

Abstract

Brian S. Jaeschke. BLACK ANGELS OF THE ICE: THE HISTORY OF CHARTERED ICE BREAKING ON THE GREAT LAKES BY THE RAIL FERRIES SAINTE MARIE AND CHIEF WAWATAM. (Under the direction of Dr. Annalies Corbin) Department of History, Program in Maritime Studies, December 2003.

The objective of this thesis is to examine the first two vessels used on the Great Lakes as icebreakers, the rail ferries Sainte Marie and Chief Wawatam. The important role of these vessels as heavy icebreakers has been overlooked by previous scholarship and needs to be addressed as an important aspect of Great Lakes and world maritime history. These ferries were the first vessels to incorporate methods for icebreaking and ship design specifically developed to handle ice together and prove them successful on the Great Lakes.

These two commercial ferries were chartered to open spring navigation before and after the introduction of Coast Guard icebreakers. During World War II, the ferries were vital to the war effort. Serving as icebreakers, they opened channels for ships that carried vital raw materials to the mills and factories. With the arrival of the heavy icebreaker Mackinaw in 1944, the role of the ferries and their charters began to diminish. By the early 1960s, all Great Lakes icebreaking was handled by the Coast Guard.

The Sainte Marie and Chief Wawatam were designed specifically for ice-breaking duty but they were primarily

employed as ferries. In order to cover their operations adequately, each of the time periods during which one or both of the ferries were used for ice-breaking duty are discussed. Their histories are pieced together from logbooks, newspapers, ship owner documents, and interviews with individuals familiar with the history of the ferries. Underlying the history is the struggle by sailors, ship owners, and other individuals of the Great Lakes region to extend the shipping season as long as possible. The benefits included industrial growth, financial gain, and increased production of war materiel during times of national crisis.

Previous research has focused on the long history of the Chief Wawatam and the role of the Mackinaw conducting icebreaking. The author feels that the services provided by the rail ferry Sainte Marie have been ignored by historians and should be documented as well. Any future research done on the history of Great Lakes icebreaking or the role of the Mackinaw will undoubtedly need to mention the duties performed by both the Sainte Marie and Chief Wawatam.

BLACK ANGELS OF THE ICE:
THE HISTORY OF CHARTERED ICE BREAKING ON THE GREAT LAKES
BY THE
RAIL FERRIES SAINTE MARIE And CHIEF WAWATAM

A Thesis
Presented to
the Faculty of the Department of History
East Carolina University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts in History

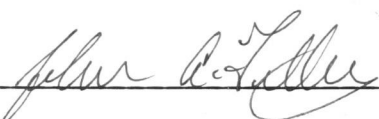
by
Brian S. Jaeschke
December 2003

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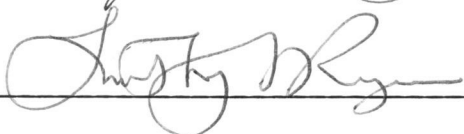
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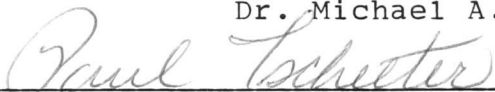
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To all the men and women
who served on board the
Sainte Marie and Chief Wawatam.

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N.T.A.F. & N.W.A.E.

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Introduction

The Great Lakes of North America consist of five of the largest bodies of fresh water in the world. Throughout history, people living around the lakes have tapped their resources for drinking water, transportation, recreation, and commerce. During colder months, freezing temperatures turn the lakes into frozen wastelands covered with ice of varying thickness. Ice build-up becomes an obstacle forcing most boats and ships to tie up during the winter months until warmer weather appears.

Native American tribes that lived around the lakes used dugouts and birch bark canoes to travel the waterways. These boats were used to attend social and religious gatherings, journey to hunting grounds, and fish. During the colder months between November and April, ice prevented this travel from occurring so tribes gathered at winter hunting grounds. Travel would not resume in the spring until the ice had broken up.

The arrival of Europeans in the seventeenth century brought the construction of large wooden sailing vessels. These vessels were used to ship passengers and freight between settlements that were established along the shores of the lakes. Many of these areas were settled to take advantage of the fur trade, which brought manufactured goods into the lakes and conveyed furs to Europe. Over the

years, different resources other than fur were found and exploited. These resources included copper, timber, coal, iron ore, and agricultural commodities.

As demand for these products increased, more and more vessels were built to provide shipment. Wood was the original source of material for ship construction, but iron, then steel became the primary shipbuilding material by the end of the nineteenth century. Regardless of construction, however, ice on the lakes remained a serious obstacle. There was little for vessel owners and sailors to do other than tie up their vessels until the ice left the lakes. Ice was notorious for trapping late season vessels for hours, days, and even weeks. A ship's inability to move became a financial and safety burden to vessel operators, passengers, and dock owners. In order to avoid these problems, the sailing season was necessarily limited from April until late November.

In 1881, the Mackinac Transportation Company was formed to haul railway cars across the Straits of Mackinac, a distance of about eight miles. To facilitate year-round service, the car ferries were constructed to incorporate ice-breaking capabilities. The Straits narrow between Mackinaw City and St. Ignace, forming a funnel which concentrates ice. Strong winds blow the ice together piling it on top of itself forming thick ice formations called windrows. Ice windrows are deceiving, appearing

thin on the surface but extending many feet below the water and in some cases anchoring to the bottom of the lake. Any vessel that was going to tackle these conditions year-round had to have a design never before seen on the lakes.

This thesis will examine the history of two of these rail ferries, the Sainte Marie and Chief Wawatam, and the chartered ice-breaking operations they performed as icebreakers around the Great Lakes. The important role of these ship's as heavy icebreakers has been overlooked by previous scholarship and needs to be addressed as an important aspect of Great Lakes and world maritime history. These ferries were the first steamers to incorporate methods of icebreaking and ship design specifically developed to handle ice together and prove it successful.

Prior to the development of ice-breaking vessels by the United States Coast Guard, Great Lakes shipping interests had little means to assist ship's stuck in ice. When icebound, freighters were sometimes able to free themselves, however, at times, vessels remained trapped until warmer weather released them. Tugs, whaleback steamers, and other lakeboats were sometimes used to free ships, but no ship specifically designed for icebreaking existed until these ferries were constructed for the Straits. The Sainte Marie and Chief Wawatam were the first ferries that successfully incorporated ice-breaking ship

design and methods for breaking ice to free stranded vessels and maintain channels otherwise closed due to ice.

Prior to construction of the first two Straits ferries, St. Ignace and Sainte Marie (1893), icebreaking on the Great Lakes did not exist as a distinct operation. These two vessels were constructed with revolutionary ice-breaking features for crossing the Straits of Mackinac. They, however, never broke ice in any area outside the Straits. They only cleared ice to carry the railway cars across the Straits. It was not until the construction of their steel-hulled successors, Chief Wawatam and Sainte Marie, that the ferries proved themselves successful as icebreakers on the Great Lakes. Their unique design as icebreakers coupled with the methods for ice crushing developed by the ships' masters, made the Sainte Marie and Chief Wawatam the models for future icebreakers built around the world.

The Sainte Marie and Chief Wawatam proved the design and methods developed were successful icebreaker models during the period from 1926 until 1957. During this time, the two ferries engaged in ice-breaking operations under many different circumstances. The Sainte Marie freed vessels in an emergency situation in 1926 when an early freeze-up hit the lakes. Prior to World War II, the Sainte Marie and Chief Wawatam opened navigation early in the spring, enabling industry in the United States to expand

production. During the war, the two steamers freed vessels and kept open channels in the spring so that iron ore and other essential war materiel continued to flow to American and Canadian factories. With the baby boom that followed the war, the Sainte Marie worked with the Coast Guard icebreaker Mackinaw to open spring navigation as United States industry continued to expand due to consumer demands. These periods of ice-breaking operations on the Great Lakes proved the Sainte Marie and Chief Wawatam successful icebreaker models and laid down the mould for ice-breaking ship design used in later vessels.

In November of 1926, an early freeze-up in the St. Mary's River caused numerous vessels to become trapped. Vessel owners were faced with the prospect of leaving ships in the river all winter and the sailors would be separated from family and friends for the winter months. Members of the Lake Carriers' Association, an organization started by vessel owners to promote safe navigation and commerce, devised the solution of chartering one of the Straits' ferries for icebreaking. The Sainte Marie was leased to the Association and proceeded up the river to free the vessels stuck in the ice and keep traffic moving once opened. The Sainte Marie proved herself quite capable of handling the situation, much to the relief of owners and trapped sailors.

As industrial demands increased during the years

leading up to World War II, shipping companies and their customers extended the sailing season as long as they could to make a profit. Spring fit out usually occurred in mid-to-late April and navigation continued until late November. As demand for iron ore and other bulk cargoes rose, the season was lengthened to start in late-March and end with the ships laying up in mid-December. An extended sailing season was only possible if freighters received assistance from icebreakers in the narrow channels, rivers, and bays where ice was the thickest.

Starting in 1937, the Lake Carriers' Association chartered the Sainte Marie and Chief Wawatam for icebreaking. This arrangement lasted until 1957. The ferries were only leased during the years when ice proved a major obstacle to navigation in the spring. During World War II, the two ferries were leased to the Coast Guard and Maritime Commission to open commerce early, as the raw materials shipped by Great Lakes freighters were essential to war production.

In 1944, the Coast Guard built the icebreaker Mackinaw, whose design found its origins in the Chief Wawatam and Sainte Marie. The Mackinaw was commissioned in late 1944 and worked alongside the Sainte Marie for many years after the war to open navigation early in the spring on the lakes. This period, however, marked the end for the car ferry charters, as the Coast Guard provided government

sponsored ice-breaking services free of charge. Coast Guard icebreakers proved cheap and effective.

The Chief Wawatam is one of the most noted vessels that served on the Great Lakes. The period of her service on the lakes, from 1911 until 1984, along with the fact that she was one of the lakes' last coal-fired ships, has made her a regional and historic legend. In 1976, author Frances D. Burgtorf published the book Chief Wawatam: The Story of a Hand Bomber. The author interviewed many of the crew and sailed on the ferry recording the history and workings of the Chief Wawatam. Burgtorf briefly discusses the two periods in 1937 and 1943 when the Chief Wawatam went icebreaking, however, no in-depth study of the role played by the ferry is presented.

The Sainte Marie was constructed two years after the Chief Wawatam and functioned as a back-up ferry. It was the Sainte Marie that was usually chartered for icebreaking, serving in this capacity during 13 different years between 1926 and 1957. She has become a footnote to Great Lakes historians and has never before been the focus of major historical research. The Sainte Marie spent a great deal of her lifetime tied up waiting to be summoned for service, so she was the preferred vessel for charter. She was found to be more maneuverable in the ice than the Chief Wawatam, and proved to be anything but ordinary when it came to ice crushing.

The Sainte Marie and Chief Wawatam were originally constructed for the purpose of ferrying railway cars across the Straits of Mackinac, which they successfully accomplished for many years. The vessels were never intended for the role of heavy icebreaker, however, their adaptation and success had far more influence on icebreaker design than other vessels. It is time for their story to be told and receive the recognition it richly deserves.

Note On Vessel Names:

The Mackinac Transportation Company constructed two vessels that were named Sainte Marie. In order to distinguish between the two in this paper, the Sainte Marie that sailed from 1893 until 1913 for Mackinac Transportation will be printed as Sainte Marie (1893). The second ferry that sailed from 1913 until 1961 will be printed as Sainte Marie. The illustrations for the Sainte Marie (1893) are labeled Ste. Marie and the ferry built in 1913 remain Sainte Marie.

Maps:

The Appendix contains maps of the geographical regions discussed in the text. Notations in the text are for their referral.

Chapter One
The History of the Straits of Mackinac
and the
First Railway Ferries

The history of railway ferry service at the Straits of Mackinac began in 1881. The name of one of these ferries can be traced back a century earlier to a Ojibway Indian who befriended an English fur trader. The railway ferries came to the Straits after the railroad was established in the upper peninsula and for over 100 years, provided valuable service across the Straits. In the process of developing these ferries, a new form of vessel was created. The ship was designed as a railway ferry, but also incorporated revolutionary ice-breaking capabilities. Capabilities that would be used around the world for icebreakers began with the first two ferries built for the Straits crossing.

History of the Straits of Mackinac

Throughout history, the Straits of Mackinac have been a focal point of geographical, strategic, and economic importance. Geographically, the Straits are the only place where any of the Great Lakes directly connects with another. Lake Michigan opens to the west and Lake Huron

expands to the east. Besides rivers and other features, the Straits are one of the narrowest areas on the Great Lakes. Less than six miles separate the upper and lower peninsulas of the State of Michigan.

The Straits were strategically vital originally to the Native Americans and later the French and British. Mackinac Island rests in Lake Huron only a few miles from the shore of St. Ignace. The term "Michilimackinac" is translated as "great turtle" or "big turtle." It refers to the shape of the island, which when viewed from a distance, looks like a large turtle.¹ The island was an important location for local tribes to gather and it played a prominent role in Native American culture.

French missionaries and explorers were the first Europeans to arrive at the Straits in 1634. Father Jacques Marquette established a mission at St. Ignace in 1671 on the north shore for the local Native Americans, who frequently gathered in the area to fish. The French established Fort de Buade a few years later in the same vicinity. The French moved the fort to the south shore and established Michilimackinac in 1715.² This palisade fort was the hub of the Great Lakes fur trade until 1781, when the British moved the fort to Mackinac Island.³

The fur trade was the first substantial economic influence on the Straits region. The area became the focal point as Native American and European trappers brought

their pelts to Michilimackinac in order to trade. The furs were packed into bales, placed in large canoes or bateaux, and sent to Montreal for transport to Europe. Many of these early settlers made themselves quite wealthy on this enterprise, but, by the nineteenth century, fur was no longer in demand.

In 1763, the French and Indian War came to a close. The French were defeated and surrendered their territory to the British and control of the fur trade and all outposts fell under the British Crown. By 1763, however, Native Americans had become dissatisfied with the iron hand of British rule. Led by Chief Pontiac, tribes including the Ojibway and Sac seized most of the British forts and settlements including Michilimackinac. This impressive feat was accomplished through ingenious trickery. On 2 June 1763, Indians gathered outside the fort to play lacrosse and during the game, the ball was tossed inside the palisade. Native women stood by the main gate wearing large blankets which concealed knives, clubs, and other weapons. The men grabbed the weapons and proceeded into the fort where they killed or captured the entire garrison.⁴

Alexander Henry and Chief Wawatam

One of the British fur traders captured was Alexander

Henry. Henry was a well-known trader and explorer who wrote an extensive account of his experiences. Before the fort fell, Henry was adopted as a friend and brother by a local Ojibway, Chief Wawatam. Following his capture, Wawatam secured Henry's release by speaking on his behalf and offering goods to his fellow tribesmen. Henry was still not out of danger and Wawatam had to hide him in a cave on Mackinac Island in the dark of night. When Henry awoke the next morning, he found the cave floor littered with skulls and bones. The location, known today as Skull Cave, was a burial site that had been unknown even to Wawatam and his people.⁵ Alexander Henry spent nearly a full year with Wawatam and his family traveling with them to their winter hunting ground. In the spring of 1764, he was able to return to Michilimackinac and continue his profession, eventually becoming quite an affluent fur trader.⁶ The significance of this event was acknowledged years later when a Straits of Mackinac car ferry was named after Chief Wawatam.

Isolation and a Railroad in the Upper Peninsula

The Straits of Mackinac is the only geographical area where the upper and lower peninsulas of Michigan approach one another. For most of the nineteenth century, however, the upper peninsula remained isolated from the lower

peninsula. The only direct link to the wilds of the upper peninsula was a rail line constructed after the Civil War through Chicago and north up into Wisconsin. Lake steamers carried passengers from cities like Detroit and Chicago, however, ports in the upper peninsula were few and very simple settlements with little to offer.

By the late 1800s, the upper peninsula had become recognized as a region rich in resources for both Michigan and the growing country. Douglass Houghton's discovery of copper and iron ore in 1841, as well as vast stands of virgin timber, attracted miners and timberjacks from all over the country.⁷ Many of these were recent immigrants to the United States who wanted to make better lives for themselves and their families. As the upper peninsula's population grew and new industries were established, the existing transportation system quickly proved to be inadequate.

In 1879, James McMillan and a group of associates pooled resources to form the Detroit, Mackinac, and Marquette Railway (DM & M). Their plan was to build a rail line between St. Ignace and Marquette. The 162-mile railroad would cross five counties and stop at several towns including Newberry, McMillan, and Munising before terminating in Marquette. The line was completed in December of 1881. As other rail lines were built in the upper peninsula, they were consolidated with the original

DM & M Line. In 1887, the entire line was taken over by the Duluth, South Shore, and Atlantic Railway Company (DSS & A). The line was extended a few years later by DSS & A to Duluth, Minnesota.⁸

Birth of the Mackinac Transportation Company

By 1881, two rail lines had been built to Mackinaw City at the tip of Michigan's lower peninsula. The Michigan Central Railway's (MCRR) tracks connected many towns in the southern portion of the lower peninsula. Detroit, Grand Rapids, and Kalamazoo were a few of the big cities; Albion, Charlotte, and Grand Ledge were smaller rural stops connected by MCRR track. The track that ran to Mackinaw City crossed from Toledo, Ohio and headed north through Detroit, Flint, and Saginaw. The track passed through the northern communities of Grayling, Gaylord, and Cheboygan before terminating at the Straits. This line covered the eastern side of the state before branching into the northern part of lower Michigan (Appendix D).

On the western side of the lower peninsula, the Grand Rapids and Indiana Railway (GR & I) operated a line that came north from LaGrange, Indiana. The track crossed the state line near Sturgis, Michigan and headed through towns like Vicksburg and Kalamazoo before reaching Grand Rapids. The tracks did not, however, stop there. They proceeded

north through numerous cities such as Cadillac and Petoskey; towns like Kalkaska and Mancelona; and the villages of Brutus and Alanson. The tracks reached the Straits, but only came into contact with the Michigan Central line at the rail ferry docks in Mackinaw City. The two rail lines connected all major points in the lower peninsula, and now the upper peninsula could be added if the Straits could be crossed (Appendix D). It should be noted that many modern day roads and highways in the State of Michigan parallel both of these lines.

The problem was how to get the freight and railway cars across the Straits from one peninsula to the other. The idea of a bridge was discussed but proved to be impractical due to the high cost. The three rail companies formed a joint subsidiary, the Mackinac Transportation Company (MTC), to operate a ferry boat for transporting the freight. This company undertook the task of buying and running a ferry that would operate between St. Ignace and Mackinaw City.⁹

The Algomah and the Betsy

In 1881, the Mackinac Transportation Company purchased the steamer Algomah and brought it to the Straits. The Algomah was a wood-hulled vessel with three main decks. She was 127 feet long, with a width or beam of 33 feet, and

a draft of 11 feet. The steamer was built in 1881 by the Detroit Dry Dock Company as hull number 53 with a gross tonnage of 486 tons and a net tonnage of 359 tons. The vessel was constructed with a square-shaped pilothouse, which was later reconfigured into a round shape for better visibility.¹⁰ Captain Louis R. Boynton commanded the ship during her early years and he was to play a vital role in the future of the Straits ferries.

During these early days of ferry service, all cargo was unloaded from the railway cars at Mackinaw City and then hand loaded on board the ship for the crossing of the Straits. Once docked in St. Ignace, the cargo was unloaded and placed in waiting empty boxcars. This process was repeated each time the Algomah made a trip across.

In 1883, the Algomah made a fateful port of call in St. Ignace. As she towed the barge Betsy across the Straits, the Algomah went aground. She let go her tow line to the Betsy and proceeded to run right up on the beach, finally coming to rest against the Third Ward schoolhouse!¹¹ The ship was pulled off of the beach and returned to service shortly thereafter.

The Algomah was a powerful ship, driven by an engine with an interesting history. When the vessel was converted into a barge in 1938, automaker Henry Ford had the engine removed and placed in his museum at Greenfield Village. Ford had helped install the engine when he was a young

mechanic working in Detroit. Ford visited the steamer at one time and asked purser Albert Murray if he could look at the engine. Upon examination, Ford was sentimentally thrilled to find the initials "H. F." stamped on one of the engine legs.¹²

Difficulties eventually developed, however, concerning the use of the Algomah. One problem was the extensive time required to load and unload her. During the late 1800s, the main cargo was copper loaded in barrels as well as in ingot form, which was quite heavy to move from ship to railway car. The second significant problem, which plagued future ferries as well, was the ice that formed in the Straits every winter. To be truly successful, the ferry needed to be able to run year-round and the Algomah was ill-equipped to handle the ice. On one occasion, the Algomah became stuck in ice and remained locked in place until the spring thaw. In this instance, the vessel had to be unloaded while in the ice with horses and sleds.¹³

The Algomah was finally sold in 1909 to the Island Transportation Company. The steamer transported freight and passengers to Mackinac Island for many years. In 1940, her hull was reduced to a barge with a capacity of 356 gross tons and 346 net. During World War II, the ship was filled with rocks and sunk at Mackinaw City as part of a breakwater for small boats. She was later burned to the water line and amalgamated into the present-day Shepler's Dock.¹⁴

The Mackinac Transportation Company purchased the scow-barge Betsy around 1882. The Betsy was the first vessel to transport railway cars across the Straits. She was capable of carrying four cars at a time on her open deck. The Algomah was primarily charged with towing her across the Straits. The steamers R.J. Gordon and T.S. Faxton, however, towed her across on some trips as well.¹⁵

The Algomah and Betsy worked well together in warm weather, but ice during the winter once again proved a deterrent. It was feared that if the Algomah suddenly became stuck in ice, the Betsy would have no way of stopping and would strike the Algomah's stern. Cold weather made it difficult for the sailors to stand on the open deck manning Betsy's tiller for the entire crossing. The railway cars and cargo on Betsy's open deck were likewise exposed to the harsh elements.¹⁶

In addition to the weather-related problems, the Mackinac Transportation Company found its shipping volume rapidly increasing. The Betsy, with her four-car limit, was inadequate to handle the company's increasing railway car volume. In 1888, the company found the Algomah and Betsy to small for their needs and began the process to replace them.

Commodore Louis R. Boynton and the Bow Propeller

By 1887, the Mackinac Transportation Company was in need of a larger car ferry, capable of handling the ice in the Straits and carrying a large number of railway cars. The Straits are among the most difficult bodies of water to cross when covered with ice. As the Mackinac Transportation Company found with the Algomah and Betsy, ice in the Straits could reach varying thicknesses during the long winter months. Springtime was worse, when the ice would break up and shift back and forth driven by the swift currents and wind.

Design of the new car ferry would have to be very different from previous theories and construction methods. Commodore Louis R. Boynton, captain of the Algomah, had a great deal of ice-breaking experience. Boynton discovered that a ship could make better progress when he reversed it's engine and backed into the ice. The propeller would act as a "vacuum," sucking the water from underneath the ice, thus removing buoyant support and making it easier to crush with the ship's hull.¹⁷

In the fall of 1872, an early freeze-up caused the harbor at Alpena, Michigan, located on Lake Huron's coast, to become icebound. Ships were either frozen in the harbor or stuck offshore in the lake, unable to make port. The

townspeople panicked, since they relied on the lake vessels for food, supplies, and other merchandise. Sailors were stranded on board their ships, concerned that they might have to spend the winter stuck in the ice. The town telegraphed Commodore Boynton in St. Ignace and asked for assistance. Boynton immediately received permission from the People's Line to use the St. Joseph and St. Louis to render aide to the town. After loading them with provisions and supplies, he set out for Alpena, keeping in mind his reverse engine experiment from years past.¹⁸

Boynton put his idea to work by ordering the two ships lashed together at the bows. By having a propeller at each end working in both directions, he was able to successfully work his way into the harbor, freeing stuck vessels and delivering supplies to the grateful townspeople. The thankful citizens presented Commodore Boynton with a gold watch and neck chain with the Knights Templar emblem.¹⁹

During later years, when he commanded the Algomah, Boynton tried another experiment based on the same ice-breaking principle. The two forward anchors were dropped off each of the ship's quarters, keeping her from moving but allowing the propeller to drive forward. This caused the race-water from the propeller to work in among the ice, loosening and breaking it up. Then the propeller was placed in reverse, causing the ship to back into the softened ice until stopped again. Then, the anchors would

be moved and the whole procedure repeated. The vessel was found to make significant progress, sometimes proceeding an entire boat length or more with each cycle. The process was slow, however, and the idea of having another ship lashed bow-to-bow was again discussed.²⁰

It should be mentioned that Captain John McCarty of Mackinac Island also observed that the use of a bow propeller would have assisted the Algomah in her struggle with the ice. Boynton, however, is credited with the novel idea because he was the first to apply it in practice.²¹

Frank E. Kirby

Through Boynton's successful experiments, the Mackinac Transportation Company decided to investigate whether it could build a car ferry with a bow propeller. Commodore Boynton suggested that the company contact Frank E. Kirby, a well-known naval architect of the Great Lakes.

Kirby had been around the Great Lakes for many years when Mackinac Transportation approached him in 1887. Kirby, influenced by Captain Eber Ward, started in 1870 the Wyandotte Dry Dock Company located at the southern end of the Detroit River in Wyandotte, Michigan. Ward was interested in iron-hulled vessels and Wyandotte was the first yard on the Great Lakes to build this new type of ship on a grand scale. One of the first ships designed by

Kirby was the City of Detroit, a vessel constructed for the Detroit and Cleveland Navigation Company (D & C Line) in 1878. Kirby was meticulous with his ships, carefully inspecting them and making sure the vessels met with his standards. This attention to detail caused him to miss the first sailing of the City of Detroit. Kirby fell into a hole at the shipyard the night prior to the launch and injured his leg while making last minute inspections.²²

By 1899, Kirby was working as an independent engineer, architect, and inspector, with no affiliation with a shipyard. In addition to building ships, Kirby designed bridges and water pumping stations in Russia and he was commissioned by the United States Navy in 1898 to build landing craft for the Spanish-American War. These were some of the first of their type built to put troops ashore in Cuba. The four landing craft were widely used and years later, when Kirby was introduced to Theodore Roosevelt, the President exclaimed, "I know you Kirby!"²³

Kirby designed many types of Great Lakes vessels including the Ann Arbor No. 5, the first Lake Michigan car ferry constructed with a sea gate. Kirby's forte, however, was side-wheel passenger vessels. In 1912, he designed the famous passenger steamer Seeandbee, built for the Cleveland and Buffalo Transit Company (C & B Line). This ship was billed as "The Largest and Most Costly Passenger Steamer on the Inland Seas of the World" and would later garner fame

as a training aircraft carrier in World War II. Other Kirby creations included the tug Sport, excursion vessels Columbia and Ste. Claire, and the City of Detroit III. In 1922, Kirby designed the mammoth steamers Greater Detroit and Greater Buffalo for the D & C Line. Kirby continued to design ships until his death at the age of 80 in 1929.²⁴

Rail Ferry St. Ignace

Boynton and other officials from the Mackinac Transportation Company presented their plans to Kirby to see if such a new type of ferry design would work. Kirby started to work on the designs for a ship with propellers at both ends. Finland built some of the first icebreakers in the 1870s and Kirby improved on their design by adding the bow propeller.²⁵ He figured, however, that at least two to three months would be needed before final plans could be submitted. Mackinac Transportation and the railroads, however, needed a vessel as soon as possible, so arrangements were made between Kirby and the Detroit Dry Dock Company for construction of a ship that could be completed in very little time.²⁶

The new car ferry was completed by the spring of 1888 and was christened St. Ignace in honor of her home port. The St. Ignace was the first vessel in the world constructed with a propeller on both the bow and stern.

According to Kirby, the estimated cost for the St. Ignace would be \$300,000, a substantial investment at the time.²⁷

The St. Ignace had dimensions of 215.5 feet in length, 52.3 feet in beam, with a draft of 15.7 feet. She had a gross tonnage of 1,199 and net tonnage of 600. Two compound engines were fitted, one fore and one aft. The forward engine had cylinders 26 inches and 48 inches in diameter with a stroke of 40 inches. The aft engine had cylinders 28 inches and 53 inches in diameter with a stroke of 48 inches. Three double-ended Scotch boilers, 11½ feet in width by 18 feet in length, provided 125 pounds of steam pressure. The ship was highly maneuverable and could reach speeds of 15 miles per hour with a full load.²⁸

The hull was constructed of wood and sheathed with steel plate. In March 1904, a Popular Mechanics article described the framing of the St. Ignace and her later fleet mate:

The framing of the vessels is exceedingly massive in order to withstand the great shock and pressure in cutting through the mass of ice which often extends from 25 to 30 feet below the surface. The frames are 24 inches wide and 12 inches thick. There are 15 keelsons, none of which is smaller than 14 inches square. At the turn of the bilge there are two extra keelsons 24 inches square. The extra frames at this point make an almost solid shell. The planking is 6 inches thick and the hull is nearly 3 feet thick on the bottom. The sides at the water line are protected by steel plates 2 inches thick.²⁹

Besides having a reinforced hull, the St. Ignace was constructed with other features to help cope with ice

conditions. She had been constructed with a spoon-shaped bow, which allowed her to rise up over the ice and crush it with her weight. This feature also protected the bow propeller from solid ice up to three feet thick. The bow propeller was ten feet in diameter and was used only when breaking ice. She was equipped with trimming tanks, that allowed water to be used to produce lateral motion. This side-to-side movement was used to help free the ship by loosening the ice along the ship's sides. The tanks were also used to compensate for unequal loads on her railcar deck.³⁰

The St. Ignace was built as a single-ended car ferry with loading done from the open bow. Unlike the stern-loading ferries on Lake Michigan, the Straits ferries did not have a long trip across an open lake. Thus, weather conditions never caused concern with the open bow, and docking was made easier, especially when ice jammed into the slips.

She was constructed with two rail tracks on her railcar deck, one on each side of her center cabins. The car deck could accommodate ten railway cars. Initially, her tracks were left open, exposing the crew and railway cars to the elements. While in drydock in 1893, these decks were enclosed with steel plating.³¹

The St. Ignace was the first vessel on the Great Lakes designed with her smokestacks placed fore and aft, instead

of abreast. This style of architecture became common on Great Lakes vessels including car ferries, passenger steamers, and other craft.

