornado at first, but the aftermath of the storm showed no twisting of the wreckage. The winds had been from one direction, the northwest, for all the trees lay in a straight line. The downburst was defined as a downward rush of air current that produced horizontal outflow of extreme intensity on the ground. When these winds hit the ground trees either snapped or uprooted and buildings were either blown down or pushed by the strong winds.

In my hometown of Phillips, located in Price County, there was no warning that the high winds were approaching. The Fourth of July was muggy and hot and most people spent the day outdoors by the beach or in the shade. The Weather Service predicted thunderstorms would develop but at 2:55 p.m. the skies turned a violent green and families ran for cover expecting the worst. The winds and rain came crashing down damaging almost every part of the town during the forty minutes duration. Powerlines and phone lines were down and trees blocked roads within and outside of the city.

At the storm's end, Phillips learned it was not the only city hit by the winds. That afternoon, 25 separate downbursts had hit the state. The area damaged ranged from Grantsburg on the western edge to Rhinelander on the eastern part. The width of the storm covered 17 miles and length (from east to west) was 170 miles. Two people were killed and many others were injured. Damage within the state was estimated at $50 million, Phillips alone suffered losses totalling $2.5 million. Over 800,000 acres of forest were leveled. Most of these lands were in private ownership, but of those areas of public land hit by the storm, the Flambeau River State Forest suffered some of the worst damage.

*Sally Roberts was the 1985 winner of the Forest History Association's annual Student Scholarship Award. Currently she is completing her senior year at the University of Wisconsin-Stevens Point, College of Natural Resources.

The Flambeau River State Forest is located in parts of Sawyer, Rusk, and Price Counties in northern Wisconsin. Originally established in 1930, the forest was created to preserve the old-growth timber located within its boundaries. It was this timber that the storm toppled along with younger stands of hardwoods and softwoods. In the early years of the forest, emphasis was placed on salvage of damaged timber and fire protection, but in more recent years the forest had been regarded as one of the more well-known areas of virgin timber in the state. People came from long distances to view the "Big Block", a stand of virgin hemlock that covered a tract of land of 640 acres in size. They also came to canoe the Flambeau River, one of the most scenic rivers in the state, and to enjoy the many recreational opportunities the forest had to offer such as hiking, snowmobiling, fishing, and skiing.

After the storm passed through the 40,000 acre Flambeau River State Forest, the "Big Block" along with other virgin timber was gone. Fear of fires and disease in the forested areas were expressed by the public and officials of the forest. Operations to clear the debris began immediately and were aided by many volunteers from areas not hit by the winds. Cabin owners, loggers and many others worked to clear roads. Powerline crews from other counties worked to restore power to those in outlying areas. Buildings were repaired or rebuilt and insurance claims soared. Disaster relief was applied for but denied. The huge cleanup effort would continue for many years to come, but the magnificient forests that covered the land would never be seen again by my generation.

A part of forest history was being created right before my eyes. Through a class in school I helped compile accounts of the storm that were preserved in a book that became part of the Price County history. Through the Junior Board, I gathered photographs of the downed trees and homes that later became part of a slide show presented at the county fair documenting the destruction. In the year following the storm, trees were planted by the Junior Board and tree packets were sold to landowners who were trying to replace lost resources.

All these activities centered around forest history. The "downburst" had helped to change the successional stages of forests in the area. Where once tall white pine grew along the Flambeau River, hardwoods now dominated the soil surface. As the years passed, seedlings and saplings grew between the trees laying on the ground and soon dense areas of aspen and birch could be seen. Logging operations designed to salvage the fallen timber helped to increase the light penetration on the forest floor and many of the tolerant species that had been growing under the dense canopies sprang up to replace lost trees.

Salvage operations on a state and county basis increased rapidly in the years following the storm. Many timber sales were sold in a short period of time to both local and outside contractors. Thousands of board feet of timber was transported by trucks from the area to mills within the state. I did not realize what a huge operation the salvage was until I began working for the state two years after the storm.

In the fall of 1979, when I chose to take a semester off from college, my supervisior on the Flambeau Forest offered me a chance to work with the scaling teams on the large salvage operation of timber still going on in Sawyer County. Assisted by a partner, our principal duties were to follow a scheduled route on a daily basis and to scale the forest products in the field from the timber sales along the route. It was an exciting experience and we worked with loggers with slashers and pole skidders to those consisting of a husband-wife team harvesting red pine pulpwood mainly by hand. I learned how to tell

the difference between various logs in a log deck, how to deduct for defects, and how to write on a tally sheet with a pencil when the temperature is 30 degrees below and your mittens must stay on to keep your fingers from freezing.

