Lighthouses

Sleeping Bear Dunes
National Lakeshore
Michigan

Discover the Rich History of the South & North Manitou Lighthouses

A Publication of
Friends of Sleeping Bear Dunes

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Learn more about the ***Friends of Sleeping Bear Dunes***, our mission, projects, and accomplishments on our web site. Support our efforts to keep Sleeping Bear Dunes National Lakeshore a wonderful natural and historic place by becoming a member or volunteering for a project that can put your skills to work in the park.

This booklet was compiled by Kerry Kelly, ***Friends of Sleeping Bear Dunes***.

Much of the content for this booklet was taken from *Seeing the Light – Lighthouses of the Western Great Lakes* a web site researched and compiled by Terry Pepper www.terrypepper.com. This web site is a great resource if you want information on other lighthouses. Other sources include research reports and photos from the National Park Service.

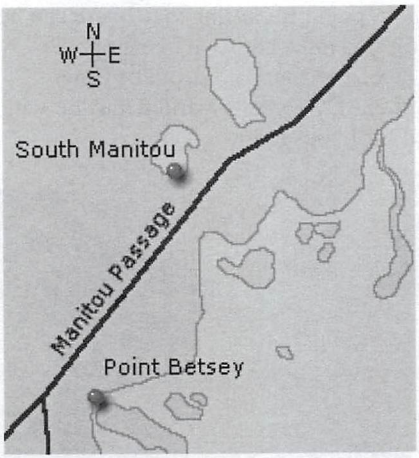
Extensive background information about many of the residents of the Manitou Islands including a well-researched piece on the William Burton family, credited as the first permanent resident on South Manitou Island is available from www.ManitouislandsArchives.org. Click on the **Archives** link on the top menu.

Lighthouses draw us to them because of their picturesque architecture and their location on beautiful shores of the oceans and Great Lakes. The lives of the keepers and their families fascinate us as we try to imagine ourselves living an isolated existence on a remote shore and maintaining the light with complete dedication. How would you feel if it were your job, balancing the boredom of isolation with the knowledge that many lives depended on that light each night?

There is only one lighthouse within Sleeping Bear Dunes National Lakeshore today, and it is located on South Manitou Island (SMI). The lighthouse is open to the public for tours, so plan your trip to the Island and take the ½ mile walk from the village to the lighthouse. Climb up the spiral staircase and imagine living here and making the climb every day! You'll be rewarded with a splendid view of the mainland (Sleeping Bear Point) and the area around the lighthouse.

This book will explore the history of the SMI lighthouse and the one that was on North Manitou Island before it was decommissioned and ultimately fell into disrepair and collapsed. In addition, there are several other lighthouses near Sleeping Bear Dunes, which are briefly described here.

South Manitou Island Lighthouse



Map showing the Manitou Passage and location of South Manitou Light

Located just off the mainland coast of Lake Michigan's east coast, a group of islands known as the Beaver Archipelago form a chain which marked the western edge of a tight passage along the coast. Known as the "Manitou Passage," vessel masters taking this narrow passage were able to reduce the travel distance between the ports of Lake Michigan's southern shore and the Straits of Mackinac by sixty miles, as opposed to taking the more circuitous route through open water to the west of the islands. As the most southerly of this chain of islands, South Manitou also featured one of the areas safest natural harbors, and with 5,260-acres of fine timber growth covering the island, it is not surprising that a few enterprising settlers arrived during the mid 1830's to sell firewood to steamers taking shelter in the harbor when things turned sour out in the lake. By the late 1830's it was commonplace to find upward of fifty vessels crowded into the harbor seeking refuge and taking-on supplies when the lake got rough.

Lying a scant few miles west of Sleeping Bear Point, mariners were hard pressed to locate the southern entrance to the busy passage at night or in times of thick weather, and a cry arose throughout the maritime community to light the southern entrance to the passage. Taking up their call on February 19, 1838, Michigan State Representative Isaac Crary entered a motion before the House of Representatives to erect a lighthouse on South Manitou, and fully cognizant of the vital role played by maritime commerce in the area, Congress responded quickly with an appropriation of $5,000 for the station's construction on July 7 of that same year.

The following month, Navy Lieutenant James T Homans was dispatched to the Great Lakes to conduct an inspection of all existing lighthouses, and to select sites for six new stations for which Congress had recently made appropriations, among which was the new light for South Manitou. On his arrival on the island, Homans confirmed the importance of the natural harbor, noting that "I saw within it, during 24 hours of my stay there, a number of vessels, the aggregate of whose tonnage was 2,000 tons. The value of this harbor is the more enhanced, by its being the only one admitting the largest vessels in all weather, in the direct route between the straits of Michilimackinac and Chicago - a distance of 300 miles." After considering a number of sites around the bay, Homans selected a site for the new lighthouse on a knoll at the bay's southern point. Reporting that "there can be little dispute as to this point being the best for this light-house, it being open to the course of vessels going up or down the lake, and abundant depth of water within a few yards of the point for the largest craft," Homans marked the site with an appropriately marked stake, and departed for Lake Huron.

