Outstanding and authoritative detail on the windjammer trade on Lake Ontario make this a valuable piece of work . . . not to mention the considerable poetry of it.

SAILING SHIPS ON LAKE ONTARIO

By RICHARD F. PALMER

The transition was slow and not helped along by old sailors who had little use for these vessels that belched between ports, occasionally exploding enroute. But steam pushed out most canvas by the turn of the century.

However, during most of the 19th Century, practically every cove of Lake Ontario that claimed itself a port had a small shipyard. Lumber was plentiful and so were carpenters.

Sailing ships ranged from 20 to 350 tons, generally oak or an equally sturdy hardwood. Anything larger than 350 tons was unusual for this lake. In their waning years, schooners were manned by small crews consisting of three to eight men and a female cook. In many cases, it was a family venture; but in earlier years large fleets of schooners were owned by a consortium of local businessmen while individual ships were owned by two or three individuals, or even the captain himself.

An example of the shipbuilding era on Lake Ontario was George Goble, who, over a period of forty years, produced a large number of schooners and tugs, primarily for the lumber and grain trade in Oswego.

The Rigging

The earliest vessels on Lake Ontario that could be classified as ships were square riggers. Many consider the early 1800s the most romantic period of navigation on the lake. When a captain set sail he did not know what adventure was ahead. Before he again dropped anchor at his home port, he would skirt coasts without lights or fog signals and seek storm shelter behind uncharted islands.

The old time sailing master had to stem fierce currents and depend on dead reckoning for courses sometimes more than 100 miles long over stormy seas. In the days before steam tugs the brig or bark was towed into the harbor on a long hawser by a yoke of oxen.

By the 1860s the gaff-rigged schooner had almost completely replaced the archaic square rigger with its square foretopsails and topgallants. Eventually the rigging of Great Lakes ships differed sharply from salt water vessels. Lakes-born seamen cared nothing for tradition. The first schooner to evolve was the regular fore-and-after, with no yards whatsoever across the two masts. Later, a mizzen was added.

The advantage of a gaff rigged ship was the fact she could be handled by a much smaller crew. In the early days, horses or mules working a windlass raised and lowered the sails. By the 1890s animals were being replaced by steam donkey engines.

Another distinct feature of the Great Lakes schooner was a triangular foretopsail called the raffee. It was very useful in box-hauling and saved a lot of labor in a head wind. Often a huge square sail was spread below the raffee yard for scudding.

The raffee also prevented a vessel from turning too sharply when the yard was braced aback. It was hoisted on the topmast and the clews or outer corners were extended by the yard crossing the mast. Sometimes the lower part of it dropped to a point or points below the yard. It was then referred to as a diamond raffee. A single raffee was right-angled triangle, on half of the yard. The double raffee was a piece of canvas occupying both halves of the yard or yardarms. Two single raffees set above a square topsail, on either yardarm, were known as bat wings.

Lake schooners were generally two and three masted. A few, mostly intended as tow barges, had four masts. In lake three-'n-afters, the mizzen mast was a little spar, usually shooting up through the cabin and always placed near the stern. Consequently the mizzen gaff and boom were short, so as not to project unduly behind the vessel, although this was not always the case.

Unlike sea-going ships, a laker's jibboom might be 60 feet long, while on salt water these nosepoles were much shorter and the mizzen mast was stepped well forward of the cabin. The salt water rig, with the largest sail aft, was better for working windward. It could be compared with a fast flying insect with its smaller wings in front. The lake rig, with the largest sail inboard, was quicker to handle. A small mizzen could be guyed out to either side to turn her around quickly.

The mizzen could be carried in conjunction with the foresail with the mainsail safely stowed. Many mizzens were made without reef points. Also, on the lakes, the small mizzen was more serviceable running before the wind. It did not blanket the other sails as much or as quickly as the big mizzen or spanker did on salt water, and it was much easier to jibe over. Lake schooners could thus be easily distinguished from their salt water cousins by the placement of the masts.