The ferry departed Detroit for the Straits on her maiden voyage late in April 1888. Boynton sailed her north along with Kirby, who was not about to miss this opportunity to observe the ship's performance. Kirby recalled that it was so early in the spring that the lighthouses and other navigational aids were not yet operating for the season. The trip went well until the ship reached Alpena, Michigan where they encountered ice. The St. Ignace was able to proceed through the two-and-a-half-foot ice at five miles per hour up through the Straits, a distance of some 35 miles or more. It was unusual to see a ship moving in the ice and Kirby recorded an interesting sight: "...we proceeded up the lake until we sighted the Straits and Mackinaw Island. The ice there was solid, and was about 30 inches thick. The Indians came out with their ponies and ran alongside the boat as she was breaking the channel."³²

During this period, Boynton and Kirby tested the ship's ability to cope in the ice. Kirby recalled:

We made some experiments there in regard to the efficiency of the bow and stern propellers. We found [that] by stopping the forward propeller and working the ship only with the after propeller she would go into the ice more than half her length, and no amount of pushing with the after propeller would drive her any further. We would then back her out, drive ahead,

and she would keep going as long as both propellers went. Then we tried stopping the after propeller and working her only with the forward propeller. The result was [that] she would continue to go without stopping, but of course slower than she [have gone] with both working. This showed that the back propeller [by itself] was more efficient than the stern [by itself], contrary to general expectation.³³

On 24 April 1888, the vessel arrived in Mackinaw City, where six locomotives were loaded on board for the trip across the Straits. Upon arrival in St. Ignace, the new ferry was welcomed with great fanfare by a large crowd. This event marked a new era for the community of St. Ignace, whose residents would no longer fear months of winter isolation. The St. Ignace represented a dependable, year-round transportation link between the upper and lower peninsulas that had not previously existed. Stores in town closed for the day, flags were displayed everywhere, and Commodore Boynton became the center of attention. At 2:30 pm, the Honorable A. Foley drew the attention of the crowd and introduced the Honorable J. J. Brown who delivered the following presentation to all those assembled:

Captain Boynton:--

I have the honor to represent the City of St. Ignace on this occasion in being deputed to present to this boat a testimonial of appreciation for conferring upon her the name of "Saint Ignace..."

...And as another step in advance now steams to our shores--this sturdy messenger of the Lakes, which comes to surmount the impediments to winter's travel; which comes to join the Upper and Lower State, and which comes to make the connecting link from sea to sea without leaving the rail!

...We hail its coming with words of welcome. We hail its coming with happy greetings and with loud huzzas!

Nature's great barriers which heretofore have blocked the way across these Straits must now succumb to human progress. This giant of the Lakes is simply illustrative of what human skill and ingenuity can do, and what can be accomplished by energy and enterprise. The glory and the greatness of the Icy King which so long around these waters has held its sway supreme, is gone forever!

...The benefits to be derived from an uninterrupted communication through all the seasons of the year, to the great Northwest, is almost beyond comparison; and to the development and prosperity of this upper country it will add advantages which no other undertaking could accomplish.

...Realizing this, the people of our city deem it fitting to show some mark of appreciation--some mark of their appreciation--not only for hoisting aloft the name of our City of the Straits, but for putting afloat an iron-clad like this which makes its way through the icy course as readily as a boat in a mid-summer's stream. And calling on you, Captain, as master of this marine wonder, is a mark of esteem and confidence for the services you have heretofore rendered; and for which, sir, you may justly feel honored.

...We realize that many a weary night and day have you struggled across the Straits with your sturdy old war-horse, the "Algomah," fighting every inch of your way through the masses of ice and sleet and snow with which our winters abound; and never once, sir, have you faltered in your trust, or been recreant to the duties imposed upon you.³⁴

Commodore Boynton was very moved and purportedly brought to tears by the speech and stirring occasion.

On 10 June 1902, a serious mishap occurred while loading railway cars onto the St. Ignace. The railyard crew mistakenly loaded only one of the two tracks, which usually would not have caused a problem. Unfortunately, all the cars were fully loaded with heavy iron ore. Standard procedure for loading ore cars called for half the track on one side to be loaded, all of the second track, and then

the other half of the first track. This procedure was not followed, and the lop-sided weight caused the ship to list severely and take on water. She sank in 24 feet of water at her dock, requiring an extensive salvage operation.³⁵

The St. Ignace proved to be an effective icebreaker and was remembered by many veterans as a "good little ship." As with the Betsy before her, the St. Ignace's railway car capacity was out paced by railroad growth and the company decided to purchase a second vessel. Frank Kirby was employed once again to design the ferry which would incorporate many characteristics from the St. Ignace's design.³⁶

Rail Ferry Sainte Marie (1893)

The new ferry was built in Wyandotte by the Detroit Dry Dock Company and christened the Sainte Marie. She was named for the city of Sault Ste. Marie, which was named by Father Marquette in 1668 for the Virgin Mary. Sault Ste. Marie sits along the St. Mary's River which connects Lake Huron and Lake Superior. In 1855, the State of Michigan built the region's first set of locks that raised and lowered ships, to compensate for the 21-foot difference in elevation between the two lakes. Later locks were constructed to meet the demands of the increasing size of vessels transitting the river.³⁷

The Sainte Marie (1893) was 288 feet in length, 53 feet in beam, and had a draft of 19.5 feet. She registered 1357.04 gross tons and 678.52 net tons. As with the St. Ignace, one compound engine was placed both fore and aft. The forward engine had cylinders of 30 inches and 56 inches with a 48 inch stroke. The aft engine was smaller with cylinders 28 inches and 56 inches with a 40 inch stroke. Four Scotch boilers, providing 125 pounds of pressure, powered the ferry. The Sainte Marie's (1893) 2,700 horsepower was 33 percent more than that of the St. Ignace. The Sainte Marie's (1893) four boilers enabled her to travel at 15 miles per hour fully loaded, faster than the speed generated by three boilers of the St. Ignace.³⁸

The Sainte Marie (1893) was constructed with an oak hull that was much heavier than that of the St. Ignace. At the time of construction in 1893, the hull was considered the heaviest ever built with the exception of warships. Two million board feet of oak went into the framing and hull construction. Steel sheathing was again used to plate the outer hull for reinforcement and allow protection from ice.³⁹

For ice-breaking operations, the ship was given a ten and half foot diameter bow propeller. The bow was constructed in the spoon-shaped design; trimming tanks along with ballast water provided lateral motion. The

stern propeller was 12 feet in diameter providing ample power. When completed, the Sainte Marie (1893) was said to be the most powerful ship on the lakes. She proved to be an excellent ice crusher, capable of continuous operation in 27 inches of ice.⁴⁰

The Sainte Marie (1893) was constructed with three railroad tracks on her deck with a total capacity of 18 to 20 railway cars. The railcar deck was enclosed and had passenger accommodations designed above, unlike the St. Ignace. The Sainte Marie (1893) was distinguished from her predecessor by sporting four smokestacks, set in pairs side by side. The ship loaded from the bow and boasted a white arch over her seagate. The St. Ignace's original sea gate opened like a pair of doors while the Sainte Marie's (1893) gate lifted up and hung over the deck. This design allowed the gate to be opened before the ship arrived at the dock and provided a better watertight seal. By 1890, the St. Ignace's original sea gate was replaced with a vertical door.⁴¹

Adoption of Bow Propeller in Europe and the United States

Icebreakers, as a specific vessel type, were first constructed in about 1870 by Finland. The country's northern longitude and geographical placement in the Baltic region made the Finns dependent on winter navigation.⁴²

Ice-breaking technology began a pattern of back and forth development between European nations and the United States continuing until after World War II. Kirby applied some technology developed in Europe to his design of the St. Ignace and Sainte Marie (1893).

Kirby's design of the Sainte Marie (1893) has been incorrectly credited with the first application of the bow propeller.⁴³ The St. Ignace, built in 1888, deserves the distinction above all other claims. The two ferries gained reputations as very efficient and capable icebreakers, however, they do not receive the credit due for the fact they were constructed with the primary duty as railway ferries. Vessels with ice-breaking capabilities like the bow propellers began to be constructed on the Great Lakes and in Europe after 1888.

In 1892, the Toledo, Ann Arbor, and North Michigan Railroad ordered two car ferries designed by Kirby and constructed with bow propellers. The Ann Arbor No.1 and Ann Arbor No. 2 served the railroad until shortly after the turn of the century. The vessels crossed from Frankfort, Michigan to Lake Michigan ports in Wisconsin and the upper peninsula. The ferries encountered mostly sheet ice on the open lake and the bow propellers were found to be of little use. This ice-breaking technology was more successful with pack ice, like that found in the Straits of Mackinac. In 1896, the bow propellers and forward engines from both

vessels were removed.⁴⁴

In 1894, a group of Russian engineers led by Vice Admiral Stepan Ossipovitch Makaroff of the Russian Navy visited the Straits. Makaroff stayed with Commodore Boynton and spent the winter observing the ferries in action. The Russians needed a ferry to cross Lake Baikal in northern Siberia because the Trans-Siberian railroad had not yet been finished to the south. The ice conditions in Lake Baikal were similar, if not worse, than those faced in the Straits. The two American ferries proved to be valuable models and after his visit, Makaroff recommended that a ferry similar to the Sainte Marie (1893) be built. This vessel was built in Newcastle, England, dismantled, shipped to Siberia, and reassembled. She was named the Baikal and like the Sainte Marie (1893), she loaded from the bow, had four stacks, and sported a bow propeller.⁴⁵

Russia was not the only European nation to take notice of the Straits ferries. Finland, Sweden, Latvia, and other Baltic nations adopted this style of icebreaker, referred to as the "American type" because of their origin. Vessels including the 1898 Finnish-built Sampo, the 1899 Russian-built Ermack, and the 1914 Swedish-built Isbrytaren II all were constructed with bow propellers.⁴⁶ The one element that separated these vessels from the Great Lakes ferries and the Baikal was that they were constructed for the sole purpose of icebreaking.

Sainte Marie (1893) Requested to Break Ice

By 1904, Mackinac Transportation stated that neither of its ferries had become stuck in the ice since their arrival in the Straits. The winter that year, however, was quite harsh and the Sainte Marie (1893) became damaged by the ice. She was taken in the spring to a dry dock in Detroit for repairs.⁴⁷ The winter of 1906 was also quite severe and numerous lake vessels became trapped in the St. Mary's River. Ship owners requested that the Sainte Marie (1893) be asked to come up and relieve the situation, but she was needed in the Straits due to the ice and could not be released from her primary duties.⁴⁸ By 1910, the company decided to replace one of the two ferries with a newer steel-hulled vessel.

The St. Ignace and Sainte Marie (1893) became the models for ice-breaking vessels built around the world, yet their sole purpose was to ferry railway cars across eight miles of water. In the process of constructing car ferries, new and revolutionary ship design was developed for a vessel type unlike anyone had seen before. As railway traffic increased, the need for larger ferries at the Straits arose. These vessels would incorporate many of the ice-breaking features found in their predecessors and they were constructed with steel hulls. With these

capabilities, the new ferries continued to expand the role of icebreaker serving around the Great Lakes in areas besides the Straits of Mackinac.

Chapter One Endnotes

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Chapter Two

The Construction and History

of the

Chief Wawatam

The Chief Wawatam was the largest steel-hulled railway ferry to serve the Straits of Mackinac. Her career spanned 73 years, a record that only a few vessels in the world have achieved. She operated twelve months a year, 24 hours a day, crossing with many different cargoes and passengers. During her years of service, she faced many challenges including replacement, fire, and the struggle to be saved as a historical landmark. In the end, the Chief Wawatam became a symbol of the Straits with both a simple and a unique history. This history continues to be presented in many forms today.

The "Chief"

By the shipping season of 1910, the Mackinac Transportation Company concluded that yet another new ferry was needed to carry the ever increasing traffic across the Straits. Unlike the St. Ignace and Sainte Marie (1893), the new ship would be built entirely of steel. Frank Kirby was once again employed to design her based on his past experience as well as those of his European counterparts.

The keel was laid on 1 June 1911 at the Toledo Shipbuilding Company of Toledo, Ohio as hull number 119.¹

The new hull needed a name and it was decided that the great new ship would be christened after Chief Wawatam. He was well known in the Straits area as the Ojibway Indian who saved Alexander Henry's life. In Ojibwe, the term "wawatam" or "wawasum" translates as "reflections of light," such as those produced by flashes of lightning, fireflies, or the sun and moon reflecting on water. The term is pronounced in many ways, most commonly as "Wah-wah-tam" with accent on the first syllable. The Native American pronunciation is "Wah-wah-tum" with accent on the second syllable. The men who worked on the ship over the years and the thousands of passengers who loved her simply called her "The Chief."²

At 9:10 am, 26 August 1911, the Chief Wawatam was launched at Toledo.³ By 6 October, the shipyard completed her at a cost of \$374,750 and she started the trip north to begin a career spanning several decades. The Chief Wawatam became the largest railway ferry ever to work the Straits of Mackinac. She was 338.8 feet in length, 62 feet in beam, and had a draft of 20.7 feet. Her gross tonnage registered at 2,990, 1,793 net, and 4,200 deadweight.⁴

The new ferry was constructed with three steam-powered triple-expansion engines. Two engines were located aft, and one forward for the bow propeller. All the engines

were the same size, having cylinders of 21 inch, 33 inch, and 52 inch bores with a 40 inch stroke. The two aft engines produced a total of 3,000 horsepower averaging 85 revolutions per minute. The forward engine added an additional 1,500 horsepower when used.⁵

The engines were powered by six Scotch boilers manufactured at American Shipbuilding in Lorain, Ohio. The boilers were 13½ feet by 12 feet, producing 185 pounds of pressure.⁶ Chief Wawatam was coal fired and stoked by hand; thus she was termed a "hand-bomber." The term refers to coal dust igniting and flaring back at those who shoveled the coal into the boiler.⁷ Crew members who worked in the boiler rooms, firemen and coal passers mainly, were known as the "black gang" due to the heavy coating of soot that covered them from head to toe.

As planned, the ship was built entirely of steel with frames and plating that surpassed normal strength requirements. The hull was sleek, not unlike a yacht, allowing the ship to slip easily through both water and ice. This feature was later found to be advantageous in cutting wide, straight tracks through the jagged ice. As with the previous ferries, the Chief Wawatam had a spoon-shaped bow for riding up on top of the ice and crushing it, along with trimming tanks designed for lateral motion. Concrete was poured into the bow as well to give support and added weight for icebreaking.

Besides these features, the Chief Wawatam was equipped with a bow propeller for icebreaking. The propeller was 12 feet in diameter, weighed $6\frac{1}{2}$ tons, and was disengaged from the forward engine during the ice-free months. The Chief Wawatam was the first and only rail ferry to serve the Straits with two engines and twin screws aft. The aft propellers were 13 feet in diameter and on average, could drive the Chief Wawatam at an impressive $17\frac{1}{2}$ miles-per-hour loaded.⁸

The Chief Wawatam was loaded from the bow through a vertically-lifted sea gate. The rail car deck had four sets of tracks that could accommodate 26 railway cars of 36 feet, 22 cars of 40 feet, or 18 cars of 50 feet. The ship was also fueled or bunkered by pushing loaded hopper cars onto the car deck. Coal chutes led into the 600-ton-capacity bunker from the car deck. Loading gates on the underside of the hopper cars were opened and the coal slid down into the bunkers.⁹

The smokestacks on the Chief Wawatam were placed forward and aft and vented a combination of coal smoke and excess steam, which produced better draft in the boilers. The ship was known as a "smoker" for the large blankets of black soot she produced when underway (Figure 1). Robert T. Tamlyn served on board the Chief Wawatam from 1965 until 1978 as Assistant and Chief Engineer. He vividly recalled the story of the Chief Wawatam arriving at the shipyard at

Sturgeon Bay, Wisconsin in the early 1970s and how her coal smoke caused alarm. The ship was one of the last vessels on the Great Lakes powered by coal and by the early 1970s, a ship belching black clouds from her stacks was an unusual sight. As the ferry approached the yard, the speed was reduced, producing a sudden eruption of black smoke. Immediately, four small vessels loaded with panicked crews left the yard and proceeded at full speed out to the ferry. When the crew of the Chief Wawatam asked what was going on, the reply was that the yard workers thought the ship was on fire!¹⁰

The ferry was constructed with an extensive array of cabins above the car deck. She had quarters for a crew of approximately 54, including a full galley and three dining areas. The ship was registered to carry 348 passengers and had comfortable lounges for men and women along with a large main cabin. The ship, however, was not built for passenger travel. The reason the ship had these accommodations was for the railroad, specifically the Lake Superior Limited passenger train, that the Chief Wawatam carried for a number of years. The accommodations served two purposes. One was to allow the passengers to get off the train for the trip across the Straits. The second was that in the event the ship should ever become stuck in ice, the passengers would need a comfortable place to wait until she was freed. During the winter months, the galley was

stocked with extra supplies in case the need arose to feed the passengers.¹¹

The Chief Wawatam had some unusual as well as practical features. Electricity was provided to supply lighting throughout the ship. The Chief Wawatam was one of the first vessels on the lakes to have such technology. Kerosene lanterns were installed in case the lights ever failed.¹² In order to protect the open bow, the anchor was placed on the stern. Thus, the vessel could anchor stern-to during a storm preventing water from entering through the sea gate.

Up until the 1950s, the Chief Wawatam had a large white stripe painted on the hull around the car deck. The Mackinac Transportation Company officials decided to paint over the white with black as the stripe was hard for the crew to maintain. The Chief Wawatam also had the words "U.S. Mail" painted on her bow for most of her career. The United States Mail was carried across the Straits in railway cars until the Mackinac Bridge was opened in 1957.

The "Chief" Begins her Career

Following two months of fitting-out work, the Chief Wawatam left Toledo on 16 October 1911. In command of the new ship was 77-year-old Commodore Boynton, who had delivered into service both the St. Ignace and Sainte Marie

(1893). The Chief Wawatam arrived in Mackinaw City on 18 October at 9:15 am. She was promptly fitted to the loading apron, and made her first crossing of the Straits to St. Ignace by noon the same day. With the arrival of the Chief Wawatam, the Sainte Marie (1893) was retired and placed in long-term lay up awaiting an uncertain future.¹³

The Chief Wawatam proved to be very successful in her first few years of service at the Straits. The media labeled her the "largest, fastest, most powerful, most modern icebreaker in the world."¹⁴

In 1912, the Chief Wawatam developed problems with her steering gear. Frequent breakdowns and delays with the passenger trains caused the company great distress and embarrassment. The solution proved to be the replacement of the original steering gear with a battleship-type steam gear. This alteration proved successful and was used throughout the remainder of her career.¹⁵

In the summer of 1913, the Chief Wawatam was called upon to transport railway cars filled with Michigan State Militia across to St. Ignace. The troops were bound for Houghton and Calumet in the Keweenaw Peninsula to suppress a copper miners' strike. The situation was a virtual "powder keg" ready to ignite, and the sheriff of Houghton County had requested assistance from the Governor of Michigan, Woodbridge N. Ferris. The militia, most of whom came from Michigan's lower peninsula, were loaded onto

trains and taken north to the Straits. The Chief Wawatam ferried across supplies and over 2,500 men, who put down the strike and quickly reestablished order in the copper region (Figure 3).¹⁶

Stuck in the Ice: 1922

The Chief Wawatam had only a few minor encounters with ice in the Straits up until 1922. Most of these were resolved under her own power, but, during the winter of 1922, harsh conditions caused temperatures to plummet and ice piled up in and around the Straits. The Chief Wawatam struggled going back and forth in the ice until finally, on Sunday, 22 January, the Chief Wawatam became locked in ice unable to break loose.

The ice in the Straits had formed windrows that measured between 20 to 40 feet high, in some locations the ice was anchored to the lake bottom. The Chief Wawatam was held fast for the entire week. On board at this time were 140 passengers from the Lake Superior Limited. Many proposals to free the ship were discussed, and at one point dynamite was utilized. The blasting, however, only turned the ice into slush and the ship remained trapped. Some of the passengers decided to walk across the ice to shore as it appeared no solution could be found.¹⁷

Three of those trapped passengers were Jim and Nora

Gray, and their two-year-old son James. Nora's sister, who was seriously ill, lived in the upper peninsula and the Chief Wawatam was the only way to cross the Straits. The Grays and 100 other passengers and crew had boarded the ship for the crossing. After approximately two miles, the Chief Wawatam became icebound and unable to free herself. It was five miles to St. Ignace, and the ice between the ship and Mackinaw City was too fragile. By the third day, Nora became anxious enough about her sister that she told Jim she was willing to attempt the walk. A group of passengers, including the Grays, set out for St. Ignace. The Grays, having to carry young James, quickly became separated from the rest of the contingent. The Grays and one of the ship's porters struggled alone toward shore.

In St. Ignace, townsfolk watched through binoculars from their homes as the passengers trickled ashore. The Grays were seen to be struggling, so a horse and sleigh were sent out as far out onto the ice as possible to bring them into town. The Grays made it to the safety of the sleigh and the party was taken ashore. Unfortunately, upon arrival a telegram was waiting stating that Nora's sister had died. The Chief Wawatam was freed a few days later, and continued to battle the ice all winter until warm spring weather cleared the Straits.¹⁸

Influence of the Automobile on Ferry Traffic

By the 1920s, the automobile was becoming the dominant way to travel. Economic prosperity and the ability to see the country encouraged people to explore independently. The upper peninsula was still unsettled and covered with large tracts of virgin forest. These forests held large amounts of wildlife, including deer, that appealed to hunters. During the fall, hundreds of hunters headed for the upper peninsula in their automobiles and crossed over on the ferries.

The Mackinac Transportation Company focused mainly on rail traffic, so transporting automobiles was never a top priority. The company originally had no problem taking cars across, but they had to be placed on railway flat cars and drained of gasoline. In 1916, drivers were charged at a freight rate of \$40.00, a high price for that time. Later on, planks were laid over the railroad tracks and the cars were simply driven onto the rail car deck.¹⁹

By 1923, the number of cars and trucks crossing the Straits had risen dramatically. Besides hunters, trucks carrying supplies and goods back and forth between the upper and lower peninsulas used the ferries regularly. Resorts in the upper peninsula became popular retreats throughout the year and vacationers headed to the Straits

in large numbers. The only way to get the tourists and their automobiles across was to use the railway ferries. The company was unable to meet all of these demands, so there were long delays and lines of autos backed up on both sides of the Straits. Public outcry caused the state to take action. Consequently, on 31 July 1923, the ferry Ariel crossed the Straits as the first ferry boat operated by the Michigan State Highway Commission.²⁰

The State of Michigan went on to purchase other ferries over the years that only carried automobiles. Three of these vessels, the City of Cheboygan, City of Munising, and City of Petoskey, were former Lake Michigan railway car ferries converted to haul autos. In 1931, winter service was begun and the state began the practice of chartering the Chief Wawatam or her fleet mate, Sainte Marie, due to their ice-breaking ability. No competition existed between the state ferries and the railroad ferries, as each fleet was established to serve different purposes. The railway ferries occasionally provided winter assistance to the car ferries when necessary.

The winter of 1939 proved to be another tough period for the railway ferries. Both the Chief Wawatam and Sainte Marie spent time trapped in the ice. It was during this time that 23-year-old Raymond Desy took some extraordinary photos of the ferries. Desy was the son of a St. Ignace gift shop owner named J.S. Desy, who had photographed the

Chief Wawatam in 1913. Desy walked out on the ice with a small Kodak camera and photographed the two vessels as they worked through the ice. Windrows were measured at 57 feet thick, causing both ferries to become stuck periodically. The photos of both J.S. and Raymond Desy were commercially printed and sold for use as postcards, book illustrations, and other purposes (Figures 19, 20, & 21).²¹

1940s and 1950s

The car ferry Chief Wawatam served as a valuable transportation link during World War II. Besides automobiles, which diminished in number due to gas rationing, the Chief Wawatam carried military equipment and supplies between Michigan's peninsulas. The company posted guards to protect the ships and their docks from sabotage. After the war, diesel engines had become popular and there was debate in 1947 whether the Chief Wawatam should be converted to oil. Many Great Lakes coal burners had made the switch, but, the Chief Wawatam remained a "hand-bomber."

The 1950s saw many changes in transportation across the Straits of Mackinac. In 1952, the state built a new car ferry, the futuristic-looking Vacationland, which was designed with an ice-breaking hull. She had propellers fore and aft along with loading doors on both ends that

allowed her to load and unload easily. At 350 feet in length, she had the capacity to carry 150 cars and trucks. This capability diminished rail service and the Chief Wawatam's business suffered as more freight was hauled by truck. Another more serious cause for concern was under construction out in the Straits.²²

Since the 1800s, people had discussed the idea of building a bridge to span the Straits. By the 1950s, the idea had gone from impossible to possible and by 1954, construction was underway. The new bridge would be nearly five miles long and connect Mackinaw City and St. Ignace. This bridge finally opened to automobile traffic on 1 November 1957.²³ With the opening, the state ferry service was immediately discontinued and rumors circulated as to how long the rail ferries would last.

The new bridge was built for cars and trucks only, and supported no railroad tracks. This was a blessing for the Mackinac Transportation Company, as railway cars still needed to be ferried across. The company, however, began to see a dramatic drop in the transport of rail freight cars. In 1951, the company carried 34,786 railway cars. The figure declined to 15,877 by 1960. Further, the United States Mail was no longer carried on the ferry as it was quicker to ship by truck. As sources of income for the company dwindled, ways of saving money were instituted.²⁴

Any repairs to the Chief Wawatam were postponed until

absolutely necessary. By the 1960s, her boilers had deteriorated to the point where they could not maintain sufficient pressure and were deemed unsafe. The ship was in desperate need of a major overhaul, which would be a significant cost to the company. On 24 May 1964, the tug John Purves began pushing the Chief Wawatam across the Straits while her boilers were under repair. Partial steam was kept up on board the ship for operating purposes, but the John Purves was the source of her propulsion. By 29 June 1964, temporary repairs were completed, with the remaining work awaiting a lengthy visit to a shipyard.²⁵

The "Chief" is Replaced By Tug and Barge

In the spring of 1965, the Chief Wawatam headed to the Manitowoc Shipbuilding Company in Manitowoc, Wisconsin to have her boilers rebuilt. In her place, the tug Manistee pushed the open-deck barge Muskegon across the Straits on the ferry run. The Muskegon was the former Lake Michigan car ferry Ann Arbor No. 3, which had been cut down to a barge.²⁶ The tug and barge combination was owned by the Bultema Construction Company of Manistee, Michigan. The Chief Wawatam eventually stayed in the shipyard for six months. Upon her return, the ship was welcomed back on both sides of the Straits.

The Mackinac Transportation Company continued to find

ways to reduce costs and cut corners. The company felt that the ferry crossing should be discontinued, but a decision by the Interstate Commerce Commission forced the service to go on operating. The ship's crew was reduced when the company decided to operate the ferry only 16 hours a day. Two watches of eight hours served the ship during her running hours. At night, a much reduced eight-hour "deadwatch" was kept while the ship remained tied up. In 1966, the ship's galley was closed because the ferry no longer carried passenger cars. The company tried to save money by requiring the crew to provide their own meals. From this point forward, the crew came to the Chief Wawatam each day with their own meals and referred to their work as a "dinner-bucket job."

Robert Tamlyn recalled that the crew was quite upset at the galley closing for several reasons. The food had always been excellent and plentiful. Sitting in the galley at meal time gave the crew a chance to socialize and relax. The galley was the hub of communication to inform the crew of what was going on all over the ship. So significant to the crew was the galley closing that they used it as a point of reference when speaking about the ship after 1966.²⁷

In April of 1968, the Chief Wawatam was officially replaced with the tug and barge Manistee/Muskegon. This combination required a crew of only 10 to 12 men, fewer

than half of the crew required to operate the Chief Wawatam. The Chief Wawatam was first tied up in St. Ignace and then moved to Cheboygan, Michigan. Local people complained about the blanket of soot that the Chief Wawatam produced and she was relocated to Manistee, Michigan.²⁸

The use of barges to carry railway cars across the Straits was unsuccessful. The barge Muskegon had an open deck just like the nineteenth-century Betsy, and as experience had shown, the crew and freight cars were subject to the wrath of the elements. The Manistee pushed the Muskegon from behind, and the railway cars obstructed the view from the tug's pilothouse. Crew members were forced to stand on top of the cars up forward in order to stand watch for other vessels and docking. This had to be done no matter what weather conditions persisted.

The tug and barge combination was affected by the weather in other ways that seriously diminished their effectiveness. The combination was somewhat uncontrollable in high winds and seas, which forced the vessels to stay tied up at the dock. Like the Betsy, the barge was not suited for the heavy ice in winter. By December of 1968, the company, and especially the crew, realized the tug and barge unit was not going to be able to serve through the winter. There was only one option left and she was sitting at Manistee, Michigan.²⁹

The "Chief" Returns to the Straits

A crew was put together to fit out the Chief Wawatam and by 14 January 1969, she was ready to head back up to the Straits.³⁰ Immediately, she took over for the tug and barge, performing as though she had never been released from duty. Yet the company continued to have financial trouble, and meetings were held to determine the feasibility of continuing service across the Straits.

The Chief Wawatam was due for her five-year inspection by the Coast Guard in 1971, so she steamed to the Manitowoc Shipyard that summer. Meanwhile, the Manistee and tug Lauren Castle took over the route.

