



HURON NATIONAL FOREST
1909 — 2009
100 YEARS OF GROWTH

Earliest Settlers

As is the case with all the National Forests, the original inhabitants of the Huron Forest and vicinity were Indians. The Chippewa tribe seems to have been most numerous. Their name is preserved in Chippewa County in which the Marquette Division of the Forest was situated, and a settlement of Chippewa Indians was located not far from Oscoda. Iosco County was originally part of Kanotin County, the latter being the name of a Chippewa Chief. The name Tawas is derived from another chief, O-Ta-Was, with whom some of the early fur traders bartered furs.

Although inhabited by the Chippewa, the forest was named for the Huron Tribe of Indians. The word “Huron” comes from a French word for the Wyandot tribe of Canada. It means “wild boar” in French. The French thought that the Mohawk-style haircuts of the Huron warriors looked like the bristles on a wild boar's neck. The Wyandot were closely allied with the French since 1609, trading beaver pelts for European goods and later acting as traders with western Indian nations on behalf of the French.

The Huron frequently fought against the Iroquois throughout the 17th Century and were eventually forced into the Great Lakes region. During the French and Indian Wars, the Wyandot sided with the French; however, during the American Revolution, they allied with the British against the Americans. During the War of 1812, the Hurons joined the confederacy under the Shawnee chief Tecumseh, which ended with his death at the Battle of the Thames in Ontario in 1813.

An Indian camp must at some time have been located on the site of the Beal Nursery, since numerous arrow heads were found; also on an area on the south side of Tawas Lake. A path from East Tawas up toward the Huron shore is still known as the “Indian Trail.”

Early European Settlement

Although French explorers and missionaries traveled throughout the Great Lakes during the 17th and 18th centuries, there is little historical evidence that they spent much time in the interior of Michigan's lower



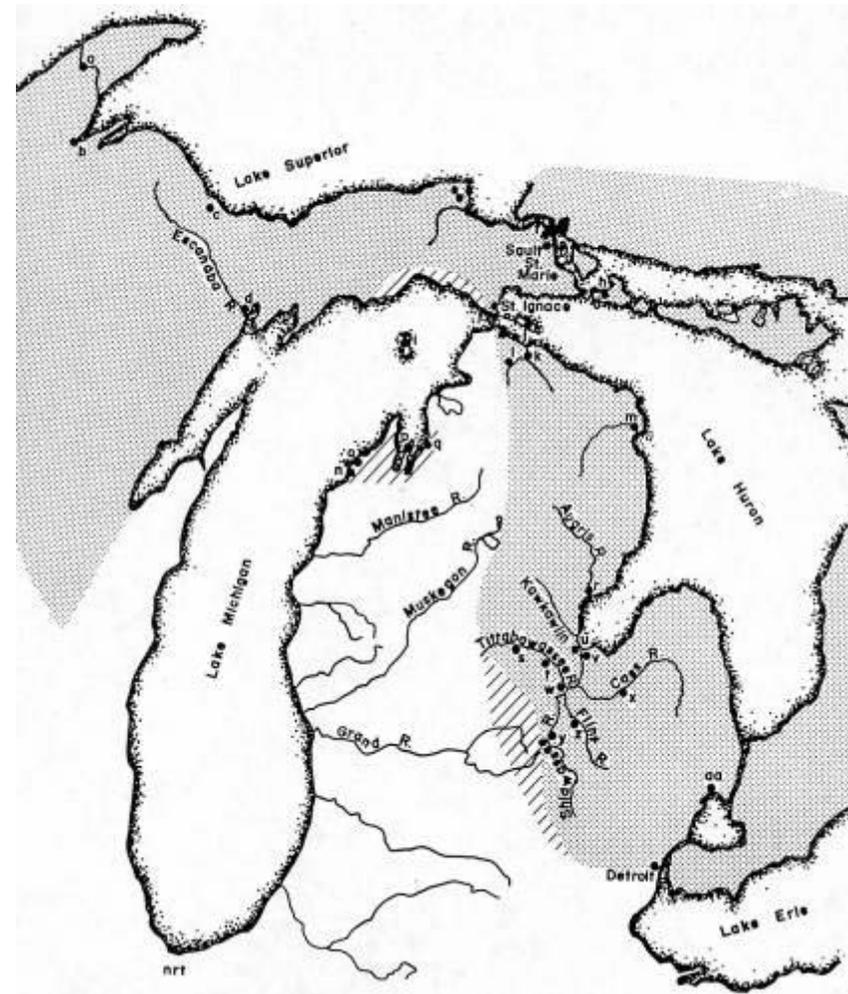
The Au Sable River.

peninsula. The French outposts at Detroit and Michilimackinac marked the limits of western European expansion until after the end of the French and Indian Wars. After the fall of Montreal signaled the French defeat, Major Robert Rogers, head of the famous Rogers' Rangers, was sent west to accept the surrenders of Detroit and Michilimackinac in 1760. The arrival of winter prevented Rogers from reaching Michilimackinac in November 1760.

With the arrival of English troops at these outposts, English traders arrived to exploit the fur trade with western Indians, which had previously been the sole domain of the French. The British briefly lost possession of Michilimackinac during Pontiac's Rebellion in 1763, when a band of Indians seized the garrison from the British troops stationed there. The attack was one of several in a series carefully orchestrated by Pontiac as a result of the British mistreatment of Indians in the wake of the French departure.

Michigan remained largely Indian country until after the War of 1812, when American settlers began to demand new lands and the federal government began to acquire new lands in what are now Indiana, Michigan and Wisconsin. A secondary goal to the land acquisition was to remove the Indian tribes that had allied themselves under the leadership of the Shawnee chief Tecumseh to the British Army in Canada during the War of 1812. The American policy is explained in this excerpt from the website of the Clark Historical Library at Central Michigan University:

“Although politicians in Washington generally thought of removal in terms of relocating Indian tribes to the vast expanses of land west of the Mississippi River where whites had not settled, parts of the Old Northwest Territory were also seen as potential Indian territories. As late as 1825 the Secretary of War suggested removing tribes in Ohio, New York, Indiana, and southern Michigan to land west of Lake Michigan and north of Illinois; today's Wisconsin and Michigan's upper peninsula. Because the Chippewa and Odawa lands were initially of little interest to white settlers, the government did



Known Indian villages in 1820 are represented by black dots.

not waste energy seeking to relocate these two tribes. Rather, government relocation efforts focused on Michigan's Potawatomi. The Potawatomi occupied fertile agricultural land in southwestern Michigan that in the 1820s and 1830s had become sought after by whites for farms.

“Efforts to remove the Potawatomi and other Great Lakes tribes were complicated. In particular the Great Lakes region posed difficult military problems because of the possibility that the Indians might ally themselves with a hostile European power. In the South there was no potential European ally to whom Indians could turn when the federal army ruthlessly assembled and removed them. In contrast, the Great Lakes tribes had easy access to British Canada. The Indians of the region had largely sided with the British both during the Revolutionary War and the War of 1812. The British remembered and continued to cultivate this support. Well into the 1830s the British military annually presented "gifts" to their former Indian allies, both those living in Canada and those who lived in the United States. In the Great Lakes region, the American government had to consider the unsettling possibility that should an Indian war occur His Majesty's army might directly or indirectly support the Indians.” *

The area that later became the Huron National Forest was purchased from the Chippewa Indians by the United States government in 1819 Treaty of Saginaw. The following is the text of that treaty document:

In the Saginaw River Valley
Treaty with the Chippewas

Articles of a treaty made and concluded at Saginaw, in the Territory of Michigan, between the United States of America, by their commissioner, Lewis Cass, and the Chippewa Nation of Indians.

* Information regarding federal removal policy in the 1820's and 1830's and its application to the Potawatomi was found in Francis Paul Prucha, *The Great Father: The United States Government and the American Indians* (Lincoln: University of Nebraska Press, 1984) and James A. Clifton, et. al., *People of the Three Fires: The Ottawa, Potawatomi and Ojibway of Michigan* (Grand Rapids, MI: Grand Rapids Inter-Tribal Council, 1986).



Map by the Bureau of American Ethnology showing treaty boundaries within Michigan.

ARTICLE 1. The Chippewa Nation of Indians, in consideration of the stipulations herein made on the part of the United States, do hereby, forever, cede to the United States the land comprehended within the following lines and boundaries: Beginning at a point in the present Indian boundary-line, which runs due north from the mouth of the Great Auglaize River, six miles south of the base line, so called, intersects the same; thence west sixty miles; thence in a direct line to the head of the Thunder Bay River; thence down the same, following the courses thereof, to the mouth; thence northeast to the boundary-line between the United States and the British Province of Upper Canada; thence with the same to the line established by the Treaty of Detroit, in the year one thousand eight hundred and seven; thence with the said line to the place of beginning.

ARTICLE 2. From the cession aforesaid the following tracts of land shall be reserved for the use of the Chippewa Nation of Indians:

One tract, of eight thousand acres, on the east side of the river Au Sable, near where the Indians now live.

One tract, of two thousand acres, on the river Mesagwisk.

One tract, of six thousand acres, on the north side of the river Kawkawling, at the Indian village.

One tract, of five thousand seven hundred and sixty acres, upon the Flint River, to include Reaum's village and a place called Kishkawawee.

One tract, of eight thousand acres, on the head of the river Huron, which empties into the Saginaw River at the village of Otusson.

One island in the Saginaw Bay.

One tract, of two thousand acres, where Nabobask formerly lived.

One tract, of one thousand acres, near the island in the Saginaw River.

One tract, of six hundred and forty acres, at the bend of the river Huron, which empties into the Saginaw River.

One tract, of two thousand acres, at the mouth of Point Augrais River.

One tract, of one thousand acres, on the river Huron, at Menoquet's village.

One tract, of ten thousand acres, on the Shawassee River, at a place called the Big Rock.

One tract, of three thousand acres, on the Shawassee River, at Ketchewaundaugenink.

One tract, of six thousand acres, at the Little Forks on the Teta-bawasink River.

One tract, of six thousand acres, at the Black Bird's town, on the Teta-bawasink River.

One tract of forty thousand acres, on west side of the Saginaw River, to be hereafter located.

ARTICLE 3. There shall be reserved, for the use of each of the persons hereinafter mentioned and their heirs, which persons are all Indians by descent, the following tracts of land:

For the use of John Riley, the son of Menawcumegoqua, a Chippewa woman, six hundred and forty acres of land, beginning at the head of the first marsh above the mouth of the Saginaw River, on the east side thereof.

For the use of Peter Riley, the son of Menawcumegoqua, a Chippewa woman, six hundred and forty acres of land, beginning above and adjoining the apple-trees on the west side of the Saginaw River, and running up the same for quantity.

For the use of James Riley, the son of Menawcumegoqua, a Chippewa woman, six hundred and forty acres, beginning on the east side of the Saginaw River, nearly opposite to Campeau's trading-house, and running up the river for quantity.

For the use of Kawkawiskou, or the Crow, a Chippewa chief, six hundred and forty acres of land, on the east side of the Saginaw River, at a place called Menitego, and to include, in the said six hundred and forty acres, the island opposite to the said place.

For the use of Nowokeshik, Metawaunene, Mokitchenoqua, Nondashemau, Petabonaqua, Messawwakut, Checwalk, Kitchegeequa, Sagosequa, Annoketoqua, and Tawcumegoqua, each, six hundred and forty acres of land, to be located at and near the grand traverse of the Flint River, in such manner as the President of the United States may direct.

A small area of the future Huron National Forest to the west of Luzerne was ceded to the federal government by the 1836 Treaty of Washington.

The first Americans to explore the new Michigan territory were surveyors under contract with the United States surveyor general. Prior to 1835, most of the federal funds for land surveying went to Ohio and Indiana, which were experiencing significantly more settlement than Michigan; however, the lands that became the Huron National Forest were surveyed between 1835 and 1844.

The descriptions that the surveyors provided of lands in northern Michigan quickly inspired many people who saw the value of the available timber there. At about this same time, western American expansion was reaching toward the Western Plains, where few trees were available for construction. In the mid 19th hundred, timber was a vital component in America's growth, from railroad ties and telegraph poles to fuel for iron and steel furnaces.

Early Logging

All activities revolved around the lumber industries from the time the area was settled until the timber was gone around 1890. In 1870, the following mills in Tawas City and East Tawas were operating. The figures given (board feet) represent the lumber sawed that year:

S. & C. D. Hale	8,500,000
C. H. Whittemore	2,200,000
E. & J. Laidlaw	500,000
Alabaster Plaster Co.	200,000
East Tawas Mill Co.	7,000,000
Iosco Mills	7,000,000
Adems Swanery Co.	3,500,000
Orlando Newman	1,000,000
Total	29,900,000

Aside from supplying local mills, long timbers were cut and floated down the Au Sable River to Oscoda where they were made into rafts and floated to mills at Tonawanda and Buffalo, New York. It has been



Early loggers in Northern Michigan.

claimed that half the houses in Buffalo in the 1880s were made of lumber from the vicinity of the Huron National Forest.

Following were some of the early lumbermen who logged off what is now the Huron National Forest between 1871 and 1890:

S. & C. D. Hale cut out the Hale Creek country.

T. F. Thompson, after whom the Thompson Farm is called, logged the country at the mouth of the South Branch.

Hitchcock and Gardner and Sibley and Bearinger, who cut out the country around Hale Lake were Bay City and Saginaw firms and had mills at these places.

Farther up, in what is now the Mio District, the earliest outfits to operate south of the Au Sable were the Jerolman Lumber Company, Moull, Sage, and Pack and Wood. They engaged in cutting Norway pine of which there was a great abundance in what is now the Mio District.

Moore and Alger, and Potts, Loud, Schramm and Andrew did most of their cutting north of the Au Sable.

Emery & Jones, and Eugene Smith, operating along South Branch in 1884 decked their logs at the High Rollaways and drove their logs to Oscoda, while McCullom cut the timber at the head of Vaughan Creek, decking his logs at McCullom Banks.

The logs which were driven down the Au Sable were cut at Loud's mill at Oscoda and Schramm's mill at Au Sable. These mills cut 250,000 feet per day.

In order that a continuous supply of logs could be available at the mills in the town of Au Sable, the Potts Lumber Company built a narrow gauge railroad from McKinley to Au Sable in 1874. The first logging engine was shipped to Grayling in pieces and there loaded in scows and floated down the river to McKinley where it was assembled. It is thus interesting to note that the railroad was built from McKinley to Au Sable instead of the other way around as would at this time seem to have been the logical proceeding. Twenty-one locomotives, mainly of the rod type, were used and, during the high tide of lumbering, a train load of logs went to Au Sable every hour.



Loggers cut Michigan's white pine.

In 1889, the Potts Company failed and was bought by the Loud Lumber Company in 1890, which continued in business until wiped out by the big fire in 1911 which burned Au Sable and most of Oscoda, together with the Loud's mills. However, by 1890, most of the larger timber had been cut, and only the smaller outfits remained to cut out the scattered patches remaining. This timber was mostly cut up in small mills and sent to market on the railroad.

Robinson's sawmill started up in 1908 in the town of Goodar in Section 3, T24N, R4E, started from this. This camp was started to log off the white pine near there and a stand of hardwoods in Sections 23 and 34, T26N; E2E. A railroad was built from Goodar to the hardwood camp. It ran through the county about two miles south of the Mack Lake Ranger Station. This project was abandoned around 1916.

A comparatively small amount of timber, mainly for fuel, was sold from the forest from the beginning until about 1927. In that year, the cutting of jack pine for paper pulp was begun. U. M. Guilford, James Monaghan and Robert McLellan were the operators, the pulp going to mills of the Central Paper Company of Muskegon, and being manufactured into coarse wrapping paper. From 1927 to 1929 inclusive, 9,219 cords of wood were sold, mostly jack pine pulp, the price being from 50 cents to \$1.50 per cord. In 1938, 3,606 cords of pulpwood were sold, while during 1944, the Huron Forest sold a volume of 21,000 cords of Jack pine.

Industry – Salt Wells

In the 1870s, salt began to be manufactured in East Tawas and Tawas City as a side line to lumbering. The brine was obtained from wells and evaporated with steam generated with sawmill waste. A pipeline to Oscoda also carried the brine to the mills there for this purpose. In 1879, 300,000 barrels of salt were made in Tawas City and East Tawas. In 1930, only one of the wells remained in operation, owned by the D & M Railroad which used the brine to sprinkle the right-of-way to kill weeds. This industry phased out when the sawmills, did as it required the cheap slabwood fuel to maintain the salt brine evaporation process.



Logs loaded on a sled for transportation to the mills. Sometimes roads were intentionally covered with water to create iceroads for easier winter transportation.



Early lumber mill in the Oscoda area.

Early Settlement – Towns

Tawas City

The region of which the Huron National Forest was first settled in 1854 at Tawas City by H. G. Whittemore, with the primary object of the settlement being to make lumber from the extensive forest of white pine. This demand for building material was in turn largely created by the new settlement of the treeless west which was then getting well under way. The early settlers arrived at Tawas City by steamer.

East Tawas, Oscoda and Au Sable

East Tawas, Oscoda and Au Sable were settled later, although a fur-trading post was located at the latter place at a much earlier date. All towns originated as lumber camps and sawmill sites until in the late seventies when a few towns on or near what is now the Mio District of the Forest were started as farming community centers.

Union Corners, Damon, Mack City and Luzerne

Union Corners was situated in the southwest corner of Section 22, Michigan Meridian. Mack City was on the north side of Long Lake near the present Long Lake Ranger Station in the northeast part of Section 10, T25W, R33. At its maximum size, it contained one store, a blacksmith shop, post office, one church and several houses. It was named after a Mr. Harrison Mack who owned the store. In 1923, the name of Long Lake was changed to Mack Lake. Mack City was the halfway point between Damon and McKinley. Union Corners was the county seat for two years, which was moved to Mio. Damon was located two miles south of Union Corners. It originated as the homestead of Mr. Damon who started a store there.

Mio

It is interesting to note that Mio was named after the deceased wife of one of the earliest settlers, Henry Deyarmonda. She was called Mioe by her nephews, and over time, the “e” was dropped. Mack City and Union Corners have completely disappeared, together with the farming com-



Logs stacked at edge of clear-cut, showing forest in background.