The Navigation

Lakers navigated channels and confined waters that would drive a deep sea captain to anchor until a pilot and tug came to the rescue. They were shallow draught tub-like affairs. When overloaded they were cumbersome and top-heavy. When running light in ballast they bounced around like a rubber duck, often capsizing. Some had centerboards to stabilize them in deep water, particularly during weather.

Since lake sailors depended on the wind to propel their ships they became experienced weather forecasters. This became a necessity. Salties caught in a storm hove to and rode it out. But lakers, usually a short distance from dangerous shoals and lee shores, would try to make a run for refuge. The sailors therefore developed their own system of surprisingly accurate weather observations. These were based on cloud formations, hues of the sun, clearness of the air and other natural phenomena. These old-time weather prophets reduced their science to a handful of rules of thumb.

Sailors' Weather Sampler

Clouds that cast shadows on the water foretell rain.

Softer the clouds, less the wind.

Anvil-shaped clouds mean a gale may develop.

Evening red and morning gray will send the sailor on his way.

When the clouds appear like rocks and towers, you may expect light wind and showers.

Rain before wind, take your topsails in. Wind before rain, hoist 'em up again.

The Poetry

A ship under a full spread of canvas was a thing of beauty with a will of its own. Ships were named for people and places, mythological characters, animals and even planets in the solar system. They were often painted in gaudy colors with pin striping and a press of canvas that distinguished them from each other. Fleets of schooners often had their own colors and banners.

Steamboats eventually drove the sailing ships off the lakes, although a few survived into the early 1930s. The disappearance of the lake schooner was no more evident than at Oswego. By World War I, not a single tug was assigned to this port and the occasional schooner either carefully tacked in or was towed in by a steamer. By this time, most schooners had been reduced to tow barges.

The Crews

In the waning days of sail, wages of schooner men were double those of steamer deck-hands during the summer. In the fall, if contracts were good, any man who claimed ability to work sails, load and steer was very much in demand. He might be paid five or six times as much as the best steamer

hand on the lakes. Consequently the seasoned lake sailor in need of a job was wont to approach the old man or mate of a schooner with a casual query as to the "chances for a site," or whether he "had all his crowd." Other forms of requests for berths in schooners were regarded as indication of a lack of experience or at least unfamiliarity with likewise usages.

Frequently a lake schooner mate was forced to make a tedious canvass of waterfront saloons to fill out his vessel's complement. Sometimes he "recruited" a member or two of his crew from the local jail by special arrangment with the police or magistrate. In earlier times this was called impressment.

Until about 1900, the majority of wheelsmen and watchmen employed on steamers were veterans of the sheets. They reluctantly kept up with the times although schooner men held nothing but contempt for steamboats. One marine historian once wrote schooner men "were prone to regard steamer deckhands and firemen with the same contempt that for ages has been common to sailors in their contacts with lobsters."

Schooner masters endeavored to modernize their vessels as men still young enough to man them grew scarcer with each passing year. A common practice was to install a donkey steam engine on deck to raise and lower the gaffs. Some were equipped with conveyor belts and booms to load and unload cargoes, although shoveling coal, grain or other commodities remained a part of life on a schooner until the end.

The Sail Handling

A deckhand's job on a lake schooner called for much skill and experience, especially shifting the foregafftopsail sheet. This had to be done every time the vessel tacked under full sail. Square riggers had no such troubles, but it was required on a gaff-rigged vessel.

The successful shifting and resetting of a sail of heavy canvas, as stiff and large as a church carpet, depended on one man working 100 feet up in the air on a swaying perch. With the exception of the helmsman, the whole watch on deck would run forward, cast off the topsail sheet and clew in the sail to the masthead. A sheet was a rope or a chain, not a piece of canvas.

