

NATIONAL HISTORIC LANDMARK NOMINATION

NPS Form 10-900

USDI/NPS NRHP Registration Form (Rev. 8-86)

OMB No. 1024-0018

CAPE ANN LIGHT STATION (Thacher Island Twin Lights)

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United States Department of the Interior, National Park Service

National Register of Historic Places Registration Form

1. NAME OF PROPERTY

Historic Name: Cape Ann Light Station

Other Name/Site Number: Thacher Island Twin Lights

2. LOCATION

Street & Number: One mile off coast of Rockport, Massachusetts.

Not for publication: \_\_

City/Town: Rockport

Vicinity: X

State: MA

County: Essex

Code: 009

Zip Code: 01966

3. CLASSIFICATION

Ownership of Property

Private: \_\_

Public-Local: X

Public-State: \_\_

Public-Federal: \_\_

Category of Property

Building(s): \_\_

District: X

Site: \_\_

Structure: \_\_

Object: \_\_

Number of Resources within Property

Contributing

4

\_\_

2

\_\_

6

Noncontributing

\_\_ buildings

\_\_ sites

2 structures

\_\_ objects

2 Total

Number of Contributing Resources Previously Listed in the National Register: 6

Name of Related Multiple Property Listing: n/a (see summary context statement for Lighthouse NHL theme study)

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4. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this \_\_\_ nomination \_\_\_ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property \_\_\_ meets \_\_\_ does not meet the National Register Criteria.

Signature of Certifying Official

Date

State or Federal Agency and Bureau

In my opinion, the property \_\_\_ meets \_\_\_ does not meet the National Register criteria.

Signature of Commenting or Other Official

Date

State or Federal Agency and Bureau

5. NATIONAL PARK SERVICE CERTIFICATION

I hereby certify that this property is:

- \_\_\_ Entered in the National Register
\_\_\_ Determined eligible for the National Register
\_\_\_ Determined not eligible for the National Register
\_\_\_ Removed from the National Register
\_\_\_ Other (explain):

Signature of Keeper

Date of Action

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**6. FUNCTION OR USE**

Historic: Transportation

Sub: Water-related/Lighthouse

Current: Transportation

Sub: Water-related/Lighthouse

**7. DESCRIPTION**

Architectural Classification: None

Materials: Granite Towers

Foundation: Stone

Walls: Granite/Brick

Roof: Cast iron/copper

Other:

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### Describe Present and Historic Physical Appearance.

The Twin Lights stand at the north and southeast sides of Thacher Island. The island, located about one mile off the coast of Rockport, Massachusetts, is comprised of about 50+/- acres of rock, covered by a minimal amount of land cover. The island is located about 30 miles north of Boston, and about two miles from Gloucester Harbor. A small number of late 19<sup>th</sup> century wooden houses and structures are clustered near the southeast light tower.<sup>1</sup> The south tower and southeastern portion of the island, about 28 +/- acres, is maintained by the Coast Guard as of 2000. The north tower and northern end of the island, approximately 22 acres, is owned by the U.S. Fish and Wildlife Service and is leased from them by the town of Rockport. The south end of the island is to be transferred to the Town of Rockport.<sup>2</sup>

The property consists of the following:

#### Contributing resources

- Twin granite towers, north and south
- Principal keepers house
- Assistant keepers quarters (south)
- Whistle house (fog-signal bldg.)
- Boat house and ramp
- Oil house
- Utility building
- Railway and wooden walkway
- Cistern

#### Non-contributing resources

- Cemetery
- Helicopter pad

#### Previously existing resources

- Original 45-foot twin towers
- Assistant keepers dwelling (north)
- Covered walkways to towers
- Signal officers building
- Whistle houses and coal shed
- Radio compass house
- Coastal defense tower

### CONTRIBUTING RESOURCES

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<sup>1</sup> National Register Nomination Form listed 10/7/71.

<sup>2</sup> Quitclaim Deed without Covenants Draft Copy from USCG Atlantic Legal, October 19, 1998.

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### Twin Towers

The two existing conical towers replaced two wood and stone towers built in 1771. The new towers were built in 1860-61 and placed 298 yards apart. It is interesting to note that the lights were constructed on an exact north/south axis that enabled fishermen to line up both lights one behind the other to determine true north. These 124-foot-tall structures have battered walls of New Hampshire-cut granite. The new towers are 112 ½ feet from base to focal plane (total height of 124 feet) and the focal plane has a height of 165 ½ feet above mean sea level. They were equipped with first-order Fresnel lenses and oil-wick lamps.<sup>3</sup> Five slit windows, providing light for the interior stairway, appear above each other on the east and west sides of each tower. There are two “porthole” windows in the watch room just below the outside walkway in line with the windows vertically. Two stages of balconies encircle the tops of the towers. Stone brackets support the lower balconies. Each tower is entered through a one-story brick building with a pitched roof. These small buildings are located at the west side of the base of each tower.<sup>4</sup> Each tower has a 156-step cast iron spiral staircase leading to the lantern (148 steps to the base of the lantern structure). The lighthouses measure 30 feet in diameter at the base gradually tapering to 18 feet where the lantern sits. The massive stone walls enclose another brick wall, two feet thick, with a space of 18 inches between brick and stone.<sup>5</sup> The top is surmounted by a lantern constructed of iron and bronze and glass with a roof made from copper sheeting and topped by a ventilating ball with lightning rod. The lantern is polygonal (16-sided) and about 10 feet high. According to photos taken around 1876 each tower had long covered walkways extending from the small entrance houses. The south tower walkway was once attached to the brick dwelling house.

Originally, each tower was fitted with a first-order Fresnel lens. In 1932, use of the north tower was discontinued only a month after the illuminants in both towers had been changed to incandescent oil vapor lights of 22,000 candlepower. That same year, the south tower was electrified by means of a 6,000-foot submarine cable to the mainland. The new single light showed five white flashes every 20 seconds and was magnified to 70,000 candlepower. Coast Guard personnel stationed at the Island left in 1980 after automating the light in the south tower in 1979 with a DCB-224, a 24-inch red flashing beacon.<sup>6</sup> This 160,000-candlepower electric light was visible for 19 miles. In the summer of 1998 the Coast Guard installed solar panels to power the southeast light as well as the fog whistle. The new solar powered optic, VRB-25 by Vega Industries, included a 450mm red rotating flashing beacon. The south tower has been in constant use as an aid to navigation for over 137 years.

The original first-order Fresnel lens in the North Tower has been destroyed. Only pieces remain at the Sandy Bay Historical Society and at the brick assistant keepers dwelling. The first-order Fresnel lens from the South Tower was removed in 1975 and is on

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<sup>3</sup> Charles G. Hilgenhurst Associates Inc. *A Proposal for Renovation and Preservation Cape Ann Light Station Thacher Island Rockport, Massachusetts*, Oct. 6, 1986.

<sup>4</sup> National Register Form.

<sup>5</sup> Parsons, p. 53.

<sup>6</sup> Ibid, pp. 97-98.

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display at the Coast Guard Academy Museum in Groton, Connecticut. This lens has the name "Henri LePaute" inscribed on the base and was constructed in Paris, France.