This salvage operation brought a variety of people to the Flambeau Forest and it opened up my eyes to what had been there. Before the storm, one of my favorite areas had been the "Big Block". After the storm, this area became one of the largest areas of salvage. I can remember scaling many large logs from this area. As I look across the empty acres today these acres are a stark reminder of what once had existed. Natural regeneration is slow in this area and it will be many more years before this area is what it once was. Close to this area is a scientific study area that has been left just as it was after the storm hit. For those generations following ours, these areas will serve as valuable testimonials to the past. I am lucky to have known the area prior to 1977 and during its salvage and even today. I only hope that other young people will be able to see a forest such as this someday.



Before The Storm



After The Storm

HISTORY OF FOREST FIRE PROTECTION IN WISCONSIN

*By Neil H. LeMay**

Prehistoric forest fires were common. Evidence of this is found in the charred remains of trees buried in bogs. Records left by early explorers tell of forest fires that burned for weeks in dry seasons.

During early white settlement, forest fires became more frequent and more destructive. No effort was made to control these early fires associated with land clearing unless lives or buildings were threatened. In northern Wisconsin, the period of forest devastation began immediately with the advent of commercial logging following the Civil War. Directly to blame were the vast areas of slash, left by large-scale logging operations.

In 1864, the pineries of the Black, Chippewa, St. Croix, Wisconsin and Wolf Rivers, as well as those in Barron, Kewaunee, and Manitowoc Counties, were reported to be a "raging sea of flame." In 1871 the lumber town of Peshtigo, and the surrounding countryside, was destroyed; some 1,152 people were killed and another 350 were missing—the greatest single loss of human life by fire in American history. From 1874 to 1898, fires raged uncontrolled throughout the state. The fires of 1887 all but destroyed the town of Marshfield; the Comstock fire of May 1891 burned 64,000 acres in Barron County; and the Phillips fire of July 1894 burned some 100,000 acres in Price County. Hundreds of people were killed in these fires, property damage totaled millions of dollars, and over 1,400,000 acres of virgin timber were destroyed.

The official record which begins in 1904 is far from complete. Prior to 1930, it is estimated that some 2,500 fires occurred annually and that approximately 500,000 acres burned each year. Since 1930 the average number of fires per year had decreased to about 2,200, but as a result of organized fire control, the average burn had been reduced to about 10,000 acres per year.

Since a large percentage of all forest fires are caused by man, fires occur most frequently in places of habitation. Ironically, least subject to fire are areas of well-stocked timber, especially hardwoods.

The early pioneers of Wisconsin were not interested in the need for forest protection. This attitude reflected the opinion of the general public and legislators.