The sheet was what drew the clew out to the end of the gaff. Then they would raise the tack, or inner corner, the clew being the outer. Next, the nimblest man would run up the rigging to the cross-trees and up the Jacob's Ladder to the top of the lower mast, where the sail was gathered in. At the right moment, he would capsize the toggle or wooden pinch attached to the topsail sheet and dip the end of the sheet over or under what was called the triatic stay. The stay was a stout piece of wire connecting the two mastheads. It prevented the topsail from swinging over with the lower sail as the vessel filled on a new tack, unless the sheet was shifted.

Also handled aloft was the tack, a long rope hauling the inner corner of the topsail down. When the man aloft hollered "Trice up!" the crew below would haul on a trip-line, which would raise the tack of the topsail to the level of the triatic stay. The hand aloft then hauled up the freed tack line, coiling it as it came up. Then shouting "Tack on deck!" he would toss the coil over the triatic stay and let the long rope drop down to the waiting crewmen below, on the other side of the mast. They would run the fall or loose end through a thimble, or lizard, to get a purchase, and haul the tack down and belay it on the weather side of the bits, or fife-rail.

When the sheet had been shifted the masthead man hailed "Sheet home!" The sheet was let down from the clew through blocks or sheaves on the gaff, to the deck. After casting off the clew line the crew below took their end of the sheet to the capstan. Walking around it they heaved the clew of the topsail out to the gaff end. Then the lad who had gone aloft to shift the sheet, disdaining the ladder-like ratlins by which he had ascended, slid down a halliard or topmast shroud to the deck below.

In good weather this was a complicated procedure requiring real teamwork. It became even more complicated in freezing weather when ice snarled lines and sheets into a hopeless tangle on a nasty night. The mate below set the darkness afire with threats of what he was going to do if he personally had to go aloft to do the young hand's work for him.

Blocks and halliards became coated with ice. When crews tried to furl the mainsail, they would often have to chop the halliards above the pin-racks before they could get the canvas down. Then there was the problem of stowing it. The lower part would freeze to the lifts and lazy jacks, and was like so much corrugated iron.

The wind would increase, and even if the mainsail was stowed, the vessel might become unmanageable. All hands were needed for close reefing the foresail. One man would be left at the wheel, although she really required two to keep her straight. The one who could be spared let the foresail jibe during the reefing operations since the foreboom and foregaff, the spars which spread that sail, might break.

More than once the booms would thrash so wildly they would rent the frozen foresail and staysail to tatters. A vessel would become so coated with ice forward it would become impossible to re-bend this last sail. The schooner would head down the lake with only the flying jib — more often than not right to her doom into Mexico Bay or some other dangerous quarter of Lake Ontario.

The Golden Age Of The Big Birds

The age of the schooner was the most interesting era on the Great Lakes. Skippers told of seeing 40 to 50 sailing ships outside Oswego Harbor waiting to be towed in. Their white sails dotted the lake and the harbor was often filled with them. It was an inspiring sight. "They kept them up like dolls,"

an old tugman recalled. "When they came out they were the pride and wonder of marine men. Their sails would be new and white, their masts scraped, their decks scoured as they went past. Those were the days when a captain was a captain, for he generally owned the ship and sailed her as he willed."

In the spring there might be a grand free-for-all race to see who would be the first ship in the harbor from the upper lakes. There was close sailing, and, as they used to say, "a great carrying on of canvas." Old photos show Oswego Harbor a sea of masts against a myriad of grain elevators and docks piled high with lumber, railroad iron and other commodities.

By the mid 1920s, most of the remaining schooners on Lake Ontario were in the coal trade. They were all of Canadian registry — many at one time American ships, and owned by individuals and not large shipping companies. One such vessel was the *Mary A. Daryaw*, owned by Captain Henry C. Daryaw of Kingston. She was a frequent visitor to south shore ports. One day in 1926, she sailed into Charlotte like a ghost from the past, where she was met by Rochester Times-Union marine reporter Charles A. Rawlings. He wrote:

"Close hauled it seemed on a wind of dream to those few who were fortunate enough to see her, the old lake windjammer, *Mary A. Daryaw*, two-master, 125-foot topsail schooner, Capt. Henry Daryaw commanding, made the port of Rochester late Saturday out of Kingston after a cargo of coal and after a wait for a fairing wind cleared today.