During her stay in Manitowoc, the Chief Wawatam had a very close call that could have brought her career to an abrupt end. After her hull inspection, she was removed from the dry dock and was scheduled to tie up next to another car ferry, the City of Saginaw 31. The crew of the Chief Wawatam did not savor the prospect of walking across the City of Saginaw 31 to get on and off the ship. Luckily, the crew tied the Chief Wawatam up downstream. A fire broke out on board the City of Saginaw 31 shortly thereafter. The fire destroyed much of the ship, leaving her a burned-out hulk. The Chief Wawatam was safe, but the City of Saginaw 31 never sailed again.³¹

The "Chief" is Preserved for History

On a more positive note, one of the most important events in the history of the Chief Wawatam started in 1971. In February, Frances D. Burgtorf from Cheboygan, Michigan began to interview the crew and document the history of the ship. She spoke with past and present crew, along with people who had traveled on the Chief Wawatam. The result was Chief Wawatam: The Story of a Hand-Bomber, published in 1976. The book has become a valuable resource on the Chief Wawatam, the ferries that served the Straits, and Great Lakes maritime history.

An Era Comes to an End

In order to understand how and why the Chief Wawatam survived her last few years, we must examine the history of the railroads that helped build her. The Duluth, South Shore, and Atlantic Railroad, which ran from St. Ignace to Marquette, became a part of the Soo Line. The Grand Rapids and Indiana Line was absorbed by the Pennsylvania Railroad, and the Michigan Central became part of the New York Central. In 1968, the New York Central and Pennsylvania Railroad combined to form the Penn Central. The result was that the Mackinac Transportation Company went from three

owners to only two, the Soo Line and Penn Central.³²

Conrail was formed in 1976 and absorbed the Penn Central. This left the Soo Line to operate the ferry service alone. The Soo Line did not want to run the ferry, so in 1977 the state of Michigan stepped in and bought the Chief Wawatam for \$102,000.³³ The state also formed the Michigan Northern Railway, which needed the Soo Line for connection to the Straits. The Detroit and Mackinac Railway was contracted to run the Chief Wawatam which, by the late 1970s, made only a few crossings each week.

By May of 1982, the Chief Wawatam sat in Sault Ste. Marie, Michigan awaiting Coast Guard certification for an extension on her five-year inspection. To accomplish this, the Chief Wawatam was taken to Sturgeon Bay, Wisconsin in October 1983 for inspection, repairs, and other maintenance. Trips across the Straits became less and less frequent until the last crossing unexpectedly occurred in August of 1984. The railroad pier that had served the Chief Wawatam for many years in St. Ignace collapsed and the repair cost of \$35,000 was deemed too expensive to substantiate repairs. The Chief Wawatam was tied up and placed into a long-term lay up with an unknown future.³⁴

In 1986, the Soo Line was given permission to abandon its St. Ignace to Trout Lake line, the last railway line connection to St. Ignace. After 75 years, the Chief

Wawatam would no longer have a railway function in the Straits. Ideas began to surface immediately concerning the fate of the Chief Wawatam. Mackinaw City and St. Ignace both showed interest in the ship because she was an important part of their history, both to the communities and the men and women who worked on her. The ship sat in lay up for four years as plans for a museum, shops, a restaurant, and breakwater were proposed but never brought to fruition. The cost for restoring the ship, even as a museum, was more than any organization had in its budget or could raise in time to save the Chief Wawatam.

In 1988, the Chief Wawatam cost the state \$112,000 annually for docking, security, and maintenance.³⁵ The price was too high, so the state decided to put the ship up for sale. Seven bids were received that would have turned the ship into a museum, a barge, a warehouse, or scrap. The highest bid was \$110,000 from Purvis Marine Limited of Sault Ste. Marie, Ontario.³⁶ Purvis took possession of the Chief Wawatam and cut off her entire superstructure down to the rail car deck. The ship had a notch placed in the stern so she could be pushed by a tug as a barge. Today, the barge retains the name Chief Wawatam and serves Purvis Marine hauling scrap steel, steel coils, and other cargo.³⁷

The Chief Wawatam offered a unique glimpse into the maritime history of the Great Lakes and was recognized as a valuable piece of history. Until the end, efforts to save

her, including attempts to place on the National Register of Historic Places, failed. The Mackinac Island State Park Commission, however, did save many artifacts from the Chief Wawatam, including the ship's bell, her engine order telegraphs, and her forward triple expansion engine. Originally, a transportation museum was to be built in St. Ignace dedicated to the Chief Wawatam and provide storage for all the artifacts. Unfortunately, state money set aside for the project was spent elsewhere. Today, the Park Commission continues to store the numerous artifacts but has no plans for their preservation, display, or interpretation.

The forward triple expansion engine from the Chief Wawatam has, however, found a new home. The engine was given by the Park Commission to the Wisconsin Maritime Museum, which has restored the engine and exhibits it as a centerpiece in a new museum building, which opened in the spring of 2003. The massive engine was lifted into the museum before the roof and walls were constructed. Visitors can now see, up close, an operating triple-expansion marine steam engine and read about the history of the once mighty but not forgotten Chief Wawatam.

The construction, operation, and history of the Chief Wawatam have been presented in many forms over the years including Frances Burgtorf's book, articles, photos, paintings, and other resources. The ship gained a

legendary status for the years she served on the Great Lakes at the Straits of Mackinac. This status could easily have been achieved by another vessel that served right along side the Chief Wawatam for 48 years. Except for a few feet in length and some other features, she was an exact duplicate of the Chief Wawatam.

Chapter Two Endnotes

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Chapter Three
The Construction and History
of the
Sainte Marie

The Sainte Marie began her history at the Straits of Mackinac in 1913. At first glance, she looked like the Chief Wawatam's sister ship. Minor structural features, however, distinguished the two vessels. Even though they were built to do the same work, their careers on the Great Lakes differed far more than their designs. The history of the Sainte Marie has been overshadowed by that of the Chief Wawatam. The Sainte Marie has received little attention from Great Lakes maritime historians, yet her career is as unique and historically significant as that of her larger fleet mate. The Sainte Marie served many diverse roles on the Great Lakes during her 48-year career, and now attention is due to this vessel that was anything but ordinary.

Retirement of the Sainte Marie (1893)

The Sainte Marie (1893) was retired after the Chief Wawatam was completed and placed into service. The Sainte Marie (1893) was placed in lay up at St. Ignace where she rested until 9 June 1912. At 6:40 pm that day,

she was taken into tow by the tug Schench bound for Toledo, where she arrived on 12 June 1912.¹ The Sainte Marie (1893) was sold to the T.L. Durocher Company of Detour, Michigan. The ship's engines' and other equipment were removed and she was cut down to the rail car deck to serve as a barge. The barge served Durocher for many years until 1927, when she was abandoned at Detour.²

The Mackinac Transportation Company decided to build a new ferry due to increasing freight and passenger demand at the Straits. The new boat would be a duplicate of the Chief Wawatam. She would also provide assurance of continued service should the Chief Wawatam require dry dock work or in case of emergency. This vessel would proudly bear the name of her staunch predecessor, Sainte Marie.

Throughout her active career, the new Sainte Marie never had a full-time crew assigned to her. When required, men from the Chief Wawatam would operate her. The plans for the new vessel were once again drawn up by Frank Kirby, and the keel for hull number 127 was laid in Toledo in the winter of 1912.³

The hull for the new Sainte Marie was completed and launched on 22 January 1913 by the Toledo Shipbuilding Company. Constructed at a cost of \$300,000, the company was able to save money on the cost for the ships mechanical parts. The engines and equipment removed from the now abandoned Sainte Marie (1893) were placed in the new Sainte Marie.⁴

The New Sainte Marie

The new Sainte Marie was shorter than the Chief Wawatam as well as the first Sainte Marie (1893). She had a length of only 250 feet, a beam of 62.2 feet, and a draft of 21.7 feet. She was registered at 2,383 gross tons and 1,620 net.⁵

The two powerful vertical-inverted compound engines from the first Sainte Marie (1893) were installed in the new ferry. Unlike the Chief Wawatam, the new Sainte Marie had only one propeller for propulsion rather than two. The forward engine powered the bow propeller, which was used for icebreaking. The two engines working together produced 3,500 horsepower, making the Sainte Marie one of the most powerful vessels on the Great Lakes. Even with only the aft engine working, the ship produced an amazing 2,700 horsepower.⁶

The American Shipbuilding Company in Lorain, Ohio manufactured six Scotch boilers for the new ferry. They were 11 feet long with a diameter of 12 feet and could produce 125 pounds of pressure per boiler. These boilers were coal fueled and fired by stokers.⁷

The smaller size of the new ferry allowed for a railway car capacity less than that of the Chief Wawatam. The Sainte Marie was capable of carrying only 14 cars on four

tracks. She was never intended to support a regular schedule because her purpose was to serve as a spare ship to control overflow traffic for the Chief Wawatam. When not in use, she was tied up at the Merchandise Dock in St. Ignace, Michigan.⁸

The Sainte Marie had a steel hull with the same sleek lines as the Chief Wawatam, incorporating architectural features such as a spoon-shaped bow, bow propeller, and lateral trim tanks. The new Sainte Marie, it was discovered, had an advantage in ice-breaking capabilities over previous ice-breaking ferries. Her short hull length and powerful engines made her exceptionally maneuverable in ice-choked waters. Throughout her career on the Great Lakes, she proved to be one of the most effective ice-breaking vessels in the world (Figure 2).

The Sainte Marie and Chief Wawatam were often confused from a distance. The two vessels each had two smokestacks, a black hull, and a white stripe painted around her car deck. The difference in size between the two vessels was not apparent unless they were placed close together.

Referred to as engine cowlings by Great Lakes sailors, the engine room ventilators were the most prominent difference between the two ferries. The Chief Wawatam's were clustered around her two smokestacks, whereas the Sainte Marie had one cowling placed further back from her stacks. The reason for this is unclear, but it is most

likely due to the ships' design and was not incorporated to distinguish them.⁹

Further, the vessels differed in that the Sainte Marie had doors on each side of the pilothouse that opened to outside bridge wings. These wings served as observation platforms, allowing the ship's watchmen to spot other ship traffic and obstructions. During ice-breaking operations, these platforms proved to be useful for maneuvering.

The white stripes were eventually removed from the sides. The two ships were constructed with windows that broke up this continuous band around the hull. The Chief Wawatam's windows were replaced with portholes, but, the Sainte Marie retained these windows throughout her career.

Sainte Marie Replaces the St. Ignace

The Sainte Marie was completed by March of 1913 and proceeded up to the Straits from Toledo. Upon the arrival of the Sainte Marie, the aging St. Ignace was taken out of service and subsequently sold to the West Superior Dock Company. On 13 April 1913, the St. Ignace departed from the Straits under tow to Superior, Wisconsin. Shortly thereafter, she was sold to James Whalen of Port Arthur, Ontario. He placed the ferry into service as an icebreaker. On 30 August 1916, while in dry dock at the Western Dry Dock and Ship Building Company of Port Arthur,

the St. Ignace burned. After the fire, the vessel was sold to T.L. Durocher, who had also purchased the original Sainte Marie (1893). Durocher used the St. Ignace as a stone lighter. Sadly, in 1930 she was abandoned and allowed to sink at her moorings at Detour, Michigan.¹⁰

Upon reaching the Straits, the new Sainte Marie was immediately pressed into service because the Chief Wawatam had been taken to Toledo for dry docking. Ironically, on 14 May 1913, as the Chief Wawatam proceeded down the St. Clair River to Toledo, she passed the hull of the old Sainte Marie (1893) upbound near Algonac, Michigan. Over the next few years, the Sainte Marie served in place of the Chief Wawatam many times when the latter required maintenance in a dry dock.¹¹

In the summer of 1914, with the Chief Wawatam away for repairs, the Sainte Marie was charged with maintaining the daily Straits crossing. On 23 July, the St. Ignace Enterprise reported that the ferry had become disabled. Apparently, Monday evening of that week, the low pressure cylinder of the aft engine had cracked and she lost all power. Fortunately, seas in the Straits at that time were calm and the steamer Algomah was able to tow the Sainte Marie safely back to her dock in St. Ignace. Throughout the night, the crew worked to disconnect the cylinder head from the aft engine and couple up the forward engine. At 5:45 am Tuesday, the Sainte Marie resumed her service using

the forward engine and screw, along with one cylinder of the aft engine. Under severely reduced power, the Sainte Marie made her scheduled crossings.¹²

The Sainte Marie was called upon again during the winter of 1916 when she rendered aid to the Mackinac Transportation Company by loading coal at Mackinac Island to relieve a shortage. The St. Ignace Enterprise reported that the ferry left the next day for dry docking in Toledo. Under the command of Captain William P. Robertson, the Sainte Marie remained laid up in the shipyard all winter and was the last scheduled vessel downbound that season.¹³

In January of 1922, during the ice blockade, the Sainte Marie was called into service when the Chief Wawatam became stuck in the ice. The Sainte Marie, however, became locked in the ice as well shortly after leaving St. Ignace. The following day, the Sainte Marie was able to free herself under her own power. She returned to St. Ignace for coal and provisions before attempting to cross again. The Enterprise reported on 2 February that after ten days, the two ferries had finally succeeded in breaking the blockade. The Sainte Marie continued to help the Chief Wawatam that week, carrying the railway cars that had backed up on both sides of the Straits. When this had been accomplished, the Sainte Marie was returned to lay up to await her next call to service.¹⁴

A New Assignment for the Sainte Marie

The increase in automobile traffic and the implementation of the state ferry service gave the Sainte Marie a new role in the Straits. The vessels that had been purchased by the State of Michigan to ferry the automobiles across the Straits did not have ice-breaking capabilities. Therefore, during the winter months, the state ferries were unable to cross the Straits. This was not initially a cause for concern, as winter automobile traffic was light. Over the years, however, demand for automobile crossings increased and the Sainte Marie was placed into service. Her rail car deck was planked over so that vehicles could drive on board without having to be placed on railroad flat cars. This arrangement proved to be very successful for a number of years.

By the 1936-1937 season, the prominence of automobile traffic had increased dramatically and the state was forced to charter the Sainte Marie for winter ferry service. From this year until the arrival of the ice-breaking car ferry Vacationland in 1952, the Sainte Marie served as the only link for automobiles crossing the Straits during the winter months from January until late March. When chartered to the state, the Sainte Marie's crew usually consisted of a Mackinac Transportation captain and chief engineer, along with some state ferry employees who continued to sail after

the state ferries were laid up.¹⁵

The Sainte Marie's pilothouse logbooks dating from the seasons of 1945 through 1951 are preserved in the Michigan State Archives. These books record the regular routine, as well as the unusual events that occurred during the winter months when the ferry was operating under charter to the State of Michigan.

Most notably, the period of service from December of 1945 through March of 1946 was one of the longest and most interesting durations of charter service that the Sainte Marie ever took part in on the Great Lakes.

The Sainte Marie began to fit out in St. Ignace on 12 December 1945. She left her winter lay up at the Merchandise Dock on 15 December to load coal at the railroad dock. It should be noted that because the Sainte Marie and Chief Wawatam loaded from the bow, they were restricted to loading and unloading at the railroad docks in Mackinaw City and St. Ignace. On many occasions, this forced one vessel to wait until the other was finished. These delays included taking on fuel when railway cars loaded with coal were placed on the car deck.¹⁶

On 19 December 1945, the Sainte Marie started carrying automobiles across the Straits. On Christmas Day, the forward engine was connected to help break the thick ice and maintain her schedule.¹⁷ Occasionally, emergencies would interrupt this schedule as was the case on 3 January

1946. The ship's logbook shows that the ferry waited an hour and 45 minutes for an ambulance bearing a sick boy to arrive from Sault Ste. Marie, Michigan. In this case, people in need were depending on the Sainte Marie's ability to cross the ice-filled Straits without delay.¹⁸

As history has shown, the Sainte Marie was not totally immune to becoming icebound. These same logbooks record numerous instances when the ferry became immovable for a matter of a few minutes or a few hours due to ice. On 23 January 1946, the ship's logbook bears witness....

"8:00 pm Stuck in Ice."
 "8:11 pm Broke Loose."
 "9:35 pm Stuck in Ice."
 "9:37 pm Broke Loose."
 "9:40 pm Low Steam and Stuck in Ice."
 "10:31 pm Underway."¹⁹

At times when the Sainte Marie was unable to free herself after a long period icebound, the Chief Wawatam or the Coast Guard icebreaker Mackinaw would be called upon to render assistance. The three vessels worked together on many occasions to free one another from the ice during the winter months.

Hollywood Uses the Sainte Marie and Chief Wawatam

In addition to carrying automobiles between Mackinaw City and St. Ignace, the Sainte Marie began a series of trips to Mackinac Island beginning on 2 February 1946. During the winter months, the ice in the Straits cuts off

the island community as ferry service comes to a halt. Under those circumstances, the only way on or off the remote isle is by plane or by crossing on the ice bridge. The Sainte Marie loaded supplies, mail, and passengers that morning in St. Ignace and arrived at the island at 2:50 pm.²⁰

Three more trips carrying similar cargo occurred over the next week. On 11 and 12 February, the Sainte Marie loaded the baggage and equipment for a Metro-Goldwyn-Mayer film crew that was using the island as a motion picture set.²¹ On 20 February, the film crew hired the Chief Wawatam to take the film crew out and shoot scenes of the island's famous Grand Hotel and Victorian cottages along the West Bluff.²² Chief Engineer Tom Chambers, who was on the Chief Wawatam, recalled stopping in the ice at one point and wondering what had happened. One of the crew came down and indicated that they had to wait for the clouds to pass so the cameramen would get the necessary light from the sun.²³

Besides filming the historic island, the film crew requested that one of the ferries demonstrate how the ice was broken. Since the film crew was already on board the Chief Wawatam, the Sainte Marie departed from her usual route and steamed for the island. The Sainte Marie was filmed breaking ice in the island's harbor and the surrounding area for an hour before resuming her regular

duties. The film, entitled "This Time For Keeps," starred Esther Williams and Jimmy Durante.²⁴ The final version of the film has historic scenes showing the Chief Wawatam coming into dock at Mackinac Island.

The Sainte Marie made a total of 16 round trips to the island that winter. She departed St. Ignace on 17 March, to complete the last trip with the typical cargo of supplies, mail, and passengers.²⁵ At 8:48 am on 25 March, a fire was discovered in the ship's coal bunker. Three fire hoses were deployed to battle the blaze and within 25 minutes, the flames were extinguished. Bunker fires of this sort were not uncommon on board coal-fired vessels.²⁶ The Sainte Marie completed her state charter on 27 March 1946, and was placed in winter lay up in St. Ignace until her services were once again required.²⁷

More Cars Across the Straits and Fewer Trains

On occasion, the Sainte Marie hauled railway cars, even when she was chartered to the state for automobile ferry service. On 31 January 1947, she carried nine freight cars across the Straits to help with an overflow of rail traffic.²⁸ Trips to Mackinac Island with supplies and passengers continued during the winter runs of 1947-1949. At 12:34 pm on 25 March 1948, the Sainte Marie departed St. Ignace for the island with supplies. An article in the

1 April edition of the Republican News and St. Ignace Enterprise indicated that the "Ste. Marie takes much needed food and supplies to Mackinac Island after ice bridge collapses due to warm weather."²⁹

The logbooks from these years detail many interesting aspects of the Sainte Marie's operation as well as many historic events that occurred in and around the Great Lakes. Routine notations reveal that every ten days the mate or the wheelsman wound the clock in the pilothouse. This clock chimed every half hour and announced when the watches started and finished. Once a week, fire and boat drills were held to insure that the crew knew their duties and stations during emergencies. Though routine, this was especially important because coal-fired ships were prone to occasional blazes and collisions. Ship disasters were common in the Straits area, which is prone to heavy fog conditions. One example is the 1965 sinking of the steamer Cedarville which collided with another vessel in heavy fog. Hull damage caused the Cedarville to roll on its side and sink a short distance from shore near Mackinaw City.³⁰

The 25 March 1948 log entry includes the passage of the first westbound vessel through the Straits at 4:05 pm, the steamer John G. Munson. First vessels of the season passing through the Straits were recorded as well as other vessel traffic during the winter months.³¹

The number of cars, trucks, trailers, and other

vehicles were recorded for every trip across. On 23 February 1951, the Sainte Marie made 15 crossings of the Straits carrying a total of 519 vehicles.³² The number of vehicles hauled across the Straits marked a major change for the Sainte Marie. By 1952, the State of Michigan had a ferry built that could handle the ice in the Straits and the Sainte Marie was no longer chartered to carry motor vehicles. The completion of the Mackinac Bridge in 1957 brought to an end the need for automobile ferries.

Subsequently, rail traffic suffered after 1957 as more and more freight was transported by truck across the new bridge. Trucks hauled freight cheaper, faster, and were rarely influenced by the weather. On 1 August 1955, the ferries discontinued transporting the passenger cars of the Lake Superior Limited train. This was one of the last such services on the Great Lakes.³³

During the late fifties, the Sainte Marie was moored in St. Ignace when not in service. She was kept in good working order, in readiness for when she was needed. On 18 June 1961, the Chief Wawatam departed for the shipyard at Manitowoc, Wisconsin. The Sainte Marie was again placed in service on the 19 July and carried the railway cars across the Straits until 29 July when the Chief Wawatam returned.³⁴ This was the last time the Sainte Marie ever carried rail traffic. The ferry company did not have the capital to continue running two vessels, so the decision

was made to sell the Sainte Marie.

The "Chief" Stands Alone

The Mackinac Transportation Company sold the Sainte Marie to the Sadoff Company of Fond du Lac, Wisconsin in 1961. The ferry was then taken to Ashtabula, Ohio, where she was scrapped by the Luria Brothers in 1962. The Sainte Marie's last logbook entry reads as follows:

October 10, 1961 12:17 pm CST S.S. Sainte Marie
dept. St. Ignace on her last & final voyage, bound
for Ashtabula, Ohio.³⁵

The Sainte Marie served the Mackinac Transportation Company for 48 years, performing her duties as relief vessel to the Chief Wawatam, car ferry for the State of Michigan, symbol of the Straits region, and as home and work place for a number of Great Lakes sailors. The ship made many contributions to the Straits region that the Chief Wawatam never came close to matching during her career. The Sainte Marie's most significant contribution to Great Lakes maritime history, was her remarkable ability to break ice. In 1926, the role of Great Lakes icebreaker was defined by this vessel built to ferry railway cars.

Chapter Three Endnotes

¹Chief Wawatam Journal 1911 - 1984, (Fairgrove, Michigan: Personal Collection of Robert T. Tamlyn), 9 June 1912.

²Great Lakes Vessel Index, "Historical Collections of the Great Lakes," [database on-line]. (Bowling Green, Ohio: accessed 3 February 2003), available from <http://129.1.59.220/cgi-win/lak952.exe>.

³Ibid.

⁴Frances D. Burgtorf, Chief Wawatam: The Story of a Hand-Bomber (Cheboygan, Michigan: Review Printing Company, 1976), 215.

⁵Great Lakes Vessel Index, "Historical Collections of the Great Lakes."

⁶Burgtorf, Chief Wawatam, 215.

⁷Milwaukee Public Library, Herman G. Runge Collection, "Ship Information and Data Record," Sainte Marie (2d), 1.

⁸Joan Kloster, "The Mackinac Transportation Company," Anchor News (20.6 1989), 105.

⁹Burgtorf, Chief Wawatam, 215.

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¹²St. Ignace Enterprise, "The Ste. Marie Disabled," 23 July 1914.

¹³St. Ignace Enterprise, "Ferry Ste. Marie Leaves For Toledo," 21 December 1916.

¹⁴Burgtorf, Chief Wawatam, 229.

¹⁵Michigan's New Diesel Direct Drive Ice Breaking Ferry, (Milwaukee, Wisconsin: Nordberg Manufacturing Company, 1950).

¹⁶Sainte Marie Pilothouse December 1945 - March 1949, (Lansing, Michigan: Archives of the State of Michigan), 12-15 December 1945.

¹⁷Ibid., 19-25 December 1945.

¹⁸Ibid., 3 January 1946.

¹⁹Ibid., 23 January 1946.

²⁰Ibid., 2 February 1946.

²¹Ibid., 11-12 February 1946.

²²Ibid., 20 February 1946.

²³Burgtorf, Chief Wawatam, 276-277.

²⁴Ibid.

²⁵Sainte Marie Pilothouse December 1945 - March 1949, 17 March 1946.

²⁶Ibid., 25 March 1946.

²⁷Ibid., 27 March 1946.

²⁸Ibid., 31 January 1947.

²⁹Ibid., 25 March 1948; Republican News & St. Ignace Enterprise, 1 April 1948.

³⁰Manistee Pilothouse May 1965 - November 1967, (Mackinaw City, Michigan: Mackinac State Park Commission), 7 May 1965.

³¹Sainte Marie Pilothouse December 1945 - March 1949, 25 March 1948.

³²Ibid., 23 February 1951.

³³George W. Hilton, The Great Lakes Car Ferries (Berkeley, California: Howell-North Books, 1962), 65.

³⁴Sainte Marie Pilothouse April 1958 - October 1961, (Bowling Green, Ohio: Bowling Green State University, Historical Collections of the Great Lakes), 29 July 1961.

³⁵Ibid., 10 October 1961.

Chapter Four
Early Great Lakes Icebreaking
and
The Ice Blockade of 1926

Great Lakes ice formation regulated the shipping season for many years, preventing shipping companies from operating year-round. By the turn of the century, steel-hulled vessels allowed ship owners to push the boundaries as to how long the ships would sail past the normal months of the sailing season. At this time, the Great Lakes had no vessels specifically charged with maintaining channels in the ice or assisting ships that had become trapped. Shipping interests were abruptly brought to attention of this fact when an early freeze-up in November of 1926 caused serious panic. The outcome of this incident brought forth a new role for the Straits ferries, one they were never intended to perform.

Ice and Shipping on the Great Lakes

The United States Coast Guard was created in 1915 when the United States Life-Saving Service and the United States Revenue-Cutter Service were combined.¹ The fleet of Coast Guard vessels on the Great Lakes in these early years consisted mainly of small tugs. These vessels had wood

frames with steel sheathing covering the hulls, and provided minimal ice-breaking ability at best. The Coast Guard had no ice-breaking vessels assigned to the lakes in 1926. It was not until the 1930s that the Coast Guard built larger steel cutters and assigned them to Great Lakes ports.

In order to understand why the government did not provide ice-breaking vessels to inland waterways and lakes, one must understand the motives of Great Lakes shipping companies. Prior to the advent of iron and steel-hulled vessels, most companies transported cargoes in wooden-hulled schooners and other sailing ships. Wood, as a building material, is very susceptible to damage from water-borne ice. Throughout history, wooden vessels trapped in ice floes have had their hulls crushed. Ice forming on the lakes in late winter forced companies to tie up their wooden vessels until spring.

In order to avoid the cost of wooden vessels becoming damaged or destroyed, the sailing season was necessarily limited to the months that the lakes remained ice free starting in the 1800s. The season started with fitting out the ship in early April and concluded with lay up in early December. This schedule continued even after steel vessels were introduced into the Great Lakes. Steel-hulled vessels posed less risk of becoming icebound or damaged than wooden vessels. Financial and safety concerns were also an issue

as a ship not moving cost money for both the owners and their customers. Ships caught in the ice could easily be carried along with ice floes onto shoals, rocky shores, or other hazards, preventing their use in the coldest months.

The Lake Carriers' Association

In 1880, an association was founded with the mission to promote safety and reduce navigation hazards in order to promote commerce. Great Lakes shipping companies banded together to represent their interests, thus establishing the Lake Carriers' Association. The association publishes statistics on cargo movement and statements on issues concerning the United States fleet operating on the lakes. One major concern in the early years of the association was the length of the shipping season and ice conditions which caused delays in the winter and spring.²

Early Great Lakes Ice Jams and Breakers

Vessels capable of breaking ice were scarce on the Great Lakes prior to the use of steel in marine engineering for ships' hull's. Attempts to break ice were first made using wooden ships, as builders innovated and owners tried to increase profits by running their vessels as long as possible. One of the first wooden icebreakers was the

Canadian steam packet Chief Justice Robinson. Built at Niagara, Ontario in 1842, she had an unusual ram bow that enabled her to break ice on her Lewiston-Toronto route. She was a modest 160 feet in length and was powered by a vertical walking beam engine.³

Steam packets like the Chief Justice Robinson were constructed to haul freight and passengers and had a set route and departure time. She sailed six days a week, alternating directions each day. Despite her ice-breaking design, the Chief Justice Robinson was quite luxurious in her appointments. In 1846, Sir Richard Bonnycastle wrote of her:

...pots of the most rare and beautiful flowers, arranged very tastefully, with a piano, highly-coloured nautical paintings and portraits, and a tout ensemble, which, when the lamps were lit, and a conversation going on between the ladies and gentlemen then and there assembled, made one quite forget we were at sea on Lake Ontario, the "Beautiful Lake," which, like other beautiful creations, can be very angry if vexed.⁴

One of the earliest recorded ice jams on the Great Lakes occurred in Buffalo, New York in 1846. Unusually cold weather conditions persisted well into March, keeping Buffalo harbor frozen and threatened to delay commencement of the shipping season. Though harbors are generally protected areas, in the right conditions, such as these, vessels can be damaged or lost. In fact, 24 vessels were seriously damaged including the schooners Woodbridge, Marengo, and Kinnie. Ten other vessels sustained minor damage and the steamer Dole was sunk.⁵

In December 1906, ice became uncharacteristically severe in the lower St. Mary's River below the Soo Locks. Broken slush ice had filled the narrow areas of the river anchoring to the bottom in some places. Forty-five steamers were held fast in the downbound shipping lane between the Soo Locks and the ice blockade. ("Downbound" refers to vessels leaving Lake Superior headed for Lake Huron. "Upbound" refers to vessels coming from the lower lakes and proceeding into Lake Superior.) Nearly 60 additional ships were forced to seek anchorage above the Soo Locks in Whitefish Bay to wait until shipping traffic could once again proceed (Appendix B). Several tugs worked feverishly to free the trapped freighters in the lower St. Mary's River. Failure to free the ships would force companies to lay them up for the winter right where they were stuck.