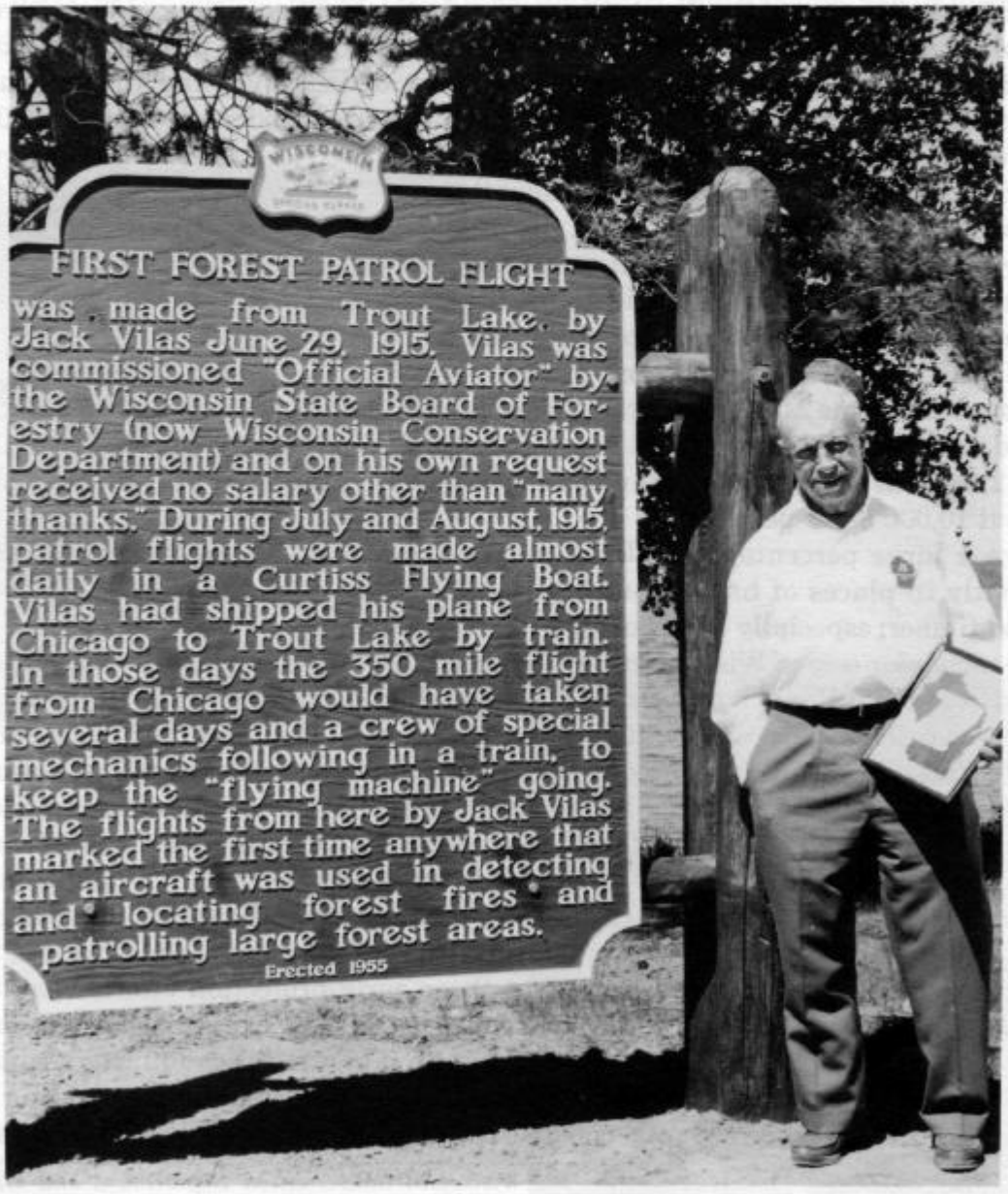
Active participation by the state in forest fire control began in 1905 when some 249 town fire wardens were appointed with instructions to post fire warnings, enforce the fire laws, urge care in the use of fire, report fires that occurred, and organize local protection efforts. By 1908 over 300 town fire wardens were functioning in 33 counties. While these men had authority to hire fire fighters, they had no equipment. The wardens' effectiveness was further limited by reluctance of the town boards to pay for fire fighting and by public apathy in regard to the enforcement of the fire laws. Severe fires in 1908 and 1910 demonstrated that these early protection efforts were totally inadequate. In March of 1911, a state-sponsored ranger examination was held in Rhinelander, resulting in the appointment of 11 rangers. A headquarters camp was established at Trout Lake in Vilas County. In addition, federal cooperation under Section 2 of the Weeks Law made possible the employment of 11 special fire wardens.

**Neil LeMay was Chief Forest Ranger for the Wisconsin Conservation Departmant and Wisconsin Department of Natural Resources at the time of his retirement in 1969 after 38 years in fire control work.*

This marked the beginning of a state forest protection organization. Wet years, such as 1911 and 1912, resulted in few fires and allowed much work to be accomplished: a headquarters cabin was built, 40 miles of fire line were constructed, 180 miles of old railroad grade were opened for vehicle travel, and 50 miles of telephone lines were constructed. The following year, four ranger cabins were built, four 55-foot steel lookout towers were erected, and the ranger stations and towers were connected by telephone to headquarters and the nearest town.

Town and special fire wardens provided their own equipment for the most part, usually a shovel or an axe. Horse-drawn plows were occasionally used during the early days to build fire lines.

Travel was usually on foot or horseback because forest roads were few and often impassable for motor vehicles. Logging railroad tracks offered the best, and sometimes



Jack Vilas at Dedication of First Forest Patrol Marker at Trout Lake.

the only means of, access to isolated areas. Here, railroad "speeders" were widely used; by 1914 the state owned one motor-powered and ten hand-operated "speeders". These vehicles were supplemented the following year by the state purchase of its first motor truck for transportation of fire fighters and supplies.