" 'Why only last year,' the mate said, "I had an inklin' Dan'l was down under the water along side and I fished around with a ten-foot pike pole." He cast an eye toward Dan'l hedging forward to disappear down the companionway. 'Sure enough, there he was spread out on the bottom like a frog. I fetched him out, and he was blue as the cook's Whetstone. He said he was sick and fell in. That's what he said he was anyway.'

"Lashed into the shrouds was a long pole with a small wooden box nailed on the end. 'That is what the old lady gets her bran mash from," the mate volunteered. 'When she gets to leakin' we fill that box with sawdust, shove it over side against the seam and the water takes the dust into the leak and plugs it.'

"Perhaps Rochester will see one or two of the old vessels such as the *Mary A. Daryaw* again, but it is doubtful. They have been down under the rapidly onrushing stem of progress for a few generations but what they stood for is as dead as Atlantis. But to see one again is to realize as better men since Melville have said, that 'men have left the sea and gone into steamboats' and that most of the beauty and adventure has gone as payment for efficiency."

The *Mary A. Daryaw* was built as the *Kewaunee* at Port Huron, Michigan by Joseph P. Arnold. She was 123 feet, 8 inches long, 27 feet, 4 inches wide and 8 feet, 3 inches depth. As U.S. Registry No. 14065, she

was registered at 210.95 gross tons and 200.41 net tons. In 1921, Capt. Daryaw purchased her (Canadian Registry No. 150481) from Martin Sanderson of Milwaukee, Wisconsin. According to records, she was burned as a public spectacle at Kingston on Oct. 15, 1927.