The Sault Evening News reported that the first Sainte Marie (1893) was called upon to render assistance in freeing the ships. She was unable to respond, however, due to staggeringly harsh conditions in the Straits of Mackinac. Four days passed before a navigational path was cleared to the icebound steamers. This was accomplished by the tug boats General, Schenk, and Merick. Cold temperatures continued to cause difficulties when the track through the ice froze over and had to be continuously cleared. Yet, in the end, serious catastrophe was averted

and only one vessel remained at the Soo all winter. Almost to the date, twenty years later, another ice blockade would form in the same area on the St. Mary's River causing serious havoc to shipping interests.⁶

Ice Blockade of 1926

In mid-November of 1926, heavy gales and low temperatures struck the upper Great Lakes region. On 26 November, thermometers at Duluth, Minnesota and Sault Ste. Marie, Michigan plummeted to two degrees below zero. Fort William, Ontario and Port Arthur, Ontario recorded a temperature of 12 degrees below zero. Low temperatures, along with high winds, combined quickly to form four inches of ice on the St. Mary's River. By 4 December, this had doubled in thickness to a maximum of over ten inches in some areas.⁷

On 29 November, the tugs Illinois and L.C. Sabin were sent down the river to assist 16 upbound vessels that were experiencing great difficulty in making any forward progress through the ice. Up to this time, tug boats were generally the most effective tools in dealing with ice-choked waterways. The tugs were highly maneuverable in the ice due to their small size and sturdy construction. Many were wood-framed vessels with steel sheathing that could handle rapid movement back and forth in icy waters.

Conditions, however, were so severe that the Illinois and L.C. Sabin themselves found it nearly impossible to make any head way. Little did anyone realize this situation was a foreshadowing of severe navigation conditions soon to descend on the entire Great Lakes fleet.⁸

On 30 November, the steamer Coulee locked down through the Soo Locks into the lower St. Mary's River on her way to the Rock Cut, the one-mile canal cut along the west side of Neebish Island between the Soo Locks and Detour, Michigan. The Rock Cut was blasted out by the United States Army Corps of Engineers in 1908, thereby providing a second channel to Middle Neebish Channel on the east side of the island. The east channel typically was used for upbound traffic and the west channel for downbound vessels. The width of the Rock Cut is a little over 300 feet, and during winter it acts as a natural funnel, drawing in ice from the upper river. It was and still remains one of the most hazardous navigational locations on the Great Lakes (Appendix B and C).⁹

The Coulee, along with the steamers Smith Thompson, Brentwood, and passenger steamer Huronic, became stuck above the Rock Cut in the West Neebish Channel. The Huronic was able to pass the first three vessels and break through, while the Smith Thompson and Brentwood followed in her wake. The Coulee, however, was not so fortunate and became jammed crosswise in the Rock Cut. The Coulee was

transformed into a keystone for the entire ice blockade, cutting off the rest of the downbound channel.¹⁰

By 1 December, the Lake Carriers' Association became greatly concerned as eight vessels in the downbound channel were already backed up behind the Coulee like a giant steel log jam. Temperatures continued to drop to a staggering 25 degrees below zero and the ice continued to thicken steadily. Numerous Canadian grain boats were unable to load earlier in the week due to rain and snow. By 1 December, the weather had improved and loading was in full swing at elevators in Fort William and Port Arthur. Within a matter of days, however, these grain-laden vessels would be descending upon the Soo, only to add to the growing number of ships already stuck or delayed.¹¹

The Association feared that the vessels could be stuck all winter as efforts by the tugs to free them were unsuccessful. Financial losses were mounting as the ships were susceptible to ice damage and the grain was delayed to market. Further, crew members would have to be paid to remain on board their ships through the winter, and the perishable cargoes, such as grain, would potentially spoil. It was clear that drastic actions were needed or else the shipping season would come to a very early close.

The Lake Carriers' had used the whalebacks Henry Cort and James B. Neilson in the spring of 1923 to break a channel through the ice to the Soo Locks. Whalebacks were

unusual vessels with rounded hulls and turrets constructed on deck for cabins. They were also referred to as "pigboats" or "cigar boats" because of their shape. The whalebacks were used because of their steel hulls and maneuvering ability due to their minimal length. This allowed them to cut straight channels through the ice, a system that proved very efficient when other vessels were following behind.¹²

The whalebacks were not available for ice-breaking service in December of 1926. As in the winter of 1906, the idea surfaced to use one of the railway ferries from the Straits to cut through the ice. The Lake Carriers' contacted the Mackinac Transportation Company and arranged to charter one of the car ferries. On 1 December, the following telegram was sent:

C.E. Lytle, Gen. Supt.
Duluth, South Shore, Atlantic Ry. Co.
Marquette, Mich.

Your offer fifteen hundred dollars per day for car ferry to break ice in Soo River accepted also expense of fitout & layup. Desirable get car ferry over to Soo earliest possible moment. Please wire approximately when car ferry will be there.

J.S. Ashley, Pres.
L.C.A.¹³

Insurance was arranged to cover the car ferry, but not without some difficulty. Most companies did not want to cover a vessel that was intentionally going to break ice. Rumors were circulated that the ship would sink after striking the ice or that damage below the car ferry's

waterline would be irreparable. Memories of the 1912 sinking of Titanic no doubt went through many an insurance underwriter's mind.

Mackinac Transportation Company sent the Sainte Marie to aid the icebound vessels as the Chief Wawatam was needed to handle rail traffic. Captain John A. Stufflebeam, a veteran Great Lakes skipper with ice-breaking experience, was placed in command of the Sainte Marie. Stufflebeam had been captain on some of the Lake Michigan car ferries and was the permanent skipper of the Chief Wawatam.¹⁴ The Sainte Marie was quickly put through fit out and a crew assembled but, there was a delay in her departure. Assistant Engineer William Martin had trouble reaching the ship due to heavy snow between Mackinaw City and Cheboygan, Michigan.¹⁵

The Association sent Captain Fred A. Bailey to assume overall command of the ice-breaking operations. Bailey was general manager of the Forest City Steamship Company out of Cleveland, Ohio. He had experience with ice conditions as captain of numerous vessels and as superintendent of the Pittsburgh Steamship Company. Bailey took command of the ice-breaking fleet from the Sainte Marie. Besides the railway ferry, seven tugboats helped make up the ice-breaking fleet. They were the Illinois, Iowa, Alabama, and L.C. Sabin from the Soo, the General from Detour, and the Canadians Murray Stewart and Strathbogie. During

ice-breaking operations, one captain later commented about Captain Bailey's orders: "Believe me, he knows how to give 'em so that they won't be misunderstood."¹⁶

The Sainte Marie left St. Ignace at noon on 3 December and was at DeTour, Michigan by 3:00 pm. DeTour marks the southern entrance to the St. Mary's River where it opens up into Lake Huron. On that same day, the Secretary of the Lake Carriers' Association, George A. Marr, sent a letter to Vice President L.C. Sabin concerning the situation. He reported that 55 steamers were locked in ice downbound and 25 were stuck upbound. Marr wrote that the Sainte Marie had departed St. Ignace, stating, "We hope she will turn the trick. Reports indicate the channels are full of slush ice and in places anchored to the bottom."¹⁷

The Sainte Marie joined the blockaded upbound fleet at 9:00 am on 4 December. She immediately went to work freeing the fleet, battling the ice on a northward heading in 12 degrees below zero weather.¹⁸ Though the downbound fleet, with its holds filled with cargo, was in more critical need of assistance, rendering aid to the upbound fleet was the most efficient manner in which to reach these ships. As the Sainte Marie and the tugs worked together, more vessels arrived downbound from Lake Superior. Most ships anchored above the locks or tied up just below so as not to add increased distress to the ice-filled situation. Over the span of 20 miles, the anchored ships stretched

from one end of the river to the other.¹⁹ A 13 December 1926 Time magazine article stated that "From Detour to the 'Soo' they stretched in long file, like sausages linked out over a gutter of lard."²⁰

The Lake Carriers' Association was still very concerned on 5 December as conditions had not fully improved. Telegrams were sent to the Ann Arbor Railway Company and the Pere Marquette Steamship Company pleading for the use of one of their ferries.²¹ Both companies were located on Lake Michigan and owned steel-hulled car ferries that were designed to handle ice. Unfortunately, neither company could spare a vessel, so the Sainte Marie continued to work together with the tug fleet. The best method found to assist the frozen vessels was to relieve the pressure placed on a ship's hull by the ice. This was accomplished by maneuvering the ice-breaking fleet in and around the lake freighters and in some instances, passing lines across and towing the vessel out of the ice.

Crew members aboard the ice-stricken vessels were becoming deeply concerned for their own well-being. For as the ships sat idle in the river, coal and provisions were quickly being consumed. The ships' engines continued to operate in order to provide heat and electrical power. It was not common practice during this era to maintain stocked pantries on board many of the Great Lakes vessels. Crews passed stale hours trying to conjure up new ways to melt

the ice around their vessels and attempt to break free. One idea that was detrimental to the environment was to pour oil overboard, making it difficult for the river water to freeze. The broadcasting logs for the radio station (WLC) at Rogers City, Michigan reveal the concern sailors had regarding the potential lay up of their vessels in the St. Mary's River or at the Soo Locks.²² Many feared that they would not return to their homes until well after the holidays had passed. Some thought they might not get home that winter at all.

The "Keystone" is Released

At 11:30 am on 7 December, the Coulee was finally released from her keystone-like position in the Rock Cut. The Sainte Marie passed a towline to the ship and with the help of the tugs, was able to pull the vessel from the icy grip of the river. Success was fleeting, however, as the General Garretson, directly behind the Coulee, became lodged in the Coulee's previously unfortunate position. The tugs Alabama and General pulled while the Sainte Marie and other tugs worked to straighten the now crosswise vessel.²³ By noon on 8 December, the Garretson was free and towed to open water. Behind the Garretson was the new Cleveland Cliffs' Company steamer William G. Mather. The William G. Mather had a wide beam of 62 feet, which made a

substantial channel for vessels behind her to follow.²⁴

On the morning of 9 December, as the 100 or more downbound vessels slowly moved toward Lake Huron, the Lake Carriers' pronounced the ice blockade in the West Neebish Channel ended. Despite this, it was still necessary on several occasions to concentrate efforts on vessels stuck in the Rock Cut. The Iowa and L.C. Sabin received damage from the ice on 9 December and were withdrawn from operations.²⁵

On 10 December, a temporary blockage occurred when the Canadian Bricoldoc became stuck in the West Neebish Cut. She held up 80 steamers behind her, but was freed by noon with the aid of the Sainte Marie. Traffic was again moving freely in both directions by 12 December, and downbound vessels were able to use the upbound channel on the east side of Neebish Island. The shipping season was coming to a close, and few upbound vessels were scheduled above the Soo Locks before they would close for winter maintenance. The Sainte Marie and the tugs were released from duty on 14 December, and the rail ferry arrived back at her home port of St. Ignace on 16 December.²⁶

Canadian grain elevator operators made an appeal to have the Sainte Marie remain in the river until the last grain boats made their way downbound. Telegrams were sent to the Lake Carriers' Association from Maple Leaf Milling, Canada Steamship Lines, Saskatchewan Wheatpool, and others

requesting that the Sainte Marie's charter be extended and offering to incur any cost for damage after her release.²⁷ The insurance policy expired, however, on 14 December and Mackinac Transportation was unwilling to run the vessel without coverage. In the end, about 24 Canadian and 20 American ships had to winter in Lake Superior ports rather than lay up at home ports.

According to the Lake Carriers' Association, the total number of vessels assisted by the Sainte Marie between 4 December and 14 December was 247. Released from the ice were 149 downbound vessels and 98 upbound vessels.²⁸ Of the 149 downbounders, 125 were moved through the river between 8 December and 12 December. The work of the Sainte Marie and tugs had saved Great Lakes vessel operators a considerable amount of money. It was estimated at the time that over \$25,000,000 worth of cargo was in the holds of the icebound vessels.²⁹ The "November Freeze," as it came to be known, was the worst vessel tie-up in Great Lakes history.³⁰

In comparison to the \$25,000,000 of saved cargo, it cost the Lake Carriers' Association \$23,443.12 to charter the Sainte Marie for the ten days required to relieve the blockade. It was discovered, however, that the Sainte Marie had received an estimated \$25,402.14 in damage to her hull plates. The actual repair costs amounted to a mere \$17,394.78.³¹ The price is minimal when compared to the

cost that would have been incurred had the shipping companies been forced to pay for wages, provisions, fuel, and insurance coverage to sustain their stranded vessels through the winter.

Newspapers and magazines covered the story quite extensively. The Sault Evening News, Cheboygan Daily, and the St. Ignace Republican News published numerous articles providing updated details on the predicament as it developed in the river. On 11 December 1926, the Republican News reported:

Apparently an immovable object, the tons of anchor ice around Neebish Island continued Monday to hold fast and demonstrate that the tremendous crushing power of the giant car ferry Sainte Marie was not an irresistible force.³²

Little did the reporters know that the ice blockade had been broken. The 18 December edition printed the following:

The opening up of the Soo river and release of the ice-imprisoned fleet had been effected when the Republican-News went to press last week.³³

The article went on to praise veteran Captain Stufflebeam:

The car ferry, Sainte Marie, in command of Captain J.A. Stufflebeam did remarkable work in keeping the channel open and making it possible for the marooned ships to go through.³⁴

Perhaps the most fitting tribute appeared in the Time magazine article of 13 December 1926:

At the week's end, the Sainte Marie, largest ice crusher in the world, swaggered over from the Strait of Mackinac, where she does regular winter duty. Like a burly policewoman, she pushed her

way through crashing, shrieking ice to see what the trouble was... Slowly she bashed her way up the St. Mary's, freed this ship and that, brought food and fuel to sailors. With continued cold, she may not reach all ships; some may be frozen tightly until spring.³⁴

Auspiciously, the "burly policewoman" accomplished the task at hand and no sailor was forced to spend the winter away from home, family, and friends.

Icebreaking, as a distinct operation on the Great Lakes, took its beginnings from the "November Freeze" of 1926. The Sainte Marie showed that a vessel with unique ice-breaking capabilities could assist vessels in times of emergency. As owners pushed for a longer sailing season and Coast Guard vessels with some ice-breaking features appeared, Great Lakes shipping interests decided to start the season as early as possible. Great Lakes ice-breaking operations evolved from panic situations to assisting ships in the early spring ice to bolster industrial growth. These operations would be far from simple and test the skill of the rail ferry crews and take their vessels to the extreme.

Chapter Four Endnotes

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Chapter Five

Coast Guard Cutters, Whalebacks, and the Chief Wawatam Break Ice in the 1930s

The Sainte Marie proved in December of 1926 that a car ferry with ice-breaking capabilities could assist Great Lakes vessels in an emergency situation. Coast Guard cutters and whalebacks were used in milder ice conditions in the early 1930s to open navigation in the spring and assist ships that had become icebound. The Chief Wawatam took on the role of icebreaker in the spring of 1937, opening the shipping season at various points on the Great Lakes. Icebreaking is a complex operation, as is shown by the Chief Wawatam's logbooks from this period. The books contain numerous references to time, location, weather conditions, and vessels that were aided in the ice. These detailed accounts of ice operations reflect the complexities and patience that car ferry crews faced each time they proceeded out into the lakes.

1930s Icebreaking

In the years following the "November Freeze" of 1926, seasonal ice conditions were mild and a heavy icebreaker was not needed. In 1927, however, vessels were once again blockaded in the St. Mary's River during the waning days of

the navigation season. Fortunately, tugs were able to clear most of the ice and free the fleet without the use of the car ferries. In the subsequent years, mild weather and ice conditions allowed the vessels to move virtually unimpeded. The Lake Carriers' Association Annual Reports state that the years 1931 and 1932 were unusually warm and ice played a minimal factor in Great Lakes shipping.¹

The Sainte Marie was not the only Great Lakes vessel that was used on occasion as an icebreaker. The whalebacks Henry Cort and James B. Neilson were used in April and May of 1923 to break channels in the St. Mary's River and assist with opening the Soo Locks. The vessels were never chartered like the Sainte Marie, but still provided valuable assistance to spring navigation. The reports for 1932 and 1933 both mention the Henry Cort as a "good icebreaker" and "frequently used in operations of that kind."² The Henry Cort was a steel-hulled vessel that was capable of breaking straight channels with her smooth sides, and was highly maneuverable. Unfortunately, the Henry Cort became one of the numerous victims of the lakes. She struck the Muskegon, Michigan breakwall during a gale in 1934 and sank in shallow water.³

Coast Guard Cutter Escanaba (WPG-64)

Fortunately for the crew of the Henry Cort, the United

States Coast Guard cutter Escanaba was in their vicinity and came to their rescue during the sinking. The Escanaba class was some of the first large cutters stationed on the Great Lakes. Built in 1932 at the Defoe Boat & Motor Works in Bay City, Michigan, she was 165 feet long with a beam of 36 feet.⁴ She was powered by one double-reduction geared turbine engine and two Babcock and Wilcox boilers. The ship could produce 1,500 horsepower at a top speed of 12½ knots.⁵ She was stationed at Grand Haven, Michigan and participated in numerous rescue operations, including that of the Henry Cort.

The Escanaba had many roles on the Great Lakes, including that of icebreaker. The demand by shipping companies for an early start to the shipping season necessitated the use of the Escanaba. The ship was designed with a reinforced belt of steel at the waterline and a cutaway forefoot or ice prow. She was capable of light icebreaking and could sever up to two feet of solid ice. Each spring, the ship was assigned to break channels in the Straits and St. Mary's River to open a track for freighter traffic.

The first year that the Escanaba served in the role of icebreaker on the lakes was 1935. She departed Grand Haven, Michigan on 27 March to begin breaking ice in Lake Michigan and the Straits of Mackinac.⁶ This early departure was at the behest of oil and paper companies on

Lake Michigan that urgently needed to replenish stock used up during the winter months. Oil tankers and paper carriers began fit out procedures in early March to prepare for trips to Chicago, Milwaukee, Green Bay, and other cities. The Escanaba assisted the vessels into port, testing her ability to handle ice on the lakes for the first time in her career.

In 1936, the Escanaba was again dispatched to open the shipping lanes in the Straits area. The vessel left port on 10 April and proceeded up Lake Michigan crushing 14 inches of hard, blue ice along her charted course. On 12 April, she reached White Shoals, which lies in Lake Michigan just west of the Straits of Mackinac. During operations, the Escanaba stripped one of the blades from her propeller. She immediately went into the shipyard at Manitowoc, Wisconsin, where repairs were made. She returned to ice-breaking service on 16 April only to have another blade stripped away. By this time, however, weather conditions had improved and ice was no longer a major obstacle to the start of the shipping season (Appendix B).⁷

Vessels of the Escanaba class were the first attempts by the federal government to provide ice-breaking services on the Great Lakes. The Escanaba proved to be a very capable Coast Guard cutter on the Great Lakes. Icebreaking, however, was not one of her stronger

capabilities. The design of the ship did not take into account two of the major factors needed for successful ice-breaking operations. Over the course of the early twentieth century, horsepower and gross tonnage were found to be these key elements. Weight of the ship and power from the engines were crucial in crushing large quantities of thick lake ice.

The Escanaba had a gross tonnage of 718 tons, but even though she was built for light icebreaking, her size was not sufficient for normal ice-breaking operations. The weight of an ice-breaking vessel must be as heavy as possible in order to place pressure on the ice and crush it. The maximum horsepower and speed of the Escanaba were also insufficient for ice-breaking duties. Granted, 12½ knots and 1,500 horsepower was fast for a vessel of the Escanaba's size but for ice conditions, this was unacceptable. In comparison, the Sainte Marie's forward engine alone generated 1,400 horsepower, and the car ferries usually made four to five knots in the ice. The ability to maintain forward and backward motion is a critical trait required for a successful icebreaker.

The Escanaba continued to serve the Great Lakes in many roles, including icebreaking, until 1941. That year, she was reassigned to convoy escort on the North Atlantic and destined never to return to Great Lakes service. On 13 June 1943, the Escanaba foundered off Greenland with only

two survivors. Her loss is still unexplained, and may have been due to a mine, internal explosion, or a U-Boat torpedo.⁸

Icebreaking Strategy and Operations

Formation of ice in the Great Lakes can take many forms, from thin sheet ice, to windrow ice piled several feet high, to anchor ice fixed to the lake bottom. Icebreaking on the Great Lakes thus requires a vessel with a strong, reinforced hull and massive horsepower provided by large engines. In addition, features such as the bow propeller, heel and trim tanks, and the spoon-shaped bow found on the Straits ferries provide extra assistance. In order to understand icebreaking, these features and the methods in which they are employed must be studied.

The basic principle behind icebreaking is to use a vessel's weight and forward motion continually to force the ice to break. In order for a ship to be a successful icebreaker, it must have certain design features that most vessels do not have, including powerful engines and a hull that is heavily reinforced and shaped to handle ice conditions.⁹ The hulls of both the Sainte Marie and Chief Wawatam were reinforced with steel both at the bow and along the sides. The Chief Wawatam produced 4,500 horsepower with all three propellers turning, and the

Sainte Marie 3,500 horsepower from her two propellers.¹⁰

These combined features gave both ferries the strength and power they would need to handle ice in the Straits and elsewhere.

The Sainte Marie and Chief Wawatam had the additional features of the bow propeller, spoon-shaped bow, and the heel and trim tanks. The bow propeller served two purposes: it destabilized the ice by drawing the water out from underneath weakening to the point of making it break and then pulling this crushed ice aft along the hull. The spoon-shaped bow design worked in tandem with the bow propeller as it allowed the vessel to ride up on the ice and force breaking using the ships weight. The heel and trim tanks were used to shift water quickly from port to starboard, creating a side-to-side or lateral motion. This rocking motion broke ice on the sides of the vessel.

The strategy used by both the Sainte Marie and Chief Wawatam to break out the freighters was quite simple. The ice would put pressure on a ship's hull, slowing her down and eventually stopping her. Once locked in the ice, a vessel would be unable to move in any direction. The solution was to relieve as much pressure from around the ship as possible, allowing her to move again on her own.

The rail ferry captains devised methods of accomplishing this by using the maneuverability of their ships. One method developed was to have the ferry circle

around the vessel that was icebound. Chief Engineer Robert T. Tamlyn recalled his father, Captain Robert E. Tamlyn, discussing this method and how close the two ships would come to one another. In some cases, the ferry would go along the sides of a stuck vessel close enough that the hull and fenders of the two ships would come in contact with one another and make sparks. Usually, any damage would be minimal, and if the maneuver worked, the stricken vessel would be freed.¹¹

Channel cutting was another method that was found to be highly successful. The ferries would open shipping lanes through the ice by cutting channels that were used by the freighters. The idea was to have the freighter enter the channel and maintain as straight a course as possible until she reached open water. Many times, however, vessels that strayed out of the channels became locked in the ice. The icebreakers, if leading a large convoy through the channel, would turn around and free the ship, thus keeping the whole fleet moving. The channels moved quite frequently with the ice, so new channels would have to be cut or modifications made to the old channels. This is referred to as "grooming."¹²

Communication was vital when employing any of these ice-breaking methods. The ice-breaking fleets along with the vessels being assisted worked in close proximity, and communication was essential for safety and successful

operations. Radio receivers began to appear on Great Lakes vessels in the 1920s and a radio station in Rogers City, Michigan was set up to broadcast messages in Morse code.¹³ Numerous ships stuck in the "November Freeze" of 1926 sent messages through this station to other vessels and company offices.

Freighters without this communication equipment used a variety of signals and methods that had been handed down for generations by sailors around the world. Many of these proved quite successful during ice-breaking operations due to the closeness of the vessels. Ship-to-ship communication was done by use of whistle signals, megaphones, flares, and flags. In some cases, if vessels were locked in hard ice, a ladder was dropped down and crew members would walk, taking messages from one ship to the next. These methods continued to be used until all Great Lakes vessels had radios and could communicate directly with the shore and other ships.

Icebreaking of 1937

The winter of 1937 brought strange weather patterns to the Great Lakes region. The lower lakes were unseasonably warm with little to no ice. These conditions made possible the earliest recorded departure of a lake vessel from winter lay up. On 14 February, the E.C. Pope departed

Toledo with a load of coal for the Ford Motor Company plant at River Rouge, Michigan. Numerous vessels, including automobile carriers, began operations on the lower lakes as early as March. By 1 April, many ore carriers were ready to start the season, some having loaded cargoes of coal for upper lakes ports.¹⁴

The upper lakes, however, had not enjoyed such moderate weather. Below zero temperatures at the Straits and St. Mary's River resulted in heavy ice concentrations. Industrial interests counted on an early opening and put pressure on owners to get their fleets moving as soon as possible. The Lake Carriers' Association chartered the tug Iowa and the large wrecking tug Favorite to work the St. Mary's River. The Escanaba attempted to open the Straits the first week of April, but was unsuccessful. The vessel was assigned to northern Lake Michigan ice-breaking duties and tried to open a channel into Escanaba, Michigan. She again encountered difficulty and it was evident that additional ice-breaking vessels would be necessary.¹⁵

The Chief Wawatam Goes Icebreaking

The Lake Carrier's Association saw the Escanaba's deficiencies as an icebreaker even before the vessel left port. The Mackinac Transportation Company was contacted on 30 March regarding the charter of one of the ferries for

ice-breaking duties.¹⁶ Objections were raised, and Mackinac Transportation Company declined the offer straight away for two reasons. According to a company memorandum, insurance coverage and use of the Sainte Marie were the points of contention. The company's insurance did not cover the ferries when they left the Straits for icebreaking. Additional insurance coverage would be required for the period of chartered service. This issue had been addressed and resolved during the 1926 blockade of the St. Mary's River, but, this time the insurance companies had the evidence to back up their decision. The Sainte Marie had indeed sustained damage during her 1926 icebreaking operations.

The second reason was the inability of the Sainte Marie to be spared from her regular service. In 1936, the State of Michigan initiated year-round service with car ferries crossing the Straits with automobiles. The state ferry service, however, did not have a vessel capable of handling ice conditions in the Straits. Thus the state chartered the Sainte Marie. Planks were once again placed over her rail car deck and she was put into service until ice conditions warranted the use of the regular state automobile ferry fleet. In April of 1937, the Straits were still frozen solid and the Sainte Marie was bound to her charter to the State of Michigan.¹⁷

The only vessel free to break ice to open the shipping

lanes was the Chief Wawatam. Since she usually handled rail traffic, arrangements were to have the Sainte Marie carry both automobiles and railway cars across the Straits of Mackinac. The Sainte Marie was capable of handling both types of cargo as rail and automobile traffic was fairly light that time of year. Once the insurance arrangements were made for the Chief Wawatam, she was prepared for her first experience as a full-time ice-breaking vessel.

The Chief Wawatam departed St. Ignace at 10:21 am on Friday, 9 April 1937 for ice-breaking duty.¹⁸ Before her departure, she loaded 450 tons of coal in her bunkers plus another 450 in thirteen hopper cars on her rail car deck. Provisions for a 50-man crew for a two-week tour of duty were also loaded on board. In command of the Chief Wawatam was Captain Gerald E. Stufflebeam, nephew of the veteran Captain John Stufflebeam who had commanded the Sainte Marie in 1926 during the St. Mary's River blockade.¹⁹ Another familiar face on the Chief Wawatam was Captain Fred A. Bailey, who had acted as river pilot and Lake Carriers' Association representative on board the Sainte Marie in 1926.

The Chief Wawatam first broke ice between Round Island and Mackinac Island, east of St. Ignace. She then headed southeast toward Cheboygan, Michigan breaking a steady trail towards the Straits. Upon passing Mackinaw City, the Chief Wawatam headed for St. Helena Island to assist two

icebound tankers. By 4:46 pm 9 April, the Chief Wawatam was abreast of the tankers Maine and Comet. The tankers were quick to utilize the pathway carved through the ice by the Chief Wawatam. Later that same evening, the Chief Wawatam herself became lodged in an ice floe off of White Shoals. The Chief Wawatam, however, was eventually freed under her own power and underway by 12:57 am on 10 April (Appendix B).²⁰

On 10 April, the Chief Wawatam, proceeding westward from Lansing Shoals, encountered ice as thick as 24 to 36 inches, with heavy windrows. At 9:37 am that same morning, she passed Rocky Island, Wisconsin and entered into Green Bay. Shortly before noon, the Chief Wawatam made headway passing the slow moving steamers Munising, Angeline, Pontiac, Pam Schnider, and the cutter Escanaba (Figure 4).²¹ The Escanaba was in the lead of the caravan, but making little progress trying to break through a channel. Ice at this point measured between 17 and 20 inches thick. The little Escanaba was being held back from relieving her namesake port.²² The icebound fleet was a mere four miles from the safety of the docks in Escanaba. Dutifully, the vessels fell in line behind the Chief Wawatam as she badgered her way through the ice into Escanaba harbor. The Chief Wawatam arrived at the docks in Escanaba at 12:17 pm on 10 April.