After clear title to the chosen site was obtained, the contractor arrived to begin construction in the late summer of 1839. Very little is known about the structure of the first lighthouse on South Manitou Island. The specifications lighthouse and the keeper's quarters included a 30-foot tall brick and stone tower and dwelling house 34'X20' and 1-story (8-feet) made of stone with limestone mortar. The specifications are the same as for the old lighthouse at Presque Isle, MI.

Old Presque Isle Lighthouse built to the same specifications as the 1839 SMI Lighthouse.

No drawings or sketches of the actual lighthouse have been found or are known to exist. The building was almost certainly built on a sandy knoll close to the lakeshore near the existing lighthouse, although the exact location is unknown.

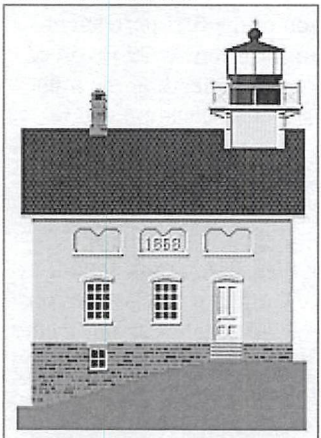
The wooden gallery was erected atop this tower, an iron lantern with copper dome erected at its center, and outfitted with an array of eleven Argand lamps equipped with fourteen-inch silvered reflectors. While the tower stood only thirty feet in height, the station's location atop the thirty-foot knoll selected by Homans the previous year afforded the light a sixty-foot focal plane. However, the poor reflective efficiency of the cheaply manufactured reflectors likely afforded the station a range of visibility of less than eight miles in clear weather.

Island resident William N. Burton was selected as the station's first Keeper at the standard annual salary of $350.00. He was the eldest son of the first permanent resident on South Manitou Island (William Burton). Both Burtons were involved in the business of selling cordwood to passing steamers than to tending the light. A large number of the trees which had been clear-cut around the station had re-grown. Arriving at the island to conduct his annual inspection of Lights in 1842, District Inspector Duane Wilson reported that he found the light was "seriously obstructed and its usefulness very much impaired by the trees surrounding it in certain directions." After a number of complaints were lodged by mariners complaining of the poor visibility of the light, Stephen Pleasonton took action, and penned a letter to Abraham Wendell, the Mackinac Collector of Customs on July 20, 1842, admonishing him to *"inform the Keeper if he does not keep a better light he will have to give place to some person who will. If it should be caused by want of ventilation in the lantern, you will apply the proper remedy. Two of the lamps here throw their light upon the shore, and of course are useless. You will direct the keeper to discontinue them. This keeper it seems lives a mile from the Lighthouse and does his duty by deputy. You will direct him to move into the keeper's house and execute the duties himself, in default of which he will be removed without hesitation. It is alleged that this light is obscured in one direction by trees that may be removed at an expense of about twenty dollars. You will cause the trees to be removed if you shall find the expense will not exceed twenty or thirty dollars."*

Evidently the warning failed to improve the situation immediately, as Burton continued to serve as Keeper of the South Manitou Island Light until May 29, 1843, when he resigned his position to be replaced by Zachariah Ward. The selection of Keepers at the station appear to have left something to be desired, as Ward only lasted two years in the position before George Clark was appointed to replace him in August of 1845, and then Clark himself resigned to be replaced in turn by Benjamin Ross on June 27, 1849. Perhaps providing a clue to the high keeper turnover at the station, during the annual inspection of the station conducted on July 8, 1850, it was reported that while Keeper Ross' conduct was

good, the fireplace was found to have been undermined by rats, and had caved-in, and rot was found in the eaves, for which the sum of $75.00 was requested to effect necessary repairs. Ross resigned from lighthouse service on June 18, 1853, and Alonzo Slyfield was immediately appointed to replace him.

After great dissatisfaction with Stephen Pleasonton's administration of lighthouses in the United States, responsibility for the nation's aids to navigation was removed from the Treasury Department by an Act of Congress in 1853, and transferred to the newly formed Lighthouse Board. One of the Board's first orders of business was a complete upgrading of the Lewis lamps with the superior French Fresnel lenses, and as part of this system-wide upgrade, a work crew arrived at South Manitou in 1857 and installed a fixed white Fourth Order Fresnel lens in the lantern.



The 1858 lighthouse

With the deterioration mentioned in the 1850 inspection largely unresolved, during the installation of the new lens in 1857 the construction crew found that the condition had deteriorated to a point that complete replacement of the structure was considered the only viable option. To this end, a work crew arrived on the island in 1858 with materials to completely replace the station. As was frequently the case, once a new lighthouse plan had been drawn-up, that plan was used at a number of stations throughout the district. The plan for the new building on South Manitou was a virtual duplicate of two other stations built that same year at Port Washington and at Grand Traverse.

