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The Imperial Towers Of LAKE HURON AND GEORGIAN BAY

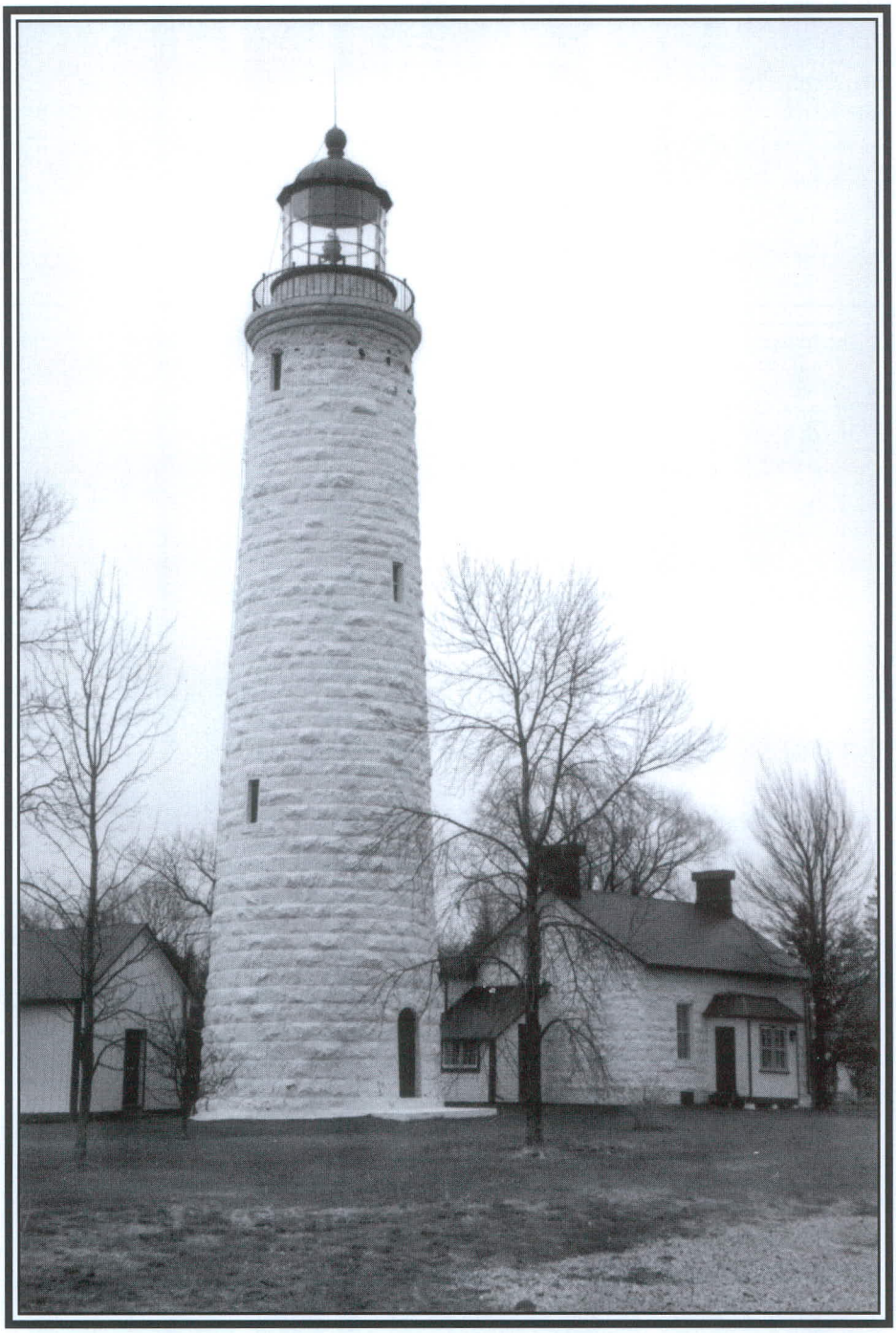
By Wayne Sapulski

Americans share a common maritime heritage with our Canadian neighbors, especially along the Great Lakes. Similar to the development of American lighthouses along the shores of the Lakes, the Canadians followed a similar trend of settlement from Lake Ontario over the Niagara escarpment to the shallow reaches of Lake Erie, through Lake St. Clair and then along the shores of Lake Huron and Georgian Bay.