By 1913, 12 protection districts had been established and the boundaries of the state forest reserve were increased to include some 1,250,000 acres in Vilas, Oneida, Forest, Price, and Iron Counties. Under a new cooperative agreement with the Federal Government, $5,000 of Weeks Law Funds were allotted to the state for fire protection, with the understanding that the state contribute $15,000 of its own funds. By 1915, 37 buildings, including a permanent headquarters building at Trout Lake in Vilas County, had been built to house the rangers and their equipment, and 250 miles of road, 140 miles of fireline, and 86 miles of telephone line were constructed. On August 2, 1915, Wisconsin became the first state to use aircraft for locating fires, an historical marker is located on the Trout Lake shoreline from which the first flight was made on August 2, 1915.

A decision by the Supreme Court in 1915 resulted in a curtailment of forestry activities, and caused state fire protection efforts to be confined to state land due to lack of funds and authority.

Additional protection for the forest reserve was provided by the Indian Service, by the Chicago & Northwestern Railroad, and the C. H. Ferry estate which hired privately financed patrolmen to protect their properties. Also, six large lumber companies appointed their foremen and camp superintendents as special fire wardens. Town fire wardens and local residents were asked to fight fires, in which case the cost of their pay was split between the county and the state. A $5,000 limit on county expenditures, however, restricted the number of times these local citizens could be called upon to assist in fire fighting. In 1919, on the insistence of the U. S. Forest Service, five seasonal patrolmen were assigned to patrol districts outside of the state forest reserve. Each of these men had three counties to cover, their efforts were largely confined to posting fire warnings, contacting town fire wardens and local landowners, and trying to arouse local interest in forest fire control.

In the following year, protection of the sandy soil area in Bayfield and Douglas Counties in the vicinity of the Village of Barnes was undertaken in cooperation with the Cornell Wood Products Company and the Rust-Owen Lumber Company. Four lookout towers were erected and a telephone line was built connecting them to the Villages of Drummond and Brule. Three additional towers were built in 1921 and forest fire protection was extended to portions of Burnett and Washburn Counties under the supervision of state rangers assigned to Pattison State Park and Brule River State Forest.

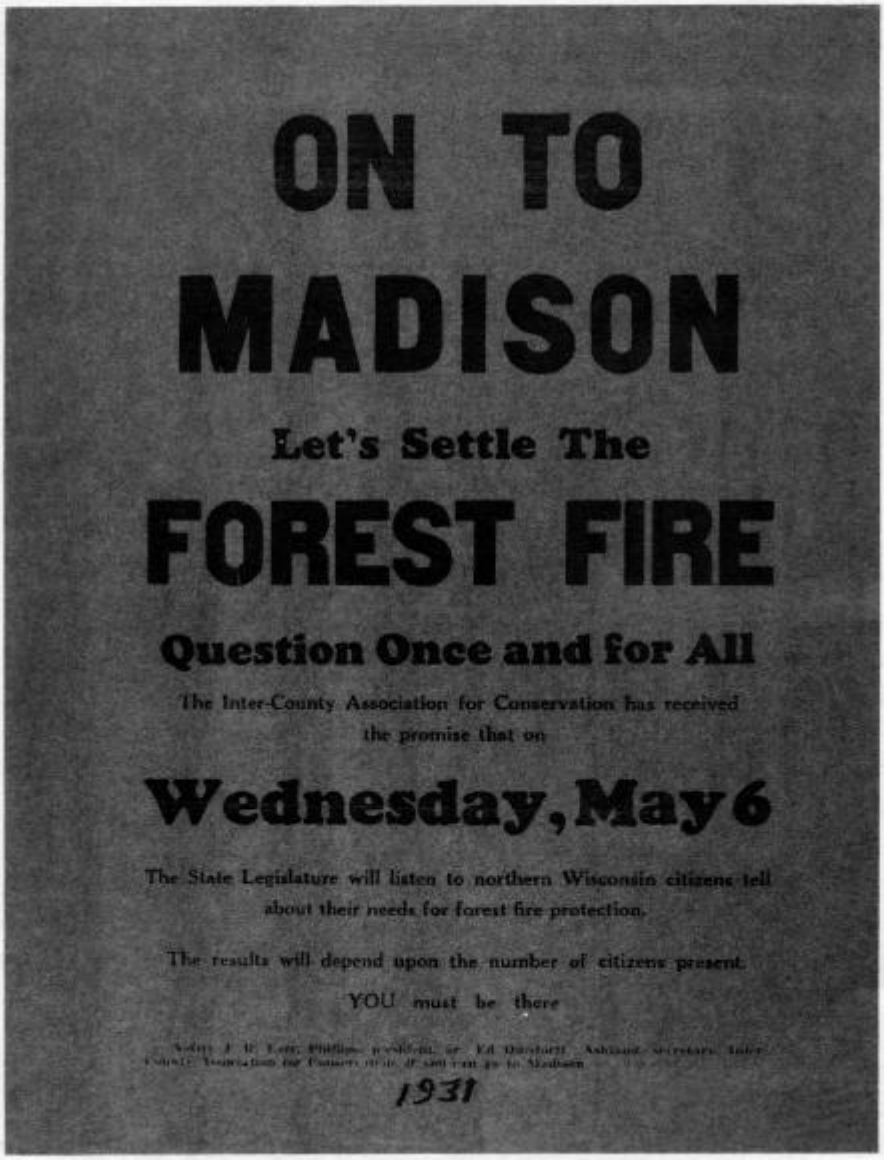
The following year (1921), the number of protection districts was established at six, covering some 7,200,000 acres in Ashland, Bayfield, Burnett, Douglas, Florence, Forest, Iron, Marinette, Price, Vilas and Washburn Counties. Lack of funds, however, limited the personnel to one ranger per district. If fire fighters were hired by a state ranger, the state was obligated to pay them.