The unpainted Cream City brick dwelling was erected over a full rubble stone cellar with a separate oil storage room, and stood 32' 4 ¾" by 30' 4 ¾" in plan, and 27' feet high at the roof peak. With three rooms on each floor, stairs led from the cellar to the second floor, where a series of ladders provided access through the roof to the tower. As was the case with the previous station, the tower was constructed of wood and incorporated into one end of the roof ridge. Atop the short white painted tower, a square gallery was outfitted with a prefabricated octagonal cast iron lantern, into which the white Fourth Order Fresnel lens from the original lighthouse was installed with its center sitting 35 feet above the structure's foundation. By virtue of the building's location atop the rise, the lens sat at a focal plane of 64 feet, and was visible for a distance of 14 miles in clear weather. In order to serve vessels making the passage during the frequent fogs which blanketed the area, the construction crew also erected an automated fog bell at the station. A separate wood frame building was erected near the main structure, and a bell weighing 1,000 pounds suspended from an exterior wall. The bell was rung automatically by way of an automated bell ringing mechanism

located within the building. This mechanism was operated by clock-work, which when wound would strike the bell by way of a large mallet which swung through an opening in the exterior wall of the building.

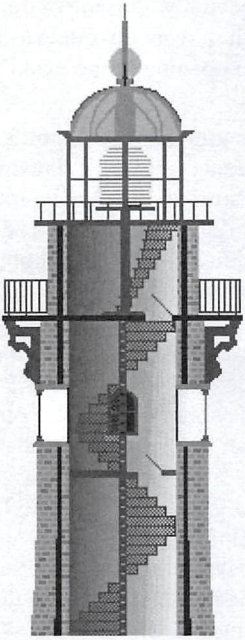
Continuing the station's established pattern of high keeper turnover, two more keepers served and resigned from the station over the following seven years until Aaron Sheridan, who moved into the dwelling with his wife Julia and their children on July 21, 1866. Some reports indicate that this new light may not have been as much of an improvement over the old station as the Lighthouse Board had planned, as local lore has it that an "enterprising" resident of Empire by the name of Joe Perry, devised a scheme whereby he capitalized on the dimness of the light. By placing a lantern on the southern end of Sleeping Bear Dunes, vessels would see the lantern, mistake it for the dim South Manitou light, and run aground on the shore north of Empire. When the crew of the ship left to get help, Perry would row a small boat out and rob the grounded vessel.

At the close of the 1860's the Lighthouse Board came to realize that the diminutive light on South Manitou ill-served the increasing number of vessels making the Passage. Remarking that it was "frequently impossible to distinguish the present light from those on board vessels at anchor," Eleventh District Engineer Colonel J B Wheeler began to lay out plans for the erection of a more substantial station on the island. Estimating that an improved light could be established for $10,000, the Board requested the necessary appropriation in its annual report for 1869. However, Wheeler was reassigned to duty elsewhere, and Brevet Brigadier General Orlando M. Poe took over as Chief Engineer for the Eleventh District on March 24, 1870. An accomplished civil and military engineer, and a man of considerable vision, Poe's analysis of the situation at South Manitou called for a more expansive solution.

In his report for 1870, Poe stated that "the importance of this station demands even a better light than originally proposed, and but for the limited amount appropriated there would have been recommended the erection of a tower of greater height, with a lens of the Third Order." In a testament to Poe's reputation, Congress appropriated the additional $20,000 on March 3, 1871. By July 20, 1871, a working party and all the necessary materials had been delivered on the island, and work was underway at a feverish pitch.

Poe's plans for the new station called for the erection of a 65-foot tall brick tower connected to the existing dwelling by a covered passageway to provide the keepers shelter when tending the light during inclement weather. Thirty feet lakeward from the dwelling, a tight core of massive oak pilings were driven deep into the sand to form a firm base for the new tower. Atop this timber base, a team of masons carefully laid a foundation of cut limestone to support the brickwork of

the tower itself. With an outside diameter of 18 feet at the base, double brick walls were erected with an air space between to both increase stability and to provide ventilation within the structure. While the outer walls tapered gracefully over their 65 foot height, the inner wall formed a perfect cylinder to house the cast iron spiral stairway. Three landings provided observation points, with each outfitted with a graceful arch-topped window. The tower was equipped with two entrance doors at the lower end. One door at the stone foundation level provided exterior access, and the second door, one stair flight above, provided access to the thirty foot long covered passageway connecting the tower to the first floor of the dwelling. The fourth landing in the tower was outfitted with four similar arch-topped windows, and provided the keepers with a lofty watch room full view of the horizon. A gently curved iron ladder provided access to the mechanical room above, where the pedestal for the lens was located, and from which access could be gained to a wide gallery which encircled the structure. The gallery was supported by a series of gracefully formed cast iron corbels, which together with the arch-topped windows become a signature of a number of Poe-designed towers that would be built throughout the District. Atop the mechanical room, the Third Order Lantern was centered on its own narrow gallery to provide the keepers with access to the exterior glass.