The Chief Wawatam broke open both the north and south

sides of the No. 5 and No. 6 ore docks. Ice on the north side of No. 6 was 36 inches thick in some places, while the other docks had fairly soft ice surrounding them (Figure 5). The Chief Wawatam then turned her attention to the harbor, where the vessel turning basin was opened so that the freighters could turn their bows to open water after loading. At 2:38 pm, the Chief Wawatam had completed her work and left Escanaba, headed east back to the Straits. Impressively, in a little over two hours, the Chief Wawatam had assisted four freighters into port and opened the docks for their loading.²³

The Escanaba Daily Press gave the following account of the Chief Wawatam's arrival and icebreaking in the harbor:

While scores of spectators lined the shores near the lighthouse in their automobiles, the Chief Wawatam cut through the windrows of ice, which were proving to be a stiff obstacle for the Escanaba, at a speed of about three knots per hour. It was not long before the carferry, with clouds of black smoke belching forth from her funnels, had conquered the ice barrier, arriving at the docks at 12:15 noon.²⁴

The Chief Wawatam reached Lansing Shoals at 10:06 pm that evening and set about the task of releasing the steamer Steel Electrician from the ice field. The car ferry proceeded at half speed so that the Steel Electrician could keep pace as the two vessels headed east. On the morning of 11 April, the Chief Wawatam broke out the westbound tankers Comet and Maine, which were still having difficulty in the northern Lake Michigan ice. After

freeing the two vessels, the ferry continued east and arrived at St. Ignace at 8:03 am. The empty hopper cars were unloaded and by 8:36 am, the Chief Wawatam was steering east for the St. Mary's River and her next assignment (Appendix B).²⁵

The Chief Wawatam reached the entrance to the river at Detour at 11:39 am on 11 April and encountered ice within ten minutes. At the edge of the ice, the ferry passed the Canadian ore carriers Algocen and Algosteel, which were upbound on their first trips of the season. This was the first time the ferry had traveled these waters and there were no lights, buoys, or other aids to navigation operational so early in the season. The Chief Wawatam passed the tugs Favorite and Iowa, with the latter falling in behind the ferry to assist in clearing ice in Whitefish Bay. At 6:20 pm, the Chief Wawatam cleared the Soo Locks and, for the first time in her 26 year history, proceeded into Lake Superior.²⁶

The Chief Wawatam and tug Iowa encountered open water at 7:28 pm after passing Point Iroquois. At 9:12 pm, the Chief Wawatam became stuck in the ice about 12 miles northwest of Point Iroquois. She remained stuck until 4:50 am the next day²⁷ Ice thickness in Whitefish Bay ranged from 12 to 30 inch sheet ice, which had broken and formed heavy windrows as thick as ten feet.²⁸ The ferry continued slowly to the northwest, reaching Whitefish Point at 5:34

am on the morning of 12 April. That morning's log entry reported that Whitefish Bay was covered with "Ice as far as you can see."²⁹ The Chief Wawatam broke a channel two miles north of Whitefish Point before turning around to cut a downbound channel back to the Soo Locks (Appendix B).

The Chief Wawatam steamed back to the Straits of Mackinac, where thick ice continued to plague vessel traffic. The ferry headed west to Lansing Shoals where six vessels were fast in the ice and another 16 struggled to make headway.³⁰ The ice had solidified due to the cold winds, closing off the channels the Chief Wawatam had broken only days before. Freezing temperatures and the absence of warm rain to help soften the ice closed the channels almost as fast as the Chief Wawatam could open them. The ice had broken away three miles west of Lansing Shoal and caused the channels to close up, creating a problem for the freighters.

On 13 April, the Chief Wawatam employed the method of circling icebound vessels to relieve pressure, freeing one vessel at a time throughout the day. At 5:35 am, she pulled into her dock at St. Ignace to unload empty hopper cars and take on six full ones. By 7:08 am, she departed and was back to work breaking out the fleet.³¹ On 13 April, the Chief Wawatam had 14 ships following her in a channel heading west through the Straits.³² On occasion, the ships would become stuck in the ice and the Chief

Wawatam would have to turn around and get them moving again. The process of stopping and turning around was slow and occurred several times, but the Chief Wawatam successfully freed each vessel like a mother wolf tending her young.

On Wednesday, 14 April, the Chief Wawatam assisted numerous vessels heading east and west through the Straits. The westbound fleet came first and consisted of 22 steamers, including the Samuel Mather, Consumers Power, and Negaunee. The eastbound fleet was met at 12:25 pm and consisted of 14 vessels, including the Pontiac, Angeline, Eugene P. Thomas, and Charles C. West. By early evening, both fleets had reached open water and ship traffic was moving smoothly in both directions.³³

The morning of 15 April found the Chief Wawatam returning to St. Ignace for new orders. She arrived in the early morning and remained at the dock until 8:30 am when the westbound fleet from the previous day ran into difficulty. Just before noon, the Chief Wawatam arrived to escort the Fontana, R.B. Wallace, William Reiss and the rest of the fleet to open water.³⁴ In assisting the Fontana, the Chief Wawatam came in too close and scraped the side of the freighter, causing minor damage.³⁵ By late evening, the entire fleet had reached open water and the Chief Wawatam sat safely anchored in hard ice over-night.

The Chief Wawatam waited in the Straits until morning

for arrival of a fleet of Pittsburgh Steamship Company vessels. These vessels carried iron ore for the United States Steel Corporation and were referred to as "Tin Stackers" due to the silver paint on their smoke stacks.³⁶ At 9:40 am, the fleet of 24 ships including 20 "Tin Stackers" began following the Chief Wawatam east with little difficulty.³⁷ Early afternoon found the steamer D.M. Clemson firmly lodged in ice, but she was quickly released by the Chief Wawatam and continued on with the convoy. Four westbound steamers also received assistance from the Chief Wawatam, including the Col. James M. Schoonmaker, which finally left the channel in order to let other vessels pass. Midnight had the Chief Wawatam once again resting in ice after a successful day of icebreaking.³⁸

Over the next few days, the Chief Wawatam continued to assist vessels in the area between Lansing Shoals and Mackinaw City. The Chief Wawatam's logbook records the transfer of a sick crewmen to a Coast Guard boat on 17 April.³⁹ On 18 April, the ice, that had been an obstacle to shipping, began to move southward into Lake Michigan.⁴⁰ The Chief Wawatam came into the railroad dock in Mackinaw City on 19 April and unloaded five empty hopper cars, took on provisions, laundry, and other supplies. Despite this brief stop, the ferry assisted 37 vessels that day, 25 eastbound and 12 westbound.⁴¹

For the next two days, the Chief Wawatam steamed back and forth through the ice, assisting numerous vessels and keeping the channels open. On 21 April, she completed her ice-breaking duties and arrived at the Mackinaw City dock at 6:30 pm.⁴² The Chief Wawatam resumed carrying railway cars the next day and the crew disconnected her forward propeller from the engine, allowing the screw to turn freely. Ice continued to hinder the area including the railroad slips, so the forward propeller was reconnected on 23 April.⁴³ Over a 13 day period, the Chief Wawatam had assisted over 100 vessels through northern Lake Michigan and opened the shipping lanes through the St. Mary's River and into Whitefish Bay.

On 6 May 1937, the Chief Wawatam departed the Straits for dry docking in Manitowoc, Wisconsin.⁴⁴ The Chief Wawatam began the ritual of going into dry dock after lengthy chartered ice-breaking operations were completed. This was both a hull integrity precaution and in accordance with a stipulation of the charter with the Lake Carriers' Association that any post season repairs would be covered by the charter agreement. The aft starboard propeller was found to have three cracks and was replaced along with some of the hull plating. In addition, some 1,600 hull rivets were found to be missing or loose. Overall, the Lake Carriers' Association paid \$17,074.58 in repair costs and \$26,000.00 for the 13-day charter.⁴⁵

The Chief Wawatam left Manitowoc and returned to the Straits to resume rail ferry service. Like the Sainte Marie, the Chief Wawatam proved herself as an icebreaker capable of handling some of the severest ice the Great Lakes had to offer. The logbooks of both the Chief Wawatam and Sainte Marie reveal the complexities of icebreaking and the outcomes each ferry had when they engaged in ice operations. These operations continued to be led by the successes of the two rail ferries, as Coast Guard vessels stationed on the Great Lakes were not yet adequate for the task at hand. The 1940s would provide an opportunity for the Chief Wawatam and Sainte Marie to serve the nation during times of war, conducting some of the most important Great Lakes icebreaking ever done.

Chapter Five Endnotes

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¹⁸Chief Wawatam Journal 1911 - 1984, (Fairgrove, Michigan: Personal Collection of Robert T. Tamlyn), 1.

¹⁹Sault Evening News, "Railroad Car Ferry Starts Breaking Ice," 9 April 1937.

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²³Chief Wawatam Journal, 2.

²⁴Republican News and St. Ignace Enterprise, "Wawatam Opened Lake Navigation," 15 April 1937.

²⁵Chief Wawatam Journal, 2-4.

²⁶Ibid., 4.

²⁷Ibid., 4-5.

²⁸Sault Evening News, 12 April 1937.

²⁹Chief Wawatam Journal, 4.

³⁰Ibid., 5.

³¹Chief Wawatam Journal, 6.

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³³Ibid., 7-8.

³⁴Ibid., 8-9.

³⁵Ibid., 9.

³⁶Al Miller, Tin Stackers: The History of the Pittsburgh Steam Ship Company (Detroit, Michigan: Wayne State University Press, 1999), 62.

³⁷Ibid.

³⁸Ibid., 10.

³⁹Ibid., 11.

⁴⁰Ibid.

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⁴³Burgtorf, Chief Wawatam, 260.

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Chapter Six
Icebreaking by the Sainte Marie and Chief Wawatam
During the 1940s
and the
Commissioning of the Coast Guard Icebreaker Mackinaw

The United States was unprepared to handle ice-breaking duties at the start of World War II. Vessels with ice-breaking capabilities were not part of the military build up that preceded Pearl Harbor. If the Great Lakes were going to contribute to the war effort, shipping would need to go unimpeded and start early in the spring to meet production quotas. Great Lakes freighters would need to be assisted in the ice until Coast Guard icebreakers could be built and commissioned. The role of the rail ferries as icebreakers would become essential in keeping opening the shipping lanes so that raw materials could flow smoothly to the factories of the Midwest. Some of the most valuable ice-breaking operations on the Great Lakes were performed by the Sainte Marie and Chief Wawatam during this time.

Pre-World War II Shipping

Great Lakes shipping, like other industries, suffered during the Great Depression of the 1930s as iron ore shipments dropped from 65,000,000 tons in 1929 to a little

over 19,000,000 gross tons in 1938.¹ With war looming in Europe, the United States began to make preparations to mobilize the armed forces and stockpile raw materials for future use. The government increased orders for iron ore following Hitler's invasion of Poland in September, 1939. Industrial developments began immediately on the Great Lakes. Between September and November, Great Lakes vessels moved 22,506,318 tons of iron ore, more than the total tonnage shipped during the entire 1938 navigation season.²

The Great Lakes region supplied 90 percent of the iron ore used for steelmaking in the United States during World War II.³ Transportation of ore advanced rapidly to serve the manufacturing facilities located all around the Great Lakes. The great mines of Minnesota and Michigan were connected to the lakes by rail. Then utilizing the huge and numerous ore docks, the ore was loaded into freighters. In two or three days, the ships could take on their cargoes and deliver them to mills in Indiana, Ohio, and Pennsylvania. In 1938, 21 steamship companies operated with a combined fleet of 308 freighters which were available for shipping this vital manufacturing mineral.

War time manufacturing focused on products to support the United States' military build up and modernization. Most of the weapons needed, such as tanks, aircraft, and ships, required large amounts of steel that had to be provided by Great Lakes mills. In addition, the Lend Lease

Act of 1939 and other international agreements allowed America to supply military and other goods to the Allies before the United States entered the war in 1941. By 1940, iron ore shipments on the lakes had increased to 63,712,982 tons total, three times that of 1938. The United States was well on the way to becoming the "Arsenal of Democracy."⁴

Icebreaking Prior to December 7, 1941

Ice conditions on the Great Lakes following 1937 were mild, and Coast Guard cutters began to handle more of the ice-breaking duties. The cutters Escanaba and Ossipee opened the Straits and St. Mary's River in 1939 and 1940 without the assistance of the Sainte Marie.⁵ In the fall of 1940, the cutter Tahoma was reassigned from Cleveland to Coast Guard Group Soo at Sault Ste. Marie, Michigan.⁶ The Tahoma was a sister ship of the Escanaba and provided another vessel with some ice-breaking ability to the Coast Guard fleet in the upper lakes.

In the spring of 1941, however, thick ice formed a substantial barrier to shipping. In late March, the Lake Carriers' Association made arrangements to charter the Sainte Marie, so that vessels could be moving by the first week in April. Captain Charles "Paddy" Brown was in command of the Sainte Marie. He had worked for the company

since 1912 and had lots of experience working the ferries in the ice. Captain C. O. Rydholm of the Cleveland Cliffs Steamship Company served in the role of Lake Carriers' Association representative on board the Sainte Marie.

Captain Brown and Captain Rydholm developed a new method to fuel the Sainte Marie that would save time. Previously, the ferry always had to return to the Straits so that empty hopper cars could be taken off and loaded ones taken on. The captain's new idea allowed the ferry to be loaded at any coal dock on the lake. The empty hopper cars would be pushed to the open deck on the forward end of the ferry. Coal chutes from shoreside would be dropped into the cars and refill them. The cars were then switched to the tracks over the coal bunker chutes and emptied. This process would save a great deal of time and eliminate having to travel back and forth to St. Ignace for fuel.⁷

The Sainte Marie left her St. Ignace dock and began ice-breaking operations at 1:15 am on 31 March. She proceeded west toward St. Helena Island and White Shoals encountering heavy windrowed ice. The Sainte Marie worked all morning breaking through the windrows and widening the shipping lanes to 250 feet. In the areas where there is no current, thick ice is prone to form quite rapidly. The Sainte Marie broke ice west of the Straits, forcing the floes into Lake Michigan and allow for a surface current to start. This assisted in opening up the Straits area and

reducing the risk of vessels becoming entrapped.⁸

The Sainte Marie proceeded east and arrived at Detour at 8:35 am on 1 April. Ice was not encountered until Pipe Island and measurements taken showed it to be 21 to 30 inches in thickness. The Sainte Marie arrived at the Sabin Lock at 5:40 pm and locked up proceeding as far as Point Iroquois. One dramatic and harrowing experience was brought to the captain's attention as local fishermen were forced literally to drive their automobiles onto the frozen Lake Superior surface to warn the ferry of the presence of their lengthy, submerged fishing nets. With time so essential, Captain Rydholm told the men to mark the ends of the nets with their auto lights so the Sainte Marie could proceed around them. The ferry worked her way north, becoming stuck at 11:20 pm just north of the point at Gros Cap (Appendix B).⁹

The Sainte Marie worked herself free but continued to encounter difficulties with the ice throughout the night. As daylight appeared, the captains discussed the idea of using an automobile to drive ahead and do a survey of the ice. The Coast Guard, however, had an aircraft available for use and it was sent up to observe the ice north of the ferry's position. This is, in fact, one of the first documented times that aerial observations were employed to assist in ice-breaking operations. At 2:23 pm on 2 April, the plane dropped a message on the ice near the Sainte

Marie, reporting she would encounter heavy windrows on her present course and suggesting that she change heading.¹⁰

Progress continued to be slow as the Sainte Marie worked her way up to Whitefish Point. Captain Rydholm radioed the Coast Guard at the Soo not to allow any steamers into Whitefish Bay until a substantial channel had been cut. Windrowed ice between 2 and 15 feet thick was being encountered. The Sainte Marie worked all of 3 April cutting a channel and by 3:00 pm, the Sainte Marie was making progress and reporting that the upbound fleet could be brought up at daybreak on 4 April. Captain Brown also requested that a tug be available to assist in freeing the stern of the Sainte Marie if she became stuck herself.¹¹

The Sainte Marie worked to free the steamer LaSalle during the night of 3 April. The vessel was at the forefront of the upbound fleet and the Sainte Marie was unable to release her. The captains decided they could get better results by releasing the William G. Mather, which was the widest of the icebound fleet. This vessel was released with some difficulty and proceeded to lead the fleet into Whitefish Bay. The Sainte Marie continued to assist the fleet by herself until the Tahoma arrived at 1:45 pm. The ice-breaking fleet assisted the steamer Pam Schnider, which had passed the William G. Mather coming to rest less than a quarter mile from open water. With the Pam Schnider again at a standstill, the William G. Mather

proceeded slowly up from behind the Pam Schnider and again, the William G. Mather became trapped in the ice (Figure 6).¹²

The Sainte Marie was eventually able to release the William G. Mather, which led the rest of the upbound fleet by cutting a straight channel. The Pam Schnider was freed by the Tahoma, Iowa, and L.C. Sabin on 6 April as the Sainte Marie had returned to the Soo for fuel and supplies. The Sainte Marie worked to clear up the channel while the tugs were stationed to assist other vessels as they proceeded through the upper river.¹³

On 7 April, the Sainte Marie continued to straighten the channel, which extended 32 miles from the Soo to Whitefish Point. Vessels without cargo, referred to as "in ballast," were told to give loaded freighters the right of way and to remain in as straight a line as possible. At midnight on 8 April, the first downbound vessels arrived and proceeded into the ice lanes. Traveling through the ice at night was encouraged so as to keep the channels from freezing over. The Tahoma was sent into the lower river to stand by in the West Neebish Channel, because it was decided not to open this area until the downbound fleet arrived. This plan would keep the ice from jamming up in the Rock Cut and allow for easier passage.¹⁴

Operations went smoothly until 10 April, when southeast winds called for the breaking of a new channel in a

northwesterly direction. This task was completed and was the first recorded time that ice jammed up the Sainte Marie's seacocks. The seacocks allow water from the lake to be pumped in and out for ballast and boiler use.¹⁵

At midnight on 11 April, the Coast Guard received calls for assistance from vessels caught in windrowed ice. The steamer Harvard was one of the trapped vessels and the Sainte Marie had considerable difficulty in getting the boats underway. The Sainte Marie was stuck at one point for five hours, however, she freed herself and the rest of the vessels by late afternoon on 12 April. The Sainte Marie returned to the Soo that night for fuel and supplies and was delayed in leaving the next morning due to fog. The Sainte Marie spent the afternoon of 13 April assisting vessels through the fog, which was low lying and at times, so thick that only the tops of the ships' masts were visible.

At 5:50 pm, a call came from the steamers Ernest T. Weir and Thomas Lamont asking for assistance. Ice floes were carrying the two ships down toward Point Iroquois and shallow water. The Sainte Marie responded and came alongside the Thomas Lamont at 8:55 pm releasing her and one other vessel, the Mathewston. The fleet was underway again although caution was taken as the steamer Shenango had recently run aground in the same vicinity as fog made it impossible to see the navigating lights and markers.

Icebreaking operations continued until 14 April when the Sainte Marie was released from her charter and she steamed to St. Ignace, arriving on 15 April.¹⁶

On 16 April 1941, the Sainte Marie left the Straits for the shipyard at Manitowoc, Wisconsin. She was found to have a cracked stern frame, and numerous rivets were either missing or loose. Repairs were made and she returned to St. Ignace.¹⁷

Captain Rydholm and the Lake Carriers' Association were again greatly satisfied with the ice-breaking services of the Sainte Marie and Tahoma that spring. Shortly after operations were over, the captain had 25 cartons of assorted cigarettes and one box of R.G. Dun cigars sent to the crews of both ships with his compliments and appreciation.¹⁸ The skill of the crews and capabilities of the freighters would be put to the test the following year as the United States entered World War II.

1942 and World War II

The demand for raw materials needed to fill the orders for war production required the earliest possible seasonal start for Great Lakes shipping. Industries building war materiel were impatient for iron ore shipments to resume in the spring of 1942. The Sainte Marie was called into service for ice-breaking duty, but not by the Lake

Carriers' Association. The United States government had shifted control of the Coast Guard to the Navy, and Great Lakes vessels were placed under the United States Maritime Commission's authority. The transportation of cargo on the Great Lakes was of vital importance to the war effort, so strict attention was paid to ensure that there were no obstacles to the flow of iron ore and other products.

The Sainte Marie left St. Ignace on 19 March and proceeded out into the Straits.¹⁹ Ice varied in thickness from 2½ feet to 5 feet, and the Sainte Marie was only able to make two miles an hour at times.²⁰ After breaking channels in the Straits, the Sainte Marie headed to Detour to open up the St. Mary's River, where the ice was only inches thick. The ferry worked up the river, turning around just below the Soo Locks, continuing to widen the channel for the steamers that were soon to arrive. The Sainte Marie met up with the first vessels in Mud Lake on 21 March at 6:05pm. The Sainte Marie broke open the Lime Island and Detour docks so that the vessels could fuel before heading out across Lake Superior.²¹

The Sainte Marie headed back up river to fuel at Kemp's Coal Dock on 22 March.²² The Sault Evening News reported that the first request of the crew, after seeing nothing but ice since Wednesday, was a five gallon supply of ice cream from the Soo Creamery!²³ At 2:00 pm that afternoon, the Sainte Marie locked up, becoming the earliest vessel to

traverse the Soo Locks in Great Lakes history. The ferry immediately hit ice and began working to open a channel. The William G. Mather was once again at the head of the fleet using her 62-foot beam to open a track. The William G. Mather, however, did become stuck and the Sainte Marie tried unsuccessfully to tow her free.²⁴ Eventually, the William G. Mather was freed by the ice fleet, arriving in Duluth, Minnesota on 26 March.

Over the next several days, the Sainte Marie, along with a small fleet of tugs, kept the channels into and out of Whitefish Bay open. On 26 March, as the Sainte Marie was headed into the Soo Locks, a call was received from the steamer Peter White requesting assistance. Ice floes had trapped the tug Iowa, crushing her hull to the extent that the crew had escaped out onto the ice. The Peter White was at the location and in the process of picking them up. The Sainte Marie changed course and hurried to the Iowa's aid, to free her from the icy grip of the lake. The Sainte Marie successfully freed the tug and escorted her back to the Soo that evening.²⁵

Upon arrival at the Soo Locks, the Sainte Marie locked downbound and assisted the tugs Favorite and Florida, working in the lower river clearing a track for the downbound vessels. The Sainte Marie worked in this area assisting both upbound and downbound ships until 28 March, when she was released from duty. The ferry proceeded back

to St. Ignace to await further instructions as the ice conditions were sure to change. By the first week of April, the Sainte Marie was on her way to Manitowoc for hull inspection. Captain Charles "Paddy" Brown was the master and Harry Cheeseman was the Chief Engineer.²⁶ Icebreaking work had worked some of the rivets loose, causing them to leak, so repairs were made.

While the Sainte Marie was in dry dock for repairs, ice conditions took a turn for the worse. Ice had formed a blockage on Whitefish Bay and downbound vessels were pushing the frozen mass of ice in and around the Soo Locks. Due to the ice, 120 vessels were stopped and on 14 April, 80 vessels had become stuck above the locks.²⁷ Heavy windrows and wind changes caused the ice blockade, which was cleared away by 20 April, without the use of the Sainte Marie. Despite the delay, the shipping season got off to an early start so that vital raw materials could continue to flow to military industries. By the end of 1942, an impressive record of 92,076,781 tons of iron ore had been shipped from the mines to the steel mills on the lower lakes.²⁸

1943 Ice-Breaking Operations

The Office of Defense Transportation requested the earliest possible opening to navigation for the 1943

shipping season. The iron ore quota for the year was originally set at 100 million tons.²⁹ Ice conditions on the Great Lakes that spring would lower this number and the most extensive ice-breaking operations ever undertaken occurred. From Duluth, Minnesota all the way down to Buffalo, New York, vessels would become entangled with Mother Nature's frozen spectacle.

Sainte Marie Chartered for Government Service

The Coast Guard and the Maritime Commission requested the use of the Sainte Marie in late March of 1943. She was ordered away from her automobile carrying duties in the Straits and prepared for ice operations. Coal totaling 300 tons was loaded into her bunkers, plus an additional 320 tons in 16 hopper cars. The Republican News in St. Ignace reported on 1 April that two weeks of provisions were loaded. Authorities stated "and that was some job, too with all this rationing procedure," because they wanted the crews well fed while icebreaking. Captain "Paddy" Brown and Chief Engineer Harry Cheeseman once again took command of the ship.³⁰

At 12:12 am on 1 April 1943, the Sainte Marie shoved off from her dock and began icebreaking in the Straits. Proceeding east, she opened the South Channel before turning around and heading west toward St. Helena Island.

Ice ranged in thickness from 12 to 24 inches and some heavy windrows were encountered. The Sainte Marie headed to Escanaba, where the tug John Roen III was having difficulty opening the port. The ferry slowly worked her way west, her speed reduced to one mile an hour at times. She reached Escanaba on 3 April, followed by the steamers L.E. Block and Philip D. Block. The ships loaded ore and were escorted out to open water in Lake Michigan.³¹

After opening Escanaba and Big Bay De Noc, the Sainte Marie headed back toward the Straits. The ferry opened up the harbor at Mackinac Island before docking in St. Ignace to take on fuel. Once loaded, she headed west into the Straits to start clearing lanes for shipping. On 8 and 9 April, the Sainte Marie led the limestone carriers B.H. Taylor and W.F. White through the Straits to Lake Michigan.³² Ice around Lansing Shoals was estimated to be 12 feet thick in some areas.³³ The first eastbound steamers passed through the Straits on the 9 April as well (Appendix B).

The vessels heading westbound into Lake Michigan were having great difficulty and needed constant assistance from the Sainte Marie. On 14 April, 20 vessels were escorted by the Sainte Marie into open water in Lake Michigan and another 25 were icebound just west of Lansing and White Shoals. Ship owners, customers, and the government began to be concerned after the Sainte Marie sent back reports

from the area. It had been hoped that by mid-April, the Sainte Marie would be breaking open the St. Mary's River to allow for the opening of the Soo Locks. If the Sainte Marie was to head north, a heavy icebreaker would have to be left in the Straits to keep traffic moving.³⁴

The ice committee of the Lake Carriers' Association convened to discuss the situation because both the Straits and St. Mary's River needed to be opened simultaneously in order for vessel traffic to move. The Sainte Marie, tugboats, and Coast Guard cutters would not be able to handle the duty efficiently. A.H. Ferbert asked Captain Rydholm, representative on board the Sainte Marie, if one of the Ann Arbor Company car ferries could assist in the Straits. Rydholm replied "No," because the ice was too heavy for a Lake Michigan car ferry to handle. These ferries were of similar size but did not have the ice-breaking features like the Sainte Marie and Chief Wawatam. It was suggested, and Rydholm agreed, that an Ann Arbor ferry could be used to open Green Bay.³⁵

The opening of Green Bay, however, did not solve the situation in the Straits. The idea of using the Chief Wawatam was proposed because she was very capable of the task at hand. The drawback, obviously, was that this would leave the Straits without a railway ferry. At the time, the Chief Wawatam was handling both rail traffic and automobiles for the State of Michigan, while the Sainte

Marie was tending to ice-breaking duties. Flow of iron ore took precedence as it was essential to the war effort. Special arrangements were made so that rail traffic would be rerouted through Wisconsin and around the bottom of Lake Michigan. The state ferry City of Cheboygan was fitted out to handle the automobiles and mail across the Straits during the absence of the two ferries.³⁶ Thus, the Chief Wawatam was again available to assist with ice-breaking operations.

The Sainte Marie and Chief Wawatam Breaking Ice Together

After making seven trips with automobiles across the Straits on 15 April, the Chief Wawatam steamed out at 9:50 pm to begin breaking ice. For a few hours, the two fleet mates worked together freeing vessels and assisting them to open water.³⁷ On 16 April, the Sainte Marie went to the assistance of the steamer Vigor, which had lost her propeller near Gray's Reef. The ice was carrying the vessel toward the shoals and the Sainte Marie and tug John Roen III were able to free the ship before further damage was incurred.³⁸ The Chief Wawatam continued to assist vessels in the Straits, allowing the Sainte Marie to begin opening the St. Mary's River on 17 April.

The Sainte Marie and tug Wyoming smashed through 24 inches of ice in the lower river on their way up to the

Soo.³⁹ The Sainte Marie reached the locks on 18 April and locked through at 4:00 am on 19 April. The same day, the steamer Powell Stackhouse became the first vessel of the new shipping season to pass through the locks.⁴⁰ The Sainte Marie continued out into Whitefish Bay, where she battled with heavy windrowed ice, 30 feet deep in some places. The Sainte Marie used brute force to cut her way through these large ice formations. The powerful engines moved the ferry forward until movement stopped. The steamer then backed up and repeated the whole process. The ship's spoon-shaped bow allowed her to plow into the windrows, bearing down on the ice, forcing it to weaken and eventually crack. The ferry reached open water on 21 April and turned around to improve the track for the ore carriers that would soon be headed for Duluth and Marquette.⁴¹

Numerous vessels were waiting to transit Whitefish Bay, as heavy windrowed ice had slowed progress of the Sainte Marie. The ice committee decided that conditions in the Straits of Mackinac had improved to the point in which the Chief Wawatam could be dispatched to Lake Superior. The Chief Wawatam refueled in St. Ignace on 21 April before heading through the St. Mary's River and locking into the upper river on the 22 April.⁴² Her insurance brokers extended the navigation limits on the Sainte Marie, so she could proceed as far as Marquette and Caribou Island.⁴³ In addition to the two car ferries, the wrecking tug Favorite,

Coast Guard cutters Citrus, Chaparral, Sorrell, Evergreen and tugs Wyoming and Florida worked in unison to keep the vital shipping lanes open.