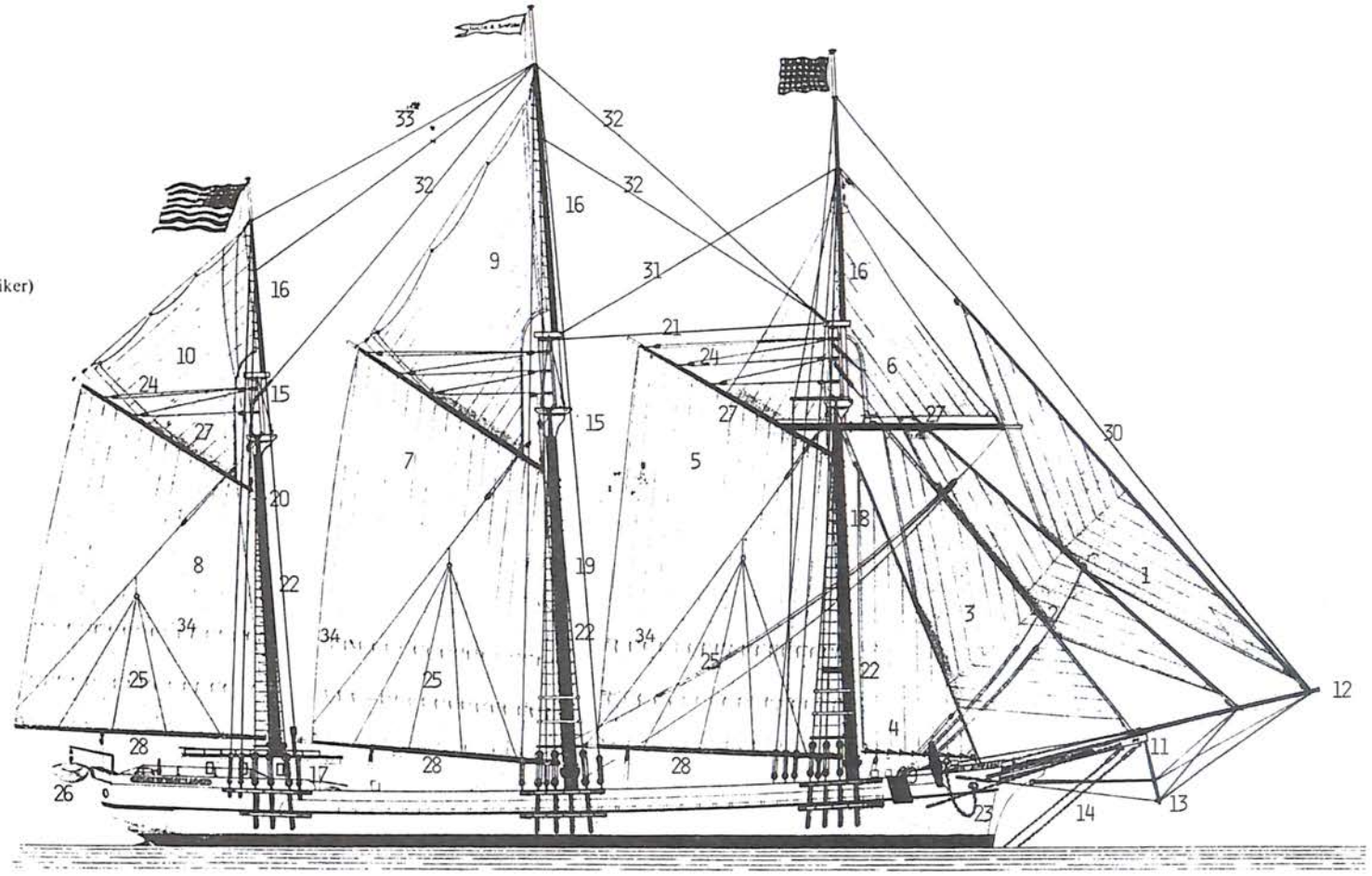
"The ancient schooner, sixty years old, is one of the three that remain on Lake Ontario and is the first sail-driven cargo vessel to make the port in ten years. Without a camera or a whistle to do her homage she closed in silently on the harbor piers from the eastward in Saturday evening's dusk. Her every rag was flying; foresail, mainsail, main gaff topsail, stay sail, standing jib, flying jib, jib topsail. They stood out (bowed) and black with decades of coal dust, clear etched against a thunder squall making gray and sullen in the western sky. A light southeasterly breeze canted her just enough to give her an element of grace as she moved up the fairway burdened with dignity and years.

" 'Yes,' Capt. Daryaw, who has sailed fresh water for most of his life, admitted, "she is an old vessel but we made the hundred-odd miles from Kingston in daylight. Come aboard.' Once on deck she seems more than ever a movie setting. Her spars, to one who is accustomed to the spindly sticks of small yachts, common to these waters, are as redwood trunks. The main topmast towers 125 feet over the deck. The wind pennant brushed the power wires strung across the river at the harbor mouth, as she came up stream. The mast hoops are large enough for a barrel. Her shrouds are cables as thick as a small man's wrist and sweated taut, wonder of wonders, with lignum vitae dead eyes.

"Catted against her bows are two gigantic anchors with stocks of wood and as big as a man's body. Her long horn extends up and outward until it is a dizzy distance over the water. There is no 'dusty going' for the old vessel. The reef points as heavy as the main sheet common to these waters were pointed out in wonder. 'Never use those at all,' the Daryaw's mate announced. 'Never as long as I've been windjamming on these lakes.'

"The captain, mate, two men and the cook make up the schooner's crew. When the number was marveled at Dan'l Sofie, sixty-five years old, as straight as spruce and as hard as one of the dead eyes despite forty-five years in lake sailing vessels, patted an old but serviceable steam winch affectionately on the drum. 'This iron jackass is as good as five lads, maybe ten,' he stated with such an emphasis of conviction that it made Captian Daryaw laugh. It seems it took Dan'l ten years to admit a winch worked in any other fashion save by five huskies. 'Yo Heave! Hoing,' at the bars was worth deckroom. Dan'l in his forty-five years of windjamming has seen all that fresh waters afford. He has been ice-bound in the Soo, taken off old coffin ships that opened up like berry crates in gales, has beat through the Straits of Mackinaw in pitch black night with the snow flying so thick you would not see the binnacle and the lead; a chart and a good seaman's guess were all they had.