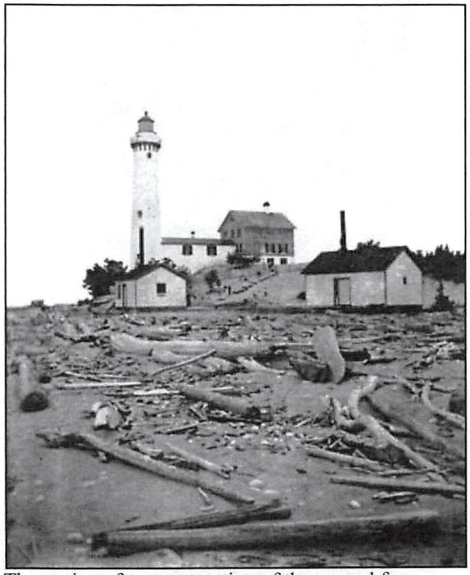


Cross section of a typical Poe desgined tower

The dwelling after 1871 rebuild

Work on the new tower continued into 1872, when the district Lampist Mr. Crump, arrived at the station and oversaw the removal of the Third Order lens from its shipping crates, and their transportation up the tower to the lantern. The lens, which had been designed and manufactured by Henry-Lepaute of Paris, was carefully assembled atop the cast iron pedestal. Standing 91 feet above the foundation, the magnificent glass jewel boasted a focal plane of 104 feet, and equipped with a triple wick lamp, the new light would be visible 17 ½ miles.

With the additional responsibilities represented by the tending of a light in such a tall tower, the decision was made to add a First Assistant to the station, and Aaron Sheridan managed to have his wife Julia appointed to the position on September 30, 1872. Thus, it is likely that the new light was exhibited for the first time at somewhere close to that date. No longer serving any purpose, the old tower and lantern were removed from the dwelling, the roof re-shingled, and the work crew departed, leaving Keeper Sheridan and his family to keep watch over the Passage.



The station after construction of the second fog signal building. Photograph courtesy of Jack Sheridan from the Sheridan Family Collection.

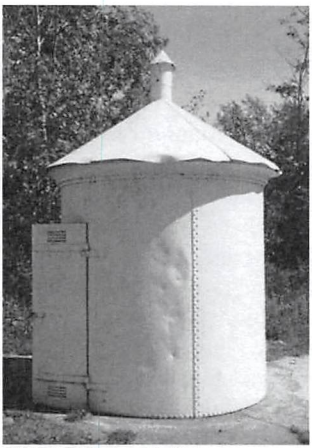
1875 saw the erection of a wood-framed fog signal building at the station. Outfitted with a boiler fired by coal or wood, the steam was piped to a single 10-inch locomotive whistle located atop the roof of the building. The old fog bell was left standing to serve as an emergency backup in case the steam whistle failed. With the addition of the steam fog signal to the list of duties for the station, Jeremiah Becker was appointed the station's Second Assistant, arriving at the station on May 27.

The most distressing accident in the long history of the South Manitou Light occurred in 1878. On March 15 of that year, Lighthouse Keeper, Aaron Sheridan and his wife, Julia, along with their newest baby were returning to South Manitou Island from the mainland with island fisherman Chris Ankersen. Just off the ice-locked lighthouse shore, a sudden squall blowing in from across the lake swung the sail boat's boom around, striking Aaron on the head, and throwing him from the boat. Aaron was likely knocked unconscious by the blow, as he never surfaced. As the boat capsized, Julia was thrown overboard, and clutching her baby in one arm managed to hang on to the gunwale with her free arm. The Ankersen tried to reach for a rope to secure Julia to the boat, but when he turned around, both Julia and her baby had slipped beneath the waves. Ankersen hung on for dear life, to be rescued on North Manitou Island the following day. South Manitou residents later reported that the two remaining Sheridan children were seen for a number of days walking along the shore crying, looking over the water for the bodies of their deceased mother and father. In 2006, Sheridan family members placed gravestones in the main island cemetery.

Aaron Sheridan,

Julia Sheridan

Tragedy was soon lost in the grind of daily work, as the steam fog signals at South Manitou were quickly deemed so vital to maritime commerce in thick weather that in 1878 a second similarly equipped fog signal building was erected a hundred feet to the east of the original structure. This second structure was designed to serve only as a backup in case of failure of the original system, and no longer serving any purpose, the fog bell and machinery were shipped to Duluth for use at the that port's new harbor entrance.



1893 Oil Storage Building
Photo courtesy of HABS/HAER

Prior to the 1890's, lamp oil had been stored in storage rooms within the dwellings at almost all US light stations. With the adoption of the more volatile kerosene as the primary lamp fuel, a number of dwelling fires had been experienced, and a system-wide project of erecting separate oil storage buildings was undertaken. To this end, the lighthouse tender WARRINGTON arrived at South Manitou late in 1892 and delivered the iron components for the erection of a circular oil storage building which was erected the following spring, approximately 100 feet northwest of the tower.

After almost twenty years of heavy use, the boilers and whistles in both fog signal buildings were found to be in poor condition, and bids for furnishing replacement equipment were advertised on April 15, 1896. Contracts were awarded that summer, and the equipment was delivered at the Detroit depot in September. The materials were loaded on the lighthouse tender AMARANTH

for transportation to South Manitou. However being that their delivery to the island was so late in the season, the actual installation of the new machinery did not begin until the opening of the 1897 navigation season, with the work completed that July. While on the island, the work crew also rebuilt and fireproofed both fog signal buildings and laid 1,400 feet of sidewalk to connect the station buildings.