Oxen were used to haul timber to rollways and railroad loading sites on sleds and specially designed carts called “big wheels.”

munity which supported them. After two or three crops had been raised, the fertility of the soil was exhausted and would no longer support a profitable crop. Among the early settlers in this vicinity were William Stark, Messrs. Summers and Bing, Orin Van Tyne, R. H. Fosdick, Morris Byrd, Phil Homer, Wm. Howe and John Ino. Luzerne is still on the map as a summer resort.

McKinley

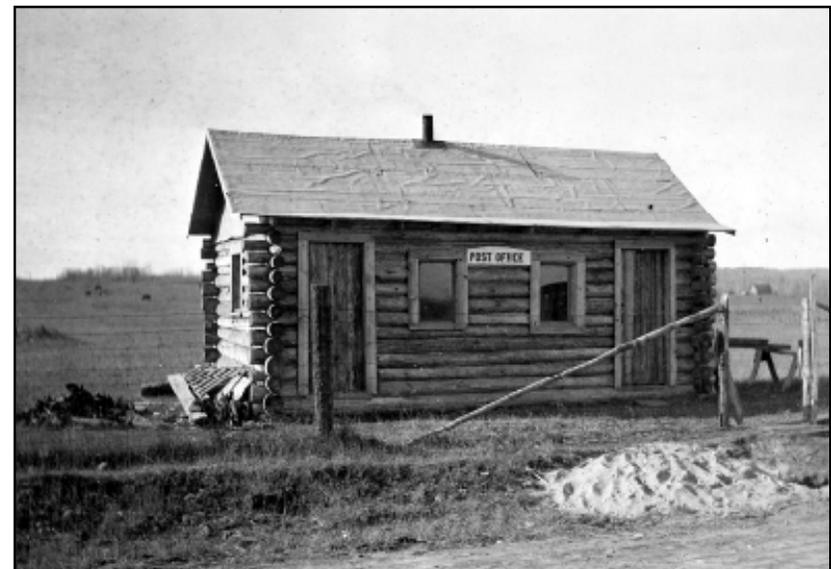
The town of McKinley, north of Mio on the Au Sable River, the headquarters of the Potts Lumbar Company, was a flourishing town during the eighties and earlier. It was located in the NW1/2 of Section 15, T26N, R4B. It contained a permanent population of 800 people in addition to the men working in the woods, sometimes to the number of 2,000. It contained nine saloons, a large company store and several minor stores, a church and a fine school. The town lock-up was made of 2x4s laid one on top of the other and spiked together. The law was represented by a marshal who was hired by saloon and storekeepers, and his term as marshal lasted until a better fighter came along. During Potts' ownership, the town was wide open, but when taken over by the Louds, better order was maintained. They established a reading room for the men. At this time, also, the town boasted of a women's club. In 1928 and for several years previous, the town has been inhabited by one man, George Russell, who was a resident during the boom times outlined above. Nearly all other evidence of human habitation had disappeared by that date.

Settlement – Rural Homesteads

During the late sixties, another unsuccessful agricultural settlement of plains land was begun in Iosco County, Wilbur and Plainfield Townships. Among these settlers were Eli and S.W. Chilson, James Blust, Ansar and Eben F. Abbott, B. W. and Franklyn Earls Henry Odell, Nelson Stevens and Enos Gray, after whom Gray Creek on the Tawas District of the Forest was named. These settlers built a post-frame schoolhouse on the northeast corner of Section 8, T23N, R72. Miss Jane Vorce was the first teacher. "Elder" Cornell, one of the early preachers of the region, planned to build a sawmill near the forks of Gordon and



Village of McKinley in September 1922.



Post office at Curtisville, November 1935.

Silver Creeks, but got no further with the project than to put up the frame of the mill. Very little evidence of these settlements is now left; occasionally a depression in the ground where a well or cellar was dug, and a few stunted apple trees are discovered. A large part of the abandoned land in Wilbur and Plainfield Townships just referred to which lies within the Forest boundary has been planted to Norway pine by the Forest Service. A reminder of the unsuccessful attempts at crop growing is contained in the local name, current up to 1930 at least, for a species of laurel that grows thickly in the more moist situations on the plains. It was called "Schad Clover" from a man named Schad who tried farming on the plains and this laurel was about the only crop he was able to produce.

On the Mio District, an abandoned cemetery is located in Section 22, T25N, R1E, also in the extreme southwest corner of Section 10, T25N, R3E and a third, known as the Union Corners; cemetery in Section 21, T25N, R2E where about fifteen people were buried. The second mentioned cemetery is on the south side of Mack Lake, and was known as the Long Lake Cemetery. In 1929, only one of the headstone inscriptions here was legible. It read, "Calvin B. White, Died 1880, age 85." Another cemetery was located near the SW1/4 NW1/4 of Section 11, T25N, R1W. This contained about two acres, and in 1930, was enclosed by a fairly good woven wire fence and iron gates. Several graves were located there, those with markers being as follows:

Joseph Hartman	Aug. 14, 1876 - Jan, 22, 1886
Martin A. Hartman	May 10, 1879 - Jan, 27, 1886
Children of J.H & M. Hartman	
Smith, J. O.	Sept. 17, 1887 - June 22, 1888
Wehnes, John J.	Oct. 10, 1836 - Feb. 7, 1886

A cemetery was located in the NE NW of Section 22, T25N, R1W, containing about one acre, enclosed with wire fence and iron gate.

Near the quarter corner of Section 22 - 27 of the above town at the north side of an old east and west road was located the ruins of an old school house. The two previously mentioned cemeteries and schoolhouse were noted by Planting Assistant Johnson in February 1930.



Village of Goodar, September 1935.

Early African-American settlement

The lumber boom and concerted (though not always truthful) efforts of local boosters brought many hope-filled people to Northern Lower Michigan during the last quarter of the 19th century. Among those looking for employment and land to homestead was a black family, Mr. George M. Davis, his wife Isabella, their son, Jimmy and three daughters, Cora, Emma and Jenny. Mr. Davis worked as a cook in the lumber camps and followed the spring log drives in a floating kitchen called a wanigan.

Land ownership records indicate that Mr. Davis received the patent for his 160 acre homestead in June 1885. According to the Homestead Act of 1862, any male or female who was a citizen of the United States or who had filed a declaration of intent to become a citizen, could enter up to 160 acres of public land for a homestead. Title to the land was gained when the homesteader had lived, farmed and improved the land for five continuous years. Up to seven years of occupancy was allowed before filing for the patent, and eight years was allowed in the event of hardships such as grasshopper plagues, drought or illness. Based on this information, the Davis family could have started living on their land sometime between 1873 and 1880.

The homestead, as was the case for many homesteads in the county, was located on Grayling sand. One of the poorest soils on the planet, Grayling sand is an acidic, porous, sandy soil that lacks organic matter, phosphoric acid and potash and has, when present, a layer of humus that is only one-half to one inch thick. It is rare to obtain more than one crop on this dry and infertile sand without heavy additions of manure, lime and other fertilizers. A few depressions and a raised mound, evidence of a house, barn and a spring house, are all that remains of the years of hard work and effort that the Davis family put into improving their homestead.

In 1893 Mr. and Mrs. Davis sold their homestead to Egbert E. Bird, a nearby homesteader and postmaster of old Odessa, for \$60. Tax records for 1890 and 1891 for the homestead show Davis's address in



Remains of Damon in 1936, that became a ghost town after the timber industry went bust.

McKinley which would indicate the family had moved from the homestead before selling it.

A homestead could not be taxed until the patent had been granted, which would mean that the Davis's had not only been able to prove up a homestead on poor, infertile land, but had paid taxes on that land for five years. This was quite an accomplishment in an area where the homesteaders often sold their land as soon as they had received the patent and many others simply "walked away" from their hard-luck homesteads.

In June 1889, George Davis made a contract to purchase land located just up-river from McKinley, where Davis Landing is now located. In the same year Mr. and Mrs. Davis arranged a mortgage on this land for \$273, agreeing to pay all the taxes on the land and to have the property insured.

In 1900 a tragedy struck the family that has lived on in the memory of Oscoda County. According to an account by Bill Foley, Jr. of Mio, the Davis's son, Jimmy, was working as a cook's assistant on the wanigan during a log drive on the Au Sable when some drunken lumber jacks hauled him out and made him dance for them on the back deck. Jimmy fell into the turbulent, log-filled river and disappeared. Witnesses on the river bank looked for him but without success. Some accounts state that his body was found near Lumberman's Monument and was buried there. Others claim that Jimmy was never found and that George Davis built a home near the river bank in hope of someday finding his son.

The farmstead near the land, as with the homestead, has only scant evidence of a house, barn and other buildings. Hop vines, grown by many homesteaders for their colorful yellow flowers, and an apple tree mark the location of the long abandoned garden.

Local accounts describe George Davis as a strong man with deep religious convictions. Apparently, Mr. Davis was also fairly well educated for he was treasurer of Mentor Township for several years.



Wanigans served as floating camps on the rivers, with kitchens and mess halls for the lumbermen and rivermen.



Au Sable River filled with logs floating down to the mills in Oscoda and Au Sable.

Between 1903 and 1909 Mr. Davis purchased additional land near McKinley which was nearly deserted by this time. According to information on these deeds, sometime between 1904 and 1909, the Davises moved to Mio. In 1910 George Davis sold his lands to the Eastern Michigan Power Company for a nice profit. Unfortunately he did not have time to enjoy it, for he died a few months later, at the age of 67. Isabella died three years later at the age of 63. Both are buried in the old Comins Cemetery near Comins Flats. Of the remaining children, Cora and Emma both married and moved to Bay City, Michigan. Jenny, who as born with a birth defect, died when she was 14 or 15 years old and is buried next to her parents.

Transportation – Roads

In the early days, the mail was carried by Indians from Saginaw to Mackinaw. In the winter, they carried it on sleds drawn by dogs, and, in the summer, in fishing boats. This was replaced by the stage line established between Standish and Alpena by Mr. J. F. Willey in 1871.

Two main roads, Thompson and Plank Roads, led from Tawas northwest toward the logging camps. The Plank Road was built in 1865 and was called at that time, the Iosco and Ogemaw State Road. The crew who built it was paid in land by the federal government. They usually selected the land wherever they wished, and of course, they selected the land containing the best timber. The old toll gate was on the Joseph Watts farm in 1925. The toll on the Plank Road was three cents per mile.

Transportation – Railroads

As already indicated, logging roads were the first railroads. The Potts Road down the Au Sable, built in 1874, has already been mentioned. This road was later known as the Au Sable and Northwestern, and was extended considerably farther northwest beyond McKinley. About 1875, on account of a mild winter that prevented getting logs out of the woods, the Hale County and Whitney Brothers built the first logging road from the mouth of the Tawas River to Whittemore or vicinity. This was a narrow gauge railroad; the rails were 2 x 4s shod with a strip of



Headstone of George M. Davis, in Mentor Township, Oscoda County.

steel. This was later laid with steel, and eventually extended to Alger on the Michigan Central, and to Alpena in the other direction, at which time it was called the Detroit, Bay City and Alpena Railroad. It was made standard in 1886 and in 1890 built into Bay City from Emery Junction, and was then given its present name, Detroit and Mackinac. This railroad later acquired the Au Sable and Northwestern and made it standard gauge in 1912. It was operated until 1927, when it was abandoned. On account of the limited amount of timber and agricultural products to be hauled, the company maintained that they were losing money by its operation. In 1930, the branch from Emery Junction to Rose City was abandoned for the same reason as in the previous case. A large amount of jack pine pulpwood cut on the Mio District had been shipped from South Branch, and the abandonment of the road interrupted operations in this area.

Initial Consideration of a Forest Area

By the late 1800s, most of the federal lands had been sold. However, in the 1890s, a new concept of federal land ownership for the purpose of conservation developed, and forest reserves, later to be called National Forests, were created. The creation, purpose, and designation of National Forests are contained in the following Acts:

Creation by Executive Action. Act of March 5, 1891

That the President of the United States may, from time to time, set apart and reserve, in any State or Territory having public land bearing forests, in any part of the public lands wholly or in part covered with timber or undergrowth, whether of commercial value or not, as public reservations, and the President shall, by public proclamation, declare the establishment of such reservations and the limits thereof.

Purpose of National Forests. Act of June 4, 1897

No public forest reservation shall be established, except to improve and protect the forest within the reservation, or for the purpose of securing favorable conditions of waterflows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States. Some of the lands that later became the Huron National Forest had not



Logs waiting to be hauled to the mill.

been sold and remained in federal ownership. These lands are called “public domain.” Beginning in 1902, the federal government withdrew these public lands from public sale. The first withdrawal was dated April 5, 1902, and directed the Register and Receiver at Marquette, Michigan, to temporarily withdraw from settlement, entry, and sale, all public lands in Crawford and Roscommon Counties in Townships 21 to 28 inclusive, North, Ranges 1 to 4 inclusive, West. The letter is quoted below:

DEPARTMENT OF THE INTERIOR
General Land Office
April 5, 1902.

Proposed Michigan (forest reservation and state park)
Temporary withdrawal of public lands

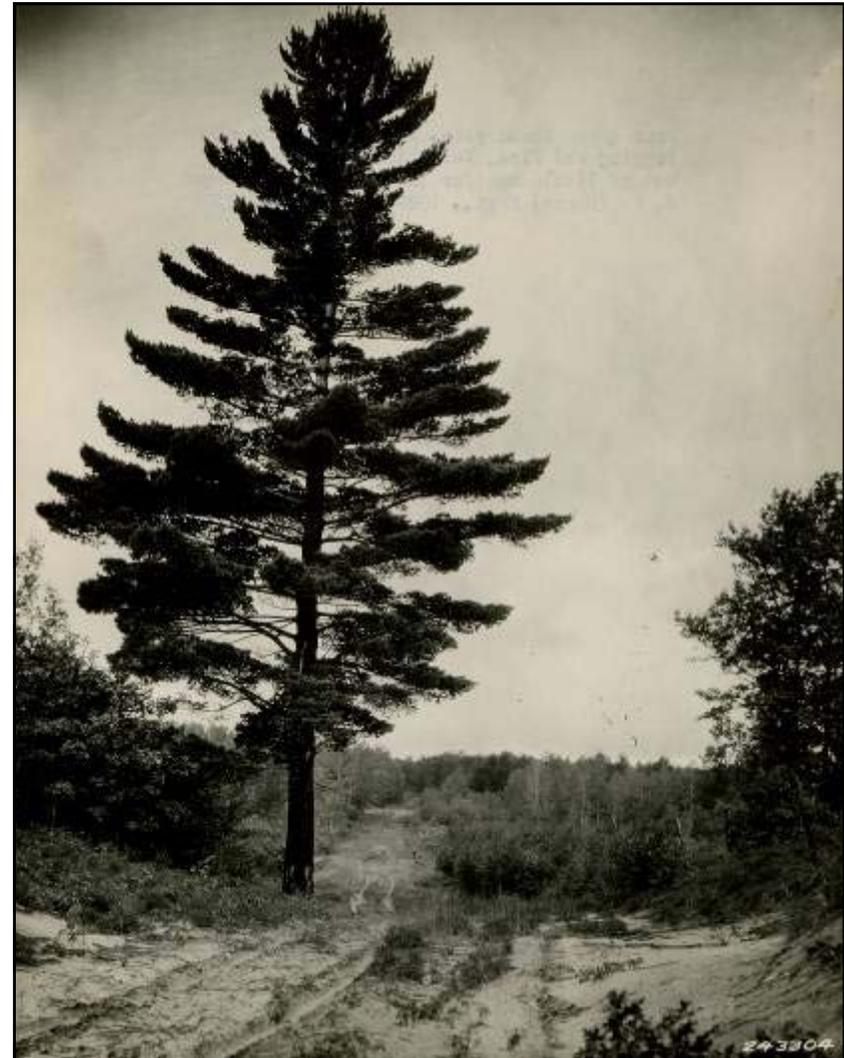
Register and Receiver,
U. S. Land Office,
Marquette, Michigan.

Gentlemen:

You are directed, by authority of the Secretary of the Interior, to temporarily withdraw from settlement, entry, sale or other disposal, all of the vacant, unappropriated public lands in the counties of Crawford and Roscommon, State of Michigan, pending action by Congress authorizing their segregation for the purposes of a forest reservation. Said lands are in Townships 21 to 28 inclusive, North, Ranges 1 to 4, inclusive, West, Michigan Meridian.

This temporary withdrawal of these lands, or any permanent reservation of the same resulting therefrom, will not effect any bona fide settlement or other valid claim thereon, properly initiated prior to the date hereof, which is duly made of record within the statutory period.

Very respectfully,



A white pine that was probably too small to be cut when the area was harvested towers over the trees regrowing around it.

(Signed) W. A. Richards,
Assistant Commissioner

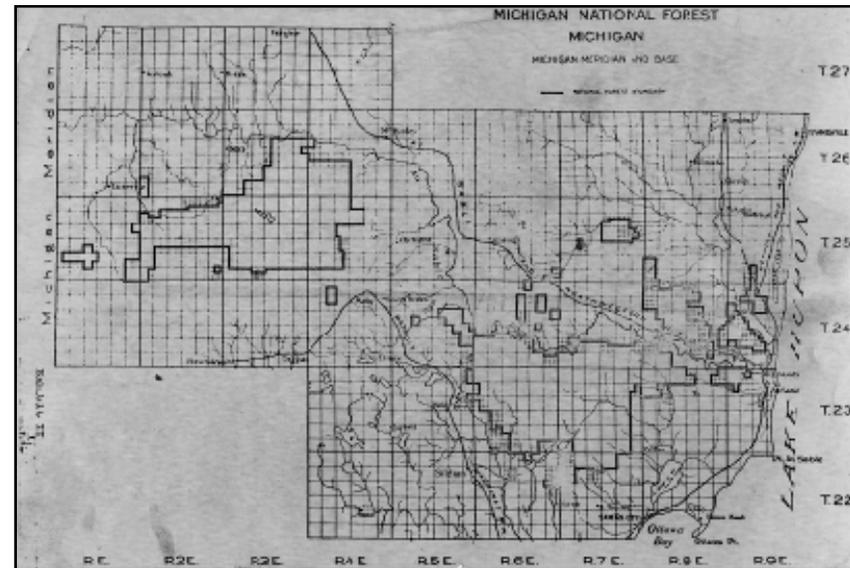
The second withdrawal is dated February 3, 1908, and the third withdrawal May 23, 1908. Following these three temporary withdrawals and based upon a classification report of April, 1908, the Acting Secretary of Agriculture, on January 14, 1909, recommended to the Secretary of the Interior the creation of the Michigan National Forest.