The North Tower has been renovated as recently as 1986, which included stone masonry repairs and repointing of masonry to about 50% of the tower and repointing of all brick work at the entryway, replacement of the wood floor of the entryway, a new slate roof, windows and door at the entryway, stabilization of the entry stairs, tile replacement at the base of the tower, cleaning and painting of all exposed cast iron stairs, railings, and fittings on the tower and repairs to railings on the tower catwalks. This tower is lit by a 15-watt fluorescent bulb powered from the land cable as a Coast Guard licensed private aid to navigation, class 2 light. It currently has a 250mm amber (yellow) fixed beacon to replicate the original 1771 candle-powered light.

### Principal Keepers House

Between 1771 and 1945, there have been 20 principal keepers and numerous assistants. In the years 1876-1945 there were three keepers dwellings, a wood-frame north dwelling (only the foundation remains), a brick assistant keepers dwelling (sometimes called the Stone House) near the South Tower, and a wooden clapboard house known as the principal keepers dwelling. All told, these three dwellings could house five families, two each in the north and south houses and one in the principal keepers house.

A request was made in 1872, by the current keeper to have a principal keepers dwelling erected. In 1874 a recommendation was forwarded to the Lighthouse Board by inspector Perkins of the 2<sup>nd</sup> District for a dwelling at both Race Point and Cape Ann Light Stations. An appropriation of \$6000 was recommended for the project. Constructed in 1876, the principal keepers dwelling is a two-story house, wood frame with clapboard siding on a granite foundation of approximately 2000 square feet in area. There is a kitchen, living room/office and bedroom on the first floor, two bedrooms and a bath on the second floor and a cellar. There are 11 windows that are six over six as originally constructed. One bedroom on second floor has a single window dormer. There is one main entrance on the north side of the house and a second entrance on the west side that goes to the cellar. Located immediately adjacent to the brick assistant keepers house, it is uninhabitable in its present condition and currently used for storage of tools. Plans are to renovate this building and some day use it as a museum and visitor center.

### Assistant Keepers Quarters or "Stone House"

Dating from approximately 1816, the brick assistant keepers house is located near the south tower and has been reasonably well maintained over the years. It was originally the principal keepers house until the one mentioned above was built and this one was then used by the assistants. When completed, it was one story, 34 feet long, 20 feet wide, 8 feet high, and divided into two rooms. Additions were added including a cellar, two L-shaped rooms, a storm porch over the back door as well as rooms in the attic space on the third floor, added in 1895 and again in 1899. It has 2-foot-thick walls on a stone foundation. It also has four single window dormers

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for the upstairs bedrooms. Overall the house has 33 windows including the roof dormers and two "L" sections.

A copy of a letter from Winslow Lewis to Henry Dearborn, lighthouse superintendent for Massachusetts, dated September 30, 1816 stated "I will contract to build the dwelling house on Thacher Island agreeable to the plan and materials proposed for 1400 dollars the contractor to have the old house."<sup>7</sup> Constructed for a cost of \$1415.00, its red brick facade has been painted white.<sup>8</sup> Designed to serve two or more keepers families, there was a room in the attic which served as a school room for the keepers' children. The house is 2 ½ stories and covers approximately 2200 square feet. It has two kitchens, two living rooms, an office, tool room, and utility room on the first floor. The second floor has three bedrooms and two baths, while the third floor has four bedrooms. There is also a cellar and a cistern. The house has a functional septic system and central heating system, oil fired, with a 3000-gallon tank.

The Thacher Island Committee renovated<sup>9</sup> the assistant keepers in the mid-1980s and use it on a seasonal basis to provide quarters for summer maintenance personnel. The construction workers who installed the solar power panels most recently used it during summer 1998.

### The Whistle House

The whistle house or fog signal building located about 300 feet northeast of the brick house, no longer contains any functioning systems. This building was constructed in 1886 and 1887 to house the new steam-powered foghorn.<sup>10</sup> It is a brick masonry structure, measuring 32 by 32 square feet, with a wood-hipped roof. Its entire brick wall on the east elevation is in need of replacement since damaged by the "Ghost storm" of October 1991. In 1992 volunteer groups added temporary stabilization by studding the walls with 2 by 6s and adding tongue and groove plywood to the exterior and reinforcing the foundation with cement which has protected the integrity of the building since. Although modified several times over the last 130 years, the whistle house originally contained a boiler and steam whistle for use during times of fog. The steam generator was coal-fired, later changed to compressed air with a different type of horn.<sup>11</sup> Some of the original equipment remains today, although now abandoned in favor of a solar powered electric automatic fog horn at a location near the base of the south tower. The whistle house is connected to the keeper's houses by a raised wooden walkway with railings. This is one of at least three fog signal houses built on the island. The original, built in 1861, lay northeast of the south tower. A coal shed was built in 1867 and a floor of stone and brick laid in the engine house. In 1869 an engine-house, 12 feet by 24 feet, with 12-foot posts was constructed to enclose a 32-inch Ericsson engine and a 15-foot trumpet. An index to correspondence of the

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<sup>7</sup>"Letters from Records of the Collector of Customs, Boston, 1789-1819," National Archives, Record Group 26.

<sup>8</sup> Parsons, pp. 30, 31.

<sup>9</sup>Renovation consisted of painting and papering the interior as well as installing storm windows, personal communication from Paul St. Germain, November 8, 2000.

<sup>10</sup> Marshall W.S. Swan, *Town on Sandy Bay* (Canaan, New Hampshire: Phoenix Publishing, 1980) p. 221.

<sup>11</sup> Fisher Associates, *Thacher Island Whistle House Restoration Project* (August 1993).

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U.S. Light-House Board dated June 14, 1869, indicate “successful transfer of fog-signal from Sandy Hook to Cape Ann.” The former signal was discontinued. A second fog-signal requested in 1870 and completed in 1871, was powered by steam.

In 1875 one of the fog-signal houses was moved 30 feet to the southward, reduced in height by 6 feet, and a stone foundation and cement floors laid. This was a duplicate fog-signal. Eventually both of these fog signals were discontinued and replaced by the one completed in 1888. On July 11, 1899, a requisition for Crosby Automatic clocks was forwarded. By 1900 these clocks replaced the engines operating the characteristic valves. The characteristic reported then was “blast 8 seconds, silent 4 seconds, blast 4 seconds, silent 44 seconds.” Two taller steel stacks to improve the draft replaced the chimneys. A cistern of 6000 gallons was built in the fog-signal house. In 1903 a brick fog-signal chimney was built.<sup>12</sup> The fog signal was electrified prior to 1979 with a CG-1000 emitter GELG-300 at the base of the South tower. The newly installed solar-powered fog signal is a FA-232/02 air diaphone with a one-mile range.

### Boat House and Ramp

Access to the station is by boat or helicopter. A boathouse and ramp are located on the west shore of the island. Originally constructed and in use in 1843, the boathouse provides storage for small boats, tools and equipment. Both the boathouse and the ramp have been repaired and replaced many times since 1843. According to the *Annual Reports of the Light-House Board* dating from 1853 to 1907 the boat slip was rebuilt four times. In the correspondence about the accidental death of Keeper John Farley on October 20, 1891, it was mentioned that “he was washed off the ways by an ugly wave, the ways being only 51/2 feet wide.” The boat slip was 170 feet long in 1889. The boathouse and ramp was lost in the 1939 hurricane. The last major ramp re-construction was in 1985. The boathouse was destroyed in the “No-Name” storm in October 1991 but not the ramp. A December 1992 hurricane destroyed the ramp again. The ramp was repaired with FEMA funds in August 1993. In a very ordinary winter storm in December 1995, the ramp was again destroyed. The Thacher Island Association along with the Thacher Island Committee is raising funds to replace the ramp.