The installation of the new fog signal equipment appears to have been completed just in time, as 1898 found the South Manitou keepers busy feeding the hungry boilers with 71 cords of wood and a ton of coal to keep the whistles screaming their warning over the lake for a station record 1,085 hours.


Single remaining fog signal building after installation of the diaphones in 1933
Photo courtesy of HABS/HAER

The first decade of the twentieth century saw large metal tanks being installed in the fog signal buildings to increase the supply of water, which was previously supplied only by a pump submerged in the lake. The boathouse was rebuilt, and with lake levels receding, the boat ways were extended to allow the station boat to launch into deeper water. 300 feet of sidewalk was replaced and a second oil house of brick construction was erected. As a result of recent improvements in lighting technology, the stations illuminating apparatus was upgraded to an incandescent oil vapor system on 1910, which resulted in an increase in output of the light to 7,300 candlepower and an increase in its range of visibility to 19 miles.
Things were relatively uneventful over the following twenty years, and with slowly declining maritime traffic, the station began to wane in importance. 1933 saw the last major change at the station, with the removal of the steam fog whistles and the installation of twin Type "F" diaphone signals, operated by electric air compressors powered by twin diesel generators.


South Manitou Island Light 1950
Photo courtesy of US Coast Guard archives

With the erection of the North Manitou Shoal Light in 1935 and the subsequent establishment of the South Manitou Shoal Lighted Gong Buoy some time thereafter, a series of events was unfolding that would lead to the end of the South Manitou light. Advances in radio and radar technology after the Second World War provided vessels masters with the ability to "see" through the dark of night and the thickest of weather, reducing the dependence on expensive manned light stations. On December 12, 1958, the final crew departed the South Manitou Light Station, leaving the tower behind them to stand blind sentinel over the Passage.

1958 was also the year in which the National Park Service first began an evaluation of the Sleeping Bear area as a possible site for a new National Park. After considerable discussion and negotiation over the following decade, a law was finally passed on October 21 1970 creating a new park, including large sections of both North and South Manitou Islands.

With the establishment of the new park, the Park Service assumed responsibility for all historic structures within the park, including both the lighthouse and the old Coast Guard station. In accordance with standard National Park practice, the emphasis on such management has been more geared towards stabilization than restoration, and considerable work has been undertaken to ensure the long term viability of the structures.

Today, modern ferry boats depart from the docks at Leland carrying both day visitors and backcountry campers out to North and South Manitou Islands, and Rangers stand ready to take visitors on guided tours of one of the most majestic and storied lighthouses in all of the Great Lakes. A trip to South Manitou Island is by necessity a full day excursion.

Manitou Island Transit (231-256-9061) operates their ferry out of Leland, with boarding beginning at 9.15 AM, the boat departs for the South Manitou at 10.00 AM, arriving at the island at about 11.30 AM. Visitors then have several hours to explore the island, and return to the dock to catch the ferry's departure arriving back in Leland about 6.00 PM.

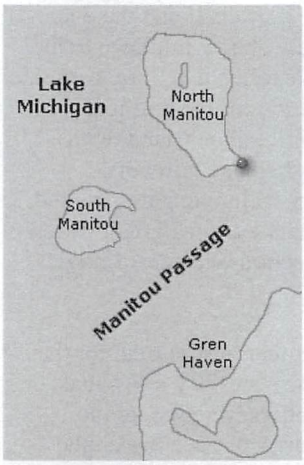
Since there is no food available on South Manitou, packing a picnic lunch is a must-have! Check with Manitou Island Transit to make reservations and to get the most current schedule. They operate more frequently during June, July, and August than they do in May, September and October.

To see a complete listing of all South Manitou Island Light keepers compiled by Phyllis L. Tag of Great Lakes Lighthouse Research, go to Terry Pepper's web site at www.terrypepper.com.

North Manitou Island Lighthouse

North Manitou Island Lighthouse ca. 1910. Photo from antique postcard from Terry Pepper.

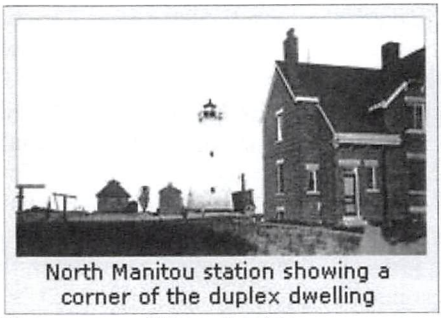
At the dawn of the final decade of the nineteenth century, three passages had been developed for maritime traffic making between the Straits of Mackinac and Green Bay, with the route selected by mariners dependent on weather conditions and final destination. The North Passage led almost directly west out of the Straits, guided by lightship LV56 on White Shoal and the coast lights on Squaw Island and Seul Choix. The central route passed between the lights on North Fox and Beaver Island, and the third passage led between North Manitou and South Fox. While the light station on South Fox had served to mark the north side of the passage since 1867, without a light in North Manitou Island, the southern boundary of this 17 mile wide passage was as yet unmarked. In view of the immense trade passing through the area, the Lighthouse Board recommended in its annual report for 1892 that Congress make an appropriation of $20,000 to establish a light and fog signal on the north shore of North Manitou Island to adequately light both sides of the passage.