On February 11, 1909, the Michigan National Forest was officially proclaimed by President Theodore Roosevelt. The Marquette Forest, later the Marquette District of the Michigan National Forest, was proclaimed the day before and in April 1915, by proclamation of President Woodrow Wilson was officially made a part of the Michigan Forest. It had from the first been administered by the same Supervisor as the Michigan National Forest in the Lower Peninsula.

The President of the United States of America A Proclamation

WHEREAS, the public lands in the State of Michigan, which are hereinafter indicated, are in part covered with timber, and it appears that the public good would be promoted by utilizing said lands as a National Forest;

Now, therefore, I, Theodore Roosevelt, President of the United States of America, by virtue of the power in me vested by section twenty-four of the Act of Congress, approved March third, eighteen hundred and ninety-one, entitled, "An Act to repeal timber-culture laws, and for other purposes," do proclaim that there are hereby reserved from settlement or entry and set apart as a public reservation, for the use and benefit of the people, all the tracts of land, in the State of Michigan, shown as the Michigan National Forest on the diagram forming a part hereof. The withdrawal made by this proclamation shall, as to all lands which are at this date legally appropriated under the public land laws or reserved for any public purpose,



Map of the Michigan National Forest, 1909.



Forest Headquarters, 1929.

be subject to, and shall not interfere with or defeat legal rights under such appropriation, nor prevent the use for such public purpose of lands so reserved, so long as such appropriation is legally maintained, or such reservation remains in force.

In Witness whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington this 11th day of February, in the year of our Lord one thousand nine hundred and nine, and of the Independence of the United States the one hundred and thirty-third.

THEODORE ROOSEVELT

By the President:

Robert Bacon
Secretary of State

There is nothing in the historical records to indicate the reason for choosing the name "Michigan National Forest." One can assume that it followed the general pattern in the establishment of some of the first National Forests in the United States. Originally twelve National Forests were named after States (three in Region 9 - Minnesota, Michigan, and North Dakota). All but one (Nebraska) have been changed to other names. The change from Michigan to Huron took place in 1928. The headquarters of the Michigan National Forest, East Tawas, derived its name from Chief O-ta-was.

The Michigan National Forest was under the Region 1 organization until 1911 and was changed to Region 2 in that year. In 1929, it became a part of the newly formed Region 9.

Forest Headquarters

The original Forest headquarters for the Huron National Forest was established at Au Sable, early in 1909. It remained at Au Sable until the big fire of July 11, 1911. It was then established at East Tawas, and remained there until the Huron National Forest was consolidated and ad-



An early sign on the Michigan National Forest asks visitors to ponder the forests of the future.

ministered along with the Manistee Forest as of May 10, 1945. The actual move from East Tawas to Cadillac took place on November 15, 1945.

Forest Supervisors

S. M. Higgins was the first Supervisor, serving from 1909 until 1911. All that was known of him in 1928 was that previous to his appointment he had been an employee of the Cleveland Cliffs Iron Company and that he went back to their employ after leaving the Forest Service. In January 1929, he was at Beaufort, South Carolina.

The first ranger examination was held in Oscoda, then the Supervisor's headquarters, in 1909. W. B. Greeley, Forester from 1919 to 1928, conducted the examination, in which 28 men took part. Of these twenty-eight, only two, Ralph H. Johnson and G. E. Green passed the examination. The former was in the Service until 1934, while the latter was connected with the Michigan Forest as Forest Ranger until 1919. Johnson and Green were both from the west side of the State. The following year, 35 men took the examination, among whom was Everard S. Kiethley, later Supervisor of the Pike. Calvin Hayward and Harry Goodale, two of those taking the first examination, were afterwards connected with the Forest as guards, the latter later passing the ranger examination and serving in that capacity until 1917. Since that time, he has been engaged in farming in the Wilbur neighborhood. Johnson was in charge of the Mio District during 1910, and of the Silver Creek District from 1911 to 1922, when he took charge of the Beal Nursery. He developed the Michigan system of planting, and devised the Michigan planting bar during his stay at the Silver Creek Station. He was in direct charge of all planting work on the Forest, and was also one of the mainstays of the fire fighting organization.

William B. Piper was the second Supervisor, and the first under the District 2 organization. He was a graduate of Harvard, A.B. in 1903 and of the Yale Forest School in 1905 and entered the Forest Service as a Forest Assistant in Wyoming in 1905. During his administration the Forest headquarters were moved from Oscoda to East Tawas in 1911 following

Form 100 PLANTATIONS OR SEEDING AREAS

7/5 HURON Silver Creek NATIONAL FOREST

Location Buck creek site -- East of Wilbur and on the dam road in S. 11-23-T.

Date established 12/5/10. Altitude 600' Exposure Level or nearly so.

Soil Sand. Ground cover Grass and weeds.

Type Plains Condition Sod---good seed.

Species Norway pine. Age Seed just extracted from Michigan.

Method Brood cant by hand. Spacing

Preparation of site Disk harrowed spring 1911 Protection Fire lines.

Area 10 acres Amount per acre 214 Cost per acre 21.72

Remarks 9702

REPLANTING OR SOWING

Date Area Amount per acre Cost per acre

Notes

Exact records were maintained for each area planted, such as soil preparations, and method of seeding or sowing, as well as the cost per acre. The reverse of the Planting or Seeding Area cards contained reports on the conditions in later years; in this case the outcome was unfortunately poor. This is the earliest record of planting on the Michigan National Forest available.

DATE OF EXAMINATION	NO. OF LIVING TREES PER ACRE	AVERAGE HEIGHT	RESULTS	CAUSE OF LOSS	REMARKS
5/25/12			Failure	Heat too great summer 1911.	
Oct. 10/13			Failure	Heat too great summer 1911.	

the disastrous fire at the former place which destroyed the Supervisor's Office and all records, there being none of the Forest personnel in town at the time.

Au Sable Fire

Supervisor William Piper recorded his memories of the 1911 fire that consumed the communities of Oscoda and Au Sable:

“The 1911 planting was done east of the head of Buck Creek. The last part of this work was hampered by fires. A fire came from the west and burned out the planting crew camp at the edge of Buck Creek, where there was a big slashing from lumbering. The camp equipment was saved by quick work and brought up to the road. A fire also came near cutting across the northeast corner of the white pine plantation.

“When planting a thousand Norway pine transplants from East Lansing, I was interrupted by a fire which took me away from the work most of the day. In the late afternoon, however, I returned and completed planting them. After that, I went in to East Tawas and back to Au Sable on the midnight train.

“During the latter part of June and early July 9 the weather became very hot and dry, culminating in a very dry windy day Sunday, July 9. A fire was burning in the brush and jack pine just outside the cities of Au Sable and Oscoda, but not threatening the Forest because the wind was from the southwest. Monday morning, I left by train for East Tawas and Rose City to Long Lake (now called Mack Lake) on the Mio District. It was a very hot windy day with a gale of wind from the southwest. That night, I heard of the destruction of the two towns by fire. In the later afternoon I had noticed the wind change abruptly from the southwest to the northeast, which caused the fire to do so much destruction by sweeping over places that had been saved earlier in the day. I returned to Au Sable the following Friday to find not a vestige of the Supervisor's Office and my belongings except my horse which had been taken to a nearby farm.



Above and below: Examples of early forest signing.



Main Street of Oscoda after the 1911 fire.

“The Oscoda-Au Sable Fire occurred July 11-12, 1911. Property loss in towns about \$10,000,000.00. The two towns then held about 3,500 population and two operating sawmills, Loud & Sons, in Au Sable. At one time, the town had a combined population of near 18,000, Au Sable having upwards of 11,000. This was made up in large part of floating lumber jacks. Timber loss in this fire was negligible.”

The following is quoted from Mr. Piper relative to his service on the Michigan Forest:

“March 1911, I was transferred from the Madison Forest to the Michigan and Marquette Forests with headquarters at Au Sable,

“The previous spring, under Acting Forest Supervisor S. Higgins, a plantation consisting chiefly of Norway Pine was planted at the top of the Seven Mile Hill along the Narrow Gauge Au Sable and Northwestern Railway, and firelines were started along the track.

“In the spring of 1911 when I arrived here, Assistant Forest Rangers Johnson and Green were building the barn at the Silver Creek Ranger Station.

“That spring large areas at the head of Buck Creek were sown to jack pine and Norway pine from seed collected on the Minnesota and Michigan Forests. Frequent rains following the seeding enabled large quantities of this seed to germinate resulting in excellent stands of seedlings. These were all killed, however, by drought in the late spring and early summer.

“Several trips were made to Big Charity Island where planting was done in 1914 and a timber sale was made in this year. This island is very inaccessible which made the administration of the sale very difficult and unsatisfactory. Assistant Forest Rangers Johnson and Goodale were assigned to go over there with me in the fall of 1914 to dispose of a large quantity of Norway pine brush and girdle some large oak trees for the purpose of encouraging Norway pine reproduction. We took along pro-



Bill Piper, second forest supervisor, retired in the Tawas area and later worked with the CCC.

visions for about three weeks expecting to do our cooking in a fisherman's cabin. We went from Bay City in one of the Trudell's fish tugs and had a good trip over. We stayed at Charles Trudell's fish camp and turned our provisions over to his cook, getting our meals with the fishermen.

"The first few days after our arrival, we cut and piled considerable brush. One night we had a light fall of snow that rendered conditions excellent for brush burning. We were out at four A.M. and burned a great deal of brush that day. Following that, we cut and piled brush and girdled oak trees.

"Our last chance for returning to the mainland that autumn occurred Sunday November 21. It was blowing fresh from the northwest and was cold. Charles Trudell's father advised him not to start that day for Bay City. He had some fish, however, that he was anxious to get to market so decided to go.

"We left Big Charity Island about 5 A.M. in a little fish boat, lifted a few nets and transferred to the larger fish tug Allie B.9 a gasoline boat, at Little Charity Island. The wind grew stronger and stronger as we proceeded toward Bay City, necessitating some bailing. I stood on the rail of the boat and helped, getting soaked from the flying spray. All was going well until when within about three miles off Pinconning there was a loud noise in the engine room and the engine stopped suddenly. We anchored immediately to avoid drifting and tried to locate the trouble. The wind was very fresh and it was not long before the anchor broke and we started drifting. We drifted and tossed helplessly until about 3:30 in the afternoon, when we managed to rig up a small sail which enabled us to get steerage way. The men worked desperately all the time to get the engine started, using gasoline and ether to prime it. We had not any chart or map to locate ourselves and we were afraid we would drift out into the main lake. About dark, however, we came within sight of some islands.

"The decks by this time were a glare of ice and we were soaking wet from spray. Some of us left the cabin and engine room, went forward



Planting crew at the Buck Creek Plantation, Spring 1917, near Wilbur. Crews stayed at Silver Creek or walked from their homes.



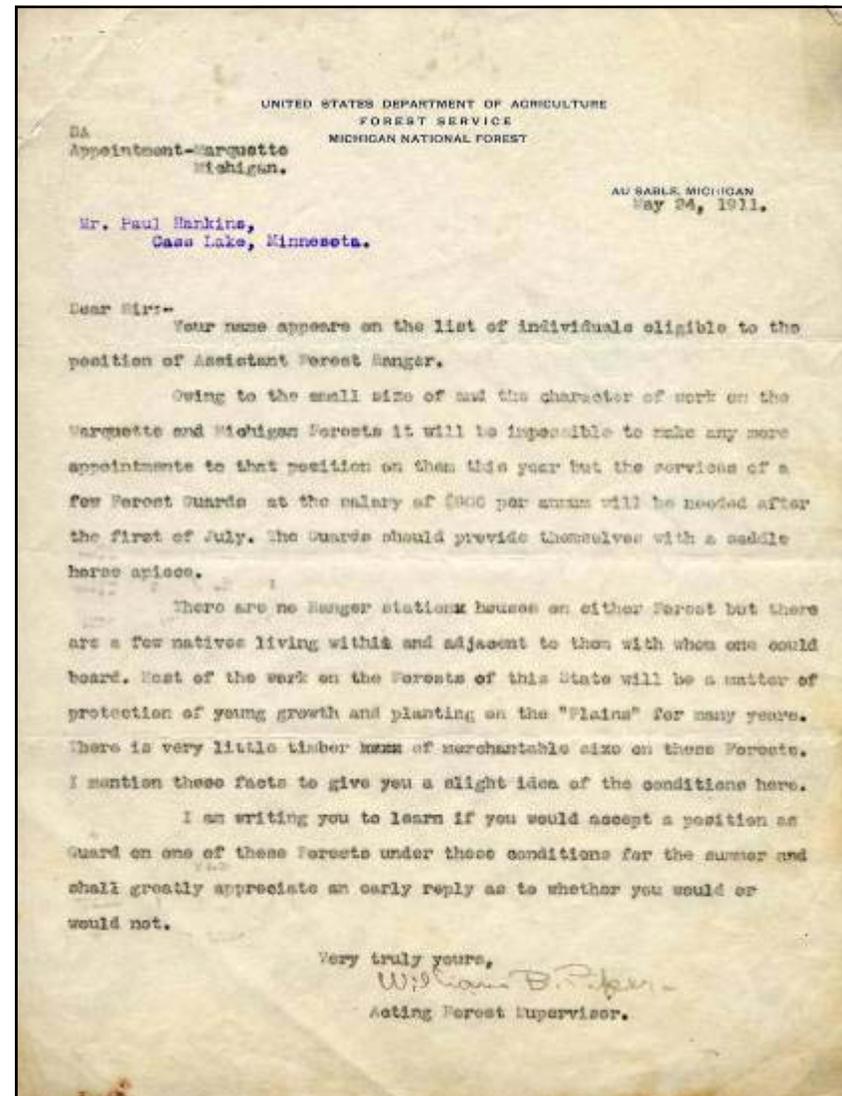
Buck Creek Plantation, Fall 1917..

and threw crates of fish and other supplies overboard to lighten up the boat. We had to be very careful not to slip overboard especially so on account of the icy decks. About 10:30 we went aground on a sand bar between two rocky ledges. We lay there all night and for a while burned rags soaked in gasoline to attract attention from the shore. This was to no avail. The night was very cold and our blankets were soaked. We dared not light a fire in the cabin on account of gasoline and ether spilled during the days so we shivered all night.

"In the morning the wind had gone down considerably but there was still a big sea running. We launched a little boat and three men started to row ashore to get help. When they had rowed in to within about a mile of shore, they found the water frozen between there and land. After a while a gasoline fish boat discovered them rowing around and went up to them. Our men told them our plight and took them aboard the gasoline boat, and headed for us left on the stranded boat. When part way there, they had to change their course to go around a shoal and it was then that we on the stranded boat thought that we had not been seen by those on the other gas boat. We waived a flag desperately to attract attention, much to the amusement of those on the other boat who knew what was going through our minds. They finally turned our way and came up along side.

"It was discovered that a pin had given way and bent in the bottom of the engine. We found we had gone ashore about three miles from the mainland off Sebewaing. We were taken by the other boat around the point into Sebewaing Harbor, where we arrived about noon Monday. We had had nothing to eat since early Sunday morning, and after the exposure to the water and cold, were much exhausted. The fumes of gasoline and ether combined with the rough water and smell of fish had made me very sick."

Mr. Piper resigned February 28, 1916, but again started working for the Forest Service in 1933.



Early offer of employment, one of the earliest remaining pieces of correspondence.

Planting and Plantations

The first planting done on the Forest was at Seven Mile Hill in the spring of 1910, when 13.5 acres were planted with Norway pine wild stock from Minnesota. In 1935, these trees were about 10 feet high. Some planting has been done every year since, 4,720 acres having been planted in 1926, the largest up to that date. Norway pine was by far the commonest species planted, there being a small acreage of white, jack, Scotch, Austrian and western yellow pine. Some of these trees later came from the D&M Railroad Nursery at Tawas Beach, but mostly from the Silver Creek Nursery. Several hundred pounds of pine seed were sown broadcast between 1909 and 1911.

In addition to planting on the Huron Forest, some planting work in cooperation with the Lighthouse Bureau was done between 1911 and 1916 at Presque Isle, Charity Island and Tawas Point.

The following is the annual planting report for 1913, the earliest report available:

ANNUAL PLANTING REPORT Michigan National Forest Calendar Year 1913.

1. The total acreage of the Michigan Forest is 131,928 acres of which approximately 69,004 acres are alienated (in private ownership), making an estimated net area of 62,924 acres.
2. The 62,924 acres of Government land in the Forest are chiefly Jack pine plains lands of which about half may be considered as well stocked with jack pine mostly of a poor quality. The rest of the land, with the exception of a little swamp land, is open or only covered with small scattering oak and jack pine. Practically all the Forest has been burned over at some time in the past. A large per cent of the large Norway pine on the forest has been out or burned off leaving only scattering trees of this species.

Owing to the poor quality of much of the Jack pine on the areas



Early machine planting techniques.

stocked with this species, it is recommended that, as soon as funds will permit, much of this land be underplanted to a more valuable species such as Norway pine. It is estimated that there are 31,462 acres of open land available for planting at the present time and 22,023 acres of jack pine land that might be underplanted to advantage to a more valuable species.

3. Below is a summary of the work already done on this forest with the results. The figures clearly show that planting stock is far preferable and cheaper in the long run than direct seeding in any form. Planting promises results in the way of trees. Direct seeding does not.

4. For an account of the early work in direct seeding and planting on the Michigan Forest; that is from the spring of 1910 to the fall of 1911, inclusive, reference is made to the article entitled "Forest Planting in Northern Michigan" by William B. Piper in Vol. VII, No. 2 of the Proceedings of the Society of American Foresters.

Since this account was written, it has been decided that Norway pine is more preferable to plant than the Scotch pine in that Norway pine is not only a native tree to this country but also grows larger and freer of limbs than the Scotch pine and is not as susceptible to disease as the Scotch pine. Scotch pine is comparable to the native jack pine in that it grows rapidly at first but soon becomes scrubby and is susceptible to disease.

In the year 1912 little work in direct seeding was done on either the Michigan or Marquette Forests on account of the cost and poor chances for success.