In the early days, local commissions governed the establishment and operation of Canadian light stations. The Canadian system was modeled on that of England. In Canada, England's Trinity House had offices at Quebec and Montreal. They imposed a tariff on the vessels which plied the waters past certain lights, collecting dues when the ships reached port.

After Upper and Lower Canada were united in 1840, the lighthouses of Upper Canada (or Canada West as it was known until Confederation in 1867) came under the jurisdiction of the Board of Works. That agency attempted to improve the operation of their system by standardizing and modernizing lighting apparatus and setting higher standards for their keepers. Improvement, nevertheless, was slow in occurring.

The lighting of Lake Huron began with the establishment of a light station at Goderich in 1847. With this exception, mariners were without aids to navigation (lights, buoys, daymarks) along the entire length of Lake Huron and Georgian Bay, a distance of 250 miles. During the 1850's several events caused traffic on Lake Huron to increase dramatically.



Point Clark Light Station on Lake Huron near Lurgan Beach, Ontario. This station is sometimes called Pine Point. Note the modern optic in the lantern room. Photo by Roger Schultz, 1989.

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The Bruce Peninsula, a narrow finger of land some 60 miles long, between Lake Huron and Georgian Bay was opened to settlement. A free trade pact with the United States in 1854 promised prosperity and economic development. The Sault Ste Marie Canal opened in 1855, giving trading vessels from the lower lakes access to Lake Superior and the first railway was constructed between Toronto and the port of Collingwood on the shores of Georgian Bay.

Collingwood became an important transshipment center through which immigrants and supplies flowed west while grain and wood products were shipped east to Atlantic ports and the world markets beyond. As the economy grew, so did the number of vessel collisions and groundings. However, as maritime commerce was the most viable form of transportation available, vessel traffic continued to increase. The development of the steamship caused a dramatic increase in shipping at night. Keeping vessels underway 24 hours a day allowed owners to maximize their profits, but it also increased the number of marine casualties. The need for navigational aids became urgent.

In 1855, to remedy the situation, the Board of Works contacted John Brown of Thorold, Ontario, to erect the stonework of eleven light stations to light Lake Huron and Georgian Bay from Point Clark to Christian Island; basically outlining the Bruce Peninsula and approaches. The sites selected on the original contract were; Point Clark, Chantry Island, Cove Island, Nottawasaga Island, Griffith Island, Christian Island, White Fish Island, Mississagi Strait, Isle St. Joseph, Clapperton Island and Badgley Island.

Of the eleven stations listed on the contract, only the first six were actually constructed. For the most part, they were developed simultaneously during a five-year period between 1854 and 1859. The six came to be known as the Imperial Towers. A light station was never established at White Fish Island despite repeated recommendations over the years. The last four of the series, marking the north channel of Lake Huron, were smaller structures constructed years later by different contractors. They were wooden structures utilizing a simple reflector type optic.

Site selection was based on known hazards to navigation, traffic patterns and, occasionally, the proximity of good holding grounds (anchorage areas) where small vessels might seek shelter and ride out a storm.

Point Clark, 20 miles north of Goderich on the eastern shore of Lake Huron, is the site of a dangerous reef which extends two miles offshore directly in the path of the coastal trade vessels. Farther up the eastern shore, Chantry Island lies 1-1/2 miles south of the mouth of the Saugeen River, at Southampton. It's bordered by extensive shoals which radiate like tentacles for almost a mile to the west, north and south. Yet Chantry Island provides Lake Huron with a rare protected leeward (eastern) side where vessels can ride out the most violent storms.

Cove Island lies several miles off the northern tip of the Bruce Peninsula near Tobermory. It marks the entrance to Georgian Bay from Lake Huron. Griffith Island lies off the western shore of Georgian Bay and marks the entrance to Owens Sound. This lighthouse assists vessels entering Colpoys Bay, which provides good shelter and an ample anchorage. At the southern end of Georgian Bay is Nottawasaga Island. It's situated three miles northwest of the entrance to Collingwood Harbor, marking the nearby Mary Ward Ledges and Lockerbie Rock. As mentioned earlier, in the 1850's Collingwood was becoming a major port and transshipment center. Finally, vessels standing north from Collingswood for points along the eastern shore of Georgian Bay pass between a long sand bar and the southeastern tip of Christian Island and the mainland, another good area to seek shelter from storms.



John Brown's first lighthouse at Mohawk Island in Lake Erie. Photo courtesy of the author.