Map showing location of the North Manitou light station

While Congress passed an act approving the establishment of the new station on February 15, 1893, it neglected to follow up with an appropriation for the necessary funding, and the Board reiterated its request in its two following reports. Congress finally appropriated funding on March 2, 1895, and a survey party was dispatched to the island to select an appropriate site. While the Board's recommendations clearly stated that the new light should be established on the north shore of the island, for reasons we have yet been unable to determine, a site on the island's southernmost prominence known to islanders as "Dimmick's Point" was instead selected for the station, and negotiations to obtain title to the selected site were undertaken immediately. However, the owner of the selected property was evidently unwilling to sell, and condemnation proceedings were initiated in September, 1895.

Plans and specifications were drawn up for duplicate fog-signal boilers and machinery that winter, and bids opened for supplying the equipment on April 15, 1896. The contract for supplying the machinery was awarded to Kingsford Foundry & Machine Works in Oswego, New York, who began work on the equipment immediately. Work then began on planning the station structures. Rather than create a new set of plans for the dwelling and fog signal building, Ninth District Engineer Milton B. Adams apparently decided to use plans that had been developed for similar structures the previous year on Plum Island across Lake Michigan.



North Manitou station showing a corner of the duplex dwelling

Photo courtesy of Wayne Sapulski

The contractors began work on the station structures in August, 1896 with work progressing quickly. The red brick fog signal building stood 40' 1" in length, 22' 6" wide, and its walls 12' 6" in height at the eaves, supporting a hipped roof sheathed with corrugated iron. The two-story dwelling, also of red brick, was erected over a full cellar with walls of cut limestone, and was capped by a red-painted tin shingle roof. The interior of the structure was configured as three separate living quarters, with the Keeper occupying both floors in the south half of the building, the First Assistant the first floor of the north half and the Second Assistant a similar area on the second floor immediately above. Entrance to the keepers quarters was gained through a door on one side of the dwelling, with the Assistants sharing a door on the opposite side. The interior of the building was universally accepted as being the most opulent ever built on the island, with entry foyer floors laid with ceramic tile and fine varnished oak millwork throughout. All quarters featured built-in oak cabinetry including glass-fronted china cabinets in the dining rooms. The Keepers quarters even featured pressed tin ceilings in the parlor and dining room. With the erection of a pair of privies, work on the dwelling was considered complete.

Work on the fog signal building was completed in October, just in time for the arrival of the lighthouse tender **AMARANTH** with the necessary fog signal equipment. Over the following month, twin marine boilers were secured to concrete pads which had been prepared prior to their arrival. Each horizontal marine boiler was equipped with 4" diameter horizontal cylinders with a stroke of 9", designed to provide an operating steam pressure of 90 pounds per square inch.

360-gallon capacity oil storage building

Photo by Terry Pepper

Each of the engines was plumbed to its own 10" whistle mounted atop the roof, and the boilers piped to a pair of 20" diameter steel chimneys rising through the roof to a total height of 32' 4" above the foundation. Installation of the north signal was completed and the unit tested and placed into operation on November 20th, 1896. A 6' by 6' red brick 360-gallon capacity oil house and a 16' 4" by 36' 4" buff-painted board and batten boathouse completed the complement of station buildings. Construction at the station was completed in December, just in time for the crew to depart with the onset of winter. The photo on the left of the St. Helena Island oil storage building is identical to the one used on N. Manitou Island.

The North Manitou light station was operated as a fog signal station only during the 1897 navigation season. Late that year, plans for the iron tower were abandoned, and the decision was made to erect a timber pyramid tower at the station, and contracts was awarded for furnishing the required materials and a circular Fourth order lantern.

A work crew again arrived at North Manitou in July, 1889 and began work by leveling the selected tower site and erected eight concrete pads which would serve as the structure's foundation. On these pads, the framing of the tower was erected using 14" square timbers. The pyramidal open frame timber structure stood 24' 8" square at the base and tapered to 10' 4" beneath the gallery. The upper level of the structure was enclosed with clapboards to create a service room in which to clean lamps and store supplies. A square southern white pine gallery 14' square was installed above the service room, and a circular lantern 7' 8" in diameter with diagonal astragals erected at its center.

The district Lampist arrived at the station, and carefully uncrated the station's new Fourth Order Fresnel lens which had been manufactured in Paris in 1896 by L. Sautter et Cie., and shipped to the station. After the components were carefully carried into the lantern, the lens was assembled on a 20-ball bearing raceway atop the pedestal. Designed to exhibit an alternating red and white flashes every ten seconds, the six panel lens was outfitted bulls eyes on each panel. Power for rotating the lens was provided by a fan regulated clockwork mechanism connected to the lens by a series of gears. A steel cable was wound around a drum within the clockworks, with the cable routed through the lantern floor and around a pulley and thence vertically within the open structure of the tower interior, and a heavy weight attached to the lower end of the cable. This weight slowly dropped down, turning the drum, and thereby rotating the lens. Ruby glass panels were fitted to the outside of the lens to impart the alternating

red flashes, The new light was exhibited for the first time on the evening of September 15, 1898, and by virtue of the tower's location atop a slight rise, the lens sat at a focal plane of 70 feet above lake level, and was visible for a distance of 16 miles in clear weather.