### Utility Building

A cobblestone utility building built in 1907 is adjacent to the boathouse. It was originally used as housing for the hoisting engine. It is now used to store various materials as well as to house the electrical power switch and transformer that is connected to the submarine electric power cable coming to the island from Rockport. From this utility building, the power is distributed to the towers as well as the keepers’ houses.

### Railway and Walkway

There is a wood railroad bed with some narrow gauge iron track, walkways and trestles originally built to haul coal and other heavy supplies by means of handcarts. It extends

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<sup>12</sup> U.S. Light-House Service Clipping Files, National Archives, Record Group 26.



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from the boathouse to the whistle house in an east-west direction a distance of some 900 feet. A second line extends from the keeper's house north to the oil house, a distance of 300 feet, and at the intersection of the two lines there is a turntable to the whistle house. This section was extended to the north dwelling in 1906 and a new turntable was built. This original railroad was built around 1888. In 1899 a request was made and approved to build an extension of the railway to carry track in a trestle to the roof of the coal house so coal could be dumped directly into the bins. It was noted in this request that keepers currently have to carry this coal (over 60 tons) from the end of the railway to the bins by hand.<sup>13</sup> The Thacher Island Association currently has one of the original carts still in use. Today the railway is in poor condition but is being preserved and repaired from time to time and is slated for reconstruction once funds are made available.

### Oil House

The brick masonry oil house located about 300 feet north of the keepers' houses was built in 1889 and measured 16 feet, 10 inches, by 19 feet. It is in excellent condition and is currently used to store equipment and the tractor.<sup>14</sup>

### Cistern

Located 400 feet west of the keeper's house is the island's water catchment system and concrete cistern.<sup>15</sup> This system is functional at present and new fencing and wire mesh was installed in 1995 to keep wild life out of the system. A peaked double V Bermuda style corrugated metal roof covers it.

## NON-CONTRIBUTING RESOURCES

### Cemetery

Anthony Thacher wrote a letter to his brother, Peter, at Sarum, near Salisbury, England, soon after his rescue in 1635. In that letter, he is quoted as follows, "In the isle lieth buried the body of my cousins' eldest daughter, whom I found dead on the shore." This was Elizabeth Avery, daughter of John Avery. It is known that Thacher landed on the southeast end of the island when he was shipwrecked. A grave, or so it appears, exists in this area and looks to be about the size of a child. It consists of nothing more than a dozen or so stones piled together with one raised higher than the others reminiscent of a headstone. No other graves or stones are noted in this area.

### Helipad

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<sup>13</sup> U.S. Lighthouse Board, "Letters Received, 1852-1900," National Archives, Record Group 26.

<sup>14</sup> U.S. Light-House Service Clipping Files

<sup>15</sup> Hilgenhurst, p. 5.

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The Coast Guard built a Helipad made of large timbers to the southwest of the brick house in 1987. It was used to ferry materials and supplies as well as for emergency situations. It is still used today, most recently during the construction of the new solar power system.

### PREVIOUSLY EXISTING RESOURCES

#### Original 45-foot Twin Towers

The Council of the Province of Massachusetts purchased Thacher Island in 1771 for 500 pounds.<sup>16</sup> By Christmas, two lighthouses with warning beacons had been erected. The original towers were built of wood and stone and were probably octagonal and 45 feet tall. They were placed approximately 300 yards apart. The lights went into service on December 21, 1771, and were probably fueled by candles or whale oil, which was not efficient according to today's standards. It was not until 1773 that the Massachusetts Bay Colony officially established the Cape Ann Light Station. These towers were doused in 1775 because they were deemed to be of greater help to the British than to the American smugglers, privateers, and fishermen. They were subsequently repaired and placed back in service in 1784. In June of 1790 all lighthouses were ceded to the U.S. Government.

In a letter from Benjamin Lincoln, Superintendent of the Lighthouses, a series of 17 questions was posed to the keeper by the superintendent concerning the lights at Thacher Island. These questions all related to the size, location and bearings of the towers as well as the names and family members of the current keeper. In answer to the question "What is the exact height of the Northern Lighthouse from the base to the top of the Stone work?" The answer given was 37 feet. The diameter at the base is described as being 18 feet and the thickness of the wall at the base as 4 feet. The diameter at the top was 12 feet and 2 feet thick. The measurements given for the "Southern Lighthouse" were identical. The exact bearing and distance of the lighthouses from each other was "N. by E and about a distance of 350 yards." The distance and bearing of the dwelling house from the northern lighthouse was "NE and about 180 yards." From the Southern lighthouse it was "N by E  $\frac{3}{4}$  E and N by W  $\frac{3}{4}$  W about 240 yards". He also named the keeper as "Joseph Sayward 60 years Sept 1792." In answer to the question, "What is the number and rank of his family?" the keeper wrote, "Six, 1 youngman, 1 lad in his 16<sup>th</sup> year, wife and three young women."<sup>17</sup>

Based on the contract relating to their repair in 1828, "a new iron lantern to be installed in each tower. Posts for lantern to be one inch and three quarters square and sunk four feet deep into stonework." It can be inferred from this that the original towers were some combination of wood and stone with iron lanterns. Later on in the contract it is

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<sup>16</sup> Eleanor C Parsons, *Thacher's : Island of the Twin Lights*, Canaan, New Hampshire: Phoenix Publishing, 1985, p.

<sup>17</sup> "Letters of Collector of Customs, Boston, 1789-1819," National Archives, Record Group 26.

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mentioned that “towers to be whitewashed and lanterns and all woodwork, except stairs to be painted twice over.” It is interesting to note that Winslow Lewis was the contractor who repaired and refitted the two lighthouses and lanterns on Thacher Island in 1841. He had also built the original keepers house in 1816 and installed the Argand lamps in 1815. Lewis completed the work and signed the statement of completion and acceptance of work on May 22, 1841.

In 1857 plans were drawn to replace the two original towers with two conical granite towers. By August 1860 these original towers were removed and temporary lights installed while the stonework went on for the new towers.

### **Assistant Keepers Dwelling for North Tower**

There is a granite stone foundation located about 600 feet north of the brick house and about 200 feet southwest of the north tower for what was once called the North keepers dwelling. Originally built in 1861 as a single wood frame house, photos dated in the 1940s indicate that it was expanded to a duplex to house two families including two kitchens. This third keepers dwelling was destroyed by fire in the 1950s.

### **Covered Walkways**

According to photos taken around 1876 each tower had long covered walkways extending from the small entrance houses. The south tower walkway was attached to the brick dwelling house.

### **Signal Officers Building**

Correspondence in the fall of 1874 indicates authority was given to build an officers building for the use of the Observer of the Signal Service. A telephone cable was laid from the Rockport shore to the island for their use. It was connected to the naval office on Pools Hill in Rockport. Another request was made to enlarge the boat house to accommodate the signal service boat. Finally a letter was sent to the Lighthouse Board by the Chief Signal Officer, requesting that the signal station be discontinued on November 2, 1885, and all apparatus turned over to the Lighthouse Board. There is no trace of this structure left on the island.<sup>18</sup>

### **Whistle Houses and Coal Shed**

Around 1876, according to a site map in our possession, there appeared to be a series of buildings that no longer exist including a new and old whistle house and a coal shed. Notes on the map indicate “these three buildings have been removed.” They were located within a few feet of the south tower just to the northeast. The map also indicates

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<sup>18</sup> Letters Received by the Light-House Board , 1852-1900.