John Brown was born in Scotland in 1809. He served as an apprentice to a stone mason in Glasgow, emigrating to upstate New York at the age of 23. In 1838 he moved to Canada where he had the opportunity to become a principle in the operation of the Queenstown Quarry. In the period 1846 to 1848 he completed his first lighthouse construction project at Mohawk Island in Lake Erie, near Port Maitland (see *Keeper's Log*, Volume XIII, No. 4). By 1850 his reputation and wealth had grown considerably, enabling him to branch out into related industries. With various partners he opened plaster and cement mills, plaster beds, lime kilns and a water powered saw mill. He constructed scows, dredges and tug boats in his shipyard at Allanburg and Port Robinson. From a business standpoint this was a nice bit of vertical integration. His cement and plaster products won medals at the World Fair in Paris in 1855 and London in 1862.

Renowned for his integrity and high quality work, Brown's projects came to consist almost exclusively of government contracts for railroads, canals and harbors. The selection of Brown to construct the light stations on Lakes Huron and in Georgian Bay was a logical one. He had the experience the commissioners on the Board of works were looking for, as well as the capital to finance the steamers, schooners, barges and machinery necessary to construct the stations at remote and isolated sites. As it turned out his selection was a fortunate one for the government. The completion of the contract was to prove a monumental task and a matter of principle to John Brown. The difficulties encountered may have caused a lesser man to fail, or default on the project.

The initial procurement of material and equipment went smoothly and he had no trouble assembling the necessary crews. He had white dolomite limestone quarries opened at Owen Sound, Main Station Island, and Inverhuron.

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Transporting the cut stone, building materials and workmen to the remote sites proved to be a logistical nightmare. Storms caused numerous delays in transportation and in the actual construction at the sites. Four supply vessels went down with the loss of all material on board. One vessel was sunk by an ice floe. Even vessels that reached construction sites arrived having had some part of their cargos swept overboard. Losses of this nature are not hard to imagine when one realizes that at the time there were no accessible harbors in the area, no landings were possible except on unsheltered beaches of the lake, and there were no navigational aids. At times skilled workmen sat idle while waiting for supplies, a situation all the more irritating to Brown since he was paying a premium wage just to induce the crews to live and work at such remote sites.

Due to a backlog of orders resulting from a massive American upgrading program, the delivery of lenses from France further delayed the lighting of his stations once completed. The American Lighthouse Board replaced all old reflector systems in our lighthouses with French lenses between 1852 and 1860, precisely the same period in which Brown was trying to complete the Canadian stations.

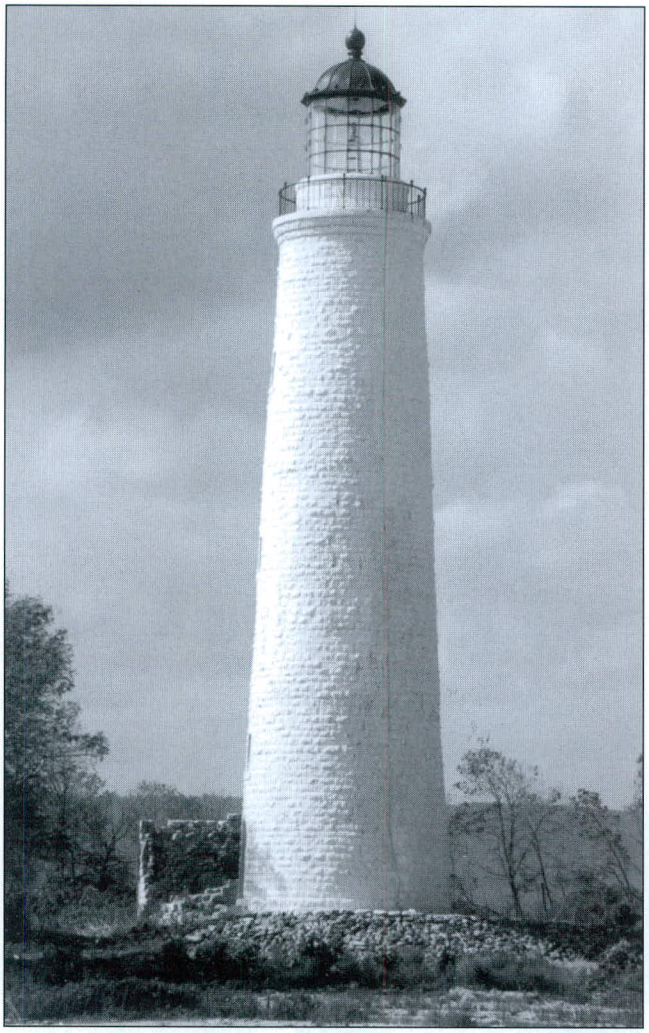
It quickly became evident that the original cost estimates were grossly under estimated. The original contract price of 3,500 pounds ($17,500) for each light station had spiraled drastically. By the spring of 1857, Brown had lost 1,500 pounds ($7,500) on each station, and despite his considerable financial reserves, he was facing bankruptcy. In addition, the economic depression of 1857 ensured that no additional provincial funds would be available. Brown had no choice but to petition the Governor General for funds to complete the project and save himself from financial ruin. Brown realized the importance of the light stations to commerce and stated that he would do everything in his power to complete them, without profit to himself, such was the great pride he took in his work and word.