1. Flying Jib
2. Outer Jib
3. Inner Jib
4. Forestaysail
5. Foresail
6. Raffee
7. Mailsail
8. Mizzen
9. Maingafftopsail
10. Mizzengaff topsail
11. Bowsprit
12. Jib-boom
13. Martingale boom (dolphin striker)
14. Inner and outer bobstays
15. Cross trees
16. Top masts
17. Cabin
18. Foremast
19. Mainmast
20. Mizzenmast
21. Triatic Stay
22. Shrouds
23. Cathead
24. Halli(y)ards
25. Lazy Jacks
26. Yawl
27. Yards
28. Booms
29. Anchor
30. Head or Royal Stay
31. Foretopsail Stay
32. Maintopmast Stays
33. Spring Stay
34. Reefing Points



Rigging of a Great Lakes Three-and After

The artwork of the *Lucia A. Simpson*, a schooner, is by permission of Karl Kuttruff of Brass Craft, Detroit, Michigan.

The historic wonder of the Lakes' massive movement of mountains of iron, coal, stone and grain is clear because it is still visible to us in action. No longer visible, however, is the even more awesome transfer by lumber hooker of statewide forests downstream to build Mid-America.

Dr. Rohe, of the University of Wisconsin, recreates . . .

THE UPPER GREAT LAKES LUMBER ERA

BY RANDALL E. ROHE

The Author: Dr. Randall E. Rohe's interest in and enthusiasm for Great Lakes' forests have been evident since undergraduate studies at University of Colorado. His B.A., M.A., and Ph.D. are all in Geography, and about half of his published articles have been about lumbering.

Teaching in the Department of Geography-Geology, University of Wisconsin, Waukesha, Dr. Rohe is also a member of the Forest History Association of Wisconsin.

Amazingly, few people realize the enormous impact of the lumber industry on the Great Lakes region nor its enduring imprint. Great Lakes schooners moved the forest.

In most works that examine the American frontier, there is almost nothing extensive to be found on logging and lumbering. Yet, the migration of lumbering from Maine to the Lakes states played a massive role in the development of the nation.

Lumbering greatly affected not only the lumber-using states, but also the lumber-supplying states of Michigan, Wisconsin and Minnesota. It not only changed the face of the land, but also influenced settlement, urban development, population, placenames, transportation routes, migrations and other geographic elements and patterns.

This importance becomes obvious when one realizes that between 1869 and 1898 three Lakes states were the primary source of lumber for the nation and that the lumber produced in these states well surpassed in value the gold mined in California. In fact, according to Rolland Maybee, the value of lumber produced in just Michigan exceeded the value of gold production in California by more than a billion dollars, even at the incredibly low valuation of thirteen dollars per thousand board feet, the average wholesale price of lumber for the period 1847-1897.