In the spring of 1925, the large number of uncontrolled fires led the Governor to order out the National Guard. By the time it responded, however, the situation was completely out of hand. Fires burned until rain in the latter part of May extinguished them. The only action the rangers could take was to inspect some of the worst fires; with few

assistants, only hand tools, and no funds to hire fire fighters, they were ineffective. Once the fires were out of hand, there was no stopping them.

Finally, public interest was aroused. A new burning permit law was passed in 1925, requiring a written permit prior to setting a fire in a protection district when the ground was not snow-covered; this permit system made local people more fire-conscious. In October, each protection district held meetings at which the Governor spoke and the Conservation Commissioner outlined a plan for making protection efforts more effective. Briefly, the plan called for the Conservation Commission to finance the cost of fire detection, law enforcement, fire fighting equipment, and overhead expense. The towns would appoint special fire wardens to handle fire suppression under the direction of the district rangers, with the state to reimburse the towns for half of the expense.

While this plan now provided fixed responsibility and insured action on fires by the Conservation Commission, the state still lacked complete authority.



Fortunately, fires during the next few years were not severe and rapid progress was made in providing needed improvements and equipment and in strengthening the new district protection organizations. In 1926, protection was extended to Lincoln and Oneida Counties and in the following year, to Jackson and Monroe, thus bringing the total number of protection districts to 11, covering some 13½ million acres. By 1927, headquarters buildings and a truck with a power pump, water tank, hose, and hand tools had been provided for each protection district; 54 lookout towers had been erected and 400 miles of telephone lines were installed to provide direct contact within communities where commercial lines were not available. In the same year, provision was made by the Conservation Department (formerly the Commission) for the state to pay fire fighters directly and to bill the respective counties for half of the cost.

Temporary relief from severe forest fires ended in 1930 when 120,000 acres of marshland burned in a single fire. The resulting demand for more adequate protection led to the establishment of an Inter-County Association for Conservation; pressure from this Association resulted in the appearance of several hundred county representatives before the state legislature in 1931. Public support at this meeting for better fire protection led the legislature to appropriate $6,000,000 a year for forest fire control for the next biennium.

The same legislature, at a special session held in 1932, appropriated an additional $500,000 a year for forest protection facilities under the 1932 state work relief program. This appropriation financed the construction of 190 miles of telephone line, the establishment and improvement of 1,020 miles of road, the construction of 21 new lookout towers and the replacement or relocation of 20 old ones, the construction of 342 miles of firebreak, and the felling of snags and disposal of slash along 375 miles of highway.