In the summer of 1899, the lighthouse tender AMARANTH returned to the station with a working party and materials to complete the station. After sheathing the entire exterior of the skeleton frame tower with clapboards, a lightning conductor of 3/16" by 1 ½" copper was attached to the lantern, and stapled down the clapboards to the ground, where it was buried deeply enough to contact moist ground. The boat landing was extended an additional 55 feet, 644 feet of plank walks were laid from the dwelling to the boathouse, and a 60 foot flag pole erected in the middle of the station grounds. 1899 was likely a memorable year for the North Manitou keepers, as they fed 88 cords of wood into the hungry fog signal boilers to keep the whistle screaming its warning across the Manitou Passage for a station record 757 hours.

In 1910, with the completion of the new light at White Shoal, lightship LV56 was moved to mark the southern limit of North Manitou Shoal. With the lightship now marking the north side of the passage, the days of viability for the North Manitou station were inevitably numbered.

The station Ca. 1940. Note the corner of the fog signal building has been undermined

Photo courtesy of Wayne Sapulski

Waves driven by stiff offshore winds frequently dashed their way across Dimmick's Point, and the keepers had grown used to lake water moving close to the station at times. However in 1912, currents and wave action became so strong that they found water lapping at the foundations of the fog signal building. After learning of the news in Detroit, an engineer and construction crew was dispatched to North Manitou and five spur cribs were erected to help stabilize the eroding shoreline. Apparently, the cribs served their function, as sand quickly began to accumulate up in the lee of the cribs, and by the end of the year there was a full fifty feet of beach restored between the station buildings and the water's edge. On April 24, 1916, the station's oil lamp was replaced with an incandescent oil vapor system, which increased the intensity of the white light to 24,000 candlepower and the red flash to 7,200 candlepower.

Fourth Order Six panel flash lens

Photo courtesy of Jim Belisle, 2003

The light was automated in 1928 through the installation of sun valve equipped acetylene-powered light. However, with the establishment of the North Manitou Shoal Light to replace the lightship in 1935, the North Manitou Light station had outlived its purpose, and the acetylene light was discontinued. The entire lighthouse property was subsequently declared surplus and sold at auction to Lansing businessman William Angell for $2,600 in October, 1938.

Without constant painting by crew of dedicated keepers, the wooden tower and out buildings quickly faded from their crisp white appearance to a dull silvery-gray, and without continued shore protection, the waves began to reclaim an increasingly large expanse of beach in front of the station. Before long, the water was again lapping at the foundation piers of the tower, and thus compromised, the tower crashed to the ground in October, 1942.

After twenty years of unabated erosion, the waves finally began lapping against the lakeward side of the empty dwelling. With more and more of the foundation thus being undermined, the lakeward wall collapsed in 1968, leaving the interior floors exposed like a doll's house. The interior of the structure completely exposed to the elements, decay was rapid, and the remainder of the once majestic structure came crashing down in the 1970's.

While no visible remains of the station exist, visitors to North Manitou are rewarded with incredible solitude and beauty. Boat trips to North Manitou Island leave the docks in Leland throughout the summer. Since there is no transportation, food or lodging of any kind on the island, visitors will have to carry everything needed for an overnight stay, and a 4 1/2 mile hike to Dimmick's Point from the boat landing. As a result of nesting on the dunes around Dimmick's Point, the area is off limits to all hiking before August every year.

To see a complete listing of all North Manitou Island Light keepers compiled by Phyllis L. Tag of Great Lakes Lighthouse Research, go to Terry Pepper's web site at www.terrypepper.com.

North Manitou Shoals Lighthouse (Crib)

The North Manitou Shoals Lighthouse, often called the Crib, is not within the Lakeshore, but it is easily seen from the mainland near Glen Haven. You can also get a close-up look at it during the ferry ride to the islands. It was constructed in 1935 to prevent ships from running into danger on the North Manitou Shoals, which extend several miles into the passage between the islands and Leelanau Peninsula.

Photo by Kerry Kelly 2006

This automated light built on a square concrete crib in 26 feet of water made the South Manitou station obsolete. Preceding this construction, the Lighthouse Establishment in 1907 recommended the shoal off North Manitou Island's southern tip be marked by a lightship. In 1910, Lightship No. 56 was transferred from the White Shoals at the Straits of Mackinac. It was the last wooden Lightship serving in the Great Lakes. Throughout the navigational season, from April to early December, the lightship along with the North Manitou lighthouse, marked the shoal until 1927. Lightship No. 89 assumed the vigil in 1927 and was eventually replaced by the permanent, radar-based steel-framed structure that today lights the way through this hazardous area.