In the winter of 1911 and 1912, a few Jack pine cones were dropped in rows on the Marquette Forest but no good results were secured from this. The squirrels ate a large number of these cones and many of them decayed rather than opened. The moisture and degree of light was not suited for them when on the ground. The jack pine



The ranger checks a plantation's progress.



An early plantation's growth in 1917.

cone, like the lodgepole pine cone, is one that requires considerable heat and dryness to open and this is secured better on the tree than on the ground. The persistent seeding capacity of the jack pine and the prolific manner in which this species reproduces naturally on old burns, and the small size the tree attains in this locality, lead me to suggest that no future sowing or planting operations be conducted with this species on either the Michigan or the Marquette Forest.

To carry on experiments in direct seeding over more than one season, on the Michigan Forests, a little direct seeding to Norway and white pine was done on them in the year 1912. No good results were secured from these experiments, however. In fact the seed did not germinate as well in 1912 as it did in 1911. The experiments in seed spot work on the Michigan, conducted in the spring of 1912, showed a very small germination per cent. In fact, one area of about one-half acre at the Silver Creek Ranger station showed no germination. A few seeds germinated on the areas sown on the Au Sable District and a few germinated on the Marquette Forest, but they did not survive.

To see if more shade would be good for Norway and Jack pine seed sown direct in spots, a small area was sown in spots to these species in the spring of 1912, placing the seed spots under willow brush, however, produced too much shade apparently and choked out the seedlings of both of these species.

The best area seed spotted in the spring of 1912 was a little one of about one-twelfth of an acre on the Au Sable District of the Michigan, sown to Norway pine seed under Jack pine trees. The seedlings came up very well under this amount of shade but could not survive external influences and none of them are now reported to "be alive.

On the other hand, planting done in the calendar year 1912 has done well in most instances. Some Austrian and Scotch pine stock which was procured from Boulder and planted in the fall of 1912 had its roots badly damaged in lifting from the seed beds, but showed about



Teams of horses pull stumps in preparation for plowing fire lines, 1918.



A double fire line created at Buck Creek by cutting brush and then piling the brush to be burned, Fall 1918.

50 per cent alive December 17, 1913. This is very good considering the condition of the stock, the late planting and the open winter of 1912-1913.

In the planting work done in the spring of 1913, stock from Halsey, Nebraska, was used largely. This stock had an excellent root system when received but in some instances heated a little in transit. Most of it was received before the frost was out of the ground and therefore could not be heeled in immediately but had to be held in the crates until weather conditions permitted its being heeled in. This stock shows good results, however, at present, considering the unfavorable conditions under which it was received.

Fire lines have been put around all the areas planted to date, and it is planned to put them around all future plantations. These fire lines should "be either double lines each four furrows wide, with a cleared space between them which should be kept burned off each year, or they should be single lines each eight or ten furrows wide. The double lines, though they take up more space and cost more in the beginning, are preferable to the single lines. Lines should be put around the areas planted so that approximately every section will be surrounded by lines. In this way fires will not get a great start. The lines themselves should be disked or plowed each year to keep down the weeds. Roads help out for fire lines but these should not be relied on for planted areas. It is too easy for fire to jump them. The fact that much of the stock that has been received on these Forests has either been received late for planting or in poor condition through heating or some other cause, leads me to recommend strongly that stock to be used on the forests in Michigan be raised in a local nursery either out on the Forest or in East Tawas.

7. No growth or yield tables are available for the Michigan Plains or jack pine type, but Norway pine reaches maturity on them in scattered stands in approximately 175 years,

8. On the basis of the results secured from planting to date, it is rec-



Man planting Buck Creek with Michigan planting bar in 1919.



Temporary planting camp, Buck Creek, Fall 1919.

ommended that planting work be pushed on the Michigan Forest, and that plans be made so that the area in need of reforestation, approximately 53,485 acres, be planted to Norway and white pine as fast as possible.

Planting in the spring should be done immediately after the snow and frost is gone from the plains, which is about the middle of April. The planting should be completed by the middle of May, making about four weeks planting weather in the spring. Fall planting should be done in the latter part of September and early October to allow the roots to get established before heavy freezing occurs.

Up to the present time help in planting work has been carefully picked to get the best men possible. However, were any large amount of planting attempted, help could probably be secured in larger quantities than it has been. Oscoda had about 15 men anxious for work in the spring of 1913.

Were any large amount of work done and local help very scarce, men could probably be brought from Bay City or Saginaw, about 61 and 71 miles south, respectively.

Taking into consideration the time it will take to establish a nursery were one put in on a large scale at East Tawas, it would take at least three, if not four, years to get a sufficient amount of nursery stock on hand to plant on this Forest on a large scale.

With a crew of 45 men in the spring, and one of the same number in the autumn, planting at the rate of 500 trees per day per man, it would be possible to plant approximately 1,080,000 trees a year, which, at the rate of 1,000 per acre, would mean say about 1,000 acres per annum, To plant the 53,485 acres which it is estimated should be planted on the Forest would take on this basis approximately 54 years.

From the figures on cost of planting given on page 7 of this plan, excluding the spring of 1910 when the cost was very high, and al-



Planting crew, Fall 1920.



Planting crew at work in the field, Fall 1920.

lowing for some slit system planting with spade, it is estimated that the work could be done for \$10 per acre, which would call for a special appropriation of \$10,000 per annum for 54 years. To this should be added the cost of maintenance of fire lines, which it is estimated would come to \$.30 per acre per annum.

Respectfully submitted
William B. Piper
Forest Supervisor
February 4, 1914

Creation of the Nurseries on the Michigan National Forest

As noted in the 1913 Planting Report above, direct seeding was not as effective with several pine species as was planting seedlings. For that reason, several small nurseries were started on the Forest between 1910 and 1913 in accordance with the early policy of having a nursery at each ranger station. The Silver Creek Nursery was the most productive of these, several hundred thousand seedlings and transplants having been distributed from the nursery between 1912 and 1915. An interesting circumstance, from a nurseryman's point of view, was the density of the first crop of seedlings at this nursery. In accordance with instructions from Raphael Zon, then an inspector, one pound of Norway pine seed was sown on each 4x12 seed bed, or at the rate of about 1300 seeds per square foot. As a result, some of the beds had a stand of over 700 seedlings per square foot. It should be stated that 100 seedlings per square foot is a good stand. By transplanting these seedlings the fall of their first year, it was possible to save the greater part of them.

The East Tawas Nursery on Curry Place near Tawas Lake, existed from 1913 to 1915, but the location was too wet for raising trees, and it was moved to the Beal Nursery in 1915.

The Beal Nursery was established in 1915, occupying Block 14 of the City of East Tawas. In 1918, Block 15 adjacent on the east was pur-



Planting crew and equipment, Fall 1923.



Cook house and dining room at planting camp, Fall 1923.

chased, and in 1925 most of Block 16 to the west was acquired. These units comprised 5.12 acres or 164,000 square feet of beds, which on a three-year rotation were capable of a normal annual out-put of five million 2-year seedlings. This year Block 16, with an area of 3.63 acres, was purchased from four different owners at a total cost of \$1,400. This addition raises the total output to seven million 2-0 seedlings with a margin of 16,000 square feet in reserve. The four blocks are adjacent to each other and two of the three intervening streets have been closed by the city and turned over to the Forest Service, thus enlarging the nursery area by more than an acre. The friendly cooperative spirit thus evinced by the city fathers is typical of the feeling of the citizens in general toward the nursery, which, aside from its value to the community from a business standpoint was of decided ornamental value as compared with its previous condition.

At first occupying one city block in East Tawas, the nursery in 1929 occupied four adjacent city blocks. In 1933, two whole city blocks (6 and 12) with the adjoining unused streets and 5 lots in Blocks 4 and 5 were secured for additions to the nursery. These additions increased the area from 9.54 acres to 18.76 acres.

Huber C. Hilton followed Piper as Supervisor in 1916. Mr. Hilton graduated from the Forestry course at Michigan State in 1911, entered the Forest Service as a Forest Assistant on the Big Horn Forest in the same year and came to Michigan as Technical Assistant in 1915 assuming the Supervisorship March 1, 1916. He served in this capacity until February 28, 1921, when he was transferred to the Supervisorship of the Medicine Bow Forest.

Robert G. Schreck followed Hilton as Supervisor. Mr. Schreck graduated at the Iowa State College Forest School in the class of 1916, was appointed Ranger and later technical Assistant on the Washakie in Wyoming, later transferring to the Superior Forest from where he came as Supervisor of the Michigan Forest. Supervisor Schreck resigned in 1931. Schreck is credited with significantly advancing the development of the Lumbermen's Monument.



Beal Nursery in East Tawas, 1921.



Silver Creek nursery, July 1912.

Gunnar K. Fenger succeeded Schreck as Supervisor. He entered the Forest Service July 3, 1923, having passed the Forest Assistant's examination. His first assignment was on the Uncompahgre Forest R-2, and as he stated "My first job was to mount a western bronco from the "port" side. I was headed for a patch of timber that was to be prepared for sale -- goodness knows where I landed". He worked out of the Supervisor's Office on the Uncompahgre from 1923 to 1927. In the interim he was given details to the Big Hole Basin insect control project in Montana and also visited the high grazing country on the Holy Cross in company with Douglas, Keplingers Borden, etc. From 1927 to 1928, he worked on the Pike. In 1928, he headed for Minnesota and the Chippewa Forest. It was there he first became acquainted with the Michigan planting bar and became initiated in the mysteries of Chippewa Indian lore. In 1930, he was given an assignment on the Huron during the planting season. That he states, "was a real treat and stimulated greatly my desire to become a real "Paul" and rebuild the devastated forest." In 1931, he was assigned to the Huron as Forest Supervisor. In 1934, Mr. Fenger was transferred to the Regional Office in Milwaukee. Mr. Fenger passed away in 1955.

Other Supervisors on the Huron National Forest included:

Paul D. Kalleter	1935-1935
Warren T. Murphy	1935-1937
R. E. Crowell	1937-1942
Paul S. Newcomb	1942-1944
C. L. Harrison	1944-1945

Consent Act

The Consent Act for the State of Michigan was introduced by State Senator Osborn in the regular session of 1923. The Act became effective as of August 30, 1923, and was essentially the same as introduced. It contained no restrictions on acreage.

The report was submitted to the Chief's Office on February 9, 1925, and was presented to the National Forest Reservation Commission at its meeting on January 7, 1926.



Drilling a well with a hand-made pile driver for the Fall 1921 planting camp. The hammer consists of a heavy piece of green oak so arranged that it will slide easily in the groove of the standards. Three men were used to lift the hammer by rope and pulley, releasing it suddenly so the entire weight struck the pipe beneath. Water was usually found at a depth of from 7 to 12 feet at the lower elevations.

This report, along with the Region's report for an addition on the Superior was of particular significance to Region 9 and perhaps to the entire United States since these two units were the first to be presented to the Commission after the passage of the Clarke-McNary Act of June 7, 1924. This Act amended the Weeks Act and authorized the purchase of lands suitable for timber production purposes. It is considered to be of sufficient importance to quote the contents of a portion of the minutes of the National Forest Reservation Commission's meeting rather than to show it as an exhibit:

The opinion of the Attorney General relative to the authority of the Commission to make purchases under Section 6 of the Clarke-McNary Act was presented to the Commission. Senator Overman raised the point that, as stated by him in his explanation of his reason for refusing to approve the report, he did not regard Attorney General Sargent's letter as an opinion and that he did not believe that the Commission should make purchases until the question of constitutionality of this section had been decided, since the Attorney General had been unwilling to give an opinion on this point. Secretary Work stated that it was possible to get the matter before the Attorney General so that it would be necessary for him to pass upon it. Associate Forester Sherman called attention to the fact that in the Act of March 1, 1911, there is a provision under which the Federal Government makes an appropriation for the protection of forest lands upon the waters of navigable streams regardless of whether the protection of the woodland from fire tends to promote the navigability of the streams on which the money is expended. If money can legally be expended for the protection of these lands why can it not be expended for acquiring land for growing timber?

Senator Overman stated that he was perfectly willing to have the question of constitutionality decided but that it should be decided before the Commission involved itself by making extensive purchases. Mr. Hawley recommended that a purchase unit be authorized by the Commission to embrace the boundaries of the Michigan purchase unit as located and that an option be secured upon a tract within that unit with the understanding with the owner that there would be tested out in the courts the



The Michigan planting bar can hardly be improved upon for planting work in Michigan. The blade is 4 inches wide by 10 inches long, with a 3.4-inch galvanized pipe handle 32 inches in length.

constitutionality of the act. It was suggested that the lands offered by the Michigan Agricultural College might be used for this purpose but Mr. Micaville raised the point that in the first place since these lands belonged to the State condemnation could not be brought against them, which would be the manner of getting them into the court, and second, that on account of certain State legislation there seemed to be doubt as to the authority of the officers of the Agricultural College to convey the lands to the Government at the price at which they have been offered. It was decided that these lands could not be used for this purpose.

Mr. Hawley then moved that an arrangement be reached with some private vendor who would offer land with the understanding that condemnation would be requested so as to get the land into court, where the issue of constitutionality could be raised and settled. Secretary Work stated that since there was no objection, Mr. Hawley's motion would prevail.

The matter was again referred to the National Forest Reservation Commission on March 31, 1926, and was officially approved.

Roads and Fire Lines

Until 1923, very little improvement work was done on the forest roads. In that year the road from the end of the Baldwin road to the Au Sable River Road, a distance of 9 miles, was graveled. This immensely increased the amount of tourist travel through the area. The same year a gravel road, built by Oscoda Township was completed from Oscoda to a junction with the above road and to the Highbanks Campground. In 1930 a bridge was built across the Au Sable River at the Five-Channels Dam for a road extending from Glennie to Hale. This was financed by Iosco County and the State of Michigan.

On account of the very inflammable character of the Huron Forest, a system of firelines was essential, although the extent to which the system should be developed was a matter of dispute. In 1917 the work of building firelines around every section was begun, and this policy was continued until 1922 when at the direction of Fire Chief McLaren of the



A typical method for creating fire lines.

Denver Office, practically all fireline work was discontinued until 1926, when the policy of building lines along the principal roads was inaugurated. In 1926 the so-called West Boundary line, and later the East Boundary line were installed. In 1929 the Region 9 organization decided that it was advisable to go back to the policy of building a line around each section. In 1930 a heavy tractor of the caterpillar type with a grader to correspond were purchased, and the work of removing stumps and plowing the lines was done with this equipment. A total of 35 miles of lines of this type was constructed in 1930, and by 1935 the total mileage was 610.

Road and fireline construction was stepped up very significantly by the CCC program and continued until 1939. After that date surfacing of roads and intensive maintenance became the major road program, while construction was kept to a bare minimum. In 1941, a large portion of the fire breaks were abandoned and maintenance confined to the truck trails and a few very, essential high-use firebreaks.

Change of Name from Michigan National Forest to Huron National Forest

Due to the fact that the State Forests in Michigan were referred to as the Michigan Forests, there existed some confusion in the public minds in having Forest areas in the State designated as Michigan Forests and Michigan National Forest. This resulted in a recommendation that the Michigan National Forest be called the Huron National Forest. This was done by Proclamation No. 1844 dated July 30, 1928.

The President of the United States of America A Proclamation

WHEREAS, it appears that a portion of the Michigan National Forest, in the State of Michigan, should constitute the Huron National Forest;

And Whereas, certain lands within areas adjoining said National Forest have been and may be acquired by the United States under authority of the act of Congress approved March 1, 1911 (36 Stat. 961), as amended June 7, 1924 (43 Stat. 653);

And Whereas, it appears that the public good will be promoted by



Above and below: Typical fire line construction in the 1920s.



including said lands and other lands in such areas, within the Huron National Forest, and by excluding certain areas therefrom; Now, Therefore, I, CALVIN COOLIDGE, President of the United States of America, by virtue of the power in me vested by section eleven of the aforesaid act of March 1, 1911, and by the act of Congress approved June 4, 1897 (30 Stat. 11, at 34 and 36), do proclaim that the boundaries of the Huron National Forest shall be as shown on the diagram hereto annexed and forming a part hereof.

The withdrawal made by this proclamation shall, as to all lands which are at this date legally appropriated under the public land laws or reserved for any public purpose, be subject to, and shall not interfere with or defeat legal rights under such appropriation, nor prevent the use for such public purpose of lands so reserved, so long as such appropriation is legally maintained, or such reservation remains in force.

In Witness Whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington this 30 day of July in the year of our Lord one thousand nine hundred and twenty-eighth, and of the Independence of the United States of America the one hundred and fifty-third.

CALVIN COOLIDGE

By the President:

Frank B Kellogg

Secretary of State.

In addition to changing the name, this Proclamation added certain lands that had been acquired under the provisions of the Weeks Act, as amended, within the Tawas Purchase Unit, and which was approved by the National Forest Reservation Commission on March 31, 1926. It also eliminated certain lands included in Proclamation No. 841 of February 11, 1909.

Au Sable River Power Development

The Au Sable River is of such volume and fall as well as having so many favorable dam sites as to make it well adapted for power develop-



A view of the Au Sable River, which bounds the Tawas District on the north, in 1925. The 1925 Planting Report observed:

“The banks in the picture are pure sand and 150 feet high. This soil condition exists throughout the Tawas District where planting operations are underway. Up to October 1925 a shortage in precipitation of 10.57” was recorded. Very little snow fell during the winter or 1924 1925. The spring rains were entirely lacking. Little or no rain relieved the situation during the entire summer. In addition, the highest temperature recorded since 1917 were experienced. In spite of these conditions, the Fall 1924 planting operations show an average survival of 77%. Very little loss resulted in the older plantations.”

ment. The Cooke Dam was constructed first in 1911, while the latest, the Alcona Dam, was finished in 1924. The six dams and accompanying power plants are one of the chief sources of power of the Consumers Power Company, as the company is now termed (1935), although the first developers was known as the Michigan Power Company.