At about the same time, two large tracts of property were transferred from state to federal auspices: responsibility for the protection of the Chequamegon and Nicolet National Forest purchase areas, totalling about two million acres, was assumed by the U. S. Forest Service, and responsibility for the Menominee Indian Reservation was assumed by the Office of Indian Affairs of the U. S. Department of Interior.

In 1932, the efficiency of protection efforts was greatly increased by the consolidation of the map-making facilities of the Conservation Department. Location difficulties were further solved by a primary triangulation of 110 lookout towers then in use in 1936 in order to determine their precise location in relation to the government land survey.

The Civilian Conservation Corps (CCC), which began in 1933, provided additional stimulation to fire protection efforts. Fourteen camps, each with approximately 200 young men were established within the state protection districts, and 24 similar camps were manned on the two national forests and several Indian reservations. For the first time, adequate fire suppression force was available and the completion of essential improvements was made possible. The Federal Emergency Conservation Works (ECW) and Works Progress Administration (WPA) programs also contributed materially.

In 1934, state forest protection headquarters was moved from Madison to Tomahawk. There, the preparation of standard base maps for all fire protection districts was completed. There also, the state was fortunate in securing the property of a former iron works, which not only provided office space, but shop and warehouse facilities as well. The latter was operated first as a center for equipment development, and since that time, has been outstanding in its contribution to fire control efforts.

In 1934, unauthorized travel on fire lanes was prohibited. A year later, ash trays were required in all cars and the throwing of burning tobacco or matches from automobiles was prohibited. The dangerously dry summers of 1935 and 1936 resulted in permits being required for camp fires, except at improved camp grounds, and smoking was restricted to automobiles and places of habitation.

In 1936, the large number of fires occuring outside of the protection districts led Governor Phillip LaFollette to ask the Conservation Department to assist town fire wardens in organizing local protection efforts. In response to this request, $1,000,000 was made available by the Department to finance an auxiliary fire fighting force, and a closed season was ordered on burning outside of the prevention districts. This led to the establishment of extensive protection districts and the assignment in 1937 of four rangers to work with town wardens in the organization of local fire protection.

Between 1930 and 1940, standard fire fighting equipment became more effective because of two innovations. In 1936, chartered airplanes were used for fire detection and for reconnaissance on on-going fires. Two years later, an airplane hanger, a landing field, and dock for seaplanes were constructed at Tomahawk. An airplane known as a Stinson "station wagon" was purchased in 1947 and proved to be of inestimable value during periods of acute fire hazard, both in evaluating the fire situation from the air and in directing the work of ground crews fighting large fires.

Further channels of communication were opened in 1931 with the introduction of radio. Unfortunately, permission to operate them was refused by the Federal Communications Commission (FCC) because the desired frequencies were not obtainable.

Early in 1938, however, the FCC was petitioned by several states for the allocation of both short-wave and ultra-high frequencies. Ten ultra-high frequency channels were allocated.

These ultra-high frequency sets were replaced with FM sets and stationary transmitters installed at each district headquarters. Some 150 mobile FM sets were used in official cars and trucks; 15 mobile radios in fire tractors; 42 sets in towers; and six in aircraft. New pieces of equipment were designed and constructed, including the double moldboard fireline plow with rolling coulter, the tilting platform trailer for transportation of plows and tractors, the heavy-duty centrifugal pumper-trailer, and a standard trailer hitch. Fire fighting equipment had come a long way from the days when backfiring was the only known method of preventing the spread of fires.

With the discontinuance of the Civilian Conservation Corps program and the start of World War II, manpower for fire control work became scarce. To alleviate this problem, a strong, reliable ranger force was employed and trained in fire suppression techniques. Emphasis was also placed on trained standby crews to fight fires, rather than on town fire wardens.

Under the reorganization of state agencies in July of 1968, the Conservation Department was incorporated into a new Department of Natural Resorces (DNR), which is responsible for the coordination of state fire control efforts.

Within the Department of Natural Resources, fire control was then placed under the jurisdiction of the Division of Forestry and Recreation. Within the Division, was the Bureau of Fire Control, which was responsible throughout the state for the organization and handling of forest fire control in the protection areas.

In 1975, the Bureau of Fire Control and Bureau of Forestry were combined into a single Bureau of Forestry. The two sections in the Bureau were the Forest Management

Section and the Fire Control Section. In 1982, the Bureau of Forestry was divided into three sections: Protection, Administrative and Management.