Over the next several days, the ice-breaking fleet made numerous trips back and forth escorting ships in and out of Whitefish Bay. On 23 April, the steamers Pontiac, Myron C. Taylor, and Daniel J. Morrell were assisted upbound.⁴⁴ The Chief Wawatam's logbook records the names of numerous vessels that she and the Sainte Marie assisted during this period. In one case, the Chief Wawatam rubbed up against the port bow of the Pittsburgh Steamship Company vessel J.P. Morgan Jr.⁴⁵ The Chief Wawatam and Sainte Marie also worked together on 25 April to free the steamer Colonel.⁴⁶

Day to Day Life On Board the Ferries

The Chief Wawatam's logbook records items related to crew members, as well reflecting a lesser known side to ice-breaking operations. The crew had not been in the Straits area for several days. This was an unusually long separation from their families. On 28 April, the ship received word from the Coast Guard that crewman Joseph Martin's brother had died. The cutter Sorrell came alongside and picked up Martin, who was transferred to the Citrus bound for the Soo.⁴⁷

Since the ferries returned less frequently to the Soo

for fuel, they were able to stay out in Whitefish Bay and Lake Superior longer. Groceries and supplies were brought out to the ferries by passing steamers, tugs, or Coast Guard vessels. The logbook entry for 6:57 am on 2 May records: "Ahead to assist downbound fleet Wind SSE. Lt. Hazy Sky overcast and crew downcast, account tobacco running very low." The crew, however, probably became more upbeat as the log entry for the same day at 7:50 am records: "Sainte Marie alongside with tobacco."⁴⁸

The Ice Struggle Continues in Whitefish Bay

The ice conditions in Whitefish Bay continued to fluctuate, requiring the icebreakers to stay on station. Ice packed the bay due to a strong west wind on Easter Sunday, 25 April. Channels were cut so that traffic was able to move on 28 and 29 April. Strong north winds and heavy snow jammed the channels on the 30 April and shipping came to a halt due to poor visibility and broken ice. Conditions continued to be treacherous until favorable wind and weather shifted the ice fields and provided more open water in Whitefish Bay. By the first week in May, conditions had improved to the extent that the tugs were released from their employment.⁴⁹

The Sainte Marie and Chief Wawatam remained with the Coast Guard cutters on station in the upper and lower river

until 3 May. Ice conditions, however, outside of Buffalo prevented a fleet of more than 30 ships from entering that port. Officials felt that one of the car ferries should be sent to assist and the decision was made to send the Chief Wawatam because she was headed for the Soo to refuel. The Sainte Marie remained in the river until 7 May, when she was released and steamed back to St. Ignace.⁵⁰

The Chief Wawatam Heads for Buffalo

During the month of April, high winds had packed ice to a depth of 20 feet or more for a distance of 30 miles along the New York and Ontario shore.⁵¹ Mild weather allowed 14 vessels to depart Buffalo and several more left Port Colborne, Ontario on 21 April. The ice tightened up shortly thereafter and vessels began experiencing difficulties. The steamers George H. Ingalls and B. Lyman Smith left Buffalo on 25 April, making only slight headway before becoming trapped. The steamer Amazon had her propeller stripped off and at least three tugs suffered damage from the ice. As more ships arrived in the vicinity and became stuck, the situation rapidly deteriorated from a few ships trapped to a fleet of more than 30.⁵²

The ice committee of the Lake Carriers' Association made the decision to dispatch the Chief Wawatam. The Coast Guard cutter Citrus was also deployed to Lake Erie. The

wrecking tug Favorite was in western Lake Erie and was sent, arriving at Buffalo on 4 May. The Citrus arrived on 5 May before the Chief Wawatam and working with the Favorite, was unable to free any of the icebound fleet.⁵³

The Chief Wawatam arrived in St. Ignace on 4 May and immediately took on fuel, provisions, and supplies. The ferry was only certified to operate in the waters around the Straits of Mackinac. In order for the ferry to operate in Lake Erie, the Coast Guard issued a temporary certificate allowing her to navigate the waters around Buffalo. The Chief Wawatam was delayed in leaving the dock because two of her firemen quit and replacements who possessed Merchant Marine discharge books could not be found. Captain Alexander Tromblay contacted the Coast Guard commander in Cleveland and due to the desperate situation, Tromblay was ordered by the commander to take on any men he needed and depart.⁵⁴

The Chief Wawatam left St. Ignace at 12:08 am on 5 May with Captain Tromblay in command and Chief Engineer Peter Jonas. The ferry stopped at 12:30 am on 6 May in Detroit to take on supplies for the B. Lyman Smith. The B. Lyman Smith had been stuck in the ice for 11 days and was running dangerously low on provisions. By 9:17 pm that night, the Chief Wawatam was alongside the B. Lyman Smith unloading meat, milk, fruit, and other groceries to grateful crewmen. When finished unloading, the Chief Wawatam went

to work freeing the B. Lyman Smith, George H. Ingalls, and other vessels from the icy grip of Lake Erie.⁵⁵

At 8:30 pm on 7 May, the Chief Wawatam received a call that a man on board the steamer Price McKinney had been shot in the chest below the heart. During the war, armed guards served on many lake freighters. Most were young men with little military or sailing experience. One of these guards was showing off his weapon when it discharged accidentally. The Favorite was sent to get the injured man, Richard William Hoffman of New York, and take him into Buffalo to the hospital. The Favorite retrieved the man but, due to the number of vessels in the area, fog, and ice conditions, she was unable to make Buffalo. The tug brought the man to the Chief Wawatam where he was loaded on board and the ferry proceeded toward Buffalo where the cutter Cherry was waiting to take him ashore.⁵⁶ The man later recovered and the Chief Wawatam's crew took great pride in the fact they had helped save a life.

After this lifesaving trip, the Chief Wawatam went back to the duties of icebreaking. On 8 May, the fog began to lift and favorable winds began to push the ice out from the Buffalo harbor area. By nightfall, 36 steamers had passed inbound and 22 were able to depart the docks in the newly reopened port of Buffalo. The Chief Wawatam remained on station until 10 May, when Commander Roscoe House of the Coast Guard released her from duty. This work ended ice-

breaking operations by chartered vessels for the spring of 1943.⁵⁷

With their ice-breaking missions complete, the Sainte Marie and Chief Wawatam proceeded into dry dock for inspection and repairs. The Sainte Marie went to Manitowoc Shipbuilding in Wisconsin where her hull plating was checked and rivets loosened by the ice were replaced. The Chief Wawatam headed to Ashtabula, Ohio and arrived on 10 May at the American Shipbuilding dry dock. One of her forward propeller blades was found to have a 6 inch crack, 13 inches from the tip of the blade. Repairs were made and the ship returned to the Straits on 7 June to resume her duties as rail ferry.⁵⁸ The Sainte Marie returned to St. Ignace that spring as well and was tied up to await her next call to service.

Icebreaking: 1944

The late opening of navigation due to the ice conditions in the spring of 1943 diminished the total number of trips that the lake freighters made during the shipping season. The quota of 91,000,000 tons of iron ore was not reached and the season ended with only 84,404,852 tons being shipped.⁵⁹ Production and manufacturing, however, did not suffer and quotas were again set for the 1944 season. Once again, the shipping season got off to an

early start and cold weather provided difficult ice conditions as in years past. The Coast Guard was able to secure the services of the Sainte Marie, however, efforts to get the Chief Wawatam met with some resistance.

The Sault Evening News published an article on 6 April 1944 in which the Michigan State Highway Commissioner, Charles M. Zeigler, protested the use of the Chief Wawatam. With the Sainte Marie already gone on ice-breaking operations, the Chief Wawatam was left to handle the automobile traffic which the state ferries could not accommodate during the winter months. If both ferries were dispatched, no means for crossing the Straits would be available until the two ferries returned. The Ford Motor Company joined Zeigler in the protest because a stoppage of traffic across the Straits would interfere with the movement of manufactured parts needed by Ford to produce bombers.⁶⁰ The Chief Wawatam remained at the Straits.

Ice conditions in the Straits of Mackinac were not as severe as previous years, but the Coast Guard cutters and tugs would need the aid of the Sainte Marie if shipping was to begin as soon as possible. The Sainte Marie left St. Ignace on 24 March and began opening the Straits with the assistance of the cutters Basswood and Sweetgum.⁶¹ On 28 March, the Sainte Marie led the first steamers through the Straits. They were the Bradley Transportation Company's self unloaders B.H. Taylor and Carl D. Bradley.⁶²

The Sainte Marie steamed up to the St. Mary's River and Whitefish Bay on 31 March to assist in opening the Soo Locks. The William G. Mather became the first vessel to pass through on April Fool's Day. The Sainte Marie opened the docks at the Algoma Steel Company in Soo, Ontario, before proceeding downbound into the lower river.⁶³ The ferry spent time opening the lower river until 3 April, when she was recalled to the Straits. Heavy pack ice had drifted in blocking both the east and west channels, stranding 45 vessels. The Sainte Marie, however, had the channels cleared by 8 April and returned to the St. Mary's River.⁶⁴

The Sainte Marie worked alone in the upper river until 10 April, when the tug John Roen III arrived. Additional cutters arrived over the next several days, including the Blackhaw and Planetree. The fleet worked together keeping the lanes open and vessels moving. On 20 April, the Sainte Marie was released from duty.⁶⁵ Coast Guard vessels, including the new 180-foot Balsam class buoy tenders, were commissioned to take over the ice-breaking duties on the Great Lakes. The Sainte Marie would see her ice-breaking role continue to diminish after a new vessel appeared in the Straits during the winter of 1944.

United States Coast Guard Icebreaker Mackinaw (WAGB-83)

Construction of an icebreaker for the Great Lakes had been discussed before the start of World War II. Captain C.O. Rydholm, Lake Carriers' Association representative on the Sainte Marie on numerous occasions, expressed his opinions in an 26 April 1941 letter to Association President A.T. Wood. Rydholm stated that the Sainte Marie and Chief Wawatam "are considered the best all-around icebreakers in the United States" and if a new vessel was built, it should have many of the characteristics of the two ferries.⁶⁶

Once the country entered the war, construction of many new Coast Guard vessels was planned including icebreakers. These vessels would be needed to assist cargo ships through the North Atlantic and into the Arctic, where the northern Russian ports of Murmansk and Archangel could be reached. These ports were essential in supplying Russia with armaments, provisions, and other material for their war effort. Some of this material would come from factories in the United States, including those on the Great Lakes. The government wanted the shipping season to start as early as possible in the spring, and an icebreaker would be valuable in achieving this end.

On 9 June 1942, the first of four Wind class

icebreakers was laid down in Los Angeles, California.⁶⁷ The ships were constructed with spoon-shaped bows, bow propellers, and side-heeling tanks, all of which had become proven technology on board the Straits ferries. Lieutenant Commander Edward Thiele, later United States Coast Guard Engineer-in-Chief, traveled throughout Europe prior to World War II, obtaining information about many icebreakers built by Finland, Denmark, Sweden, Russia, and other countries. Not surprisingly, Thiele found that their designs were based on the successful models of the Straits ferries, including the Chief Wawatam and Sainte Marie.⁶⁸

Thiele returned to the United States and revealed what he had learned to naval architects in the process of designing the Wind class icebreakers. The icebreaker destined for the Great Lakes would be similar to the Wind class but with some slight modifications. The vessel would have a shallow draft for shoal waters and other low spots found on the lakes. This reduction would be compensated by making the vessel 21 feet longer than the Wind class. The new vessel also had a wider beam, 74 feet 5 inches, providing more room and enabling the ship to cut a wider track for lake freighters to follow.⁶⁹ Another major difference was more deck room on board the Mackinaw as the Wind class had deck guns and equipment to handle seaplanes.

The keel was laid on 20 March 1943 at the Toledo Shipbuilding Company and the vessel was launched 4 March of

the following year. The new ship was initially to be named Manitowoc, however, the United States Navy had just launched a patrol frigate of the same name.⁷⁰ The name eventually chosen for this new vessel was Mackinaw (WAGB-83). The Mackinaw is 290 feet long, 74 feet 5 inches in beam, with a draft of 19 feet 3 inches. She is equipped with one forward and two stern propellers, six Fairbanks-Morse diesel engines capable of producing a total of 10,000 horsepower, and a two inch towing hawser and winch.⁷¹ The vessel has pumps capable of switching 112,000 gallons of water in 90 seconds between heeling tanks situated on both sides of the hull. The hull is plated around the ice band area with 1 7/8 inch thick welded steel, while her bottom plates are 1 5/8 inch thick.⁷²

The Mackinaw was commissioned on 20 December 1944, reaching her homeport of Cheboygan, Michigan, on New Year's Eve. Cheboygan, located less than 20 miles from the Straits of Mackinac and within a couple hours sailing time to the St. Mary's River and Soo Locks, proved an appropriate base of operations. The sole purpose of the Mackinaw's construction was to break ice on the Great Lakes, the first vessel assigned for this role. After 1944, the Coast Guard was capable of handling many of the duties once carried out by the Sainte Marie and Chief Wawatam.

Icebreaking in the Late 1940s

The spring of 1945 on the Great Lakes had very mild ice conditions and the Mackinaw was used only briefly to open the channels. The end of the war changed the role of the Mackinaw and Straits ferries from a military and strategic footing to one of domestic service. Despite the arrival of the Mackinaw on the Great Lakes, the Sainte Marie was still considered an important ice-breaking resource. During a shipyard visit in late 1944, berths were constructed on board the Sainte Marie for the additional crewmen who served during ice operations.⁷³ The winter of 1946 was another mild one on the lakes, and the Mackinaw was able to handle ice-breaking duties by herself.

Cold wind and temperatures brought heavy ice to the Great lakes in the spring of 1947. The Sainte Marie was chartered by the Lake Carriers' Association from 9 April until 22 April. The Sainte Marie and Mackinaw worked together to keep traffic moving through the St. Mary's River and Whitefish Bay. Ice conditions continued to be a problem after the Sainte Marie was released, but the Mackinaw was able to handle the work.⁷⁴

The Sainte Marie was called into service in the spring of 1948, beginning with a trip to Mackinac Island with supplies. Warm temperatures had caused the ice bridge to

collapse which residents normally used to cross back and forth to the mainland.⁷⁵ The following day, 2 April, the Sainte Marie headed for the St. Mary's River to assist the Mackinaw in opening the channels for the coming season. A helicopter moored on board the Mackinaw was used for the first time to observe ice conditions ahead of the icebreakers. The Sainte Marie worked until 14 April, by which time disintegrating ice and warmer temperatures were causing little difficulty for upbound or downbound traffic.⁷⁶

The Lake Carriers' Association chartered the Sainte Marie for duty in the spring of 1949, referring in their annual report to "the car ferry Ste. Marie, veteran of many previous icebreaking campaigns."⁷⁷ The ship left St. Ignace 26 March under the command of Captain M.J. "Mike" Bishop, who was an experienced ferry and ice-breaking skipper. Captain John Rutledge of the Hutchinson Line was on board as the Lake Carriers' Association representative.⁷⁸ The Sainte Marie led the steamer John T. Hutchinson through the lower river and assisted the Mackinaw and other vessels in opening the channels.⁷⁹ The Sainte Marie remained in the upper river and Whitefish Bay until 6 April when conditions warranted her return to service at the Straits.

During her years of service, the Sainte Marie assisted many vessels, their crews, and others in need. As a point

of interest, it is even recorded that in April of 1949, a spaniel became trapped on an ice floe off the Pointe Aux Pins area in the upper St. Mary's River. Passing steamers noticed the dog's situation but were unable to make their way to its assistance. Finally, the Sainte Marie, coming down from Whitefish Bay, was able to make the rescue and take the dog on board. Captain Bishop turned the canine over to a new home with a local Coast Guardsmen when they docked for refueling in the Soo.⁸⁰

The Sainte Marie and Chief Wawatam completed the most vital icebreaking ever performed on the Great Lakes during the 1940s. Prior to the arrival of the Mackinaw and other Coast Guard cutters, the two rail ferries were the only resources for heavy icebreaking. The Mackinaw was not completed until December 1944. Thus keeping open the essential shipping lanes during the majority of the war was left to the Sainte Marie and Chief Wawatam. Without the assistance of the two ferries, transportation of iron ore and other cargoes during the early spring would have been hindered and the war production effort would have suffered setbacks. The role of the Straits rail ferries as icebreakers was firmly established by the end of the 1940s, but within a decade, the monumental task of Great Lakes icebreaking would shift from private companies to the United States Coast Guard.

Chapter Six Endnotes

¹George J. Joachim, Iron Fleet: The Great Lakes in World War II (Detroit, Michigan: Wayne State University Press, 1994), 23.

²Ibid., 24.

³Ibid., 10.

⁴Ibid., 32.

⁵Lake Carriers' Association Annual Report, (1940), 15.

⁶Lake Carriers' Association Annual Report, (1941), 15.

⁷Lake Carriers' Association Collection, "Ice Breaking," (GLMS-44) Box 62, (Bowling Green, Ohio: Bowling Green State University), 25 April 1941, 2.

⁸Ibid.

⁹Ibid.

¹⁰Ibid.

¹¹Ibid.

¹²Ibid.

¹³Ibid.

¹⁴Ibid.

¹⁵Ibid. On 11 April, the steamer Capt. C.D. Secord took one of the firemen, sick at the time, off the Sainte Marie allowing the ferry to continue operations without having to return to the Soo.

¹⁶Ibid.

¹⁷Ibid., Undated.

¹⁸Ibid., 19 April 1941.

¹⁹Ibid., 2 April 1942.

²⁰Sault Evening News, 19 March 1942.

²¹Lake Carriers' Collection, Box 62, 2 April 1942.

²²Ibid.

²³Sault Evening News, 23 March 1942.

²⁴Lake Carriers' Collection, Box 62, 2 April 1942.

²⁵Ibid.

²⁶Republican News and St. Ignace Enterprise, "Ste. Marie To Shipyard," 2 April 1942.

²⁷Lake Carriers' Association Annual Report, (1942), 15.

²⁸Joachim, Iron Fleet, 114.

²⁹Ibid., 43.

³⁰Republican News and St. Ignace Enterprise, "Sainte Marie Starts Ice Crushing Job To Open Navigation," 1 April 1943.

³¹Lake Carriers' Collection, Box 62, April - May 1943.

³²Sault Evening News, 8 April 1943.

³³Ibid., 5 April 1943.

³⁴Lake Carriers' Collection, Box 62, April - May 1943.

³⁵Ibid., 14 April 1943.

³⁶Ibid., April - May 1943.

³⁷Chief Wawatam January - December 1943, (Mackinaw City, Michigan: Mackinac State Park Commission), 15 April 1943.

³⁸Lake Carriers' Collection, Box 62, April - May 1943.

³⁹Lake Carriers' Association Annual Report, (1943), 14.

⁴⁰Ibid.

⁴¹Lake Carriers' Collection, Box 62, April - May 1943.

⁴²Chief Wawatam, 21 April 1943.

⁴³Lake Carriers' Collection, Box 62, 22 April 1943.

⁴⁴Chief Wawatam, 23 April 1943.

Note: The Daniel J. Morrell sank during a storm in 1966 on Lake Huron with only one crewmen surviving.

⁴⁵Chief Wawatam, 24 April 1943.

⁴⁶Ibid., 25 April 1943.

⁴⁷Ibid., 28 April 1943.

⁴⁸Ibid., 2 May 1943.

⁴⁹Lake Carriers' Collection, Box 62, April - May 1943.

⁵⁰Sault Evening News, 8 May 1943.

⁵¹Sault Evening News, "Chief Wawatam is Ordered to Buffalo," 4 May 1943.

⁵²Lake Carriers' Collection, Box 62, April - May 1943.

⁵³Lake Carriers' Annual Report, (1943), 14.

⁵⁴Lake Carriers' Collection, Box 62, 21 April 1943.

⁵⁵Chief Wawatam, 6 May 1943.

⁵⁶Ibid., 7 May 1943.

⁵⁷Ibid., 10 May 1943.

⁵⁸Ibid., 14 May 1943; 7 June 1943.

⁵⁹Joachim, Iron Fleet, 49.

⁶⁰Sault Evening News, "State Protests Efforts to Commandeer Ferry Wawatam for Ice Breaking on Lakes," 6 April 1944.

⁶¹Lake Carriers' Collection, Box 62, 12 May 1944.

⁶²Lake Carriers' Association Annual Report, (1944), 14. The Carl D. Bradley broke in two on Lake Michigan in 1957. All hands were lost except for two men who managed to stay alive in a life raft.

⁶³Sault Evening News, "Str. Mather First Through Soo Locks," 1 April 1944.

⁶⁴Lake Carriers' Annual Report, (1944), 14.

⁶⁵Lake Carriers' Collection, Box 62, 12 May 1944.

⁶⁶Ibid., 26 April 1941.

⁶⁷Robert L. Scheina, U.S. Coast Guard Cutters & Craft: 1946 - 1990 (Annapolis, Maryland: Naval Institute Press, 1990), 99.

⁶⁸Lieutenant Arthur A. Johnson, ed., Reflections of Rear Admiral Edward H. Thiele U.S. Coast Guard (Retired) Former Engineer-in-Chief U.S. Coast Guard (August 1, 1958 - June 30, 1961) (Washington D.C.: Oral History Interview Series, 1984), 3.

⁶⁹Scheina, U.S. Coast Guard, 98-99.

⁷⁰Ibid., 99.

⁷¹Ibid., 98.

⁷²Lake Carriers' Association, Bulletin (32.8 1944), 5.

⁷³Lake Carriers' Collection, Box 62, Undated.

⁷⁴Lake Carriers' Association Annual Report, (1947), 15.

⁷⁵Republican News and St. Ignace Enterprise, 1 April 1948.

⁷⁶Lake Carriers' Association Annual Report, (1948), 18.

⁷⁷Lake Carriers' Association Annual Report, (1949), 16.

⁷⁸Sault Evening News, "Sainte Marie Chartered for Ice Breaking," 25 March 1949.

⁷⁹Sault Evening News, "Assists In Opening," 28 March 1949.

⁸⁰Sault Evening News, "Marine News," 7 April 1949.

Chapter Seven
1950s Ice Operations
and the
End of Chartered Icebreaking on the Great Lakes

As the Sainte Marie finished her 1940s ice-breaking operations, saving the life of a stranded canine, many feared that the 1950s would see the ship's ice-breaking career enter a period of "dog days." The Mackinaw, along with other Coast Guard cutters, had proven her ability to handle early spring icebreaking. The Sainte Marie remained a valuable resource for opening the lakes in the spring, however, the cost of chartering the vessel was questionable when cheaper means were available. The 1950s saw the continued use of the Sainte Marie, but as the decade came to a close, a loyal ice warrior would be retired.

Charter Arrangements

When the Chief Wawatam went icebreaking in 1937, the Lake Carriers' Association devised a method to cover the cost of chartering vessels for icebreaking from private companies. The Association charged the shipping companies of the vessels that the two ferries assisted during their periods of ice service. This was done by keeping detailed logs on board the ferries during operations and determining

the bill afterwards. The fee for each vessel was determined by her gross registered tonnage and the number of times assistance was provided.

The cost per ton was established by dividing the full cost of the charter and the total registered tonnage of all vessels assisted for the period of ice service. For example: if the charter cost was \$100,000 and the total tonnage was 3,000,000, the cost per ton would be 3 cents. Each vessel would be assessed three cents per ton, so assistance to a 4,000-ton vessel would cost a company \$120.

The Lake Carriers' Association usually arranged for a 14-day charter with the Mackinac Transportation Company. If the ferry was needed after those 14 days, a set price for each additional day was determined. This cost ranged from \$6,000 in 1947 to \$4,000 in 1950. Since the Sainte Marie sat idle most of the year, these charters provided valuable income for the Mackinac Transportation Company. By 1950, the chartering of the Sainte Marie for spring icebreaking had become routine, and the contracts were drawn up in preparation even before it was determined whether or not the ship's services would be required.

1950 Icebreaking

The Sainte Marie was needed in the spring of 1950 as windrowed ice as thick as 30 feet was recorded in Whitefish

Bay.¹ On 19 April, the Sainte Marie set out to open the Straits of Mackinac with Captain Mike Bishop as skipper and Captain John Rutledge as Association representative. The ferry assisted numerous vessels heading eastbound and westbound until 26 April, when she reported to the Soo. The ship locked through and began work around Parisienne Island and Point Iroquois, where it was reported the ferry only made a speed of five miles per hour. The Sault Evening News headline for 27 April read: "Sainte Marie Breaks Lane To Whitefish; Late Season Creates Ore Supply 'Emergency.'" The accompanying article began with the following text:

The big black carferry Sainte Marie smashed its way through heavy ice of Whitefish Bay this morning and this noon was reported headed back to the Sault. This left hope to scores of ship masters in the lower lakes and a half-dozen vessels in Sault harbor that a go-ahead signal for Lake Superior navigation to proceed would be given by Capt. Mike Bishop.²

By 1 May, navigation was in full swing and the Sainte Marie worked with Coast Guard cutters to keep the shipping lanes open. Operations went well, although on two occasions, the ship's log records minor incidents of the ferry bumping other vessels. On 29 April, the Mackinaw bumped the port side of the Sainte Marie bending three frames and plates. On 3 May, the cutter Acacia struck her amidships on the port side, punching a 6" x 24" hole in the superstructure.³ The Sainte Marie was a strong ship, and these incidents illustrate how close the icebreakers came into contact with one another.

Shipping traffic was moving smoothly through Whitefish Bay and the Sainte Marie was released from service on 7 May. The total cost for the ferry was \$108,000, \$88,000 for the 14 day charter and \$20,000 for five extra days.⁴ During those 19 days, the Sainte Marie assisted 453 vessels of various tonnages, so billing would have taken the \$108,000 and divided it accordingly among the companies of the ships assisted.⁵ The Sainte Marie continued to be profitable and her reputation as an icebreaker augmented.

1951 and Lake Superior Trip

The Sainte Marie broke ice in the unfamiliar waters on Lake Superior for the first time in 1951. The ferry departed St. Ignace on 2 April with Captain Alex Tromblay in command.⁶ As usual, the Straits were the first priority and when conditions proved favorable, the Sainte Marie moved into the St. Mary's River and Whitefish Bay. By 8 April, Whitefish Bay was clear, but windrows of 30 feet or more were still reported around the ports of Duluth, Minnesota and Superior, Wisconsin.⁷ The Sainte Marie and Mackinaw were dispatched to assist in opening the "Twin Ports," the two largest American ports on Lake Superior (Appendix B).

The Mackinaw and Sainte Marie worked together and by Wednesday, 11 April, had cleared a path allowing vessels to

enter the harbor and load.⁸ This was the first and only time that the Sainte Marie broke ice in western Lake Superior. Once the ports had been opened, the ferry proceeded back to Whitefish Bay where she remained on station until 23 April. The Sainte Marie was released from duty at 9:00 am that morning and headed down river to St. Ignace.⁹ The Sainte Marie worked 25 days and her charter brought in \$140,500. The cost increased to \$91,000 for 14 days and \$4,500 for each additional day.¹⁰

The Years Up To 1957

The Sainte Marie was chartered in 1952 from 7 April until 18 April. Commodore Mike Bishop was in command of the ferry with a crew of 52. The number of crewmen was so large as to enable the ferry to operate around the clock. They had been waiting at St. Ignace since late March to depart, but a steel strike kept the freighters in port, and delayed the start of the season.¹¹ When the ferry went into service, she spent most of the time in the lower St. Mary's River, especially in the West Neebish Channel. The Sault Evening News reported on 14 April that ice conditions were severe enough that freighters had to be towed through the river in some areas.¹² Along with four Coast Guard cutters, the Sainte Marie set to work opening the narrow channels and assisted vessels through the ice-choked river.

Weather conditions improved and the ferry was released on 18 April, returning to St. Ignace where she awaited her next call for ice-breaking service.

The next three years had the Sainte Marie sitting on the side line from ice-breaking duties. Ice and weather conditions were quite favorable in the spring of 1953, and even the Mackinaw saw little service. The following two years had the Mackinaw and other cutters handling the ice situation without the assistance of the Sainte Marie. Arrangements were made by the Lake Carriers' Association for the use of the ferry during these years, but it was becoming clear that the Coast Guard was taking responsibility for more of the ice-breaking duties.

The spring of 1956 provided the need for the Sainte Marie once more as ice conditions in the Straits and St. Mary's River exhausted the Coast Guard's resources. The Sainte Marie left St. Ignace on 31 March with Commodore Mike Bishop in command.¹³ The ferry proceeded to the St. Mary's River and began work in the lower river, allowing the Mackinaw to lock up and clear Whitefish Bay. The Sainte Marie worked with the cutter Mesquite as ice jams had once again clogged the West Neebish Channel suspending passage of shipping traffic. The Soo Locks opened on 4 April with the passage of the steamer John E.F. Misener. Weather and ice conditions became favorable and the Sainte Marie was released nine days later.¹⁴

Icebreaking in 1957

The Sainte Marie set out 8 April 1957 to start ice operations in the St. Mary's River and Whitefish Bay. On 10 April, ice thickness in these areas was reported at 24 to 36 inches with six to eight foot windrows.¹⁵ The Sainte Marie, working alongside the Mackinaw, escorted the freighters in group convoys. As the weather warmed up, the ice began to break apart and the wind carried the floes into large windrows. At one point, it took the ice-breaking fleet 20 hours to clear 40 miles of windrowed ice 15 to 25 feet thick.¹⁶ The Sainte Marie used her powerful engines and spoon-shaped bow to break the windrows. The ship pushed forward as far as possible until stopped, then backed up, and rammed ahead again, repeating this process until the ice gave way. Vessel traffic was moving smoothly even if the pace was quite sluggish.

On 16 April, this pace changed when the downbound Pittsburgh Steamship Division steamer George A. Sloan was damaged by ice off Parisienne Island. Ice had cracked some of the vessel's bow plates and the ship began to take on water. The Mackinaw, Sainte Marie, and cutters Woodbine and Arundel all came to the George A. Sloan's assistance, towing her to shallow water. Traffic was halted in both directions while the ice fleet was occupied with the damaged vessel. The crane ship W.C. Richardson unloaded

iron ore from the George A. Sloan's forward hatches, allowing her bow to rise and the vessel to proceed to the Soo for repairs.¹⁷ Passage through the river was open again and the battle with the ice continued.

The Sainte Marie assisted vessels and kept the channels open until 22 April, when her charter expired. The ferry locked down through the Soo and returned to St. Ignace. The ship and her crew had performed another successful ice-breaking charter, and in the process averted certain disaster by assisting the damaged George A. Sloan. Unknown to her crew and sailors all over the Great Lakes, this was the last time the big black carferry would be used for ice-breaking duty.

End of an Era

As the 1960s approached, the Mackinac Transportation Company began questioning the need for two ferries at the Straits. Several factors accounted for this outlook on the car ferries. A drop in rail shipments, freight trucked across on the new Mackinac Bridge, and the cost of maintaining a stand-by vessel were strong influences for such discussions. More and more, the Mackinac Transportation Company counted on the spring ice-breaking charters to help defray the costs of the Sainte Marie. The spring of 1958 was a mild one in terms of ice on the Great

Lakes and icebreaking was minimal. The opening months of 1959 saw some heavy ice in the rivers and channels, but this was dealt with by Coast Guard vessels and the Sainte Marie was not summoned to render assistance.