Fire on the Huron National Forest

No records exist of any fires which destroyed much mature timber in this vicinity, although the patchy occurrence of timber at the time of settlement may have been caused by fires long before. Slash fires, which followed lumbering and surface fires, which have occurred repeatedly since, are of course responsible for the present scarcity of timber except jack pine. To just what extent this species occupied areas formerly containing good stands of Norway pine is not known—the evidence on the subject is conflicting. In the 15 years between 1913 and 1927 inclusive, an average of 5,396 acres of National Forest land was burned over annually. 1928 to 1944 inclusive an average of 915 acres of National Forest land was burned each year. The least amount burned in one year during this period was 27 acres in 1922, and the greatest areas 3,000 acres in 1916 and 13,720 acres in 1926, the latter including the area burned over by the big fire on the Mio District on May 6. This fire started at 10 A.M. and by 4:30 P.M. had burned over 20 square miles. This fire burned up the Hemel Homestead and very nearly burned a crew of men under Supervisor Schreck fighting the fire. It was necessary to remove Mrs. Hemel by force as she was crazed by the fire and resisted efforts to take her away.

The Welcome Lake Fire, which occurred May 8, 1937, was one of the earliest forest fires for which a firefighter received the American Forest Fire Medal (later called the North American Forest Fire Medal) from the Society of American Foresters. A property owner on Welcome Lake started a fire through carelessness. Because of high winds, the fire quickly crowned out in jack pine stands and red pine plantations. It was quickly realized that a lot of help would be necessary to fight the fire, and crews from the CCC camps at Silver Creek, Hale and Glennie were called in. A crew of four CCC members, led by foreman Andrew D.



Area of the Huron National Forest damaged by July 1935 fire.

Lindgren, were backfiring along a road to keep the fire from reaching it. Suddenly the fire crowned across the road and began burning behind them. Lindgren ordered his crew to run for it and he helped one of them along. After they had run about a mile, Lindgren stumbled and fell. He died in the flames, while the others escaped. The Welcome Lake Fire burned more than 2,000 acres, making it one of the larger fires fought on the Tawas Ranger District up to that time. Lindgren was cited for his unselfish leadership and bravery. The medal was presented to his widow on April 16, 1941.

The Kiwanis Plantation

In 1928, by a cooperative agreement with the Kiwanis organizations of Michigan, this association financed the planting of 5,000 acres of land in the neighborhood of McCollum Banks, mostly south and west of that point in Sections 21, 26, 27, 23, 32, 33, 34, and 35, Township 24N, Range 6E, and Sections 2, 3, and 4, Township 23N, Range 6E. This area was marked as the Kiwanis Forest. On September 21 and 22, Kiwanians from all over the State assembled to commemorate the initiation of the work. At a meeting at the McCollum Banks Campground on the evening of the 21st, the Forester, Major Stuart and several prominent Kiwanians and others made speeches in honor of the occasion. Assistant District Forester Thompson, District Forest Inspector Hoar, and State Forester Schaaf were present at the meeting. No cooperative activity of this magnitude had ever been carried out anywhere previous to this time, the amount contributed by the Kiwanis being \$9,700. A force of nearly 100 men planted the area in addition to over 5,000 acres of re-planting on areas where the trees had been killed to a large extent by the drought of August 1927. During this month only .36 inch of rain fell, the smallest amount in any summer month in the preceding 17 years; and during this time the average precipitation for August was just 3 inches. This drought killed a considerable amount of natural reproduction and did much damage to plantations established as far back as 1921. The above planting was begun August 26 and was finished October 31, 1928.

In July, August and September 1929 another drought occurred of equal severity to that of 1927, and did a similar amount of damage. The Ki-



The Kiwanis Monument was erected to honor the work that created the 5,000-acre Kiwanis Plantation in 1928.



wanis plantation of the preceding year was nearly destroyed and was replanted in 1930, In 1925 the Michigan Kiwanis financed a second planting project to the east of the first one in Sections 35 and 36, T.24N, R.6e., and Sections 26, 27, 28, 29, 31., 32, 33, 34 and 35, T.24N., R.7E, and Section 2, T.23N., R.7E. This planting with that of the previous year brought the area planted through the financing by the Kiwanis, to 10,000 acres. On August 30, 1929, a celebration to commemorate the initiation of that year's planting was held at planting camp about the middle of the south half of the SW ¼ of Section 28, T.24N, R.7E. Associate Forester Sherman was one of the speakers on the occasion, as was Congressman Roy O. Woodruff who represented the Bay City District and took a special interest in the Forest Service.

In 1935 all records for planting were broken by the planting of over 16,000 acres of 2-year old Norway and 1-0 jack pine mainly. This was nearly all done by the Civilian Conservation Corps camps.

An Expanded Beal Nursery

In 1935, preliminary arrangements were made to secure the County Fairgrounds as an addition to the nursery and that fall approximately five acres inside the racetrack were plowed for additional beds. Since opposition to the purchase of the Fairgrounds developed in the County, an election was held in April 1936, at which the proposition to sell the fairgrounds to the Government was passed by a large majority.

The first building, the one farthest west, was located on the original block of the Nursery (II) and moved east across Huron Street in 1922. A second story was added that year, and a north wing added in 1926. The building farthest east was built in 1929.

In 1931, the oldest building at the Beal Nursery was torn down and replaced by a Forest Headquarters building, with four rooms besides work room, basement and attic. In 1934, the attic was finished off so as to be used for office purposes. This was made necessary on account of the increased work brought about by the CCC Camps and extensive acquisition program.



Forest staff, December 1929.

In 1934, a garage shop and storage building 60' x 24' was built on the land purchased from Charles Bonney in 1933. This was mainly for nursery use, and the building erected in 1929 was turned over to the Forest for storage purposes, later (1934) into an office annex.

By 1935, it became apparent that jack pine was more suitable than Norway (red) pine for most of the areas needing planting, and a much larger proportion of the former was planted; beginning 1935-1936. In 1937, three-fourths of the stock sent from the Beal Nursery was jack pine.

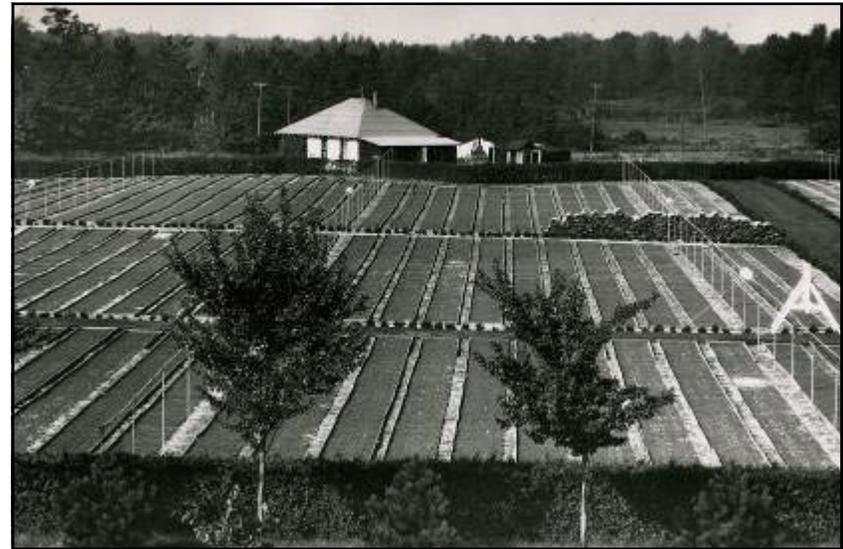
Other Federal Land Purchase Programs

Under the provisions of the National Industrial Recovery Act of June 16, 1933, the Emergency Relief Appropriations Act of April 8, 1935, and Title III of the Bankhead-Jones Farm Tenant Act of July 22, 1937, several projects were acquired in Lower Michigan by another bureau of the Department of Agriculture. In five of the projects, the Forest Service later became involved in their administration or disposal.

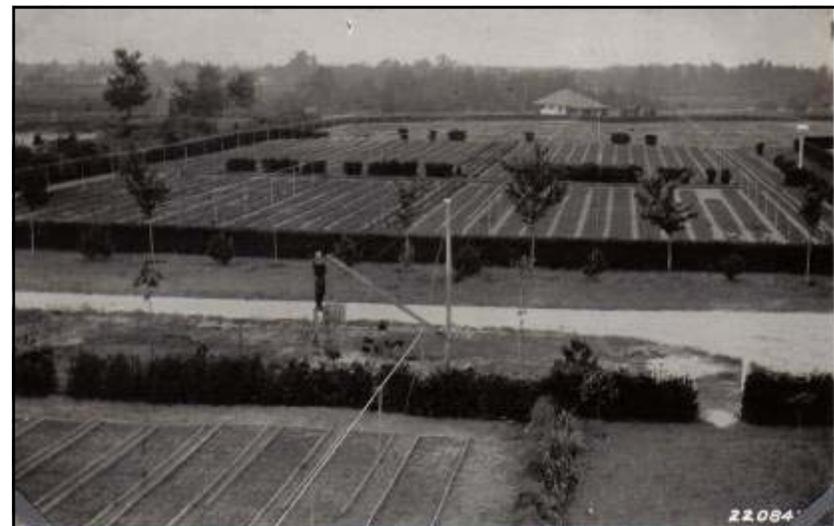
Au Sable Project. This project involved the acquisition of nearly 400 individual tracts of submarginal land in 13 Counties in the northern portion of the Lower Peninsula. The total acreage acquired was a little less than 47,000 acres, and the total cost a little over \$388,000.

Allegan Project. This project was in Allegan County. A little over 400 individual tracts were acquired within the project boundaries. The total acreage acquired was 35,755, costing \$416,639.

Forest Service Purchase Project. Under this heading should be mentioned the Forest Service Purchase Program within 26 State Forests in the State of Michigan. This was a program designed to assist the State in developing an adequate system of State Forests and to consolidate and to increase Government ownership within the National Forests in the State through, first, a purchase program and, second, an exchange program. The proposal was submitted to the National Forest Reservation Commission on May 9, 1934, for consideration and approval.



Beal nursery from the top of the headquarters building.



The crane in the foreground was devised in 1927 for loading trees at the Beal Nursery to prevent injuries to the men loading the trucks.

**The President of the United States of America
A PROCLAMATION**

WHEREAS by Proclamation No. 2270 of January 17, 1938, there were included in and reserved as part of the Huron National Forest, in the State of Michigan, certain lands which had been acquired by the United States through the Farm Security Administration or its predecessors under authority of the Emergency Relief Appropriation Act of 1935, approved April 8, 1935 (49 Stat. 115); and WHEREAS it appears that within the exterior boundaries of the said Huron National Forest, there are situated certain other lands which have been acquired since the date of the said Proclamation No. 2270 of January 17, 1938, or are in process of acquisition, under authority of the said Emergency Relief Appropriation Act of 1935; and WHEREAS by Executive Order No. 7908 of June 9, 1938 all the right, title, and interest of the United States in such lands, acquired or in process of acquisition, were transferred to the Secretary of Agriculture for use, administration, and disposition in accordance with the provisions of Title III of the Bankhead- Jones Farm Tenant Act, approved July 27, 1937 (50 Stat. 522,525), and the related provisions of Title IV thereof; and immediately upon acquisition of legal title to those lands now in process of acquisition, the said order, under the terms thereof, will become applicable to all the additional right, title, and interest thereby acquired by the United States; and WHEREAS it appears that all of such lands are suitable for national forest purposes and that it would be in the public interest to reserve such lands as part of the said Huron National Forest:

By the President:
Franklin Delano Roosevelt
Cordell Hull
Secretary of State.

Under this program during the period from 1935 to 1945, a total of 241,702 acres were approved for purchase and later acquired. The total cost was \$831,317.



The 1927 planting crew.



A Centaur light tractor was experimented with in 1927 for cutting furrows for planting. The 1927 Planting Report said: "It will do as much work as a team of horses and will go anywhere. From its performance on the Forest, it should be considered for the dual purpose of planting and fire suppression work since it can be loaded on a truck in less than five minutes and taken direct to a fire."

Fire Lookout Towers

Up to 1933, there were two fire lookout towers on the Forest, although several State towers outside the National Forest cooperated in locating fires. In 1935, there were six towers as follows: Silver Creek, Rollways, Glennie, Hale Lake, Baldy and Luzerne.

The following is the April 18, 1939 Detection Plan for the Huron National Forest:

Statement Supplementing Detection Plan Work Sheet

Five of the six existing Forest Service towers appear to be satisfactorily located from a coverage standpoint, namely, Luzerne, Silver Creek, Old Baldy, Rollways, and Mack Lake. The sixth, Glennie, is inferior to the proposed Hayes Tower at 4, 6 and 10-mile visibility. Hayes, likewise, affords better opportunities for cross shots with Curran and Lincoln State Towers. Hayes covers a large area of purchasable forest land, while Glennie covers the non-purchasable farm lead immediately surrounding the town of Glennie. Only a small portion of this farming land will not be covered either by Hayes or Russell. Happy Hill, a station recommended for occupancy when visibility drops to 6-miles, likewise covers an additional acreage in this area, and adequately plugs the hole between Hayes, Rollways, Old Baldy, and Russell.

In all, 37 potential points were mapped on the Forest, largely by Ojord and Hormel. After manipulating silhouettes of these stations over a light table, and planimetering independent or total seen area, duplicate coverage, and net seen area, the following system was found to afford adequate coverage within the least number of points.

10-mile visibility
Curran (state)
Old Baldy
Silver Creek
Luzerne



Fire lookout tower at Silver Creek, 1912.

Lincoln (state)
Russell
Rollways
Roscommon (state)
7-Mile Hill (state)_
Hayes
Mack Lake

6-mile visibility
Luzerne
Curran
Old Baldy
Russell
Silver Creek
Rollways
Hayes
Happy Hill
Roscommon (State)
Mack Lake
Lincoln (state)
Luzerne Camp
Camp Glennie
7-Mile Hill (state)
Hardy
Hubbard Lake

System for 10-mile Visibility

The 11 towers listed above afford a direct seen area coverage over 78.04 percent of the Forest. Six additional existing State towers, namely, Dawn River, Mt. Tom, Rose City, Elk Hill, Hale, and Sewell Hill, add 37,402 acres or 4.91 percent to this system. The existing system of 10 State towers plus the 5 satisfactory Forest Service towers, covers 71.66 percent of the Forest. By adding the proposed Russell station, the coverage can be raised to 77.97 percent, and by adding the proposed Hayes station, the coverage can be increased to 82.93 percent. The addition of any other stations beyond



Rollways Ranger Station with fire tower in the background, 1922.

this point would be difficult to justify from a coverage standpoint, as the net seen area added drops off sharply. Detection Coverage map for this system of 10 State and 7 Forest Service towers shows that the area not directly covered lies in relatively small blocks which are widely scattered.

System for 6-mile Visibility

All of the first 11 towers listed for the 10-mile system likewise prove worthy of inclusion in the 6-mile system from a coverage standpoint. While their relative standing may have been altered, all but 7-Mile Hill fall within the first 11 stations in the 6-mile system. Happy Hill, Luzerne Camp, and Camp Glennie provide greater visibility than 7-Mile Hill when visibility is limited to 6 miles, thus pushing 7-Mile Hill down to the fourteenth place. Hardy and Hubbard Lake complete the system, although the six additional state towers, Hale, Dawn River, Sewell Hill, Elk Hill, Rose City and Mt. Tom do cover limited areas along the boundaries.

The first 16 towers cover 72.59 percent of the Forest. The 6 additional State towers add 4.44 percent coverage, bringing the total coverage to 77.05 percent.

This system is tentatively recommended pending mapping of additional stations to plug the larger holes shown on the 6-Mile Visibility Map.

It is believed, however, that any additional stations required for coverage of these areas will fall within the more intensive plan, Alternate Plan B, which will be submitted together with the system for 4-mile visibility at a later date.

Comparison with Occurrence Zone Map 3F

The recommended system covers the major portion of the occurrence zones delineated on Occurrence Zone Map 3F. There are, however, certain areas not adequately covered by this system, which should be mentioned:



Eldorado Fire, 1936.



Burned-over jack pine area.

- (1) 10-mile System -
 - (a) South Branch, Au Sable River basin.
 - (b) Loon Lake area.
 - (c) West along Au Sable River from Mio.
 - (d) Portions of the Glennie area.

- (2) 6-Mile System -
 - (a) Mio area.
 - (b) Glennie area.
 - (c) Southeast of Barton City to Mikado,

Comparison with Fuel Type Map 3D

Both the recommended 10-Mile and 6-Mile system provide direct seen area coverage over all the extreme rate of spread fuels, approximately 86 percent of the high rate of spread fuels, and at least 75 percent of the medium rate of spread fuels. The areas which are not directly covered contain about equal amounts of high and medium rate of spread fuel.

Almost all of the existing plantation areas are directly covered by one or more towers. The existing Forest Service towers are particularly well located with respect to plantation coverage. Hayes, and to a lesser extent, Camp Glennie, afford good coverage over the jack pine plantations north of the Au Sable River. These plantations are not satisfactorily covered by the existing Glennie tower.

The 11-tower, 10-Mile system constitutes an intensity of 14.6 stations per million acres. The 16-Tower 6-Mile system constitutes an intensity of 21 stations per million acres. This is exclusive of the 6 State towers which contribute a relatively small net coverage to the total. A detection system of this intensity is believed to be adequate for this Forest.

In 1945, there were eight towers Tawas District - Silver Creak, Rollways, Hayes, Russell; and Mio District - Old Baldy, Mack Lake, Luzerne and Roscommon



Above and below: Au Sable River fire, 1958



Recreation

By 1925 the Huron National Forest and vicinity, in common with Northern Michigan in general, had become an attraction for tourists. The area around Sand Lake was developed beginning about 1910; the Sand Lake Hotel being built in 1925. In March 1917, the first special use residence permit was issued to Jackson & Flint of East Tawas. The Loud Dam Summer Home Group was laid out in 1926 by Ranger B.L. Grossbeck. Mr. Wm. Fayerweather built a log hotel and restaurant at the Rollways Campground in 1928.

In 1923 the Saginaw Y.M.C.A. established a summer camp at Wagner Lake on the Mio District, getting a special use permit for the purpose. In 1930 the Saginaw Camp Fire Girls secured a permit for a camp at Mack Lake, work being begun on the project in the fall of that year. The same year the Boy Scouts of Detroit applied for a site on a small lake south of Wagner Lake for a summer camp, work to be begun in 1931. In 1934 a summer home group was established here, and one at Loon Lake in 1933. During 1940, the Look Lake Organization Site was completed.

Special Areas - Lumbermen's Monument Area.

Under the authority of the Act of August 10, 1912, the Acting Secretary of Agriculture designated a small area as the Lumbermen's Monument Area. The purpose was to perpetuate indefinitely the historic memorial to the early lumbermen of Michigan, and to ensure complete protection from conflicting forms of use or appropriation.