During the 1968 reorganization, six districts were created for all department functions, each with three areas, except the southeast district which has one. Each district is supervised by a District Director. Districts were able to make changes in the fire control organization and work assignments to fit each district's needs.

By 1970 many of the fire control tractors were approaching (some had passed) 30 years of age. The forests were growing to the point that larger tractors were needed to construct fire lines. The decision was made that a medium size crawler tractor would be the standard heavy unit for the Department. In 1975 a heavy unit replacement program was implemented.

In 1970-71, two Beaver Beachcraft airplanes were obtained from government surplus sources and were outfitted for water pickups and drops. The results of this experiment were disappointing and the program was abandoned in 1975. Wisconsin leads the nation in its adaptation of government surplus equipment to fire control needs.

In 1978, a program to improve radio communications between DNR and local fire departments was initiated. This was a 50/50 cost-sharing program to assist and encourage fire departments to occupy the channels dedicated to the emergency fire service by the Division of Emergency Government.

In 1964 a fire simulator developed by the U. S. Forest Service was purchased by the state and put in service at Tomahawk. It is still used on a regular basis for training new employees and project fire overhead teams. Other training techniques were developed. A six-week fire school was started at Tomahawk in 1970 for all new Forest Rangers. In 1981, a complete set of training standards was developed for all fire control positions. The Wisconsin fire control training program is recognized as one of the best state-sponsored training programs in the nation.

The phenomenal growth of structures in forested areas began to accelerate in 1965 and during the next 15 years developed into a complex forest fire problem. Fire losses in 1976-77 were the most severe since the mid-1930's, with 8,064 fires destroying 95,388 acres. In 1977 alone, 135 structures were destroyed. In 1980, 2,195 fires burned over 26,346 acres of forest land and destroyed 123 structures. Ironically, the greatest acceleration occured in the pine fuel types. The problem has increased from several aspects. The structures themselves present high values to be protected; they also cause an increase in number of people and use of forest areas, thereby increasing the risk of fires. This trend also coincided with the maturing of much of the pine timber that was planted or regenerated naturally from the forest fires of the late 1920's and 1930's. The larger trees, once ignited, present a much stronger fire phenomenon (crownfire) that moves faster and is harder to control.

The serious problems of the 1980 fire season, related to structural fires, drew great public concern from the citizens of the Northwest and West Central parts of the state. Governor Lee Dreyfus, responding to the public outcry for more information on fire protection and DNR protection practices and organization, named a study committee to make recommendations to him to address the comments received from the citizenry of the Northern and Central portions of Wisconsin. Many of the committee's recommendations have been adopted. As of this date, forest fires are still a threat to our forests. It is my opinion, that Wisconsin will not be adequately protected until our forests become an insurable risk.

WISCONSIN FORESTRY HALL OF FAME INDUCTION CEREMONY

The Wisconsin Forestry Hall of Fame, located in the College of Natural Resources Building at the University of Wisconsin-Stevens Point, is sponsored by the Wisconsin Society of American Foresters and includes representation from the following organizations: University of Wisconsin-Madison and University of Wisconsin-Stevens Point; Wisconsin Society of American Foresters; Forest History Association of Wisconsin; Wisconsin Woodland Owners Association; Wisconsin Department of Natural Resources, Bureau of Forestry; Wisconsin-Michigan Timber Producers Association; and the Chequamegon and Nicolet National Forests. Inductions are rotated annually among the organizations listed. It was the privilege of the Forest History Society of Wisconsin to host the 1985 induction ceremony.

WISCONSIN FORESTRY HALL OF FAME

1985 INDUCTION CEREMONY

Friday, September 27, 1985 - 3:00 p.m.

TREEHAVEN
Tomahawk, Wisconsin

Master of Ceremonies	John Vrablec, Chairperson Elect Wisconsin Society of American Foresters (SAF)	
Keynote Speaker	Ralph Swanson, Retired Manager Timberlands Consolidated Papers, Inc.	
Acknowledgements	Dick Schneider, Chairperson Forestry Hall of Fame Committee	
Induction Ceremony:	**Recipients:**	Fred B. Trenk Melvin N. "Mully" Taylor C. B. Stott
	Presenters:	Ted Peterson Henry Haskell Dick Smith
Reception	Forest History Association of Wisconsin Hosting	

1985 WISCONSIN FORESTRY HALL OF FAME CITATIONS



Fred B. Trenk

1900 - 1969

In recognition of 30 years (1931-1961) of dedicated service to the state and region as University of Wisconsin Extension Forester. A crusading educator and practitioner, his vision and work helped enrich impoverished forest acres and human lives. He pioneered in implementing the first rural and forest county zoning ordinances, designing the mechanical tree planting machine, promoting the establishment of school and community forests and in establishing a statewide network of demonstration forests. Through his effective educational programs he inspired people to manage and wisely use forest resources.