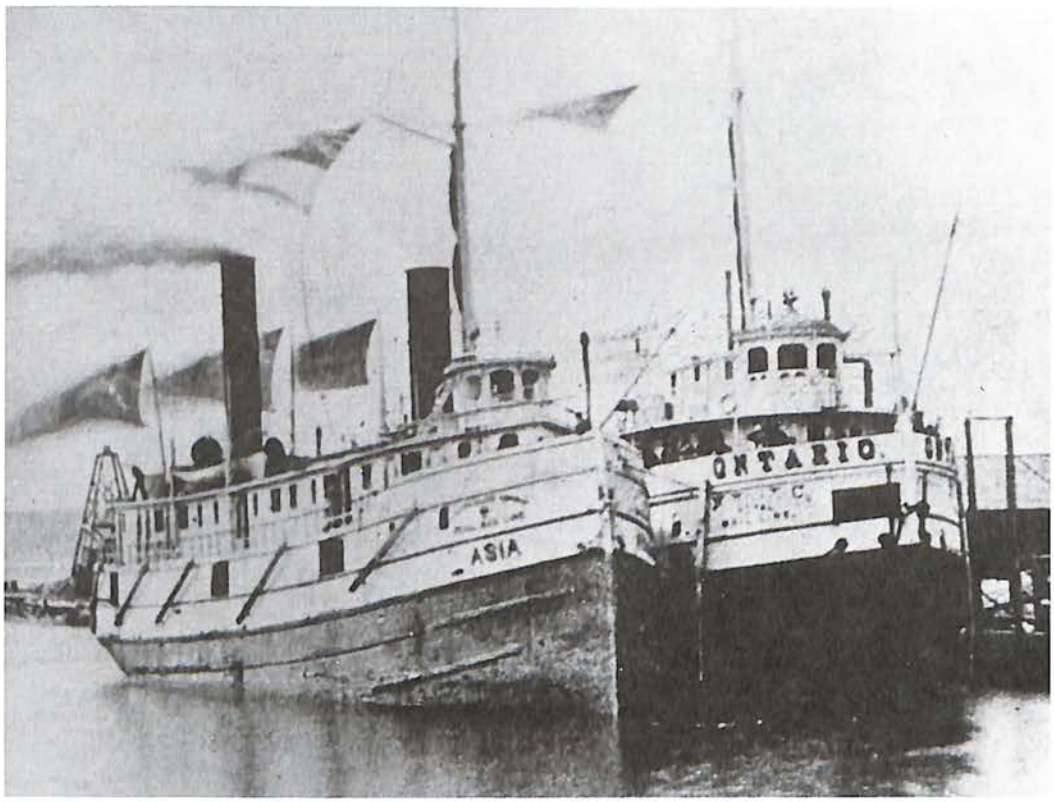
The mass attack on the forests of the upper Great Lakes states really began after the Civil War. It began in Michigan, which was ideally situated for supplying parts of the eastern market by way of Lake Erie and the Erie Canal after the most accessible strands of white pine in New York and Pennsylvania had been cut. The spread of lumbering into Wisconsin and Minnesota was driven by the growth of settlement in the prairie states.

In recent years, a group of preservationists and divers known as Save Ontario Shipwrecks has done considerable survey work on the remains of the *Davis*.

Mrs. C. E. Stein of Wheately, Ontario, provided the author with the writings of her late husband concerning the Davis.

Information also provided by Father Edward J. Dowling, and Kenneth R. Macpherson, formerly of the Archives of Ontario in Toronto.

Muskegon Chronicle, *April 5, May 27, May 30, June 11 and July 5, 1934.*



THE *ASIA* MYSTERY

Excerpt from the book *Ghosts of the Bay*. Reprinted here with permission of authors Russell Floren and Andrea Gutsche. The book is reviewed in this edition.

It was a few days after the big hurricane of September 14, 1882, and Georgian Bay had regained her calm demeanor. The water was tranquil, practically inviting, and the skies were a vibrant blue. On his way north up the Bay's eastern coast Captain A. M. McGregor spotted something unusual on the shoreline of the Limestone Islands (see area two). His discoveries were most distressing: a large steamer truck, a door, and a pillow slip with the name of the steamer, the *Asia*, embroidered on it. Something was terribly wrong.

The *Asia*, a 136-foot (40.8-m) passenger and freight steamer, had been an old canaller — short, stubby, and top heavy. Built in 1873 in St. Catharines, this nine-year-old workhorse was part of the Beatty line, and at the time chartered to the Great Northern Transit Company. At first she was mostly used to transport cargo to the CPR construction crews on Lake Superior, but was quickly "promoted" into passenger service. Com-