Both the dwellings and the towers are testament to Brown's unwavering standards. Only the best materials were used and the limestone was carefully chosen to be free from cracks that would let moisture penetrate. The keeper's houses, also constructed of limestone and given a slate roof, were completed first in order to provide shelter at each site. For the towers, basement courses of rock reached a width of over seven feet. At ground level, the walls were fully six feet thick, tapering until they reached a thickness of two feet at the top where the walls flared into a projection to provide support for the outside gallery around the light. To accommodate the lighting apparatus and lantern room to be installed later, the interior diameter remained a constant 10 feet, 6 inches. The craftsmanship of the exterior stonework is exceptional. The exterior stone was square laid in even 19 inch courses and hammer faced, while the interior stonework was carefully worked, squared and in broken courses. One window was placed at each interior landing. An arched entranceway provided a place for a fanlight over the door — a nice ornamental touch.

By the end of 1857, the stonework of the towers was more or less complete. Though basically identical, minor variations such as window placement were necessary to allow keepers to view approaching vessels. The height of five of the towers from their base to the center of the lens is was 80 feet, with a variance occurring in the height of the light over the water because of terrain. The light tower at



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Nottawasaga Island Light Station in Georgian Bay, NW of Collingwood, Ontatio, Canada. Photo by Roger Schultz ,1989.



Cove Island Light Station, on the shores of Lake Huron. Roger Schultz photo, 1990.

Christian Island was a bit shorter at 55 feet. Each one had a distinctive light characteristic to enable it to be distinguished from the others. Until the stations were finished, a temporary light consisting of a seaman's lantern was suspended from a pole atop each tower.

All of the Imperial Towers were fitted with state of the art Fresnel lenses and lantern rooms manufactured by the Louis Sautter Company of Paris, France. Prefabricated and dismantled for shipping, the equipment was reassembled atop the towers at each site by a crew of French technicians who accompanied the equipment all the way from France. Suffice it to say that the delivery process was a long and arduous one. Measuring 10 feet in height by 10 feet, 6 inches in diameter, the lantern rooms are made of cast iron, glass, and have a roof of copper alloys.

Lantern rooms are very heavy as they have to be strong enough to surround and protect the delicate lenses. Since the walls of a lighthouse are thinnest just below the lantern room, to support its immense weight these walls were constructed of granite rather than limestone. The origin of this machine-tooled granite used at the top of the towers remains an interesting mystery as the records of its origin (as well as the designs for the towers) were lost in a fire long ago. It is possible that the courses of granite were also transported from France to ensure a proper fit for the lantern rooms atop each tower. Another unique feature are the ornamental cast bronze gutter drains in the form of a lion's head used around the lantern room dome's exterior.

Point Clark, Chantry, Cove, and Nottawasaga Islands all were outfitted with second order lenses. Griffith Island received a third order lens and the smaller tower on Christian Island had a fourth order lens installed.

The final schedule of lighting was:

Cove Island	10/30/1858
Nottawasaga Island	11/30/1858
Griffith Island	12/27/1858
Chantry Island	04/01/1859
Point Clark	04/01/1859
Christian Island	05/01/1859

With the lantern rooms, gallery railing and doors painted red and the towers whitewashed, the completed lighthouses made striking daymarks for daylight navigation.