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a boathouse and a boatway (ramp) as well as a Signal Officers House southwest of the two keepers dwellings near the south tower. These structures are no longer evident.

### **Radio Compass House**

A radio compass house was built on the southern end of the island in 1920s for defensive and communications purposes. It was confirmed in a letter from the Acting Secretary of Commerce to the Navy Department giving authority to “occupy a site on the southwestern end of the Cape Ann Lighthouse Reservation as shown on the enclosed Navy Yard blueprint dated October 7, 1923, to take over the two buildings on this site which were formerly placed here by the Navy Department, and to provide a runway on this site for boats and a tramway for the use of the Navy Department and to erect on the site a radio compass house.”<sup>19</sup> Construction of Quarters for the Officer in Charge of the Radio Compass Station were approved by the Acting Secretary of Commerce according to a letter to the Secretary of the Navy dated July 25, 1928. These buildings have since been burned down by the Coast Guard.

### **Coastal Defense Towers**

Coastal defense watch towers once existed in the southwest portion of the island, built during World War II. These were destroyed by fire in the late 1940s.

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<sup>19</sup> Letters and blueprints to the Secretary of the Navy dated November 30, 1923 and July 25, 1928, National Archives.

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8. STATEMENT OF SIGNIFICANCE

Certifying official has considered the significance of this property in relation to other properties:

Nationally: X Statewide: \_\_ Locally: \_\_

Applicable National Register Criteria:

A X B \_ C X D \_

Criteria Considerations (Exceptions):

A \_ B \_ C \_ D \_ E \_ F \_ G \_

NHL Criteria:

1 and 4

NHL Theme(s):

V. Developing the American Economy
E. transportation and communication

Areas of Significance:

Transportation

Period(s) of Significance:

1861-1932

Significant Dates:

1861, 1919, 1932

Significant Person(s):

n/a

Cultural Affiliation:

n/a

Architect/Builder:

U.S. Light-House Board

Historic Contexts:

XIV. Transportation
B. Ships, Boats, Lighthouses, and Other Structures

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### State Significance of Property, and Justify Criteria, Criteria Considerations, and Areas and Periods of Significance Noted Above.

The Cape Ann Light Station is noted for some very significant firsts and lasts in the history of light stations in the United States. The original towers were the last to be built under British rule. The first light station to mark a “dangerous spot” along the coast, the ten prior colonial lighthouses simply marked harbor entrances. Crucially important in the early American coastal trade, the lights stand at a historically pivotal location where this country’s maritime transportation network to and from Europe, Canada, and the West Indies, all converged on Massachusetts Bay. The lights are also associated with specific events and reflect important advances in technology and engineering, especially in terms of illumination.

#### TWIN LIGHTS

In 1771 there were already ten lighthouses operating in the thirteen colonies, and only three north of Cape Cod—Boston, Plymouth and Portsmouth.<sup>20</sup> The light station at Cape Ann was the eleventh, and last, lighthouse to be completed under British rule.

The lighthouses of Thacher Island, Cape Ann, are among the few intact twin lights in existence in the United States. Several multiple lights of this type were built in the early days of lighthouse engineering so that one lighthouse could be distinguished from another. At one time there were seven twin lights and one triple light, all on the Atlantic coast. The other twin lights were Plymouth Lights, Massachusetts (1769), Newburyport Harbor Lights, Plum Island, Massachusetts (1788), Bakers Island Lights, Massachusetts (1789), Chatham Lights, Massachusetts (1808), Matinicus Rock Lights, Maine (1827), Cape Elizabeth Lights, Maine (1828), Navesink Lights, New Jersey (1828), North Point Lights, Maryland (1833) and the Three Sister Lights, Nauset Beach, Cape Cod, Massachusetts (1838). The only twin lights left intact are Cape Ann and Navesink.<sup>21</sup> Cape Elizabeth has been modified. Three Sisters have been modified and moved. Matinicus has a lantern missing on one tower. All other former twin light stations have only a single tower or no longer exist as in the case of North Point in Maryland. The development of modern revolving lenses, whose distinctive flash signal served to distinguish between lighthouses, ended the construction of twin lights.

According to an 1833 “Schedule of Lighthouses and Beacons in the United States,” there were 10 light stations listed as having 2 lights.<sup>22</sup> In a 1839 list, “two lights” were added for Scituate, Massachusetts, although, according to the 1849 list, the lights were in the same tower, one red below the other. The 1849 list indicated Ipswich, Massachusetts, had “two towers and lights.” But in the 1854 *Light List* Ipswich was defined as “Two

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<sup>20</sup> Courtney Thompson, *Massachusetts Lighthouses: A Pictorial Guide* (Mt. Desert, Maine: CatNap Publications, 1998) pp. 18, 19.

<sup>21</sup> Sometimes referred to as the “Highland Lights.”

<sup>22</sup> U.S. Light-House Board, *Light Lists*, 1833, 1839, 1849, 1854, National Archives, Record Group 26.

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brick towers, designed as a range for crossing the bar.” Many lights were designed as range lights, which would be aligned by the mariner so as to avoid bars or determine, harbor entrances. Lights such as North Point, Maryland, Plumb Island, Newburyport, Massachusetts, Three Sisters on Nauset Beach, Cape Cod, and even Plymouth Light, Massachusetts, were all listed as range lights in some *Light Lists*. These would not be defined as twin lights, whose purpose was to be distinguished from other coastal lights, before revolving flashing or blinking characteristics were able to be implemented.

The Cape Ann and Navesink Lights have a lot in common. Navesink was the first to use the Fresnel lens in 1841 as an experiment. Cape Ann was one of the last to be fitted with a Fresnel lens, although the first station to use Winslow Lewis’ new Argand lamp and parabolic reflector in 1814, also as an experiment. Both light stations had one tower with a fixed light and the other a flashing light. Today Navesink is no longer an official aid to navigation. The beacon in the north tower was discontinued in 1894 when lighthouse officials decided to discontinue displaying lights in pairs. The south tower served until 1953, when it too was extinguished. Today a small sixth-order light shines in the south tower, but only as a way of honoring the stations long service tradition. Cape Ann light Station also honors this tradition in the north tower with a steady amber light but still has a flashing red beacon in the south tower that continues to be operated by the Coast Guard as an official aid to navigation. So in some respects Cape Ann Light Station is the last twin light in official operation in the U.S.

Up until the construction of Cape Ann Light Station, lighthouses in the United States were built to mark port entrances; the construction of the twin towers on Thacher Island marked the first such lights to mark a “dangerous spot” along the coast. The lights would serve to warn mariners of the dreaded Londoner, a partly submerged reef located a half-mile south-southeast of the island. The Londoner was so named because it was here that a schooner from London once foundered. Measurements from this rock determined the siting locations of the north and south towers.<sup>23</sup>

### EARLY HISTORY OF THACHER ISLAND AND CONSTRUCTION OF FIRST TOWERS

Late on July 15, 1605, sailing south from Cape Porpoise, Maine, Samuel de Champlain sighted Cape Ann.<sup>24</sup> The next day he reached the peninsula and made notes of three islands, one of which was the yet to be named Thacher Island. Twenty years later Capt. John Smith included it as the largest of three islands that he called the Turks’ Heads.<sup>25</sup>

Thacher Island was named for Anthony Thacher and his wife, the only survivors of a shipwreck on August 14, 1635, in which their four children and 17 other persons were

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<sup>23</sup> Parsons, p. 15.