Lightship LV-56

Lightship LV-89

The lighthouse was equipped with a 4-sided Fresnel lens. When the facility was updated and automated in 1980, the big lens was removed and placed on permanent display in the Glen Haven Cannery Boat Museum. For forty-two years, "the crib" was home to a three man Coast Guard crew, who lived in the light tower building. Crewmembers rotated on a three-week schedule: 2 weeks on and 1 week off. The Passage was a busy place during that time with a wide variety of vessels passing each day. The mail boat stopped on a fairly regular schedule and boats from the local Coast Guard stations were also frequent visitors. The last crew left in 1980 when the facility was fully

automated. Today it is home to a colony of Double-Crested Cormorants, which may be doing more damage to the facility than any other natural force.

The lighthouse remains fully functional and is maintained by the Coast Guard ATON (Aids to Navigation) Team. A red light atop its 63 foot tower flashes on 15 second intervals, its fog horn sounds on 20 second cycles when conditions require, and a RACON (radar transponder beacon) imposes a Morse code character "N" on the radar screen of passing ships.

The Coast Guard has "excessed" this facility. It has become available under the "Historic Lighthouse Preservation Act of 2000". The facility can be leased or transferred to some other eligible entity with the government retaining access rights for as long as its navigation aids are needed. The North Manitou Shoal Light Preservation Society (NMSLPS) has been formed to investigate options for preservation of "The Crib".

Other Lighthouses near Sleeping Bear Dunes National Lakeshore are listed below with a short description. You can find more details on these and other Michigan Lighthouses on www.terrypepper.com or www.michiganlights.com

Point Betsie Light Station, located just south of the Lakeshore and open for tours on weekends from mid-May through mid-October, was an important beacon on the lake. The brick tower and keeper's dwelling were built during 1857-1858 at a cost of $3,200. While there were recommendations in the 1880's for the construction of a tower yielding a focal plane 100 feet above lake level, those requests were never approved, so the original 37-foot tower stills stands. The keeper's dwelling was expanded in 1894 to provide family housing for two assistants along with the keeper. Its beacon being fully automated in 1983, Point Betsie was the last manned light station on the eastern shore of Lake Michigan. In 1996, the light's fourth-order Fresnel lens, originally turned by a weighted clockwork mechanism, was removed and stored at Sleeping Bear Dunes National Lakeshore's archival storage facility. The lens was recently returned to the completely rehabilitated lighthouse, where it is one of many displays on the first floor (equipped with a wheelchair lift) that depict the 130-year history of lightkeeping and lifesaving at the Point. Yet an official aid to navigation, Point Betsie's light has been provided since 1996 by a rotating acrylic, 250-millimeter VEGA VRB-25 system. The lighthouse also features a seasonal rental apartment on the second floor of the assistant keepers' quarters. More information is available at their web site, www.pointbetsie.org.

Grand Traverse Light was built to mark the entrance to the west side of Grand Traverse Bay. The lighthouse was ordered built in 1852 for $4,000. The present brick lighthouse was built in 1858 and made into a duplex in 1900. The

foundation bricks used in the two-story house came from the first lighthouse. The light tower, a square frame structure 7.5 feet on a side, extends from the gabled roof of the dwelling. The light had a Fourth Order Fresnel lens imported from France. At first, the lens was lit by a kerosene lamp, but later powered by electricity. Sounding its mournful warning for many miles, the steam fog signal was housed in a rectangular brick building erected in 1899. A brick "oil house" was also constructed. The Coast Guard abandoned the old lighthouse and built a steel skeleton structure in 1972 near the old buildings. Today, daytime navigation is aided by red and white markers on this tower. Located in Leelanau State Park, the lighthouse has been restored by the Grand Traverse Lighthouse Foundation and is now a museum and open to the public. More information is available at their web site: www.grandtraverselighthouse.com.

Mission Point Light was originally approved by congress in 1859 to be built with $6,000. It was called the Cat's Head Point Light Station. The construction of the station was delayed by the Civil War. In 1870, the Mission Point station located on the 45th parallel was finally completed. This beacon warned vessels entering Grand Traverse Bay of the rocky shoals that extend two miles from the Old Mission peninsula. The original light was removed, but the square tower still remains atop the gabled roof of the keeper's frame dwelling. Until June, 1933 there had been a succession of six keepers, including a female lighthouse keeper (1906-08). The lighthouse, which is not open to the public is owned by Peninsula Township and is surrounded by a 120-acre public park.

South Fox Island is located about 17 miles off Cat's Head Point at the tip of the Leelanau Peninsula. The lighthouse was commissioned by Congress on March 2, 1867. The tower was constructed of Cream City brick with 13 inch thick walls and a square tower 45 feet tall.

The lantern was outfitted with a flashing red fourth-order Fresnel lens, and the light was first lit on November 1, 1867. The Lighthouse was originally outfitted with a steam-operated fog whistle, but the system was later upgraded to a diaphone fog signal.

In 1934 a more modern cast iron skeletal tower was carefully disassembled from the Sapelo Island lighthouse and shipped to South Fox Island where it was re-assembled. Finally a diesel engine was installed to provide electricity for the light and compressed air for the fog horn.

The South Fox Island Lighthouse Association is working to restore the lighthouse and associated buildings. More information is available at www.southfox.org