



# U.S. Coast Guard Historian's Office

Preserving Our History For Future Generations

## Historic Light Station Information MINNESOTA

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### DULUTH HARBOR NORTH PIER LIGHT

Location: Entrance to Duluth Shipping Canal, Lake Superior

Historic Tower:

Date Built: 1909-1910

Year Light First Lit: 1910

Operational? Yes. Active aid to navigation

Automated? Yes

Foundation Materials: Concrete Breakwater

Construction Materials: Steel and Cast Iron

Tower Shape: Cylindrical

Markings/Pattern: White tower with black lantern and base

Original lens: Fifth Order Fresnel

Owner: U. S. Coast Guard

### Historical Information:

- Light is on a concrete pier at the North Breakwater pier of the Duluth Shipping Canal.
- Lake Carrier's Association constructed a temporary light in 1908.
- The tower is 36 feet tall from the base to the ventilator ball.
- The tower is 10.5 feet in diameter at the base and 8 feet at the gallery.
- The Fifth Order Fresnel lens was manufactured by Henry LePaute of Paris.
- The lens illuminated by an incandescent electric lamp.
- Light equipped with an electromechanical flashing mechanism with a repeating four second cycle of two seconds of light and two seconds of dark.
- Light has a focal plane of 46 feet with an eleven mile range under clear conditions.

### Keepers:

Alexander Shaw (1908-1910), Charles Lederle (1910-1915), Edwin Bishop (1915-1928), John Woods (1928-1940).

Researched and written by Ed Shaw, a volunteer through the Chesapeake Chapter of the U.S. Lighthouse Society.



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## **DULUTH SOUTH BREAKWATER LIGHTS (OUTER & INNER)**

DULUTH HARBOR ON LAKE SUPERIOR

Station Established: 1901

Year Current Tower(s) First Lit: 1901

Operational? YES

Automated? YES 1976

Deactivated: n/a

Foundation Materials: CONCRETE BREAKWATER

Construction Materials: STEEL FRAME/IRON LANTERN; Outer Light: BRICK

Tower Shape: SKELETAL W/CENTRAL CYLINDER; Outer Light: CYLINDRICAL ON SQUARE HOUSE

Markings/Pattern: BLACK STAIRWELL/WHITE LANTERN; Outer Light: WHITE W/RED ROOF

Relationship to Other Structure: SEPARATE; Outer Light: INTEGRAL

Original Lens: FOURTH ORDER, FRESNEL 1896

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## **GRAND MARAIS LIGHT**

LAKE SUPERIOR

Station Established: 1885

Year Current Tower(s) First Lit: 1922

Operational? YES

Automated? YES

Deactivated: n/a

Foundation Materials: PIER/CONCRETE

Construction Materials: STEEL

Tower Shape: SKELETAL

Markings/Pattern: WHITE

Relationship to Other Structure: SEPARATE

Original Lens: FIFTH ORDER, FRESNEL 1885

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## **MINNESOTA POINT LIGHT**



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Location: North side of entrance to Lake Superior

Station Established: 1856

Year Current Tower(s) First Lit: 1858

Operational? NO

Automated? NO

Deactivated: 1913

Foundation Materials: BRICK

Construction Materials: BRICK

Tower Shape: Conical

Makings/Pattern: RED BRICK

Relationship to Other Structure: Only about half of the abandoned brick lighthouse tower remains.

Original Lens: FIFTH ORDER FRESNEL

## Historical Information:

- 1823, Lt. H. W. Bayfield of the British Navy began the first survey of Lake Superior. He designated a spot on Minnesota Point as "zero point" for the lake wide survey. The Superior Entry was the original passage through Minnesota Point, the longest freshwater sand bar in the world, to the protected waters of Superior Bay.
- With the completion of the locks at Sault Ste. Marie in 1855, thoughts and dreams of increased boat traffic to Superior Bay necessitated a lighthouse. Bayfield's 'zero point' in the 1823 survey became the location of the Minnesota Point Lighthouse.
- 1856 - Lighthouse construction began after the initial appropriation from the U.S. Congress of \$15,000 in 1855.
- Work did not start on the structure until late the following year, with the delivery of the materials at the site and the laying of the foundation. Work resumed in 1857 and continued throughout the year until cold weather set in, and was stopped until the coming of spring.
- 1858 - the light was completed and RH Baret, the station's first keeper exhibited the fixed red fifth order Fresnel lens for the first time which provided a constant red signal that was fueled by kerosene.
- The site consisted of a 50-foot tall, cylindrical, red brick, whitewashed tower that was crowned by a five-sided lantern room. Adjacent to the lighthouse was a two-story keeper's house.
- Lighthouse Board annual reports indicated that the station was in a constant state of repair. In the 1868 report for the station it was stated that "The dwelling leaks badly around the chimneys. The rain and soot have discolored the walls. The plastering has fallen in many places, and is loose in nearly all the rooms."