<sup>24</sup> Swan, p. 8.

<sup>25</sup> Parsons, p. 63.

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drowned.<sup>26</sup> Two weeks after Thacher's rescue, the General Court ordered that forty marks should be paid from the Colony's treasury to Mr. Thacher "towards his late great losses." A year and half later, on March 9, 1637, the Court granted Thacher "the small island at the head of Cape Ann, upon which he was preserved from shipwreck as his proper inheritance."<sup>27</sup> Numerous shipwrecks occurred along this portion of the New England coast but a light was not installed here until 1771. Five hundred or more wrecks are said to lie on the ocean bottom around Cape Ann, which was referred to in a 19<sup>th</sup> century history of Brunswick, Maine, as the most perilous shoreline on the coast. In April 1771, the colonial government of Massachusetts passed a bill authorizing the construction of twin lights and purchased Thacher Island on which to build them. The island was purchased from the heirs of Anthony Thacher. A committee of six men was authorized by the Massachusetts Bay Colony to buy the island and "erect a lighthouse or houses, and a convenient house for the keeper." This committee consisted of John Hancock (who held large shipping interests), Capt. Nathaniel Allen, Maj. Richard Reed, Capt. Richard Derby, Joseph Erving, and Capt. John Patrick Tracy. The two 45-foot towers were first lit December 21, 1771, Forefathers' Day (a holiday then observed in honor of the Pilgrims). On the mainland, Cape Anners, nearly all mariners, peered out at the new lights and at once dubbed them with affection "Ann's Eyes."<sup>28</sup>

When the towers were nearing completion, two of Massachusetts most prominent mariners, Captain Richard Derby of Salem and Captain Nathaniel Allen of Gloucester, who were superintending the construction of the lighthouses, appointed a Captain Kirkwood to be keeper on December 21, 1771. During the Revolution, Captain Rogers led his militiamen on an amphibious invasion to remove Keeper Kirkwood from the island, as Kirkwood was a Tory.<sup>29</sup> The results were reported to the British headquarters:

This day [July 6, 1775] two or three companies went from Cape Ann to Thacher's Island, the lighthouse glasses and lamps all to pieces, brought away the oyl [sic] together with Captain Kirkwood's family and all he had on the island and put them on the main to shift for themselves.<sup>30</sup>

The lights remained in darkness until after the Revolution. The island was abandoned in 1780 and had no keeper for five years. At this time the Government tried to rent the island but found no takers. The General Court then appointed a Gloucester businessman Peter Coffin to repair and put in order the Cape Ann lighthouses and to "demand and receive" all articles that had been removed from the island. In 1784 the General Court paid both Coffin and Samuel Whittemore for putting the island houses in order. In February of that year the court ordered Coffin and Whittemore to sell to Thacher Island (and to Boston lighthouses as well) twelve cords of wood

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<sup>26</sup> Parsons, pp. 7-10.

<sup>27</sup> Marshall W.S. Swan, *Thacher's Woe and Avery's Fall* (Gloucester, MA: The Press Room, 1985).

<sup>28</sup> Parsons, p. 17.

<sup>29</sup> Edward Rowe Snow *Famous Lighthouses of New England* (Boston: Yankee Publishing, 1945).

<sup>30</sup> Joseph Garland, *Guns off Gloucester*, Gloucester Ma., Essex County Newspapers, 1975.



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and thirty pounds of candles. These items became the means of getting the towers of Thacher back in business.<sup>31</sup>

The Twin Lights were turned over to the newly formed Federal government in 1789. During the colonial period, each of the thirteen colonies had been responsible for its own aids to navigation. Soon after its formation the federal government realized that lighthouses and other aids to navigation were a national concern. As a result, on August 7, 1789, Congress passed an act giving the central government responsibility for all aids to navigation and placed in their care, all lighthouses then in operation.

The Revenue Cutter Service, another forerunner of the modern Coast Guard, played an important role in the maritime activity of Cape Ann. Revenue cutters collected customs duties and enforced customs laws. Its officers also inspected lighthouses, such as the Cape Ann Lights, and delivered supplies to them

In 1785 an organization to be called the "Massachusetts Humane Society" was founded. The citizens of Massachusetts were becoming concerned about the incidents of shipwreck and loss of life along the coast. Although a coordinated system of lighthouses and lightships helped many a mariner, many shipwrecked sailors were able to make their way ashore, only to perish from lack of shelter on desolate beaches. Many notables of the time including Paul Revere and John Hancock were listed on the rolls of the Society, and there soon began what would become the foundation of the American system of rescue from shipwreck. Based on the British model, the Humane Society began to establish huts along the shore to provide shelter to those in need. By 1807, the first hut would be established by the Society on Lovells Island in Boston Harbor followed by the first lifeboat station at Cohasset. The Massachusetts Humane Society had 18 stations along the coast by 1845 equipped with boats and mortars and additional huts of refuge. By the 1870s the Massachusetts system had grown to 70 stations. Congress, in 1871, appropriated funds to create a coordinated system of lifesaving. Sumner Increase Kimball would take over as superintendent in the late 1870s. This was the beginning of the U.S. Life-Saving Service.<sup>32</sup>

Now, as it often happened that both a revenue cutter and a crew from a lifesaving station answered the call from the same wreck. For a number of years there was a friendly rivalry, and mutual respect. Finally in 1915, the two were combined to form the United States Coast Guard.<sup>33</sup> It was in 1939 that the Coast Guard added the lighthouse service to its list of responsibilities.

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<sup>31</sup> Parsons, p. 21.

<sup>32</sup> James Claflin, *Lighthouses and Life Saving along the Massachusetts Coast*, Charleston, S.C.: Arcadia Publishing, 1998, Introduction.

<sup>33</sup> A. C. Denison, *Americas Maritime History*, New York: G .P. Putnam's Sons, 1944, pp. 157-170.

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### CONSTRUCTION AND HISTORY OF EXISTING TOWERS

Although the original lighthouses were repaired and refitted twice, once in 1828 and again in 1841, officials reported in 1857:

The two lighthouses at Cape Ann are only 45 feet high each built of inferior materials, badly constructed, and require attention especially during the season of winter storms, to keep them in a fit condition for the exhibition of the lights." The survey committee went on to say: "Boston and Cape Ann lights occupy a prominent position, with many dangers to the navigator, of about two thirds of the circle around them. It is believed that the interests of commerce and navigation would be greatly benefitted by having two lights of the First Order in place of the present ones: and that it would be a wise economy to substitute the lens apparatus whenever Congress may think proper to make the necessary appropriation for rebuilding them, the estimation of cost for which is \$68,751.<sup>34</sup>

Following this recommendation, temporary repairs were made on both Boston Light and the lighthouse towers at Cape Ann. Because there was an urgent need to replace the now nearly 100 year old lighthouses Congress took action very quickly.