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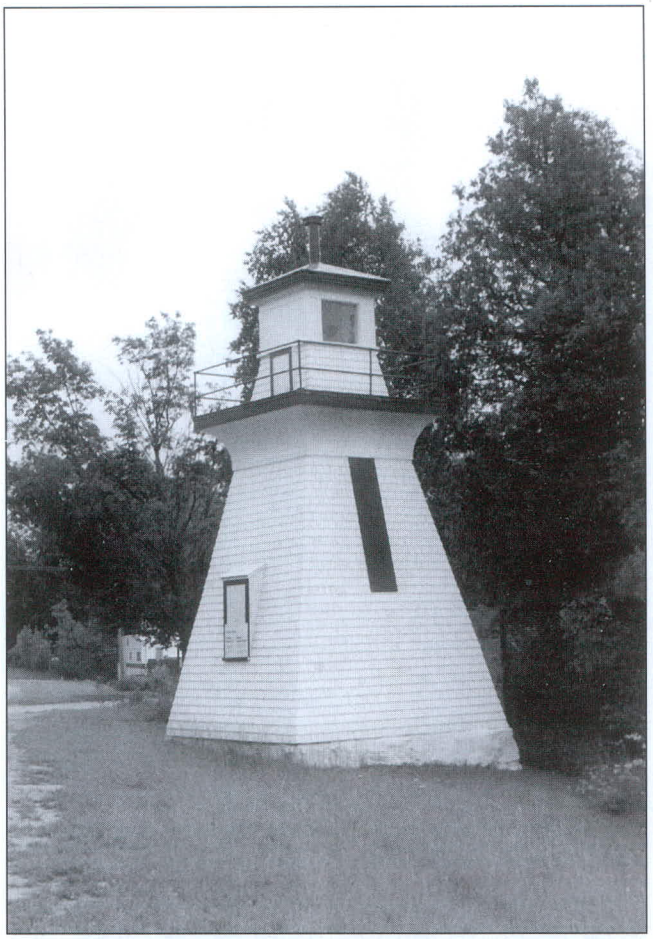
For a struggling Canada West in the 1850's, the Imperial Towers carried a staggering price tag. The final cost, which came in at just under $223,000, was so expensive that none of their kind were ever built again on Lake Huron or Georgian Bay. By 1860 there were only ten Fresnel lenses in Canada West. Six of these were in the Imperial Towers while the other four were located in lighthouses on the St. Lawrence River.

The derivation of the label "Imperial Towers" and whether or not the word should be spelled with an upper case or a lower case "I" remains a point over which some lighthouse historians like to quibble. Clearly, all six towers were built under Canadian authority. The "imperial" designation was sometimes crucial to new public construction since it meant that all material and construction costs would be assumed by Great Britain. The most likely explanation is that funds from Great Britain were necessary for their completion. Even today these lighthouses remain a sight to behold with nothing of comparable design on the United States side of the border. Given the grandeur of their appearance, they certainly deserve the "Imperial" label.

And what of the towers today? They were built to last and they have! All six remain active aids to navigation maintained by the Canadian Coast Guard. However, only Cove Island retains any navigational significance for large vessels. The remainder support small craft. The first light to be lit on Georgian Bay and the last one to have its keeper removed in 1991, Cove Island Lighthouse remains in top-notch condition. Most of its original buildings and equipment remain intact. It is the only tower to retain its original Fresnel lens. Lying within what is now Fathom Five National Marine Park, Cove Island Light remains the crown jewel of the six towers.

Point Clark, as a mainland site remains directly accessible by automobile and has been well cared for. In 1967, it was the first lighthouse in the Ontario region to be declared a National Historic Site. The keeper's house has been restored and is open to the public as a museum with a modest admission fee. When staffing permits, the tower is also opened to the public.

Shorter than the others, Christian Island Light was the first tower to be finished but the last to be lit. Today it is the one in the



After the early Imperial towers Canada, for the most part, constructed inexpensive generic wooden towers such as this rear range light tower at Southampton, Ontario called the Saugeen River Range. Most of Canada's lighthouses are painted white with red lanterns. Photo by Roger Schultz in 1990.