Supervisor Schreck was largely instrumental in carrying through this project. For several years he worked on the idea of getting support from well-to-do lumberjacks. Finally, on May 24, 1929, he was able to gather together a group of these men who represented the principal lumbering families of Michigan at a dinner at the Holland Hotel. Before the day was over, each of them indicated their interest in the plan and unani- mously accepted the proposed location for the monument. Donations started coming in at once, and by March 1930, some \$44,000 had been collected from lumbermen throughout Michigan.



Tourists visit Lumbermen's Monument.

The Lumbermen's Memorial at the junction of the Thompson Trail and Oscoda roads was erected in 1931. The cost, \$50,000, was contributed by the descendants of the lumbermen who harvested the timber crop of Michigan. The monument consists of three bronze figures, nine feet in height; a log driver, timber cruiser and woods worker.

Robert Aitkens of New York City, N.Y., was the sculptor, and he suggested the type of monument to be created, based on photographs of early lumberjacks and from photographs of a person standing on the exact site for the monument. The monument is engraved with the words "Aitken Fecit;" however that is not the artist's name. The word "fecit" is Latin for "to do" or "to make," so the inscription means literally "Aitken made it."

The selection of the actual spot where the monument would stand presented something of a problem. The Consumers Power Company owned part of the land, and the federal government the rest, as the monument would stand practically on the section line. It was decided at length that Consumers Power would quitclaim the land to the United States; however, the government could not accept a quitclaim deed so it was decided instead to convey the land to the Northeastern Michigan Development Bureau with the understanding at such time as the Consumers Power could release the land from the trust deed or trust mortgage, the land would be conveyed to the United States. The monument was dedicated July 15, 1932. Forester Stuart, Governor Brucker and others took part in the ceremony. In 1934, the grounds around the monument were landscaped by CCC workers under the direction of Technician Bassett.

1933 Visitors Use Map

The following text summarizes the programs on the Huron National Forest for visitors available in 1933:

Huron National Forest

The Huron National Forest, named for a once powerful Indian tribe, sweeps westward 50 miles from the western shore of the great lake



Above: CCC crews complete the landscaping around Lumbermen's Monument.

Below: CCC crews landscape the entrance to Lumbermen's Monument on River Road.



which bears the same name. It covers 770,000 acres in the heart of what was once the virgin forest of Michigan and ranges in length north and south from 15 to 50 miles. East Tawas, its headquarters, was named for the Chippewa Chief O-Ta-Was, and numerous arrowheads found on the site of the Beal Nursery indicate that this area was once an Indian camp.

Re-creation and Recreation.

The Huron is re-creating the rich forests of earlier days and is at the same time providing recreation for the public. During the last few years forest recreational developments on the forest have grown from a few scattered tables and fireplaces to well developed areas for the public enjoyment of camping, picnicking, winter sports, and visiting historic sites. The use of these areas is free. In order to keep woods and water attractive, the cooperation of visitors in preserving the natural beauty of the forest is encouraged and appreciated.

Timber.

The Huron Forest as created in 1909 consisted of scattered areas of the poorer timberlands which were considered worthless by private timberland buyers. These areas have been consolidated by purchase and exchange and are now contributing materially to the economic welfare of this section of the State.

Management plans provide for the annual harvest of 8,000 cords of pulpwood, 600,000 board feet of sawlogs, and 50,000 Christmas trees, in addition to a considerable volume of fuel wood, posts, poles, cabin logs, and other forest products needed by local industries and farmers in and adjacent to the forest. The harvesting and primary processing of these forest products provides annually more than 20,000 man-days of employment. In addition, as on all the national forests, 25 percent of the revenue from the timber is returned to the counties for schools and other purposes, and another 10 percent is expended for roads, thus contributing many thousands of dollars to local governmental units.



Lumbermen's Monument at the time of the dedication.



Boys from the Saginaw YMCA visit Lumbermen's Monument, 1940.

With continued protection and proper forest practices the area is gradually becoming more productive, and in 50 years should provide 120,000 man-days of employment a year in utilizing its timber resources.

The Beal Forest Tree Nursery at East Tawas covers 37 acres and has a capacity of 12,000 trees annually. Trees from this nursery are all planted within the Huron Forest, and each year from 5,000 to 10,000 acres of denuded lands are again placed in production.

The nursery provides seasonal employment for from 35 to 50 men, and it attracts hundreds of visitors, who learn to identify the jack pine by its pairs of needles, the red pine by its clusters of three, and the white pine by its clusters of five.

Campgrounds.

The 16 campgrounds on the Huron National Forest provide pure water, fireplaces, tables, sanitary facilities, and cleared spaces for pitching tents or parking trailers. All are situated close to water, 3 have excellent places for swimming, and 5 have shelters where campers may gather for campfire tales or for an evening's impromptu entertainment. In addition to the campgrounds, there are 6 picnic grounds with similar facilities and central parking areas.

A map showing the location of the campgrounds may be secured from the forest supervisor at East Tawas or from the ranger at Mack Lake or Silver Creek. Information may also be secured at any time at the fire towers.

Winter Sports.

For the winter recreationist, the winter sports area at Silver Valley, 10 miles northwest of the Tawas, offers skiing, skating, coasting, tobogganing, and snowshoeing. Skiing and snowshoeing are not limited to the developed runs, however, as the surrounding forest is ideal for cross-country trips.



Above and below: Early visitors enjoy rustic campgrounds on the forest.



A large warming shelter is provided for users of the area, and no charge is made for the use of the slides, shelter, and other facilities. You may bring your own equipment or rent it from the concessionaire.

The development of winter sports provides recreation for thousands of Michigan residents and extends the business season for those engaged in the recreation industry, thus contributing to the general welfare of the community and the State.

Places to Go.

Lumberman's Monument on the Au Sable River, north and west of East Tawas, depicts in bronze the "Landlooker, Lumberjack, and Riverman" of early days.

Impressive young forests established by Kiwanis, the Flint Chamber of Commerce, and the Michigan Federation of Business and Professional Women's Clubs lie within the vicinity of the monument and contain trees ranging in height from 4 inches to 30 feet.

At Iargo Springs visitors may rest a bit while listening to the rush and roar of water.

At Pine River, near Glennie, and at the Silver Creek Ranger Station are fish-rearing ponds with thousands of young trout to make life more abundant for the fisherman.

Along the historic Au Sable River are power dams at Mio, Alcona, Loud, Five Channels, Cooke, and Foote, and three free public campgrounds on the banks of the ponds.

The Michigan Department of Conservation maintains a State park and campground for public use at East Tawas.

Things to Do.

You may come to the Huron to hunt or fish, as 90 percent of the campers on the forest do, or you may sight-see, take pictures, or



Above: Crowds enjoy the ice rink at Silver Valley.
Below: A full parking lot for winter recreation at Silver Valley.



merely rest in the great outdoors. But whatever you do—

Leave your camp site as if you were coming back.
Keep lakes and streams free of fish scales and soapsuds.
Bury excretions and garbage a foot deep.
Remember the ember.

Drop in and see the men who work for you at the supervisor's office and Beal Nursery at East Tawas and at the ranger stations at Silver Creek and Mack Lake. The lookout towers near Luzerne, Mack Lake, Old Baldy, Rollways, Hayes, Russell, and Silver Creek are also points of interest, and the towermen will welcome your visit.

Wildlife

Game and fish were abundant in the early days. Almost any of the native species of fur-bearing animals could be found in greater or less abundance. As is usual in pioneer annals, the stories of howling packs of wolves following the travelers figure in early narratives.

Deer were hunted for the market by such companies as the Battle Creek Hunting Company, which hunted deer with hounds, and a kill of 60 to 90 deer for four men was considered rather a bad season. The creeks and rivers were well stocked with fish and excellent fishing was taken as a matter of course. Otter, beaver, mink and lynx were common, fox and coon abundant, and the killing of black bear was not even considered sport according to one narrative.

While there were game laws which provided limits on number of deer and other game to be killed during the open season, they were mostly disregarded until in the early 1880s. One of the first game wardens was Featherly of Oscoda. He was followed by Collie Johnson who died about 1925. After him came John Sims, father of William Sims, resident of East Tawas in 1928 and after him Ephriam Ash. The Turtle Lake Hunting Club formed in the 1890s was an influence toward law enforcement.



Pavilion at Corsair, 1939.

About 1903 the first fish were planted in Silver Creek from the State Fish Hatchery, which had lately been established at Harrisville.

In the fall of 1926, an area of 16,000 acres between the Silver Creek Ranger Station and the east boundary of the Tawas District was set aside as a game refuge in cooperation with the Michigan Conservation Department. The area was surrounded by a single No. 9 wire and marked with signs at short intervals. No hunting or trapping was permitted at any time within this area.

In 1928, the State Conservation Department established a fish nursery on Silver Creek just above the bridge at the Ranger Station, the object being to protect and feed the young fry for some time after they were received from the State hatcheries. Later they were released in streams and lakes. Captain R. E. Ellsworth was the first man put in charge of this nursery by the State. In 1930, the capacity of this nursery was doubled.

In 1935, a rearing pond was constructed on the Pine River, by CCC labor, under the direction of the Forest Service. In the fall of 1936, the Tawas game refuge was abandoned and the wire around it removed. On account of lack of winter browse in the refuge, its maintenance was not considered worthwhile.

Deer population had become very heavy by 1939 and that fall saw 19,000 hunters take out more than 39,000 bucks.

Civilian Conservation Corps

From 1933 to 1939, the sweat and endurance of Civilian Conservation Corps enrollees on the Huron National Forest helped rebuild and create this National Forest. When the first CCC camps opened there, there were countless programs waiting that just needed the manpower to accomplish them.

CCC enrollees began intensive reforestation work and in 1935 they broke all records for planting on the Huron by planting more than 16,000 acres of Norway and jack pine. By the time the program ended,



Logs placed in streams create fish habitat and prevent erosion.



Stream improvements helped the reintroduction of fish.

85,000 acres had been planted. The conservation projects that the CCC enrollees worked on were varied – from building a trout rearing pond on the Pine River to landscaping Lumbermen’s Monument.

CCC enrollees stepped up construction of roads and firelines on the Huron National Forest. The young enrollees were trained to contain and suppress wildfires, and their skill and bravery were often needed.

During its eight years of existence, the enrollees of the 11 CCC camps on the Huron National Forest did more to further the conservation and development of the Forest than had been accomplished since the Forest was established in 1909.

Special Use

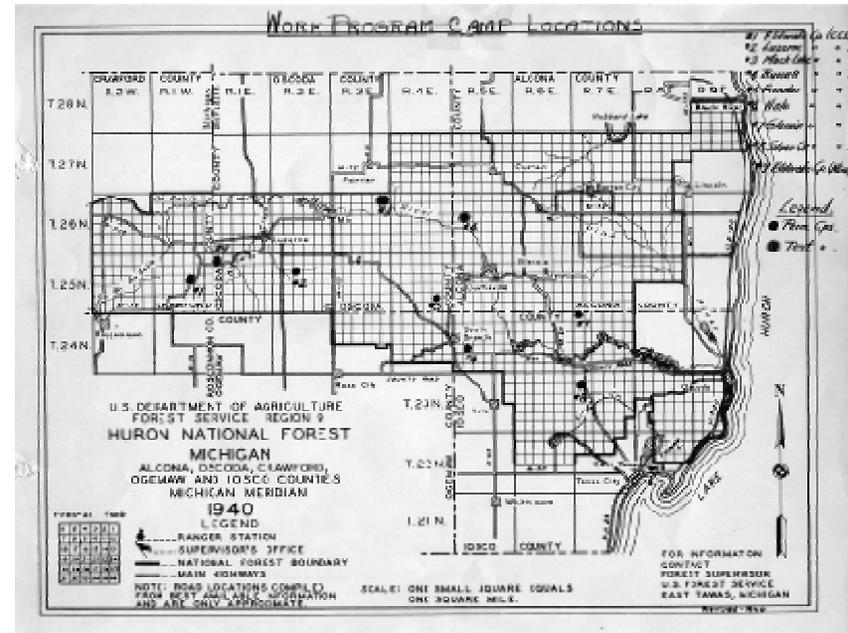
Grazing never has been more than a minor activity so far as the forest is concerned. It has been found that, while the grazing is good in spring and early summer the drying up of the grass by summer, drought renders it so unpalatable that stock will not stay on the Forest. In one instance at least, stockmen have been subject to heavy damages because their cattle drifted on to adjacent farming lands and committed depredations. No grazing permits were issued from 1916 to 1934, in which year three permits were issued for stock in the neighborhood of Glennie.

In 1939, there were about 40 grazing permits, all under fence. These included one band of sheep, the balance being cattle.

Disposal of the Land Utilization Projects

Au Sable Project. Ten tracts covering 664 acres in Crawford County were within the boundaries of the Huron National Forest and transferred to the Huron as a result of Presidential Proclamation No. 2304 dated October 14, 1938. The balance of the lands was transferred from the Soil Conservation Service by Administrative Order dated May 31, 1940.

The purpose of this transfer was to give the Forest Service authority to negotiate freely and directly with the State of Michigan in working out



1940 maps shows the location of CCC Camps on the Huron National Forest.

an exchange program which had been previously discussed with the State. The Director of the Conservation Department on August 4, 1941, signed an Informal Land Exchange Offer covering the 46,225 acres of the Au Sable Project lands.

This exchange program proceeded quite promptly and smoothly and, as a result, 61,939 acres were added to four of the Michigan National Forests. All except 2,174 acres were State-owned lands. The increase for the Huron Forest was 36,339 acres.

Long Range Plan of 1937

As a result of a proposed amendment to the Norris-Doxey Cooperative Farm Forestry Act early in 1937 which involved a long-range (10-year) public acquisition program of some 134 million acres with an estimated cost of over \$750,000,000, the Forest Service was requested to prepare a detailed plan for each National Forest and State. The report submitted for the Huron indicated an additional gross area of 252,000 acres suitable for National Forest purposes. The Norris-Doxey Act as passed did not provide for any expansion of the National Forest system.

The summer of 1939 saw approximately 95,000 users enjoy the forest and its recreational opportunities.

In 1940, the Silver Valley Winter Sports area was completed and attracted 25,000 users during that winter.

Huron National Forest Becomes Lower Michigan National Forest

On July 1, 1945, the Huron National Forest consolidated with the Manistee National Forest to form the Lower Michigan National Forest with the Supervisor's Office located at Cadillac, Michigan.

Land Transfer Projects

Alleghen Project. This project was covered by a long-term Cooperative and License Agreement executed by the Director, Department of Con-



Construction of dam at Largo Springs, circa 1930s.



Spillway at Minnie Pond dam, circa

servation, on February 9, 1940, and by the Secretary of Agriculture on March 29, 1940. This provided for management by the State of Michigan and covered an initial period of 50 years with an option for three renewal periods of 15 years each. Under the terms of this agreement, the Regional Forester (Divisions of State and Private Forestry and Fiscal Control) was responsible for carrying out all of the functions and activities.

Even though the State entered into a long-term License Agreement, they proposed to the Forest Service that they would prefer to have fee title to the project lands. Simultaneously, August 4, 1941, with the execution of an Informal Land Exchange Offer involving the Au Sable LUP lands, they executed an Offer covering the Allegan Project Lands (34,889 acres). In view of the fact that the lands were included in the License Agreement, clearance was needed from the Chief's Office, the Land Use Coordinator's Office, and the Secretary of Agriculture. The matter was submitted to the Chief's Office in September of 1941. Approval by the Assistant Secretary of Agriculture was dated November 14, 1941.

The disposal of the Allegan Project resulted in an increase of 109,895 acres to the four National Forests in Michigan.

On June 16, 1953, the Acting Secretary of Agriculture, in a letter to the Michigan Department of Conservation, stated that the Department had decided to exercise the authority granted under Title III of the Bankhead-Jones Act and convey to the State, without compensation, title to the so-called "LU" lands then under a long-term License Agreement subject to the following conditions:

- a. The lands must continue to be used for public purposes in connection with land-conservation and land-utilization.
- b. Seventy-five percent of the minerals must be reserved by the United States.
- c. All fissionable materials must be reserved by the United States.

A deed dated April 22, 1954, conveying the remaining lands in the project (1,315.16 acres) was delivered to the State on June 2, 1954.



Tobogganing at Silver Valley Sports area.

Lower Michigan National Forest Becomes Huron-Manistee National Forests

In 1963, the name of the Lower Michigan National Forest was changed to the Huron-Manistee National Forests, with the Supervisor's Office remaining at Cadillac, Michigan.

The Kirtland's Warbler

The Kirtland's warbler (*Dendroica kirtlandii*), a federally listed endangered species, was first discovered in 1851 when a spring migrant was collected near Cleveland, Ohio. Five more spring migrants, four in Ohio and one in southern Michigan, were collected before the first wintering bird was taken on January 9, 1879, on Andros Island, Bahamas. Between 1884 and 1897, there were 71 specimens collected throughout the Bahama Islands.

More than a half century after the Kirtland's warbler was first described, its nesting range was discovered. A specimen collected on June 13, 1903, near the Au Sable River in western Oscoda County, Michigan, was taken to Norman A. Wood, curator of birds at the University of Michigan Museum of Zoology. Wood promptly set out on a trip to Oscoda County, traveling by rail, rowboat, buggy and foot to search for nesting birds. Between July 2 and 7, he discovered two small groups of warblers that he described as "colonies" near Butler Bridge (now Parmalee Bridge) in "jack pine plains." On July 8, 1903, Wood then moved to some jack pine (*Pinus banksiana*) farther to the west and in the western part of Section 31, T27N, R1E, Oscoda County, and discovered the first nest.

Singing males have been found in other parts of the Great Lakes Region. Except for two possible reports in Ontario, only in Michigan have mated pairs of Kirtland's warblers been found. Searches for nesting birds have been expanded into Wisconsin, Minnesota, Ontario and Quebec. In the winter, this species has never been adequately confirmed to occur outside the Bahamas archipelago.



A Forest Service employee in uniform on ski patrol in 1940.



A Kirtland's warbler on a jack pine branch. Photo by Ron Austing.