In 1859, Congress appropriated \$81,417.60 for "rebuilding the two lighthouses on Thacher's Island, Cape Ann, and for fitting them with first order illuminating apparatus." It took 2 years to complete the towers of cut granite "which were lighted for the first time on October 1, 1861 soon after Abraham Lincoln took office."<sup>35</sup> According to a copy of drawings for the Cape Ann Lighthouse #883, dated 1859, the Army engineer was a Captain W.B. Franklin. In 1853 Franklin was a Lieutenant and a Lighthouse Inspector responsible for the lighthouses in the New England area. We have no history on who the architect was or background information on the engineer. It has been theorized that the architect could have been Gridley James Fox Bryant, as he had designed hundreds of stone buildings in Boston and for the United States government, including post offices, schoolhouses, and customs houses, in addition to the famous Minots Light, then just completed in 1859.<sup>36</sup>

Telegraphy provided a vehicle for a far-reaching improvement at sea, so in 1874 the lighthouses on Thacher Island became a storm signal station by connecting the island to the Rockport telegraph office through a submarine cable. The system allowed the island to run up beacons to warn ships of approaching storms. In the tempest of 1878, not one wreck occurred within 40 miles of the Thacher Island station.<sup>37</sup> In March 1885, the Chief Signal Officer discontinued the signal station and turned all apparatus over to the Lighthouse Board.<sup>38</sup> In 1884 the town became

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<sup>34</sup> Parsons, p .50.

<sup>35</sup> National Register Nomination Form.

<sup>36</sup> Parsons, p. 53.

<sup>37</sup> Swan, p. 195.

<sup>38</sup> Letters to the Light-House Board, 1852-1900, Surviving Volumes.

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the American landfall for the trans-Atlantic cable passing right by Thacher Island within a few yards of its southern most terminus.<sup>39</sup>

A huge civil works project planned for this area gives an indication of the critical marine safety role played by Thacher Island Lights. In the 1880s, a huge L-shaped breakwater 1 1/2 miles long and a "Harbor of Refuge" was planned just outside Rockport Harbor and adjacent to Thacher Island. According to a report at the time, "the construction of this breakwater as planned would render Sandy Bay [Rockport] one of the most magnificent harbors in the world." It would be large enough to hold 5,500 ships. A count of vessels then revealed that an astonishing 70,000 ships sailed by Thacher annually (nearly 200 per day). The same survey showed that in the eight preceding years as many as 98 ships had been total losses and that 378 more had been partial losses. Altogether, with their cargoes, the losses amounted to many millions of dollars.<sup>40</sup> This project was never completed and thus made the lights at Thacher Island even more critical to seafaring interests.

The Twin Lights and Thacher Island were adopted in 1888 as the principal design devices for the official seal of the Town of Rockport, which was incorporated in 1840. Both towers have been local landmarks ever since.<sup>41</sup>

The 1890s had its share of storms. The most deadly was the Portland gale of November 26-27, 1898, named for the loss at sea of the Maine-bound steamer *Portland* with all hands and passengers—some 176 in all. The 281-foot sidewheel steamship, *Portland*, was last sighted about midnight some 12 miles northeast of Thacher Island by Captain Reuben Cameron of the fishing schooner *Grayling*, as the ships raced for shelter in Gloucester Harbor. Over 150 ships were lost to this storm over a 36-hour period.<sup>42</sup>

The Cape Ann Light Station may once have saved the life of a President. Steaming home from Europe in 1919, the passenger liner *America* had on board a special guest, President Woodrow Wilson, returning from the Versailles Peace Conference, which officially ended World War I. Blinded by a heavy fog off the coast of Massachusetts, the *America's* crew unknowingly had the big ship on a collision course with the rocky Thacher Island. The fog was so thick that no one saw the lights of the island's twin lighthouse towers. A sailor heard the blast of the foghorn, and the captain ordered an emergency change of course—just in time to avert a disaster of truly historic proportions.<sup>43</sup>

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<sup>39</sup> *Rockport As It Was : A Book of Pictures 1975* (Sandy Bay Historical Society, Second Printing, 1992).

<sup>40</sup> Parsons, p. 70.

<sup>41</sup> Ellen Platka, article dated 1966 in Sandy Bay Historical Society files.

<sup>42</sup> Swan, p. 267.

<sup>43</sup> Ray Jones and Bruce Roberts, *New England Lighthouses: Bay of Fundy to Long Island Sound* (Old Saybrook, Connecticut: The Globe Pequot Press, 1996) p. 63.

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### ROLE IN NATIONAL AND LOCAL COMMERCE

From early Colonial times, much of Rockport's (called Sandy Bay until 1840 when it was incorporated as the Town of Rockport) history and economy has been tied to the sea. Rockport is famous for its granite quarries that first started in 1800, and by 1820, provided jobs for over 500 townspeople. Twelve to fifteen sailing vessels were used for the transportation of stone to ports along the Atlantic Coast and as far south as the West Indies by 1815. These quarries provided blocks for buildings (including the Customs House in Boston), wharves, and bridges all along the East Coast, as well as countless cobblestones and curbs for city streets worldwide. Ironically, the granite used on the twin towers came from New Hampshire and not Rockport because the local granite was supposedly too "soft," and contained too much iron according to the engineers.<sup>44</sup> This industry even surpassed fishing as the largest business in Rockport by the year 1900. As late as 1903 Rockport granite was used to build the 113-foot Graves Light in Boston Harbor.

The Cape Ann Light Station is critical to the commercial fishing industry of Gloucester and the surrounding area. Early New England fishermen worked from small boats in coves or close to shore. Later, they sailed to the rich "in shore" fishing grounds off the Gulf of Maine and George's Bank, and by 1700, as far as the Sable Island Banks and the Grand Banks off Newfoundland. They caught mackerel, herring, cod, haddock, halibut, and pollock. By about 1775, nearly 5000 fishermen were sailing more than 500 vessels. According to Morison, "fisheries were the specialty of Gallops, Folly, Pigeon, Long, and Loblolly coves on Sandy Bay and the north side of Cape Ann. These villages were all in the township of Gloucester, until 1840, when some of them were set off as the town of Rockport." The typical Cape Ann fishing vessel of the Federalist period was a Chebacco boat (ancestor of the Down East 'Pinkies' of today)—so called from the Chebacco Parish of Ipswich where this type was invented and built. In 1792, Cape Ann owned 133 Chebacco boats of 11 tons burthen on an average; and by 1804 the number had increased to two hundred and the tonnage doubled.<sup>45</sup> This fleet has continued to be an important industry up until present day with a new generation of vessel, including large stern trawlers, draggers, numerous smaller vessels, and lobster boats. Records of cod and mackerel fisheries of Massachusetts 1837 to 1865 indicate that Cape Ann vessels increased from 221 to 378 and hands employed from 1,580 to 4,939. By providing a warning to the thousands of local fishermen, the twin towers of Cape Ann have been instrumental in enabling Gloucester to retain the title of "America's First Seaport" and to this day, rely on fishing as a key industry.

### ROLE IN MARITIME TRANSPORTATION

Early in its history, Massachusetts served as the first landfall for the northern sailing track from Europe and Cape Ann Light Station's twin lights were the first seen by ships coming into Massachusetts Bay. According to the *Light List* of 1854, Cape Ann Light is listed as "Two stone towers. Cape Ann forms the northernmost limit of Massachusetts Bay. These lights are 30 miles from Boon Island light, 24 miles from Boston light, and 43 miles from Cape Cod (Highlands Truro) light." The twin lights at Thacher, early in American history, were considered to be among

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<sup>44</sup> Letters Received by the Light-House Board 1852-1900.

<sup>45</sup> Morison, p143.