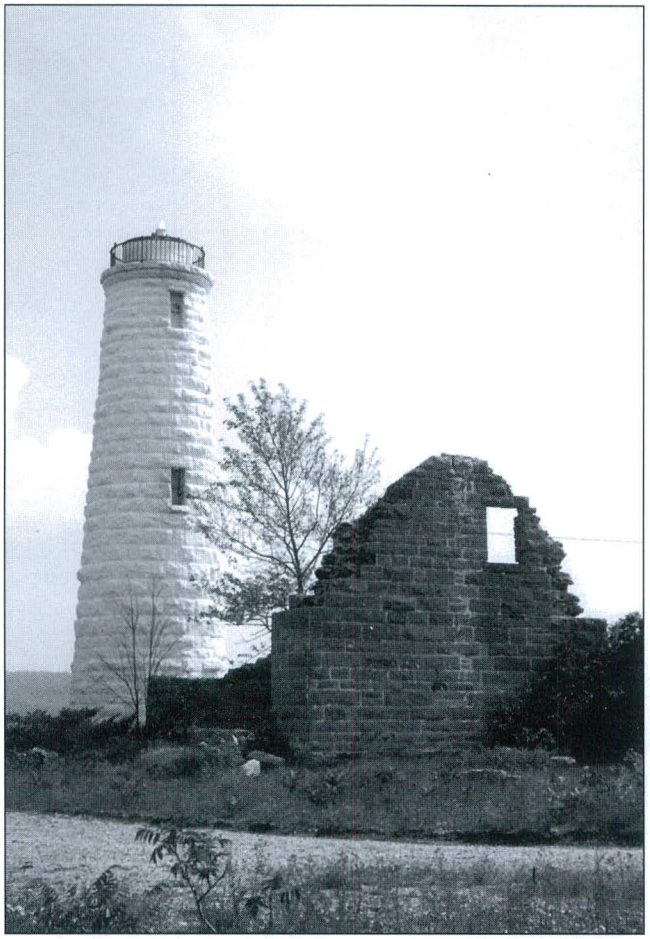


Griffith Island Light Station in Georgian Bay northeast of Big Bay, Ontario, Canada. Photo by Roger Schultz, 1989.

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Only the end walls of the dwelling remain of the Chantry Island Light Station. Chantry Island is located on Georgian Bay south of Southampton, Ontario. Roger Schultz photo, 1990.



Christian Island Light Station is in the poorest condition of the Imperial Lighthouses. The lantern has been removed and only one wall of the dwelling stands. Photo by Roger Schultz, September 1991.

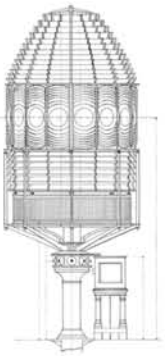
most pitiful condition. The tower is as sturdy as ever but the windows are boarded up and the original stairs have been removed. The lantern room was removed and cut up for scrap during World War II. The house is in ruins. Automated in 1922, today a modern white plastic lens has been installed on the lanternless tower.

At Chantry, Griffith, and Nottawasaga Islands, the towers remain in fairly good shape if wanting for interior maintenance. The houses at all three sites are in ruins, victims of vandalism. In Southampton, a local initiative to stabilize vegetation on Chantry Island and restore the lighthouse site has taken root.

This article has dealt with facts and figures about the Imperial Towers, but has not covered the human factor — the triumphs and tragedies of heroic keepers and daring rescues. If you would like to know more, the reader is directed to two books by Lynx Images of Toronto: *Ghosts of the Bay, A Guide to the History of Georgian Bay* and *Alone in the Night: Lighthouses of Georgian Bay, Manitoulin Island, and the North Channel.* Both written by Andrea Gutsche, Barbara Chisholm and Russell Floren. *Alone in the Night* is available through The Keeper's Locker for $24.95 plus $4.00 for Shipping and Handling.

Author Wayne Sapulski also wrote the story of John Brown's first lighthouse on Mohawk Island in Lake Erie. See the *Keeper's Log* Vol. 14 No. 1.

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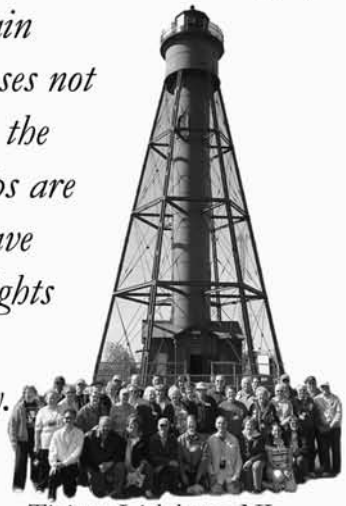
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