In the fall of 1959, Mackinac Transportation Company Chairman R.J. Barry wrote the Coast Guard 9th District expressing his concern that the ferries were no longer being chartered and that the Coast Guard was now responsible for a good deal of the icebreaking.¹⁸ On 14 December 1959, Rear Admiral J.A. Kerrins, Commander of the the 9th Coast Guard District, responded, stating the Coast Guard's position. Kerrins wrote that the Coast Guard was required by law to "develop, establish, maintain, and operate... icebreaking facilities...." Further, he stated that the Coast Guard was "directed to assist in keeping open to navigation by means of ice-breaking operations... channels and harbors in accordance with the reasonable demands of commerce; and to use for that purpose such vessels subject to its control...."¹⁹

The letter went on to say that Congress had enacted a law authorizing the construction of the Coast Guard icebreaker Mackinaw for the specific purpose of Great Lakes ice-breaking operations. At the time of her construction in Toledo, Ohio, the Mackinaw's beam would not allow her to leave the Great Lakes due to the size of the locks in the St. Lawrence River. The mission of the vessel was to

remain on the lakes indefinitely as a heavy icebreaker. In regard to chartering the ferries, Rear Admiral Kerrins stated that "the Coast Guard cannot properly take a position that would influence the negotiation of the necessary contracts one way or the other."²⁰

In February of 1960, Mackinac Transportation Company President H.W. Large sent a similar letter to the Lake Carriers' Association President, Admiral Lyndon Spencer. Large wrote that without the added income from ice-breaking service, the company saw little prospect of being able to maintain two vessels. He asked for advice on the matter and some definite assurance that future charters would be forthcoming.²¹ On 11 February, Spencer wrote back that the Association did "not feel warranted in making any definite commitment concerning use of the ferry in future icebreaking programs." Spencer acknowledged that if heavy ice conditions called for the assistance of another vessel besides those of the Coast Guard, the ferries would certainly be used.²²

The responses received from the Coast Guard and Lake Carriers' Association, along with other financial considerations sealed the fate of the Sainte Marie for the Mackinac Transportation Company. In 1961, the ferry was put up for sale and sold to the Luria Brothers of Cleveland, Ohio.²³ On 12 October 1961, the Republican News in St. Ignace reported that the Sainte Marie was to be

placed into service crossing Lake Erie from Ashtabula, Ohio to Port Burrell, Ontario.²⁴ This plan never materialized and the ferry was scrapped in Ashtabula in 1962. The big black ferry that had provided 48 years of rail ferry and ice-breaking service was no more. The Sainte Marie's 1957 ice-breaking trip was the last time that a ferry was used for chartered icebreaking on the Great Lakes.²⁵

Chapter Seven Endnotes

¹Sault Evening News, 24 April 1950.

²Sault Evening News, "Sainte Marie Breaks Lane To Whitefish; Late Season Creates Ore Supply 'Emergency'," 27 April 1950.

³Sainte Marie Pilothouse April - May 1950, (Bowling Green, Ohio: Bowling Green State University), 3 May 1950.

⁴Lake Carriers' Association Collection, "Ice Breaking," (GLMS-44) Box 63, (Bowling Green, Ohio: Bowling Green State University), Undated.

⁵Sainte Marie Pilothouse April - May 1950, 19 April - 7 May 1950.

⁶Sault Evening News, "Sainte Marie on Patrol in the Straits," 3 April 1951.

⁷Ibid., 8 April 1951.

⁸Ibid., 11 April 1951.

⁹Lake Carriers' Association Annual Report, (1951), 16.

¹⁰Lake Carriers' Collection, Box 63, Undated.

¹¹Republican News and St. Ignace Enterprise, 29 March 1952.

¹²Sault Evening News, 14 April 1952.

¹³Republican News and St. Ignace Enterprise, "Sainte Marie Starts Friday Breaking Ice," 29 March 1956.

¹⁴Lake Carriers' Association Annual Report, (1956), 13.

¹⁵Sault Evening News, 8 April 1957.

¹⁶Ibid., 16 April 1957.

¹⁷Ibid., "Ice Damaged Ore Freighter Lightered Off Parisienne," 17 April 1957.

¹⁸Lake Carriers' Collection, Box 63, 30 November 1959.

¹⁹Ibid., 14 December 1959.

²⁰Ibid.

²¹Ibid., 5 February 1960.

²²Ibid., 11 February 1960.

²³Plain Dealer, "Scrap Yard to Get Old Rail Ferry," 27 October 1961.

²⁴Republican News and St. Ignace Enterprise, "Sainte Marie Leaves For Lake Erie Run," 12 October 1961.

²⁵Lake Carriers' Collection, Box 63, 14 April 1960.
Note: The State of Michigan Ferry Vacationland was offered for chartering in April of 1960 for ice breaking service, however, the vessel was never used.

Conclusion

The history of Great Lakes and world-wide icebreaking was dramatically shaped by the use of the car ferries from the Straits of Mackinac. One of the benefits of using iron-hulled and steel-hulled vessels on the lakes was the ability to withstand major ice damage. As more and more of these ships were built, owners and their customers tried to extend the shipping season as long as possible. In order to overcome the obstacle of ice in the winter and spring, heavy icebreakers needed to be available to keep traffic moving when ice was thickest and ships became trapped. Vessels specifically designed for icebreaking which could accomplish the task successfully had not yet been developed.

The St. Ignace of 1888 and the Sainte Marie of 1893 became the models for world-wide ice-breaking technology. The two ferries' design and construction was studied extensively due to the great success they had in breaking ice. Unfortunately, the St. Ignace and Sainte Marie (1893) never got the chance to prove themselves in waters other than the Straits of Mackinac. The task of demonstrating that the design and technology was successful in other waters and situations was left to the successors of the St. Ignace and Sainte Marie (1893).

The second generation heavy icebreakers Sainte Marie

and Chief Wawatam proved that icebreaking on the Great Lakes could be accomplished both in emergency situations as well as opening navigation early in the spring. Many factors contributed to this success, including the inherited design of the ships, the men who commanded the vessels, and the number of ships and sailors assisted out of the ice.

The Sainte Marie and Chief Wawatam were designed with many architectural features proven effective on the previous Straits ferries. The hull form incorporated the spoon-shape bow which rode up on the thick ice and used the weight of the vessel for crushing. The bow propeller and forward engine were used to draw the water from underneath the ice making the ice more fragile. This arrangement also enabled the ferries to have greater movement back and forth in the ice. Heeling tanks were constructed to move water from side to side creating lateral motion. The size and shape of the ferry's hulls made it possible for cutting tracks in the ice that were wide and straight. The length of the two ferries made them highly maneuverable, capable of circling stuck vessels, and moving in alongside the ships to relieve ice pressure. All of these innovations contributed to the overall effectiveness of the two ferries in fulfilling their ice-breaking role.

Besides the ships themselves, the men who commanded the ferries during ice-breaking operations contributed a great

deal to their success as well. Men such as John A. and Gerald E. Stufflebeam, Charles "Paddy" Brown, Alexander Tromblay, and Mike Bishop spent many years crossing the Straits. They gained valuable experience in ice enabling them to read the ice conditions by simply viewing the ice fields from the pilothouse. Maneuvering the ferries literally right up alongside stuck freighters tested the captains' seamanship and required a skill unmatched by other Great Lakes shipmasters.

The most important testament to the success of the Sainte Marie and Chief Wawatam was the number of vessels and crews they assisted out of the ice over the years. The ferries freed hundreds of vessels that otherwise would have remained stuck, causing distress for owners, customers, sailors and their families. The "November Freeze" of 1926 indicated clearly that in an emergency situation, the ferries could free numerous vessels and allow them to continue their trips delivering cargo. The logbooks of both ferries attest to the countless vessels that they freed from ice. These stranded vessels could have suffered serious hull damage and other mechanical difficulties.

The most important role played by the ferries was the service provided to the Great Lakes sailor. The ferries assisted, both directly and indirectly, hundreds of sailors in completing their work safely and efficiently. Ice can prevent vessels from finishing the numerous trips they have

to complete each year, but the ferries kept traffic moving. As a result, this enabled crews to return to their homes as soon as possible in the winter months and spend precious time with family and friends. The ferries provided direct humanitarian assistance on numerous occasions, transporting sick and injured sailors to shore facilities that would otherwise have been inaccessible.

Indeed, the ferries were well-suited for their role as heavy icebreakers and yet their importance began to diminish in the late 1950s. There are several reasons for this decline. Icebreaking was not the main duty of vessels built for ferrying railway cars. Rail traffic was the reason the ferries remained at the Straits and available for ice-breaking duties. With the construction of the Mackinac Bridge in 1957, a large percentage of freight began to be transported between the two peninsulas by truck. Rail traffic continued to be important, however, each year brought more truck traffic and less rail traffic. Even by the late 1970s, the spur that connected St. Ignace with the upper peninsula was no longer a significant freight influence to the area. The Chief Wawatam, being the larger car ferry, continued ferrying cars across the Straits on a sporadic basis until 1984.

The Sainte Marie was not as fortunate because of her size and role as a back-up ferry. By the 1950s, the Sainte Marie occasionally carried railway cars when the Chief

Wawatam was dry docked, but spent a good portion of the time tied up. The profitable charters for icebreaking clearly allowed the Mackinac Transportation Company to keep her in service as long as they did because the charters brought in enough money to maintain her for the entire year. With the decrease in charters, the company began to lose this source of income and costs for maintenance and upkeep could not be justified. Thus, the Sainte Marie was scrapped because of her diminishing role on the Great Lakes as an icebreaker and not due to a lack of railway traffic.

The Sainte Marie and Chief Wawatam played a valuable role in early Great Lakes icebreaking. When situations called for a heavy icebreaker, these ferries were the only vessels available. The federal government made an effort in the 1930s with the Coast Guard Escanaba class but these vessels proved inefficient for Great Lakes icebreaking. The first Great Lakes Coast Guard vessel that could handle the ice was the Mackinaw, because she was designed for the purpose of icebreaking.

The role of icebreaking shifted after World War II from private shipping interests to the federal government. The icebreaker Mackinaw and smaller Coast Guard vessels assumed more and more of the duties previously conducted by the Sainte Marie. The Mackinaw, along with several 180-Foot Balsam class cutters stationed around the lakes, opened navigation in the spring. Coast Guard cutters had

many advantages that the ferries could never match. Coast Guard craft were ready for service 24 hours a day and could be on the way to assist a ship in a matter of minutes. The ferries were limited by the schedule of the railroad and needed time to switch from their ferry role to that of icebreaker. The Coast Guard even began to employ modern technology to battle the ice, including air reconnaissance and regular weather and ice reports.

The greatest advantage benefited ship owners and their customers greatly. The Coast Guard was a branch of the federal government, so all its operations conducted on the lakes were paid for with public funds. The cost to shipping interests was negligible and chartering ice-breaking vessels was no longer necessary. Economics has always been a primary factor in shipping history, and the laws of efficiency and cost savings took hold soon after the end of the World War II. The future of economics and Great Lakes shipping, however, would be shaped by the icebreaking that began with the Sainte Marie and Chief Wawatam.

As the chart that appears in Appendix A indicates, the car ferries broke ice mainly during and after World War II. War production required their services in the early 1940s, but production continued to increase in post-war America as well. Americans wanted many types of manufactured goods that were shipped by truck, train, or

aircraft. People wanted to buy manufactured goods including automobiles, recreational vehicles, bicycles, tractors, and other goods. From the automobile to the bicycle, industrial products required a certain material: steel.

Steel manufacturers saw the demand for more iron ore tonnage to be moved on the Great Lakes. More cargo shipped meant more products made in the factory. In order for the ships to move more cargo, they had to make more trips during each season. This goal could only be accomplished with larger vessels and a sailing season much longer than anyone in 1926 could imagine. During the 1970s, shippers experimented with a year-round shipping season, with the cooperation of the Coast Guard, ship owners, and other interests. For numerous reasons, the trial of year-round sailing failed, but it probably never would have been tested had it not been for the successful operations done earlier by the Sainte Marie and Chief Wawatam.

Currently, the Great Lakes sailing season extends from late March until mid-January. This is due mainly to the dates set for the opening of the Soo Locks. The Mackinaw and the Bay class icebreaking tugs continue to break ice and assist vessels in the spring. The Mackinaw's days are numbered because she is due to be replaced in 2006. The new icebreaker Mackinaw will be smaller and tasked with multiple roles besides icebreaking. In addition, the Coast

Guard does not plan to incorporate a bow propeller into her design.

Regardless, icebreaking on the Great Lakes has come a long way since the St. Ignace, commanded by Commodore Boynton, pushed her way through to the ice-choked Straits. The ferries played a valuable ice-breaking role during World War II getting raw materials through for the war effort. The Sainte Marie and Chief Wawatam were important to the Straits region, to the men and women who sailed on them, and to the shipping industry they assisted during the ice-filled months on the Great Lakes.

The Straits ferries introduced a new type of vessel to the Great Lakes and the world. Ice would no longer be the obstacle it had been in the past. Maritime history was influenced by the success that these ferries had in the ice on the Great Lakes. The ice-breaking technology developed and proven effective by the Straits ferries made possible current ice operations around the world. Unfortunately, maritime historians have failed to give proper credit to these vessels. Granted, they were built as railway ferries, yet they proved themselves to be the forerunners of modern day icebreakers. Their design was revolutionary, putting together all the elements of a serviceable icebreaker. The ferries accomplished the dual roles as railway ferry and icebreaker. In the end, the car ferries were more than just icebreakers; they were "Black Angels of the Ice."



Figure 1. Chief Wawatam. Approaching rail slip at Mackinaw City, Michigan. (February 1979). Photo by Robert Campbell. Author's Collection.



Figure 2. Sainte Marie. Keeping channel open in lower St. Mary's River. (April 1941).
Photo Courtesy of Great Lakes Marine Collection of the Milwaukee Public Library.



Figure 3. "Troop Ferry." Chief Wawatam ferrying Michigan State Militia across to copperfields. (Summer 1913). Photo by Clyde Johnson. Author's Collection.



Figure 4. "Surrounded by Ice." Chief Wawatam escorting Steamer Pam Schnider into Escanaba, Michigan. (April 10, 1937). Photo Courtesy of Great Lakes Marine Collection of the Milwaukee Public Library.



Figure 5. "Opening Escanaba." Chief Wawatam breaking open North Side of Dock #6 in Escanaba, Michigan. (April 10, 1937). Photo Courtesy of Great Lakes Marine Collection of the Milwaukee Public Library.

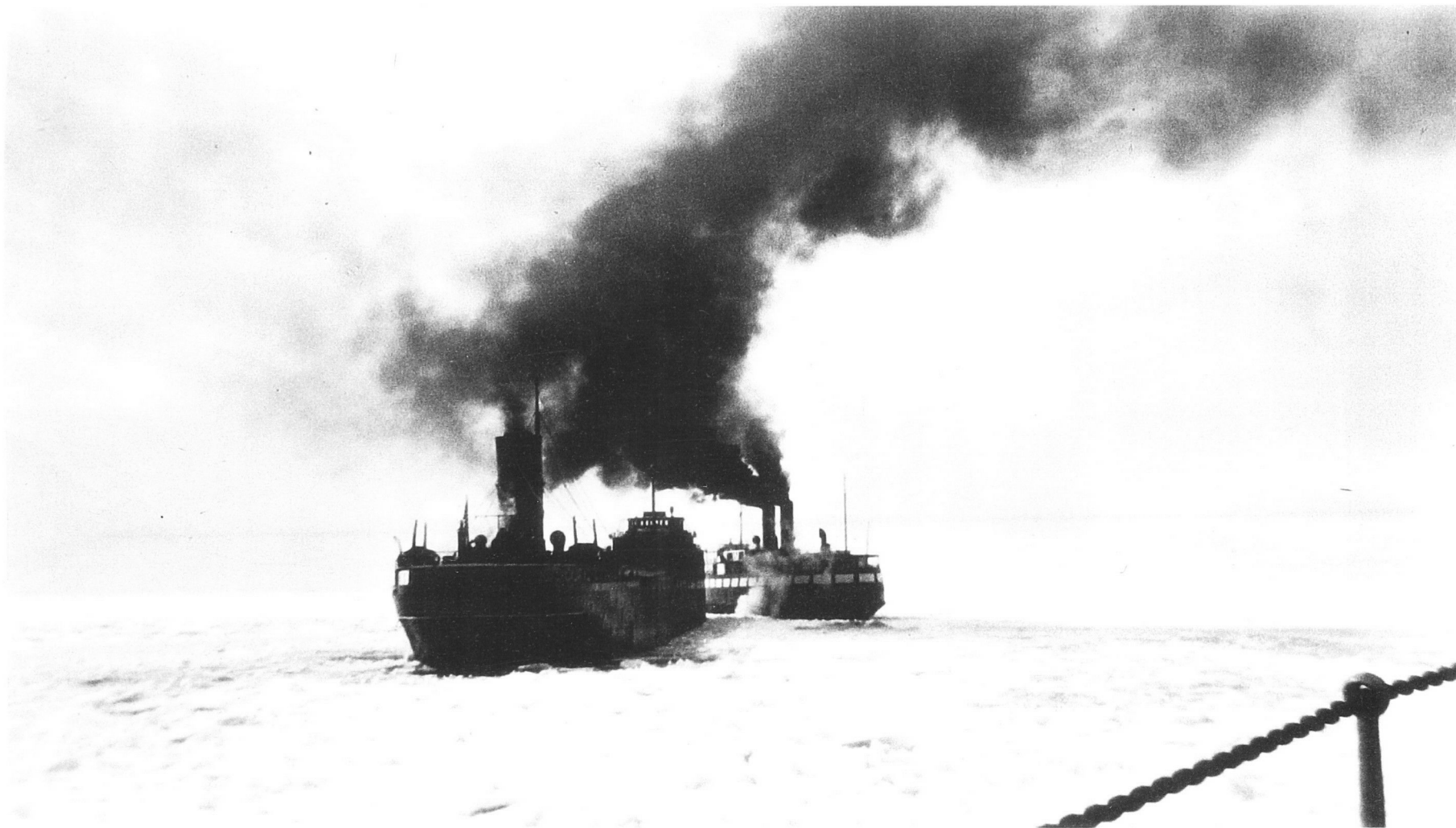


Figure 6. "Crushing Ice." Sainte Marie breaking ice around Steamer William G. Mather. Taken from Coast Guard Cutter Tahoma. (April 1941). Photo Courtesy of Great Lakes Marine Collection of the Milwaukee Public Library.



Figure 7. "Full Load." Chief Wawatam connected to rail dock apron in St. Ignace, Michigan. (1940's). Author's Collection.



Figure 8. "Workhorse of the Straits." Chief Wawatam at Mackinaw City, Michigan dock. (February 1978). Author's Collection.

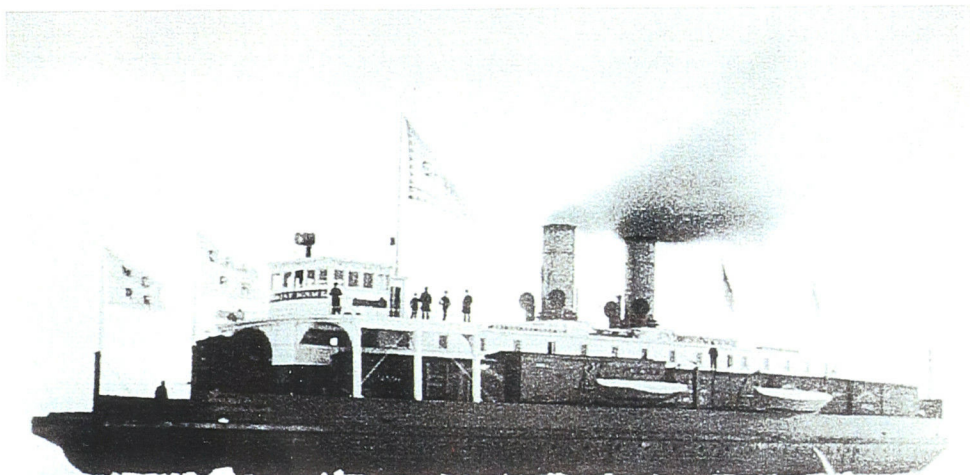
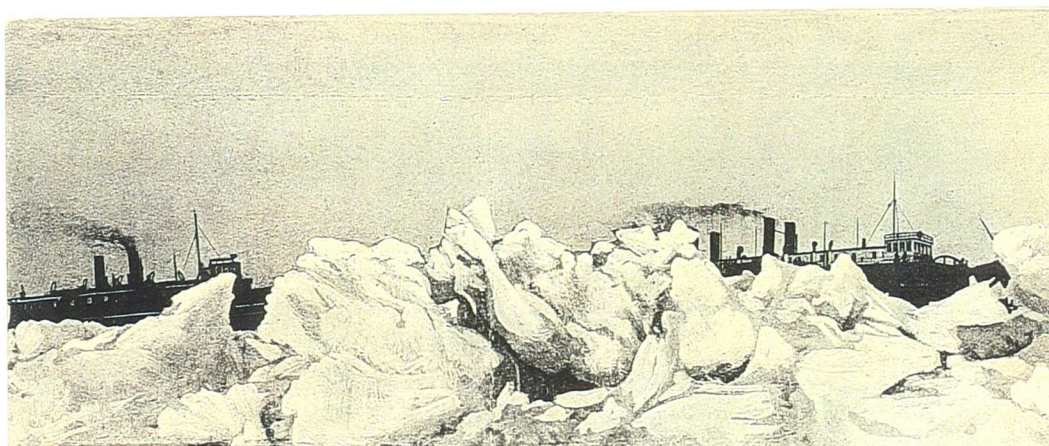


Figure 9. St. Ignace in Ice.
Author's Collection.



Strs. "St. Ignace and St. Marie" caught in the Ice Floe.

No. 1931 Published in Germany for Mulcrone's Bazaar, St. Ignace, Mich.

Figure 10. St. Ignace and Ste. Marie.
Robert J. Peppard Collection.

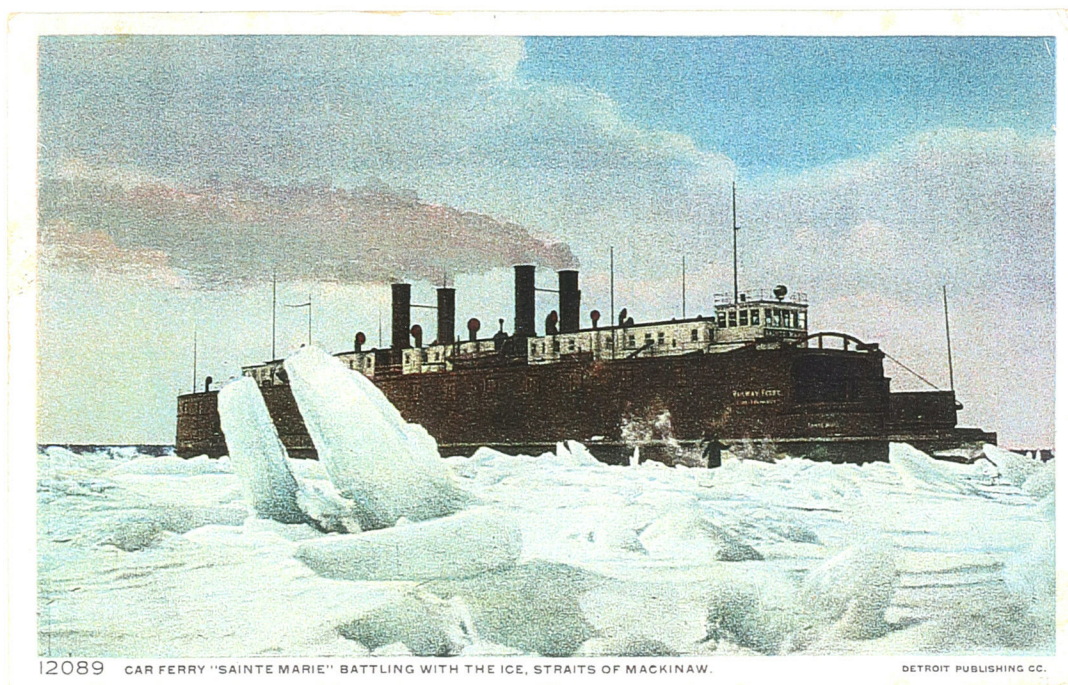


Figure 11. Ste. Marie Battling Ice.
Author's Collection.

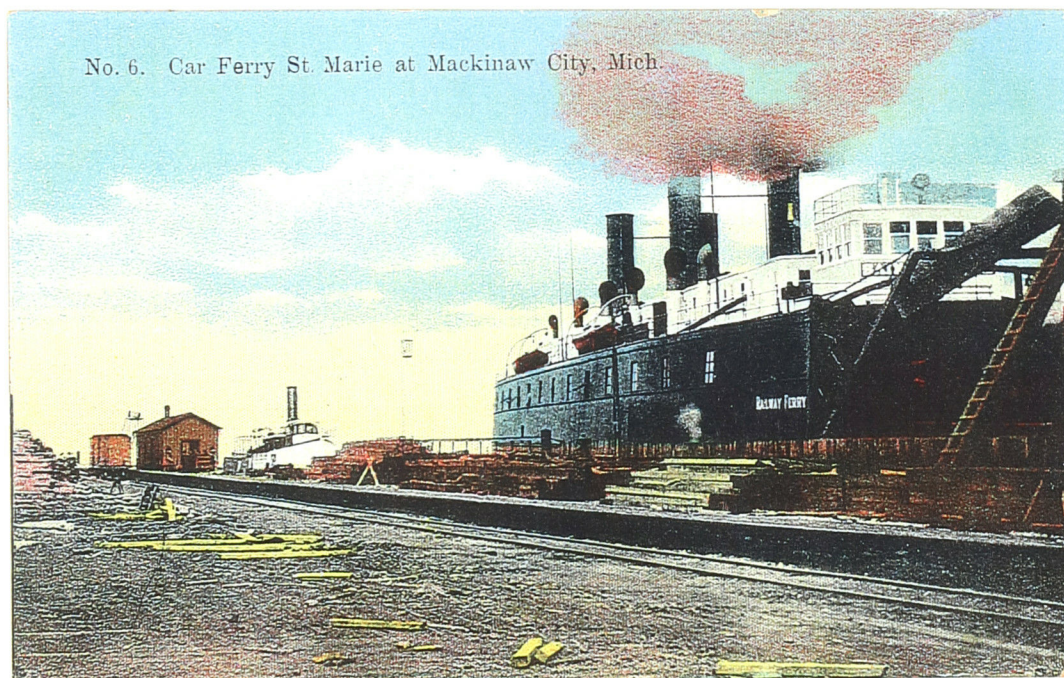


Figure 12. Ste. Marie at Mackinaw City, Michigan.
Robert J. Peppard Collection.

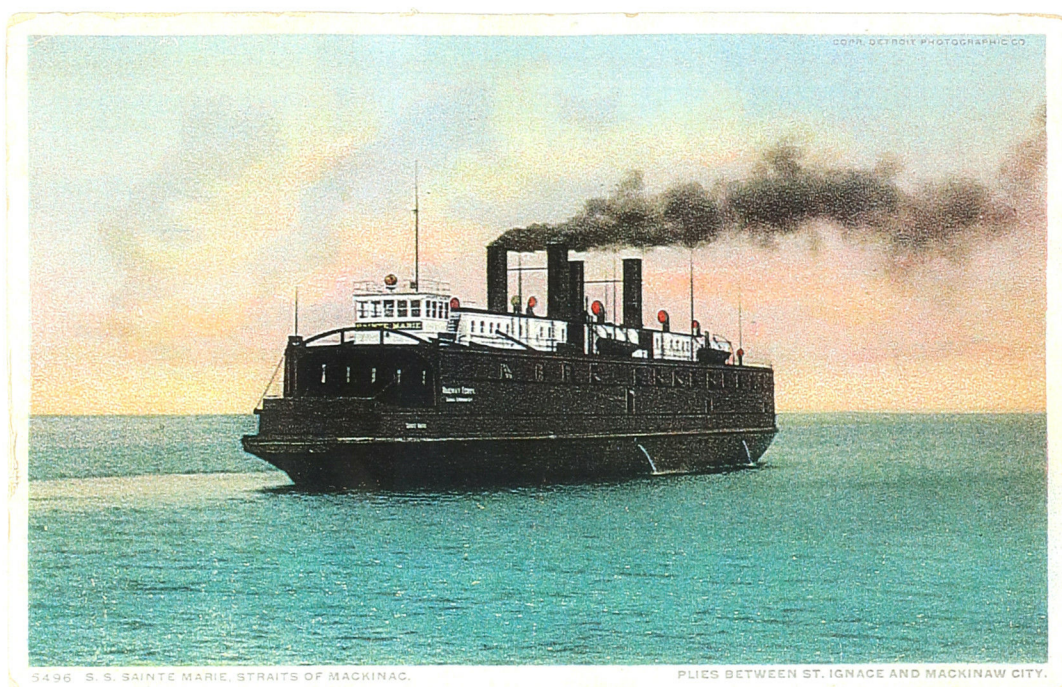


Figure 13. Ste. Marie.
Author's Collection.

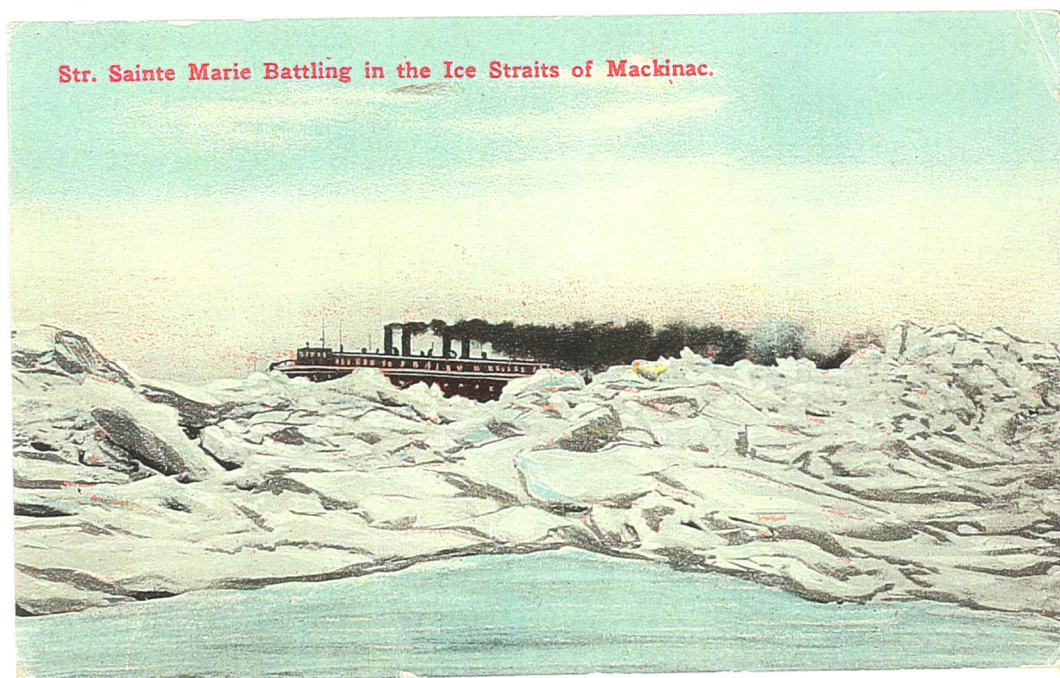


Figure 14. Ste. Marie in Ice.
Courtesy of Wisconsin Maritime Museum.