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the most important, ranking with the Cape Hatteras Light in North Carolina, Eddystone Light in England and Boston Light in Massachusetts.<sup>46</sup> During the seventeenth and early eighteenth centuries, fisherman and shipowners constructed crude wooden towers that burned pitch as signal lights to mark particularly dangerous spots. The Cape Ann Light Station was critical for the coastal trade, and trade with the West Indies, China, The Far East, and Europe. Nearly half the vessels, which arrived or departed Boston, worked the coastal trade to the middle and southern colonies and the West Indies.

Boston was the preeminent U.S. port for many years and during some periods rivaled all but the trade of London. New Englanders exchanged fish, timber products, and other provisions, for molasses and rum produced in the West Indies. The story of the early growth of the port of Boston is best told in Samuel Eliot Morison's *The Maritime History of Massachusetts, 1783-1860*.<sup>47</sup> In 1702 the only English Colonial ports worldwide possessing more shipping tonnage than Boston were London and Bristol!<sup>48</sup> By 1760 probably one out of four vessels in the greatly expanded English merchant fleet were American-built.<sup>49</sup> From 1690 to 1740 the population of Boston grew from 7,000 to 17,000. In November 1794 an observer reported that Boston possessed 80 wharves and quays, and that not less than 450 sail of ships (vessels square-rigged on all three masts), barks, brigs, schooners, sloops, and small craft were in port.<sup>50</sup> In 1807 Massachusetts' registered tonnage engaged in foreign commerce was over twice that of her nearest rival, New York, and was 37 percent of the national total. Her fishing fleet, which was largely dependent upon foreign trade, was nearly 90 percent of the total. Southern Europe was an important supplier of salt used in the New England fisheries industry. The revival of trade after 1814 (because of the British blockade and new embargoes) was gradual but steady. Boston continued to own the greatest tonnage per capita of any American port and only New York had an absolute tonnage advantage. The selection of Boston in 1840 as the western terminus for Cunard's pioneer transatlantic steamship service from Liverpool was considered a great coup by Bostonians and rivals alike.

To the north, Salem was an early leader in the trade to East Africa, India, and the Spice Islands. Salem vessels frequently called at many intermediate eastern ports, trading entire cargoes many times. The most formidable rival to Boston in the contest for oriental wealth lay but 16 miles north and only five miles south of Cape Ann lights. Salem with little under 8,000 inhabitants was the sixth largest city in the United States in 1790. Shipping tonnage was over 25,000 in 1798 and by 1807 was over 41,000. This compared to Boston's 80,000 in 1798 to 120,000 in 1807.

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<sup>46</sup> Parsons, p. 24.

<sup>47</sup> Samuel Eliot Morison, *The Maritime History of Massachusetts*, (Northeastern University press, 1979) p. 21.

<sup>48</sup> Bernard Bailyn and Lotte Bailyn, *Massachusetts Shipping, 1697-1714* (Cambridge: Harvard University Press, 1959), p.21.

<sup>49</sup> Ralph Davis, *The Rise of the English Shipping Industry in the Seventeenth and Eighteenth Centuries* (London: Macmillan, 1962) p. 68.

<sup>50</sup> Hamilton A. Hill, *The Trade and Commerce of Boston, 1630-1890* (Boston: Damrell & Upham, 1895), p. 36.

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By the end of the 18<sup>th</sup> century, New England merchants also controlled the exotic China and Far Eastern trade. The volume of sea traffic around Boston and the treacherous nature of the waters generated the colony's first two formally authorized lighthouses—Boston Light in Boston Harbor in 1716 and Brant Point Light in Nantucket in 1746. These were soon followed by the Plymouth Lights in 1768 and Cape Ann Twin Lights in 1771.<sup>51</sup>

In the early history of America no business was of greater importance than coastal shipping. Great fleets of coasters, many of them square-rigged, rounded Race Point in Provincetown, from the westward and the South. It has been enumerated that 80 sailing packet lines were established between Boston and New York, Albany-Troy, Philadelphia, Baltimore, Charleston, Savannah, Mobile, and New Orleans from the 1820s to the 1850s.<sup>52</sup> The coastwise arrivals at Boston in 1825 reportedly included 23 ships, 215 brigs, 977 sloops, and 1,292 schooners. These coasters arrived from both near and far, from Maine, Cape Ann, the North and South Shore, Cape Cod, New York, Philadelphia, the near South, and the Deep South. It wasn't until the 1860s that foreign commerce of New York was nearly six times that of all New England.<sup>53</sup>

### EARLY OPTICS AT CAPE ANN LIGHTS

The earliest illuminant employed in the Twin Lights at Thacher Island was a modified Argand lamp. In 1810 a Captain Winslow Lewis, an unemployed ship captain, persuaded the federal government to adopt his Argand lamp along with a parabolic reflector system as the means for lighting this country's lighthouses. A demonstration was held at the Boston Light tower before government representatives. He showed that the lamp and reflector system was greatly superior to the old spider lamp system. In addition to giving a brighter light, it used half as much oil. The Lewis light impressed Henry Dearborn, the collector of customs and superintendent of lighthouses in Boston. After witnessing an official full-scale testing at one of the Twin towers at Cape Ann, he urged the Secretary of the Treasury to accept Lewis's offer to sell his patent to the government. In addition to his patent offer, Lewis proposed refitting all the country's lighthouses—then 49 in number—with his new system for the sum of \$ 26,950. In 1812 Congress appropriated \$60,000 to pay Lewis for the patent as well as for outfitting the nation's lighthouses with his apparatus and maintaining them for seven years. He also managed to convince the government that it would be cost effective to purchase a schooner, *Federal Jack*, and fit it with a blacksmith shop, a carpenter shop, and bunking spaces for 13 men along with the necessary equipment to carry out the work. Before the War of 1812 he had outfitted all but nine of the lighthouses. He finished the last lights in the fall of 1815. In 1816, Lewis entered into a contract with the government to supply the lighthouses with oil and to annually visit each lighthouse in person to maintain the lights and report on the condition of the lighthouses to the

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<sup>51</sup> Holland, pp. 8-12.

<sup>52</sup> Carl C. Cutler, *Queens of the Western Ocean* (Annapolis: United States Naval Institute, 1961), pp. 415-457.

<sup>53</sup> W.H. Bunting, *Portrait of a Port Boston, 1852-1914* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 1994) pp. 2-18.

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Treasury Department. A student of this period of lighthouse history has noted: “the contract made Winslow Lewis the *de facto* superintendent of lighthouses.”<sup>54</sup>

Winslow Lewis published the first light list called “A Description of the Lighthouses on the Coast of the United States” in 1817. In it he included all 55 lighthouses on the coast. He described Thacher Island Lights as “situated on Thacher Island, 2 miles from the mainland of Cape Ann there are two lights, one third of a mile apart, bearing S. by W. and N. by E. from each other. The Lanterns are elevated about 90 feet above the level of the sea, and contain fixed lights, which may be seen 7 or 8 league distance. Boston Light bears from theses lights S. W. distance 9 and one half leagues.” He also stated in this short 10-page booklet that “All United States Light-Houses, are now lighted with PATENT LAMPS AND REFLECTORS.”<sup>55</sup>

Because Stephen Pleasanton, the Fifth Auditor and head of the lighthouse establishment, relied so heavily on Lewis for all lighthouse construction matters, Lewis eventually became the principal builder of lighthouses in the United States. Lewis won so many contracts that he drew up a set of standard plans for the five different sizes of towers that he believed would meet the needs of any land location.<sup>56</sup>

The superior Fresnel lens eventually replaced the Lewis lamp in the 1850s.<sup>57</sup> Two first-order Fresnel lenses were installed in the twin towers at Cape Ann Station in 1861. The use of Fresnel lenses was first tested at another twin light, Navesink, in 1840. A first-order fixed light and a second-order revolving light were ordered from France by Commodore Matthew Perry in 1838 and placed on twin towers at Navesink in 1841. When Navesink was rebuilt in 1862, both towers used first-order Fresnel lenses. It is interesting to note that the last two remaining intact twin lights in existence in America today were each used to test new “lighting technology.”