Modern wildfire suppression has reduced much of the natural disturbance factor that sustained Kirtland's warbler habitat for thousands of years. Without wildfire, land management agencies must take an active role in conserving and enhancing the jack pine ecosystem through active habitat management. The Strategy provides guidelines for managing summer range for the Kirtland's warbler, and protecting individuals and their nesting habitat.

Early observers of the Kirtland's warbler found the birds in what was then described as the "jack pine plains" of northern Lower Michigan. While jack pine is found throughout Canada and from mid-Michigan and Wisconsin to the continental tree line, Kirtland's warblers occupy only a small portion of the extreme southern range. Almost all nesting has occurred on Grayling sands.

The first effort to provide nesting habitat for the Kirtland's warbler was made in 1957. Three areas, approximately four square miles each, were established as warbler management areas on Michigan state forest lands in Ogemaw, Crawford and Oscoda counties. Portions of two of these areas were reforested with jack pine using a special configuration to provide openings within the stand. The intention was to maintain these tracts in three age classes, seven years apart, by burning and replanting the stands when they reached an age of 21 years. Planting of the third area in Oscoda County near Muskrat Lake was deferred because jack pines on that area were approaching a commercially harvestable age. However, in 1964 almost one-third of this tract was burned by wildfire before harvest. The regeneration that resulted from that fire provided nesting habitat for Kirtland's warblers from 1972 to 1988 and is one of the longest occupied stands recorded to date. These three areas were later incorporated into the 1981 Management Plan.

In 1962, the Huron-Manistee National Forests approved a management plan for the Kirtland's warbler. A 4,010-acre tract was dedicated in June 1963 near Mack Lake, Oscoda County. This plan established 12 management blocks of about 320 acres each. Ultimately, each block was to be grown on a 60-year commercial rotation with five years age difference between blocks. In 1973 and 1974, the Huron National Forest cut,



This black and white photo, courtesy of Dow Chemical, was included in a 1989 press kit announcing a national symposium to discuss the Kirtland's warbler recovery management plan.



A Kirtland's warbler perches on the upper branches of a jack pine.

burned and planted areas near Luzerne, Oscoda County, and Tawas, Iosco County, to benefit the warbler. The 1981 Management Plan incorporated these areas for management.

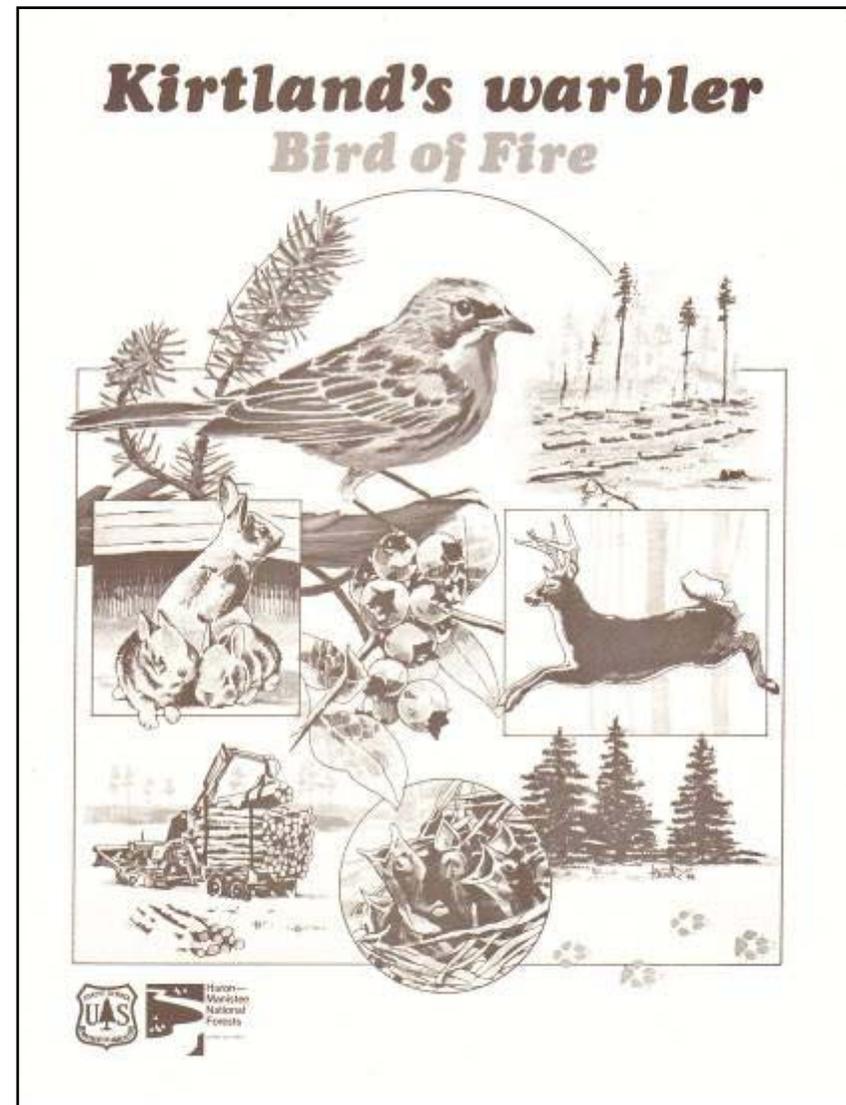
In 1971, the third decennial census showed an alarming 60 percent decline in the population of nesting warblers. This decline initiated a joint meeting sponsored by the Forest Service and Michigan Department of Natural Resources. One of the outcomes of this meeting was the formation of an ad hoc steering committee whose responsibility was to outline needed habitat research, propose restrictions on human activity in nesting areas, initiate a brown-headed cowbird (*Molothrus ater*) control program and locate funding for Kirtland's warbler management.

Through the efforts of committee members, both agencies established an official policy with specific points designed to improve the status of the Kirtland's warbler. This policy was to treat designated jack pine stands for a period of not less than five years for improving warbler habitat. Provisions of this policy included the use of clearcutting, followed by prescribed burning.

Efforts to aid the Kirtland's warbler were helped when the Endangered Species Act of 1973 became federal law. This act provided the means to have the Kirtland's warbler officially declared "endangered," provided for acquisition of land to increase available habitat, provided funding to carry out additional management programs, set up provisions for state cooperation with the federal government and established various legal protections for endangered species. Previous acts in 1966 and 1969 provided for endangered species listings, research and some habitat acquisition, but the 1973 law still stands as the most encompassing endangered species legislation to date.

The federal Endangered Species Act was supplemented by the Michigan Endangered Species Act of 1974. This act added legal protection to listed species in the state.

Rules published in the Endangered Species Act of 1973 called for the establishment of recovery teams to assist the Fish and Wildlife Service



Poster developed by the Forest Service to help educate the public about the Kirtland's warbler.

in carrying out provisions of the act. In early 1975, a Kirtland's Warbler Recovery Team was named by the Secretary of the Interior. As a result of the team's efforts, a Kirtland's Warbler Recovery Plan (Recovery Plan) was prepared outlining steps designed to increase the population of the species. The primary objective of the Recovery Plan is to "reestablish a self-sustaining wild Kirtland's warbler population throughout its known former range at a minimum level of 1,000 pairs."

The Kirtland's Warbler Management Plan for Habitat in Michigan was completed in 1981. For more than a decade, the agencies used this plan as a guide designed to direct management toward the habitat goal with notable response from the Kirtland's warbler population. With the significant increase in Kirtland's warbler numbers, part of the population is now nesting and producing young in the Upper Peninsula. The Nature Conservancy is leading ongoing efforts to locate and protect Kirtland's warblers on their wintering grounds. Cooperators include The Bahamas Department of Agriculture, Bahamas National Trust, North Carolina State Museum of Natural Sciences, US Fish & Wildlife Service, US Forest Service, Michigan Department of Natural Resources and others. Cowbird trapping has continued since 1972 and seasonal closures of occupied habitat have been in effect for many years. The Kirtland's warbler population has been monitored since 1971 by conducting an annual census. Several banding projects and nesting success studies have provided valuable information about warbler population dynamics and the effectiveness of cowbird trapping. Cross fostering and captive rearing studies were completed.

The Mack Lake Fire, 1980*

On May 5, 1980, at 10:30 Eastern Daylight Time, a prescribed fire was ignited in jack pine slash near Mio, Michigan. The purpose of the burn was to remove logging debris up to 1 inch in diameter in preparation for replanting jack pine. The ultimate objective was to create habitat favored by the endangered Kirtland's warbler. At 1206, the fire spotted into standing jack pine timber adjacent to the prescribed burn area. At 1215, the fire spotted across Michigan Highway 33 and became a wild-fire. In the first 32 hours, during which the fire advanced 7-1/2 miles, no



Wildlife biologist Phil Huber provides directions to volunteers who help with the annual Kirtland's warbler census.

Table of KW increase.

amount of fire line or road width held or slowed the fire. After the fire had advanced 4 miles, the passage of a dry cold front turned the southeast flank into a head fire. In the first 6 hours, the fire took one life, destroyed 44 homes and buildings, and burned 20,000 acres of forest land. Aided by a change in fuels and ameliorating burning conditions, suppression crews contained the fire by constructing 35 miles of fire line just 30 hours after it started, at a final size of 24,000 acres. In consuming 270,000 tons of fuel, the fire released 3 trillion BTU's of energy—as much as 90 thunderstorms, or nine times the energy released by the Hiroshima atomic bomb.

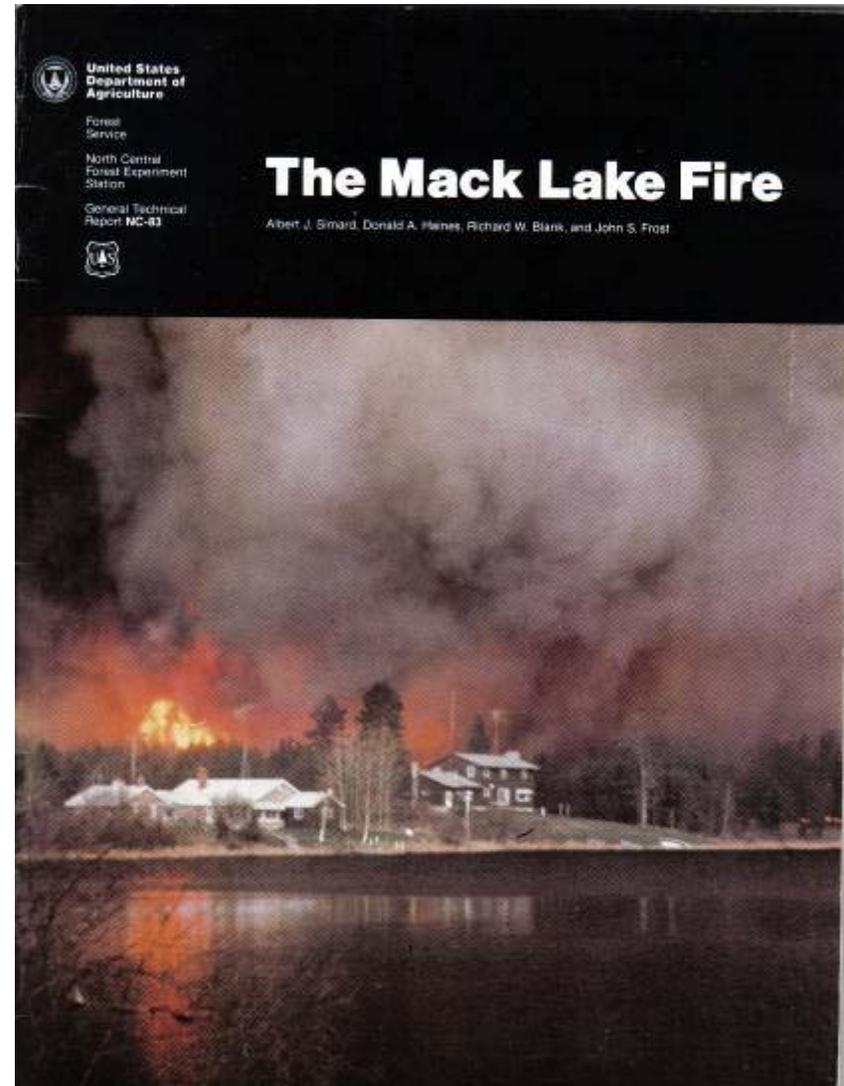
Although the Mack Lake Fire is the largest fire recorded on the Huron National Forest since record keeping began in 1911, it is not comparable to the historically “great” fires in the Lake States. Between 1871 and 1918, fires in Michigan, Wisconsin, and Minnesota burned 1 million or more acres in each of six different years and resulted in 2,500 deaths (Plummer 1912, Guthrie 1936). Simard and Blank (1982) found that within the area burned by the Mack Lake Fire, there have probably been five other fires in excess of 10,000 acres since 1820 (one every 28 years including Mack Lake). In 1946, six fires burned 14,300 acres in 1 day under similar weather conditions.

The Crane Lake prescribed burn was ignited. No unusual fire activity was noted for the first 45 minutes. The piled slash burned vigorously, with flame lengths of 10 to 15 feet, but flame lengths between the piles were only 6 to 12 inches. Although some spot fires crossed the control line, they were easily contained and firing resumed. During the next 45 minutes, three more spot fires occurred, one of which required a double plow line to contain.

At 1206

The prescribed fire spotted into standing jack pine timber adjacent to and upslope (26 percent) of the prescribed fire area. Being on the windward edge of a hill, the stand was exposed to the wind; this, coupled

**From the General Technical Report NC-83, The Mack Lake Fire, by Albert J. Simard, Donald A. Haines, Richard W. Blank and John S. Frost.*



A complete study of the Mack Lake Fire was conducted by the North Central Forest Experiment Station. The account here is taken from the report and is based on numerous eyewitness accounts.

with heavier fuel loadings, including bracken fern, resulted in a much faster spread rate than had been experienced in the prescribed burn area. The fire spread eastward toward Highway 33, 675 feet away, with scorch heights ranging from 1 to 6 feet. A tractor/plow attempted to contain the spot between the prescribed burn and the highway.

Between 1215 and 1230

The fire spotted across Highway 33. This may have resulted from the burning slash piles or from the spot fire torching a small group of trees at the edge of the highway. The first spot across the highway had scorch heights of 2 to 4 feet and was contained at three-fourths of an acre. A second spot (225 feet from the fire), first noted at 15 feet in diameter, was attacked by a tractor/plow within 4 minutes of detection. At this time, considerable smoke was reported across Highway 33, hampering visibility. The spot torched some trees within 25 feet of the point of origin and then dropped to the ground in a narrow strip of mature jack pine. The fire boss recalled a sudden increase in windspeed at this time. The fire entered an extensive sapling-sized jack pine stand and crowned within 100 feet of the point of origin. Surface fuel at the point of crowning was primarily sedge combined with pine litter and duff.

Between 1232 and 1245

The fire front was 1/2 mile east of Highway 33, and spotting at least 1/4 mile ahead. The tractor/plow was now working the north flank. An armored tanker started following and eventually passed the tractor/plow. The tractor/plow operator was trapped shortly after being passed by the tanker. The tanker crew reported that they never saw the head of the fire, despite traveling at 4 to 6 mi/h while spraying water. Although the fire was on the ground close to where the crew was working (flame heights of 1 to 2 feet), torching and crowning were visible 100 to 200 feet inside the line (flame heights of 30 to 40 feet). The fire was described by the crew as turbulent with "heavy, roiling black smoke." The wind shifted direction several times and the fire frequently fingered in a northerly direction. The fire was reported to be "... very sensitive to wind. A slight change in wind direction and a hot flank immediately turned into a crowning head." The changes were described as instant-



Looking north along the southwest flank of the fire. Although the fire is spreading southeastward, the flames are being driven to the southwest (right to left). The action of a horizontal roll vortex could account for this apparent anomaly.

neous. In the words of the tanker operator, "I'm sure that the main head of the fire was heading east, but the flanks were acting like the head of many fires I've been on."

Wind data from Houghton Lake and patterns of unburned tree crowns give no indications of short duration shifts of the ambient wind, implying local fire-induced turbulence. Subsequent examination of the area strongly indicated that a horizontal roll vortex formed along the flank where the crew was working. The crew was working on the north side of an unburned crown strip. The crew's description of fire conditions (1- to 2-foot flame heights and extreme turbulence) is consistent with a strong downdraft carrying firebrands and igniting a line of fire, along which they were working. Their description of 30 to 40 foot flame heights and crowning 100 to 200 feet further inside the burning area is consistent with a vortex updraft. The evidence of a northward moving crown fire approximately 100 feet east of the point where the tractor abruptly turned northward is consistent with a local north wind resulting from the downdraft portion of a vortex. There is also evidence of an eastward moving crown fire (originating from spots which crossed the line behind the tractor) approximately 200 feet north of the tractor's final position. Once established, the latter crown fire was presumably beyond the influence of the vortex and responded to ambient winds. The tractor/plow and operator were trapped between the two fires while the tanker (approximately 100 yards ahead) was able to turn northward and escape.

At 1310

The fire crossed County Road 489 (1 and 1/2 miles east of the last reported position). It was approaching the village of Mack Lake, which had been evacuated. Photographs indicate flame heights of twice the height of the trees (20 to 30 feet). The fire boss reported that "a wall of fire" was approaching the village. He was "impressed with its consistency." He reported flame heights 20 to 30 feet above the trees. These observations suggest flame heights ranging from 40 to 60 feet. The fire was still spotting at least 1A mile ahead



The smoke plume created by the Mack Lake fire.

At 1325

The fire had passed through the village of Mack Lake. Forty-four homes and cottages (about one out of three) were destroyed. Although a study was not conducted, a general impression is that homes with mowed lawns and some distance between them and the jack pine forest survived. Those in minimal clearings with natural vegetation and/or with firewood piled adjacent to the house did not. This is consistent with findings after other large wildfires (Fischer and Books 1977).

By this time, the fire was 1/2 mile east of Forest Service Road 4146 (1 and 1/2 miles east of the 1310 position). At about this time, a second report indicated that the fire had spread along County Road 604 from Forest Service Road 4458 to 4460 (2 miles) in 15 minutes. These observations indicate spread rates of 6 to 8 mi/h—the fastest reported spread rates during the fire's run. One observer remarked that it was "notably warmer" when the fire was still 1/2 mile away. The flames were described as similar to movies of the sun, with isolated balls of flame in the air. Another observer noted that, "Following the crown fire, unburned ground fuels ignited and burned in all directions." This could imply that during the major run, the crown fire was independent of the ground fire. This observation could also describe a crown fire which gained momentum from spot fires and raced ahead of the surface fire for some distance before dropping back to the ground. Surface fuels ignite from material that drops from the burning overstory. It is in the areas burned during this period that the largest unbroken areas of crown fire are found.