M. N. "Mully" Taylor

1903 - 1984

In recognition of his founding TREES FOR TOMORROW — The Nation's first public Conservation Education Center. During his 31 year tenure as Executive Director, Taylor developed the "on site" natural resources workshop system for teaching people wise management and use of our natural resources which is now the model for contemporary environmental education programs.

With the support of the paper and power industries, Taylor distributed 23 million tree seedlings to owners of small, private woodlands. This program established that large scale planting of tree seedlings on private land was practical in maintaining the productivity of such lands.



Calvin B. Stott

1901 -

In recognition of a lifetime of pioneering service to Wisconsin forests through his system of Continuous Forest Inventory — CFI. As a Federal forester working cooperatively with the State Forester and numerous major Wisconsin forestland owners, Cal emphasized wise management and sound silviculture controlled by CFI. His vision, understanding, technical competence and dedication helped managers utilize CFI as a tool to control the forest for its full potential of current and future benefits.

CITATION
for
DISTINGUISHED SERVICE AWARD
to
GORDON SORENSON

Our 1985 individual awardee for distinguished service in the preservation of Wisconsin's forest heritage is Gordon Sorenson of Drummond, WI.

Gordon has been a dedicated historian for many of his 78 years, having been a co-founder and past president of the Drummond Historical Society and a director and officer of the Bayfield County Historical Society. The Drummond Historical Museum, which was dedicated in 1976, and which many of our Association members toured as part of our 1984 annual meeting, was a "labor of love" for Gordon; it still is — he is currently its curator.

With his background of employment in the Rust-Owen Lumber Company's sawmill, in C.C.C. camps and with the U. S. Forest Service, it was inevitable that Gordon came to spend two years compiling the 442-page "History of Drummond", in preparation for the 1982 celebration of Drummond's centennial. This epic work includes the most detailed account in existence of the Rust-Owen Lumber Company and its operations.

For his devoted and untiring efforts to preserve the history of Bayfield County in general, and the forest history of the Drummond area in particular, we are most happy to present this plaque to Gordon Sorenson.



President Tom Albrecht presenting Distinguished Service Award to Gordon Sorenson (right).

CITATION
for
DISTINGUISHED SERVICE AWARD
to
WISCONSIN NEWSPAPER ASSOCIATION

Our 1985 organizational award for distinguished service to the preservation of Wisconsin's forest heritage goes to a group that had its first outing at the Trees-for-Tomorrow Center back in 1947. So impressed were the members of the Wisconsin Newspaper Association with that program of conservation education that they decided to sponsor an outdoor laboratory which would serve as a demonstration of practical forest management in harmony with other forest benefits. That laboratory took the form of a 78-acre tract of old field and cutover land, purchased in 1958, and located near Eagle River, Wisconsin.

Tree-planting became an annual affair for the editors and publishers who comprised the membership of the Wisconsin Newspaper Association. In due course, Christmas trees were harvested and sold to help pay the mortgage on the property and to provide scholarships for journalism students.

The "Press Forest", as it became known, is unique in two respects: it is the only forest in the nation that is owned and operated by newspapermen, and it is an outstanding example of multiple use management on a relatively small area. Not only does it serve as an outdoor classroom for students and teachers who study at Trees-for-Tomorrow, but it also provides hiking and ski trails and a picnic area for the recreation seekers. Additionally, the Press Forest offers ample opportunity for the study of wildlife management, forest ecology and environmental protection. Being practical men, these newspapermen are also managing their forest for income; in 1974 the tract was certified as part of the American Tree Farm System.

For its historic and unique contribution to the field of natural resource education, we are pleased to present this plaque to the Wisconsin Newspaper Association, represented here by its president, Robert H. Wills.



Robert H. Wills (left) receiving Distinguished Service Award for Wisconsin Newspaper Association from President Tom Albrecht.