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- 1866 -The U.S. Army Corps of Engineers surveyed the harbor and existing entry and recommended a deepening of the natural entry along with the construction of two wooden piers. Money was secured and the project began in July of 1868.
- 1870- ships sailing to the Duluth railhead had to come through the Superior Entry and then navigate the windy and shallow channel to the Duluth docks. Quite often, ships would run aground. The construction of the Duluth ship canal on the Duluth side of Minnesota Point, ending the need for the Minnesota Point Lighthouse.
- Late 1870's - the federal government built more sturdy rock breakwalls along the Superior Entry to deepen and protect the channel. A lighthouse was constructed on the north breakwall using the Fresnel lens from the Minnesota Point Lighthouse. The present Superior Entry Lighthouse was built on the south breakwall in 1913.
- 1895 - the Lighthouse Board determined that with the completion of new piers at Superior Entry, navigation would be better served with a light on the pier on the Wisconsin side of the channel, and a new light and keepers dwelling were constructed across the channel on Wisconsin Point. Thus, the Minnesota Point keepers dwelling was abandoned, and without the constant care of the keepers, deteriorated rapidly.
- 1902 - the Lighthouse Board searched for a location for its planned Duluth Buoy Depot and the Board selected the old lighthouse reservation as the best location for the new depot, with construction of the depot beginning the following year.

## Keepers:

Researched and written by Jamie Smith, a volunteer through the Chesapeake Chapter of the U.S. Lighthouse Society.

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## SPLIT ROCK LIGHT

NORTH SHORE OF LAKE SUPERIOR

Station Established: 1910

Year Current Tower(s) First Lit: 1910

Operational? YES

Automated? YES

Deactivated:

Foundation Materials: NATURAL/EMPLACED

Construction Materials: BRICK/REINFORCED CONCRETE

Tower Shape: OCTAGONAL

Markings/Pattern: BUFF BRICK W/WHITE CORNICE; BLACK LENS RM



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Relationship to Other Structure: SEPARATE  
Original Lens: THIRD ORDER, FRESNEL (BIVALVE) 1910

## Historical Information:

Located at the top of an imposing rock jutting out into Lake Superior is Split Rock Lighthouse. The station derives its name from the appearance of the rock as it is approached from the open lake. The octagonal brick tower 54 feet in height was built in 1910. Because of the height of the rock, the light was 168 feet above the level of the lake and could be seen for 22 miles. An incandescent oil-vapor lamp was used inside the third-order lens, producing a light of 450,000 candlepower. The station was also equipped with a compressed air-operated diaphone fog signal, sounding a blast every 20 seconds in time of fog. Split Rock Lighthouse is one of the most frequently visited lighthouses in the United States. The light was discontinued in 1969.

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## TWO HARBORS LIGHT

Location: Overlooking Lake Superior's Agate Bay, Two Harbors, Minnesota

Historic Tower:

Station established: 1892

Year light first lit: 1892

Operational? Yes

Automated? Yes, 1980

Foundation Materials: Stone

Construction Materials: Red brick

Tower Shape: Square (twelve feet squared)

Markings/Pattern: Red dome and ventilator ball on roof of white lantern

Relationship to other structure: Keeper's house attached

Tower height: 49 feet

Original lens: Fourth Order Fresnel was installed in 1892

Present Optic: DCB-224 Aero beacon installed in 1969 is visible an average of 17 miles.

Light Pattern: .4 seconds of light, 4.6 seconds of dark, .4 seconds of light, 14.6 seconds of dark. 20 second light pattern repeated three times a minute continuously and automated from a station in Duluth.

Height of Focal Plane: 78 feet above the lake surface.

## Historical Information:

- Oldest operating lighthouse in the State of Minnesota.



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- Construction began in 1891 and was completed in 1892 to help provide safe passage into Agate Bay Harbor.
- Six structures on the station include: the lighthouse tower with attached two-story Keeper's Quarters, wooden fog horn signal building (1892), Skiffhouse, red brick oil house, wooden Assistant Keepers Quarters (1892), and a wood garage (1936).
- Original lens on display at Inland Seas Museum, Vermillion, Ohio.
- The original light source was a flame supplied by oil.
- A narrow staircase of 40 steps winds up through four tower levels to the lantern. The fourth level has porthole style windows in the watchroom.
- Six sides of the octagonal lantern are glazed and two are closed in so the light shines in a 270-degree arc.
- The original light had an oil and wick lamp. It displayed a fixed red light. Later a kerosene lamp was used and it was changed to a flashing light. Weighted chains kept the lens rotating to create a flash pattern.
- The light was first lit by electricity in 1921.
- In 1941 a Radio Beacon distance finding system was installed.
- In 1969 the Fresnel lens was replaced with a 24" aerobeacon with two 1000-watt bulbs, which is in current use.
- The wood framed fog signal building was covered with iron. It had duplicate 10-inch steam whistles. The fog horn was discontinued in 1973.
- U.S. Coast Guard members continued to use the keeper's house until 1987.
- The light station was decommissioned in 1982 but the light is still in use.
- Light Station is a current aid to navigation, museum, and a bed and breakfast inn.
- The Lake County Historical Society assumed responsibility for the operation of the light from the U.S. Coast Guard in 2001.
- The Light Station is open to the public.
- The Light Station is listed on the National Register of Historic Places in 1984. Reference #84001483.
- The Lake County Historical Society received a grant in 2010 from the Minnesota Department of Natural Resources' Lake Superior Coastal Program for new exhibits at the Light Station. History of the light station is featured in the Frontenac Pilot House added by the historical society as museum space.

## Keepers:

Charles Lederle (1892-1910), Otto Redman (1910-1913), Lee Benton (1913-1915), Alexander McLean (1919-1931), Lawrence Pederson (1931-1940).

Researched and written by Ed Shaw, a volunteer through the Chesapeake Chapter of the U.S. Lighthouse Society.