At 1530

The fire was at the junction of County Road 489 and Forest Service Road 4461 (3 miles east of the 1325 position). The wind had shifted to west-northwest and the fire was now spreading east-southeast on a wide front. Although the fire was still spreading rapidly, the rate of advance had slowed slightly.

At 1600

The fire was 1/2 mile east of Forest Service Road 4527 along County Road 604 (4 miles east of the 1325 position). This sector of the fire had



The Mack Lake Fire as it burned through the Kirtland's warbler Management Area, shortly after passing through the village of Mack Lake.

passed from jack pine to hardwoods and was burning on the ground. The northeast corner of the fire had become a flank, and control actions were becoming effective along this portion of the perimeter. Most of the front, however, was still actively crowning in jack pine.

At 1825

The fire was reported to be 4 to 5 miles northwest of the community of South Branch. Since the final perimeter was 5 miles northwest of South Branch, the fire was perhaps 5 miles away at this time. This is 1/2 miles from the 1600 position. The wind had further shifted to north-northwest and the fire was now spreading south-southeast. What had been the southern flank was now the fire front. Although most of the fuel burned during this period was jack pine, the crown fire appears to have weakened. During this period, video tapes of the fire taken along Highway 33 (at the rear and flank) show backfire flame heights of 12 to 18 inches in jack pine surface fuels. Flame heights in 2- to 2 1/2-foot-deep fresh slash were 5 to 10 feet, however. Thus, although the fire had slowed, it still presented control problems, particularly where fuel loadings were high. High crown scorch heights of isolated red and jack pine trees in the hardwood areas attest to the fact that even though the fire burned on the ground, it was still moderately intense.

By 2400

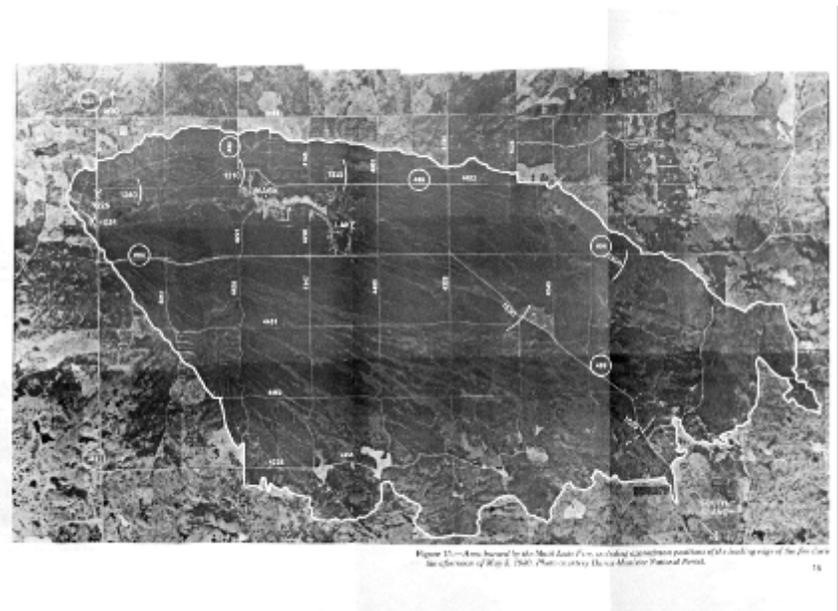
The fire spread an additional 1/2 mile to the east and south, primarily on the ground, through hardwood stands. Mechanized equipment could now work effectively on all sections of the perimeter.

By 0600 (May 6)

The fire had essentially stopped spreading. Suppression forces had constructed 15 miles of control line.

By 1800

The fire was contained at 23,830 acres, with 35 miles of control line. There was no significant increase in acreage burned during the day. Little difficulty was experienced in burning out from plowed control lines.



Map shows progression of the Mack Lake fire, May 5, 1980.

Fire Effects

The Mack Lake Fire took a heavy toll. One fire-fighter lost his life. Losses from the destruction of private property will probably exceed 2 million dollars when all claims are settled. Timber losses were estimated at 2 million dollars and watershed and recreation losses at \$166,000. On the positive side, range and wildlife values increased by \$125,000.

Conclusions

The Mack Lake Fire was not unique. Five other fires in excess of 10,000 acres have occurred in the Mack Lake area since 1820. The average interval between major jack pine crown fires is 28 years. Large crown fires will continue to be an intermittent fact of life in jack pine forests.

In northern Lower Michigan, the spring fire season appears to be typified by wide fluctuations in fire danger. Ninety percent of the days are either low or high, with less than 10 percent in between. Periods of moderate fire weather appropriate for prescribed burning rarely last more than 1 day. This complicates the prescribed burning planning process. The Mack Lake Fire occurred just 6 days after 1/2 inch of rain fell. Only a slight precipitation deficit was recorded during the 4 months preceding the fire. It is clear that drought is not necessary for a major spring crown fire in jack pine. During the last 4 days of the drying period, relative humidity at 1300 ranged from 19 to 28 percent.

Horizontal roll vortices may be a common mechanism of lateral crown fire spread. If they form, they are a safety hazard for crews working on the flanks of crown fires. Further research into this phenomenon will be needed before the processes involved are understood and procedures for predicting the occurrence of horizontal roll vortices can be developed.

The average rate of spread of the Mack Lake Fire (2 mi/h) was similar to that of other fast-moving crown fires. The maximum rate of spread (6 to 8 mi/h) equals the fastest recorded rate for which we had data.



The Mack Lake fire burns through a jack pine stand.

During the fire's major run, average fireline intensity (8,800 Btu/ft/sec) was similar to that for other major crown fires. The 1-hour maximum fireline intensity (15,500 Btu/ft/sec) was less than that for three major fires for which we had data. The 15-minute peak intensity (29,500 Btu/ft/sec) may have approximated an upper limit for moving crown fires.

The number of permanent and seasonal residences in and adjacent to wild land areas is increasing. Noting that two out of three homes in Mack Lake did not burn, an expanded program should be developed to explain to homeowners the potential for wildfire damage and how to locate and landscape their homes to prevent loss.

Fire is an important and in some cases essential land management tool. It can also be terribly unforgiving of human error. Considerable skill and knowledge is required to successfully walk what is often a narrow, winding path between accomplishing land management objectives and reducing the risk of adverse consequences. A potentially explosive fuel type such as jack pine only serves to exacerbate the situation.

Trumpeter Swans

In cooperation with a number of partners, the Huron-Manistee National Forests has successfully reintroduced trumpeter swans to the Au Sable River, and the site is now home to one of the largest populations of trumpeter swans in Michigan.

History. Historically trumpeter swans nested across the northern United States and Canada. By 1900, the U.S. population was nearly extinct, and all birds were gone from the Midwest. Following a successful recovery effort in the northern Rocky Mountain States in the late 1950s, restoration efforts were initiated farther east. During the 1980s, a swan reintroduction program began in Michigan as part of the North American Restoration Plan (NARP). Today, over 1,000 trumpeter swans exist in the contiguous United States.

Two self-sustaining populations with at least 15 pairs of breeding swans each were introduced by the year 2000. In addition, the Huron-Manistee



The Hughes Lake Fire, April 30, 2006, burned approximately 5,800 acres.

National Forests were involved in another reintroduction effort to establish a third population in cooperation with the Michigan Department of Natural Resources, Kellogg Bird Sanctuary, Iosco Audubon, Detroit Zoo, and Consumers Energy, in the mid-1990s. Young trumpeter's were released in 1993 (18 birds), 1995(12 birds released), 1998 (10 birds released), and 1999 (10 birds released). Today approximately 150 trumpeter swans make their home along the Au Sable River watershed.

Winter Habitat. The quiet, unfrozen waters of the Au Sable River provide an ideal combination of open water, sufficient sources of natural foods, and a quiet place to rest for wintering trumpeter swans. Over 140 individuals have been sighted during the winter months, which is the largest number of over-wintering trumpeters in Michigan, and perhaps the Midwest. Because of this, the Au Sable River from Alcona Pond to Foote Hydro, including Loud, Five Channels, Cooke, and Foote ponds, was recognized as an Important Bird Area by Audubon.

Threats. Trumpeter swans are threatened by human disturbance from boats and jet skis as well as people approaching nesting sites too closely. Mute swans may compete for resources and breeding territories. Other threats to trumpeter swans include lack of adequate winter habitat and lack of migratory behavior patterns in many restored populations. Lacking winter habitat, dense populations exist in a few isolated areas, which leaves them vulnerable to spread of disease, lack of food, and a single catastrophic event. Lead poisoning is also a significant cause of mortality among trumpeter swans.

Monitoring. Trumpeter swans were observed throughout the year by volunteers and interested publics. Ron Hohman and Peg Ridgeway of Iosco County Audubon are acknowledged for the extra effort they extend watching swans throughout the year. The winter distribution of trumpeter swans are depicted in the Figures and show the number of swans on each impoundment for January and December 2004. Population censusing reported 103 trumpeter swans to be observed on impoundments of the Au Sable River on the Huron National Forest. This number is the sum of the Great Backyard Bird Count and the observa-



Trumpeter swans at Westgate Scenic Overlook, winter 2004.

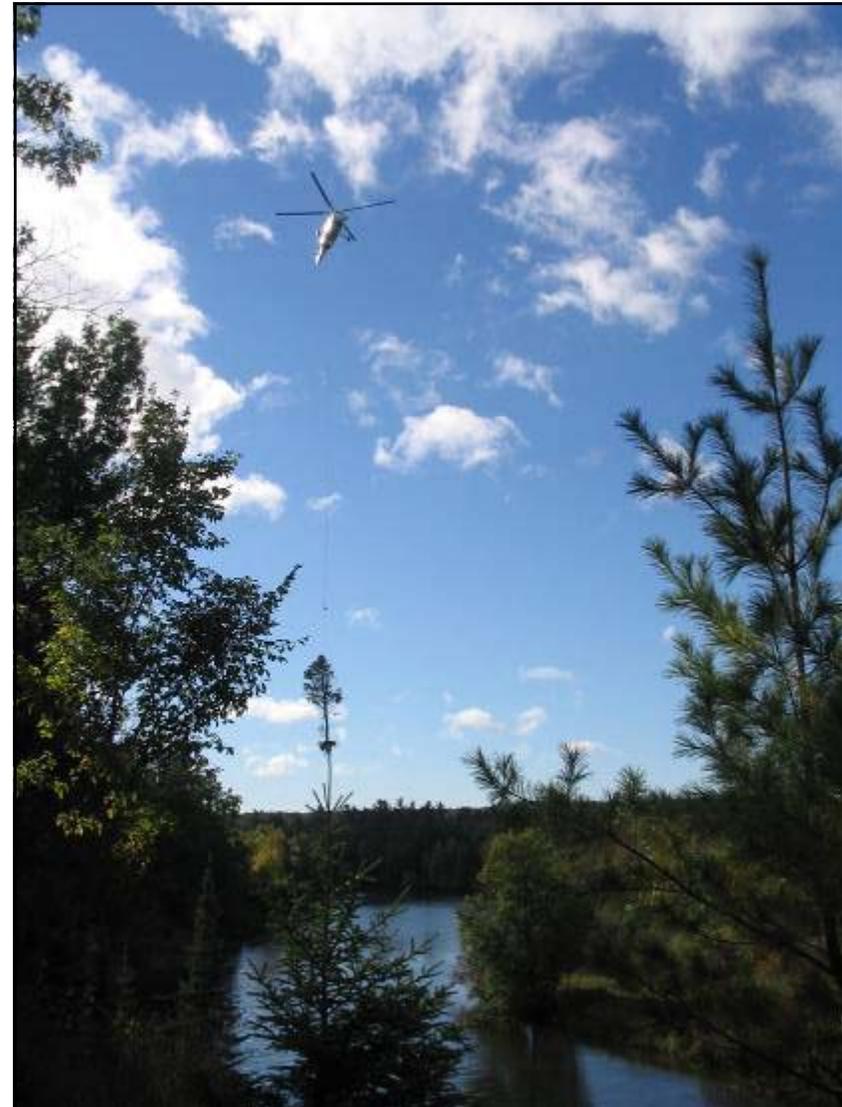
tions of volunteer Peg Ridgeway. In both 2002 and 2006, the Au Sable River scored in the top 10 locations for trumpeter swan sightings according to the Great Backyard Bird Count.

Wintering. Numbers of trumpeter swans overwintering along the Au Sable at upper Cooke Dam, Loud Dam Pond and Alcona Dam Pond continue to increase with an all time high of 137 individuals counted in January, 2004. An aerial survey was performed Friday, December 3, 2004, which recorded over 119 individuals. Although few areas are icing up, birds are already beginning to gather at Foote Dam Pond, Loud Dam Pond and Alcona Dam Pond (see figures at end of report). In a conversation with Joe Johnson, he remarked that this population may have grown to 163 birds this year. With large numbers of 2 and 3 year olds in the current population, next year is likely to be the first year with more than 15 breeding pairs within the Au Sable river watershed. It is believed that the population will increase dramatically in the near future. Smaller impoundments and beaver ponds are beginning to be utilized by these trumpeter swans, which Joe described as surprising. The upper Cooke Dam area of the Au Sable River likely has the largest concentration of overwintering trumpeter swans in Michigan. If numbers of trumpeter swans continue to increase into the future as expected, the availability of winter habitat may become a limiting factor.

Large wood placement in the Au Sable River

In cooperation with the Michigan Department of Natural Resources and the Huron Pines Resource Conservation District, the Huron-Manistee placed 400 whole trees in the Au Sable River in 2006. Forest Service employees downed and prepared oaks and red pines that were hoisted by a heavy-lift helicopter and placed along the streambanks.

Present-day levels of wood in northern Michigan rivers are considered lower than pre-European settlement levels. Over the past 25 years, the role of woody debris has been demonstrated to be of great importance in riparian-aquatic ecosystems. Large wood creates a diversity of hydraulic conditions that in turn increase habitat diversity for instream aquatic life. Large wood also provides habitat for numerous riparian-dependent species. Other benefits are the input of nutrients to aquatic ecosystems and the protection of streambanks during high flows through energy dissipation.



A contract helicopter lifts a red pine for placement in the Au Sable River.

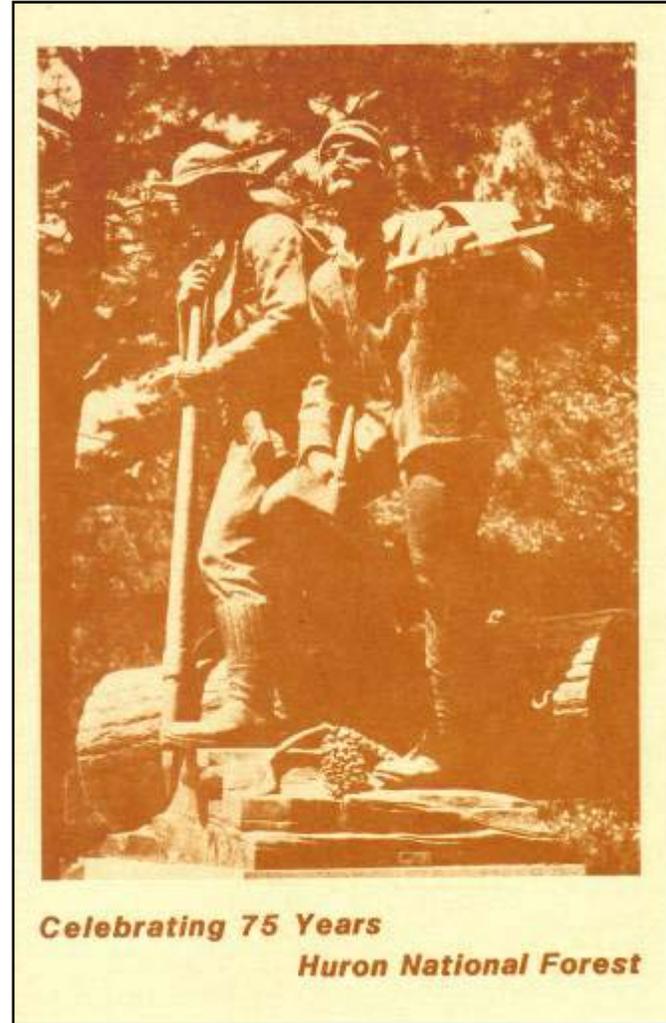
Given the important role large wood plays in riparian-aquatic ecosystems, the Forest Service and Michigan Department of Natural Resources developed guidelines that promote the protection and recruitment of large wood in streams. The forests' and partners monitor and analyze large wood placement in Northern Michigan rivers; study results have been shared with other researchers and organizations at regional scientific conferences.

Since 1998, a unique approach has been used to restore large wood to this river, that being placement of whole trees with a heavy lift helicopter. Approximately 2,250 trees have been placed in 23 miles of the Au Sable, including an additional 130 in 2008. In addition, 175 trees have been placed on two large eroding "high banks" to complement vegetative plantings for stabilization. Average cost per tree placed is \$425. This large-scale habitat restoration has been accomplished through a partnership between the Michigan Department of Natural Resources, the Forest Service, and Huron Pines Resource Conservation and Development Council. The majority of funds have come from the state's Habitat Improvement Account program. The Forest Service has also been a significant contributor of funding, including a 2005 \$100,000 Centennial of Service grant. Huron Pines primary contribution has been "in-kind" services, both for project planning and actual implementation.





Postcards issued to celebrate the 75th Anniversary of the Huron National Forest.



We need your help!

History doesn't end, and there are many stories and details that we were not able to include in this brief history of 100 years of the Huron National Forest, mostly because we don't have access to them.

We have room for more!

Please send us your stories and photographs. We are especially interested in the documenting the last forty years prior to the Centennial observance. We would like to make copies of:

- Old photographs.
- Brochures.
- Reports.
- Newspaper articles.
- Official correspondence.
- Personal letters.

If you can provide any additional information about the photos included in this history, such as names and exact dates or locations, please let us know.

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For information or to contribute to this history, contact karbogast@fs.fed.us