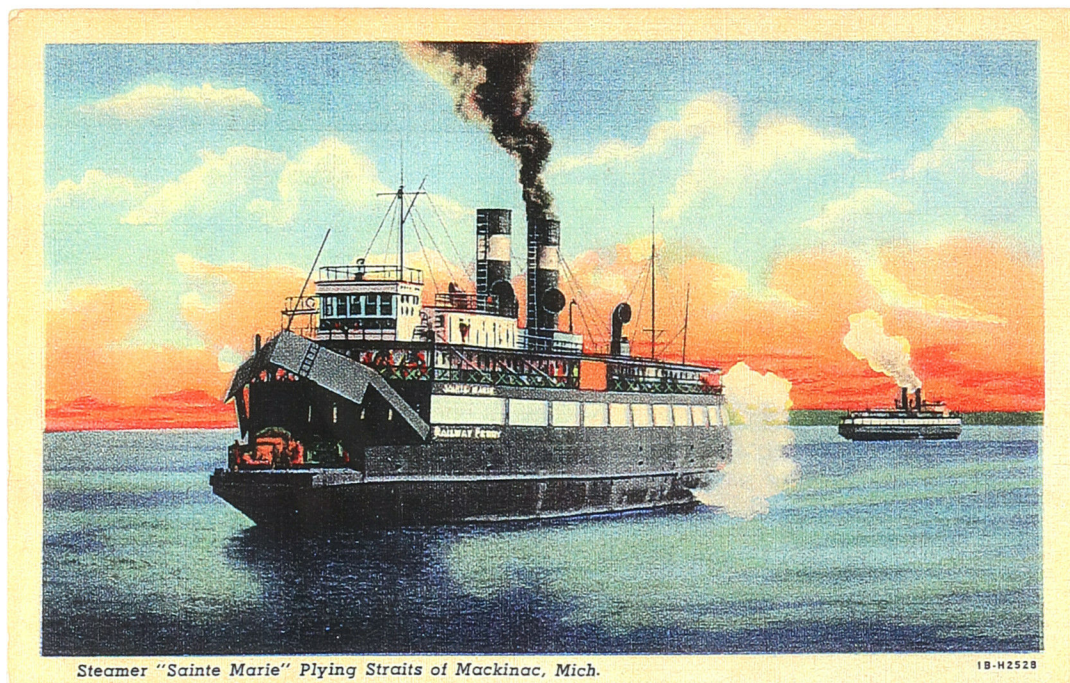
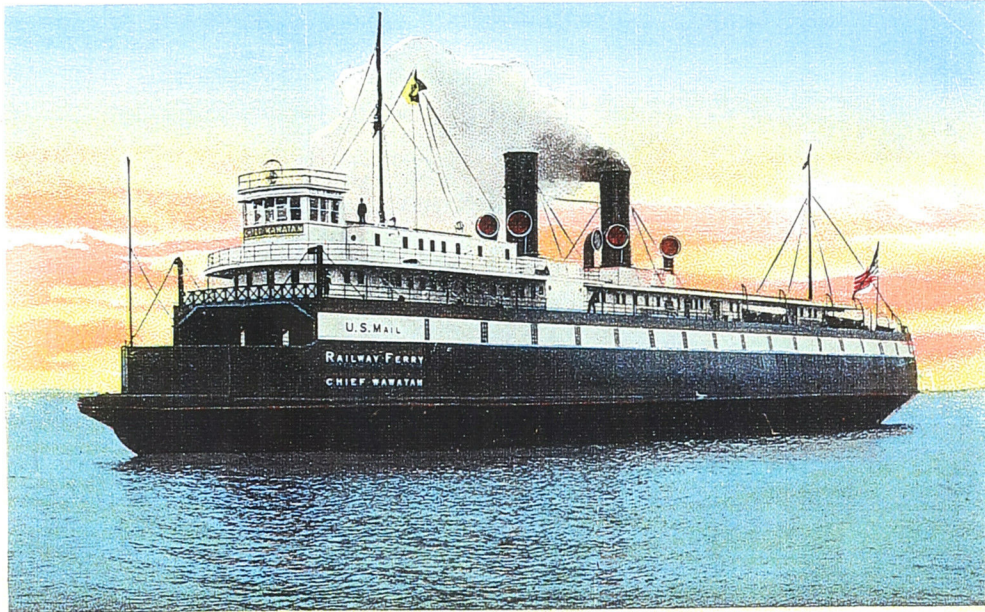


Figure 15. Sainte Marie with Chief Wawatam in background.
Courtesy of Wisconsin Maritime Museum.



Figure 16. Chief Wawatam in Ice.
Author's Collection.



Steamer Chief Wawatam, Straits of Mackinac, Mich.

24409

Figure 17. Chief Wawatam.
Author's Collection.

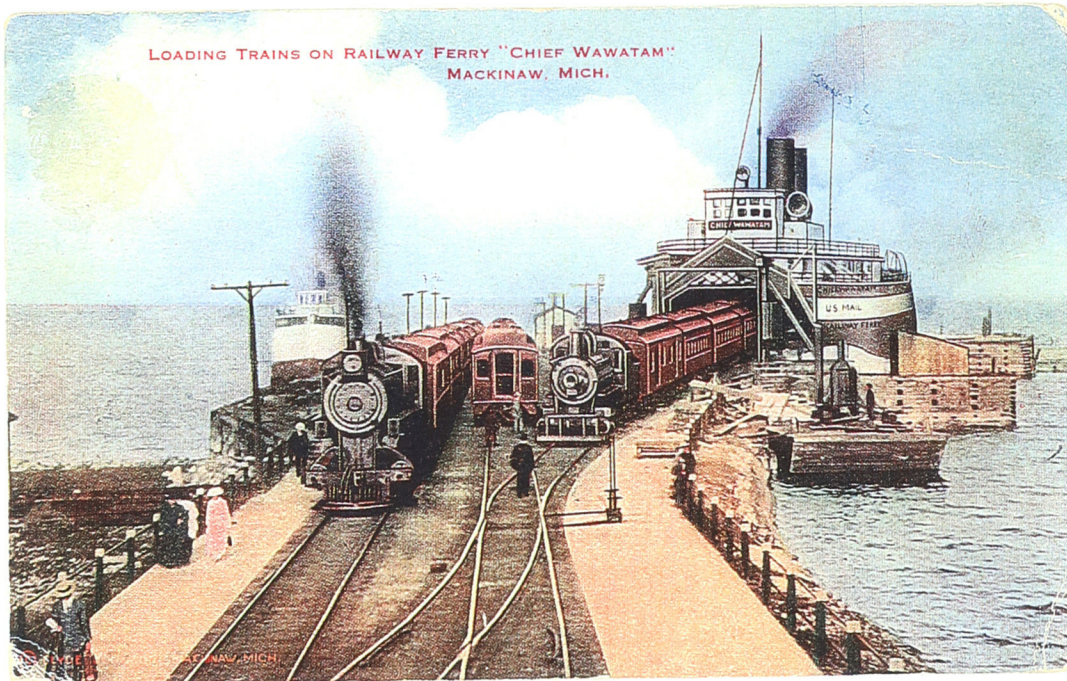
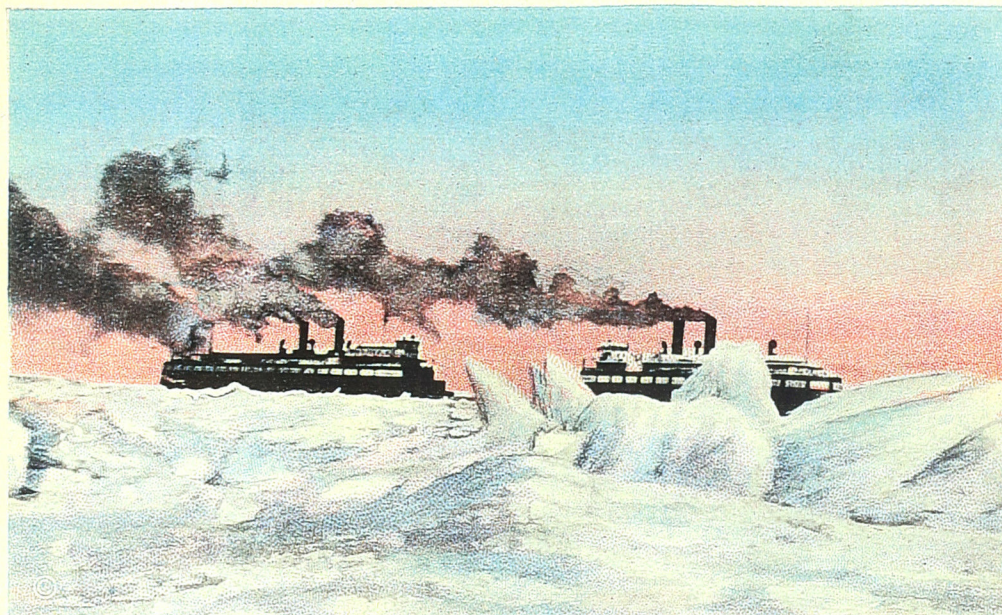


Figure 18. Chief Wawatam loading in Mackinaw City, Michigan.
Author's Collection.



CAR FERRIES, CHIEF WAWATAM AND ST. MARIE II STUCK IN THE ICE.

Figure 19. Chief Wawatam and Sainte Marie in Ice.
(R.B. Desy Photo 1939).
Author's Collection.



Chief Wawatam Stuck in the Ice in Straits of Mackinac, Mich.

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Figure 20. Chief Wawatam Battling Ice.
(J.S. Desy Photo 1913).
Author's Collection.

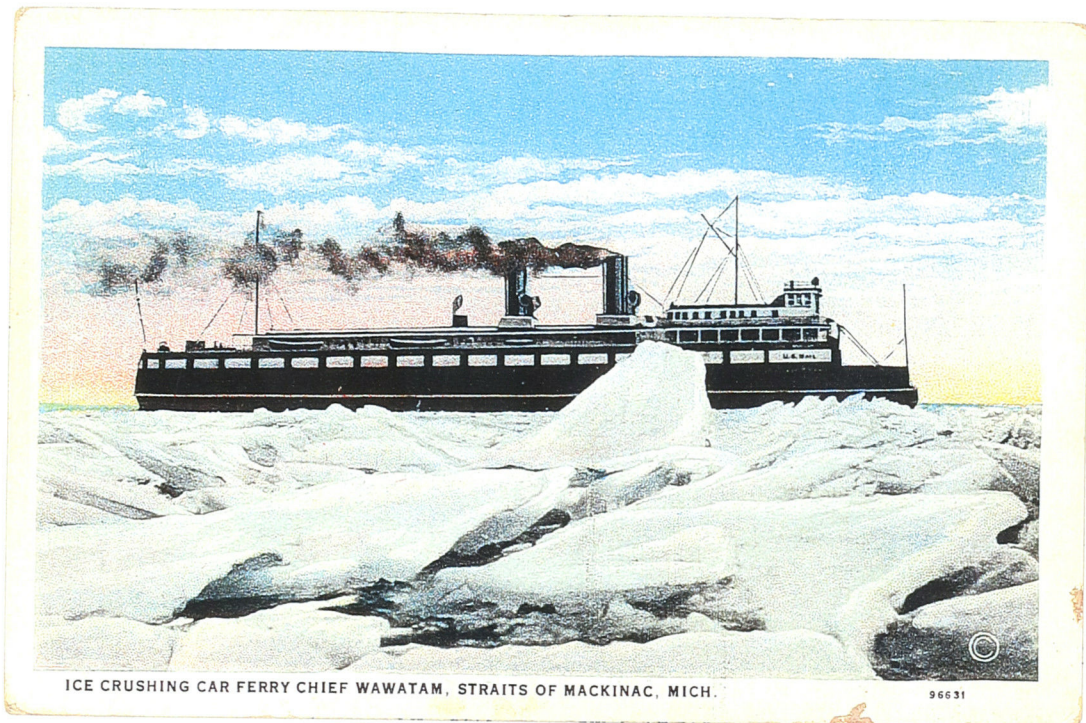


Figure 21. Chief Wawatam in Ice.
(J.S. Desy Photo 1913).
Author's Collection.

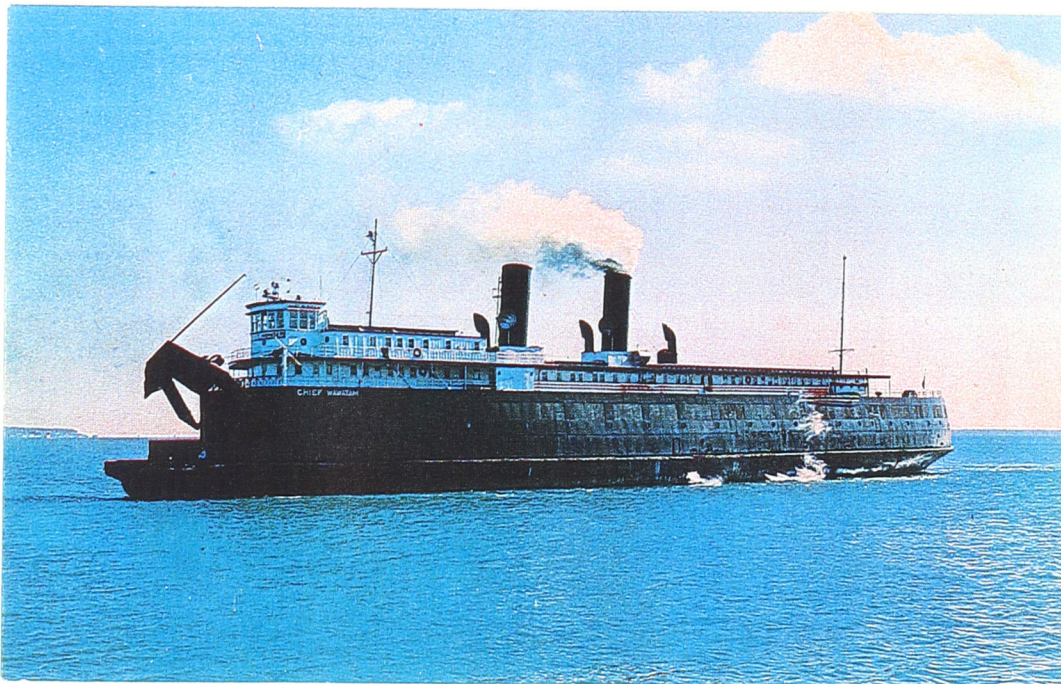


Figure 22. Chief Wawatam in later years.
Note lack of white hull stripe.
Author's Collection.

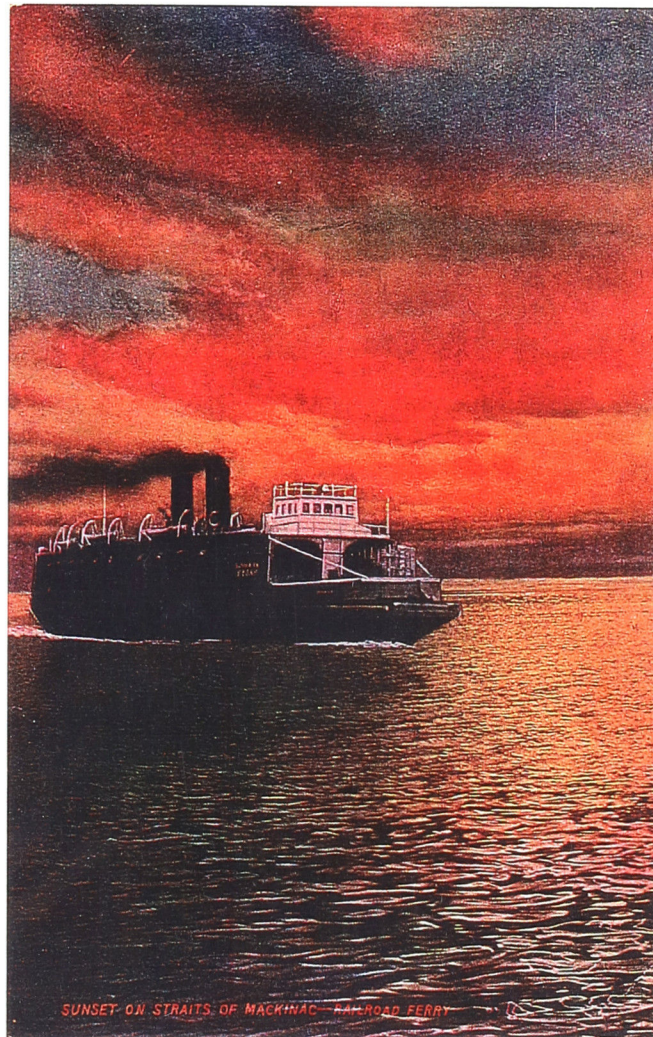


Figure 23. St. Ignace.
Robert J. Peppard Collection.

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Appendix A
Great Lakes Icebreaking
Lake Carriers' Association and United States Government
Charters

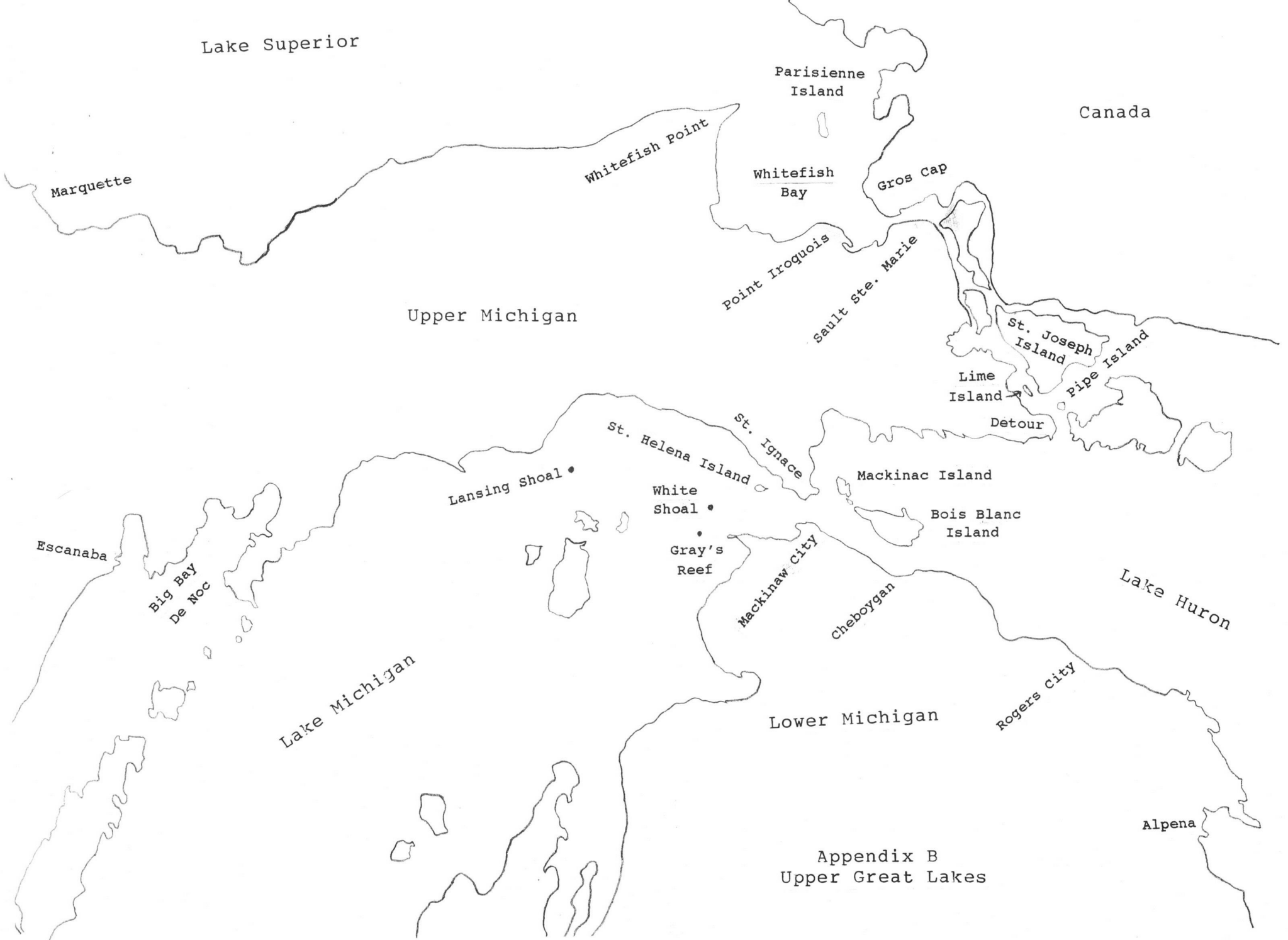
S.S. Sainte Marie

S.S. Chief Wawatam

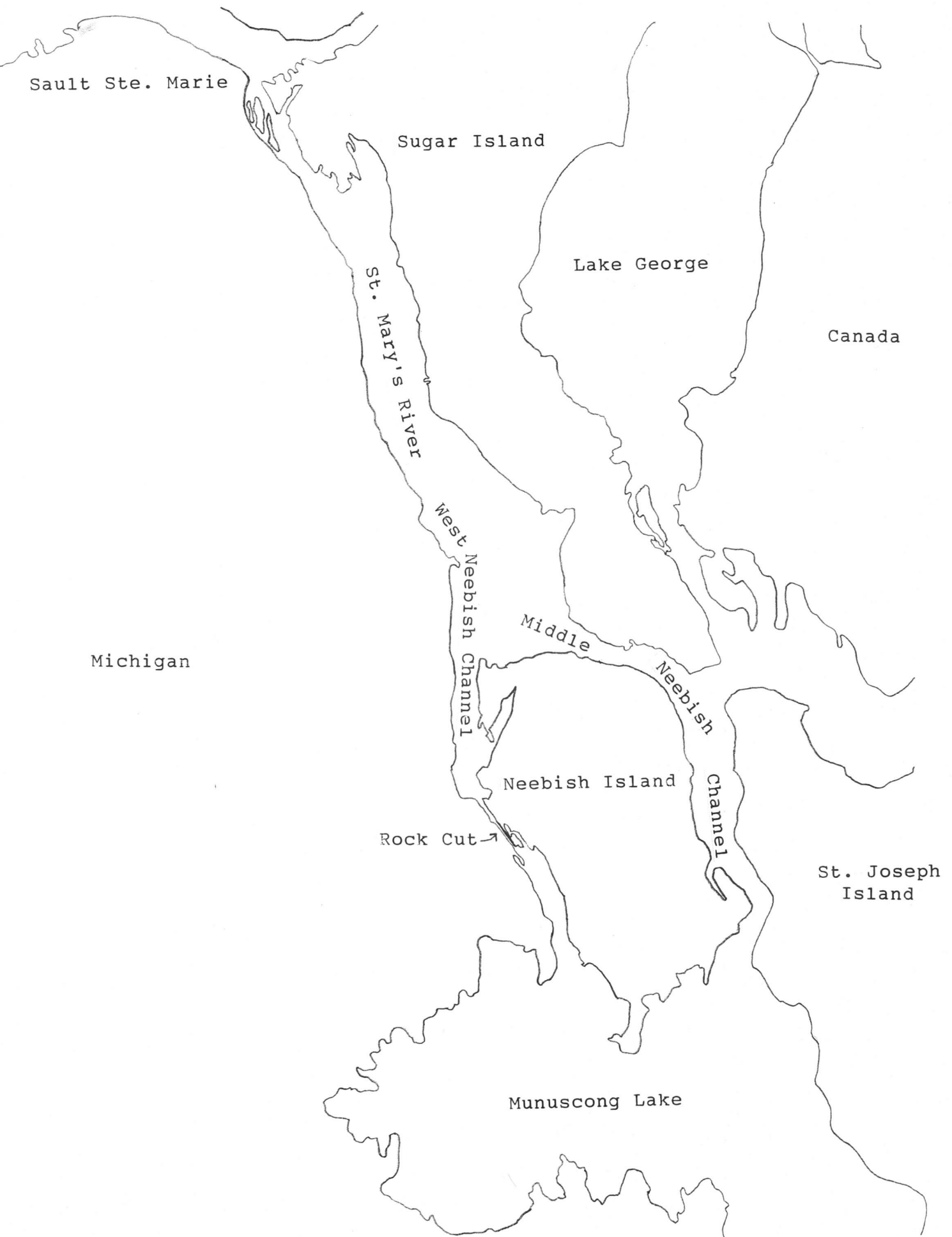
<u>Year</u>	<u>(Time Period)</u>	<u>Year</u>	<u>(Time Period)</u>
1926	(4 - 14 December)	1937	(9 - 21 April)
1941	(31 March - 15 April)	1943	(15 April - 10 May)
1942	(19 March - 20 April)		
1943	(1 April - 10 May)		
1944	(24 March - 20 April)		
1947	(9 - 22 April)		
1948	(1 - 14 April)		
1949	(26 March - 6 April)		
1950	(19 April - 7 May)		
1951	(2 - 23 April)		
1952	(7 - 18 April)		
1956	(31 March - 13 April)		
1957	(8 - 22 April)		

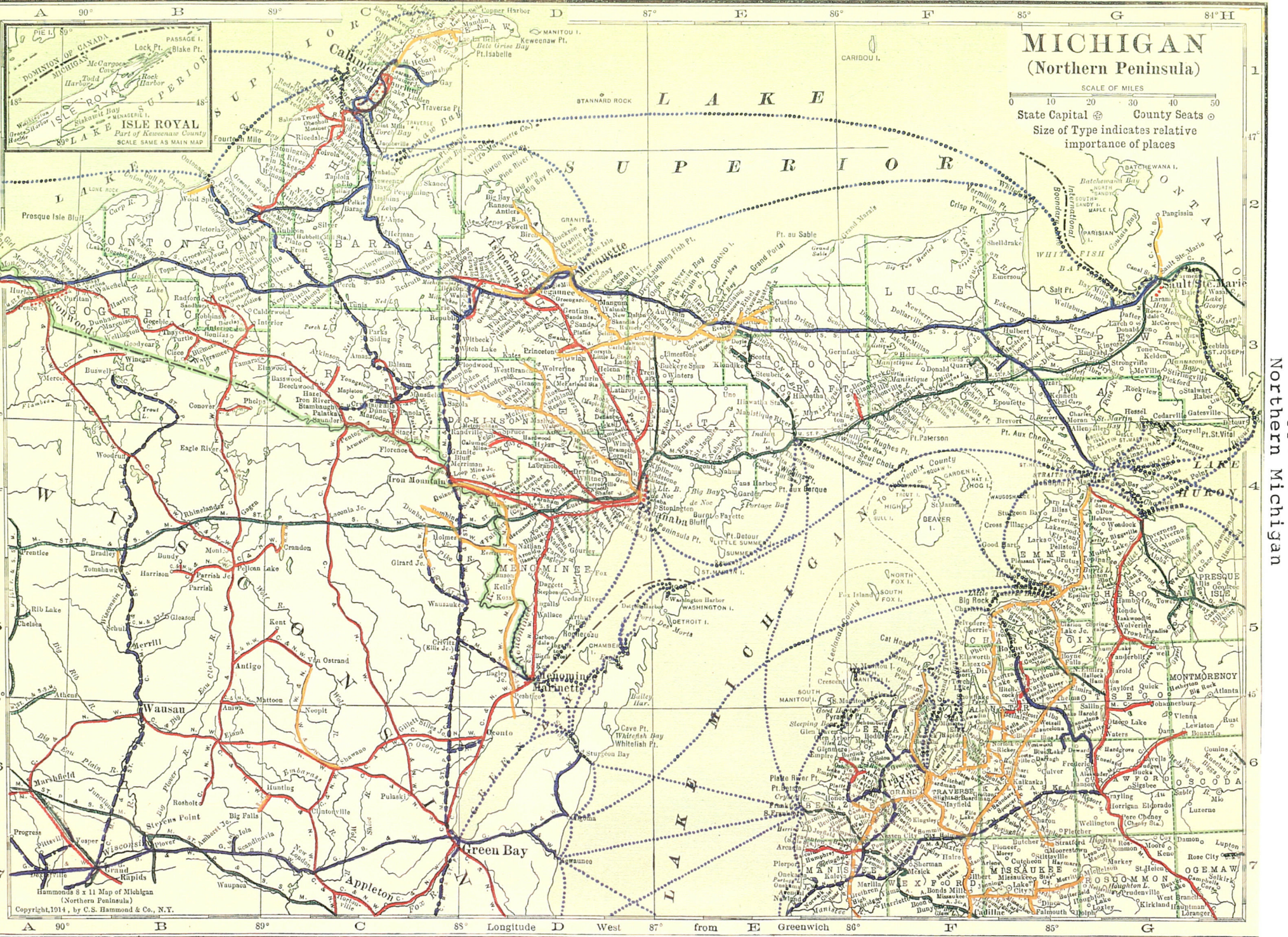
Source: Lake Carrier Association Annual Reports and Documents.

Compiled by the Author during research:
(February - April 2003).



Appendix C
Lower St. Mary's River





MICHIGAN

(Northern Peninsula)

SCALE OF MILES
0 10 20 30 40 50

State Capital ● County Seats ○

Size of Type indicates relative importance of places

Appendix D
Northern Michigan