A variety of fuels were used over the years to light the lanterns at Thacher. Early on, whale oil was used. Later, as reported in the subject files of the Lighthouse Board on July 27, 1864, there was a keeper’s report on the use of lard oil at Cape Ann.<sup>58</sup> In the *Annual Report of the Light-House Board* for 1875, there is an account of the investigations of the Board relative to illuminating materials by the chairman of the committee on experiments. In this report Cape Ann Light station was mentioned as follows

after theses preliminary experiments (previous trial with small lamps, with solid wicks, instead of the Fresnel lamp, with hollow burners), two lighthouses of the first order, separated only by a distance of 900 feet, at Cape Ann, Massachusetts, were selected as affording excellent facilities for trying, in actual burning, the correctness of the conclusions which had previously been arrived at. One of these lighthouses was supplied

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<sup>54</sup>Deunis Noble, *Lighthouses and Keepers: U.S. Lighthouse Service and its Legacy* (Annapolis, Maryland: U.S. Naval Institute Press, 199), p. 62

<sup>55</sup> Winslow Lewis, *Description of Lighthouses on the Coast of the U.S.*, Thomas Bangs, 1817.

<sup>56</sup> Noble, p. 65.

<sup>57</sup> Francis Ross Holland, Jr., *America’s Lighthouses: An Illustrated History* (New York: Dover Publications, Inc., 1988) p. 21.

<sup>58</sup> U.S. Light-House Board, Letters Received, 1852-1900.

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with sperm and the other with lard oil, each lamp being so trimmed as to exhibit its greatest capacity. It was found by photo metrical trial that the lamp supplied with lard oil exceeded in intensity that of the one furnished with sperm. The experiment was continued for several months, and the relative volume of the two materials carefully observed. The quantity of sperm burned during the continuance of the experiment was to that of lard as 100 is to 104.<sup>59</sup>

On August 6, 1884, mineral oil was introduced as the fuel source. Mineral oil, as it was called at the time, was actually kerosene. There is a report dated January 8, 1876, by the keeper on the use of English wicks at the light. For several years, prior to the 1930s and up to 1932, incandescent oil-vapor lamps were used, each of 22,000 candlepower. Finally in 1932 the towers were electrified producing a magnificent 75,000 candlepower.<sup>60</sup> Only the south tower used a single flashing white light while the North tower was used for emergencies only. It is obvious from these various reports that Cape Ann Light Station was used as a testing location for many of the suggested improvements to lighthouse technology.

### RECENT HISTORY OF CAPE ANN LIGHT STATION

In 1970 the General Services Administration (GSA) announced that the North tower was now considered "unused property" and that it was about to begin disposal proceedings. To Cape Ann the loss of even one twin was unacceptable. In early 1971 the town appointed a committee to urge all citizens and their congressman to protest the abandonment of the lights. The committee and towns people spent 10 years negotiating to save the towers. Eventually the north side of the island (about 22 acres) was transferred by the Coast Guard to the Bureau of Sport Fisheries and Wildlife (now known as the U.S. Fish and Wildlife Service) in 1972 and is a refuge and nesting habitat to gulls and terns and migration, resting and feeding to numerous passerine birds. The town leased this north side from the Bureau and continues to do so today. In October 1971 the property was listed in the National Register of Historic places. In 1976 the Thacher Island Committee (TIC) was formed to care for and maintain the north part of the island. In 1979 the Coast Guard automated the south tower. In 1980 the Coast Guard keepers departed the island and the town signed a license/lease with them and the town appointed a new "Civilian Keeper." Up through December 1992 civilian keepers have kept watch over the Island and a Keepers Training Program was developed. Through December 1995 keepers were in place on a seasonal basis, May through October. In the winter of 1995, it was decided that it was too dangerous to maintain staffing keepers after losing the boat ramp; it being too hazardous to get on and off the island.

In 1981 the Thacher Island Association (TIA) was formed as a fundraising arm of the TIC. TIA added to their by-laws in 1983 that it would "assist in the preservation of the national historic landmark and the wildlife sanctuary, stimulate interest in the recreational use of the Island, and promote public funding of the costs of developing and maintaining the Island as 'a little national park' through voluntary contributions of money and donated materials and labor."

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<sup>59</sup> U.S. Light-House Board, *Annual Report 1875*.

<sup>60</sup> U.S. Light-House Board, *Annual Report 1932*.



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### CURRENT USE

From 1982 through 1998, numerous renovations and maintenance programs have been instituted and completed. Since 1993 the town has been pursuing the possibility that the Coast Guard would deed the south portion of the island to the town. In late 1998 the town received the first draft of the Quitclaim deed document from the Coast Guard and hopes to have it executed within the year commensurate with the coast Guard along with the Corps of Engineers building the new boat ramp.<sup>61</sup> In October 1998 the budget bill signed by President Clinton included funding of \$250,000 earmarked for the Thacher Island boat ramp restoration. This money along with the “war chest” from donations of over \$80,000 for ramp reconstruction will be a huge step to making the island accessible to visitors. Once the new boat ramp is restored plans are to resume public access to the island for tours, picnicking, hiking, and bird watching. Also a major effort will be initiated to continue to restore the various buildings, trails as well as institute a visitor center and museum. Volunteers on the Town Committee currently maintain the island trails and structures to ensure their integrity and use.

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<sup>61</sup>A personal communication from Paul St. Germain on November 7, 2000, indicates that the new ramp was completed at the end of September. Once the Coast Guard approves the final construction, the deed will be executed.

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Previous documentation on file (NPS):

- Preliminary Determination of Individual Listing (36 CFR 67) has been requested.
- Previously Listed in the National Register.
- Previously Determined Eligible by the National Register.
- Designated a National Historic Landmark.
- Recorded by Historic American Buildings Survey: #
- Recorded by Historic American Engineering Record: #

Primary Location of Additional Data:

- State Historic Preservation Office
- Other State Agency
- Federal Agency
- Local Government
- University
- Other (Specify Repository): National Archives, Washington, D.C.

**10. GEOGRAPHICAL DATA**

Acreage of Property: Approximately 50 Acres

UTM References:     **Zone   Easting   Northing**  
                          19   371/000/4721/200

Verbal Boundary Description:

Located 1 mile to the East of Cape Ann, near Rockport and Gloucester, Massachusetts; Thacher Island is comprised of about 50 acres of rock, covered by a minimal amount of land.

Boundary Justification:

The boundary of the island includes the two granite towers, two keepers quarters, whistle house, oil(fuel) house, stone storage shed, boat house and ramp, railroad, and cistern that have historically been part of the original Cape Ann Light Station since 1861 and that maintain historic integrity.

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### **11. FORM PREPARED BY**

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Date: December 9,1998

Edited by: Candace Clifford  
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Washington, DC 20240

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71°00'

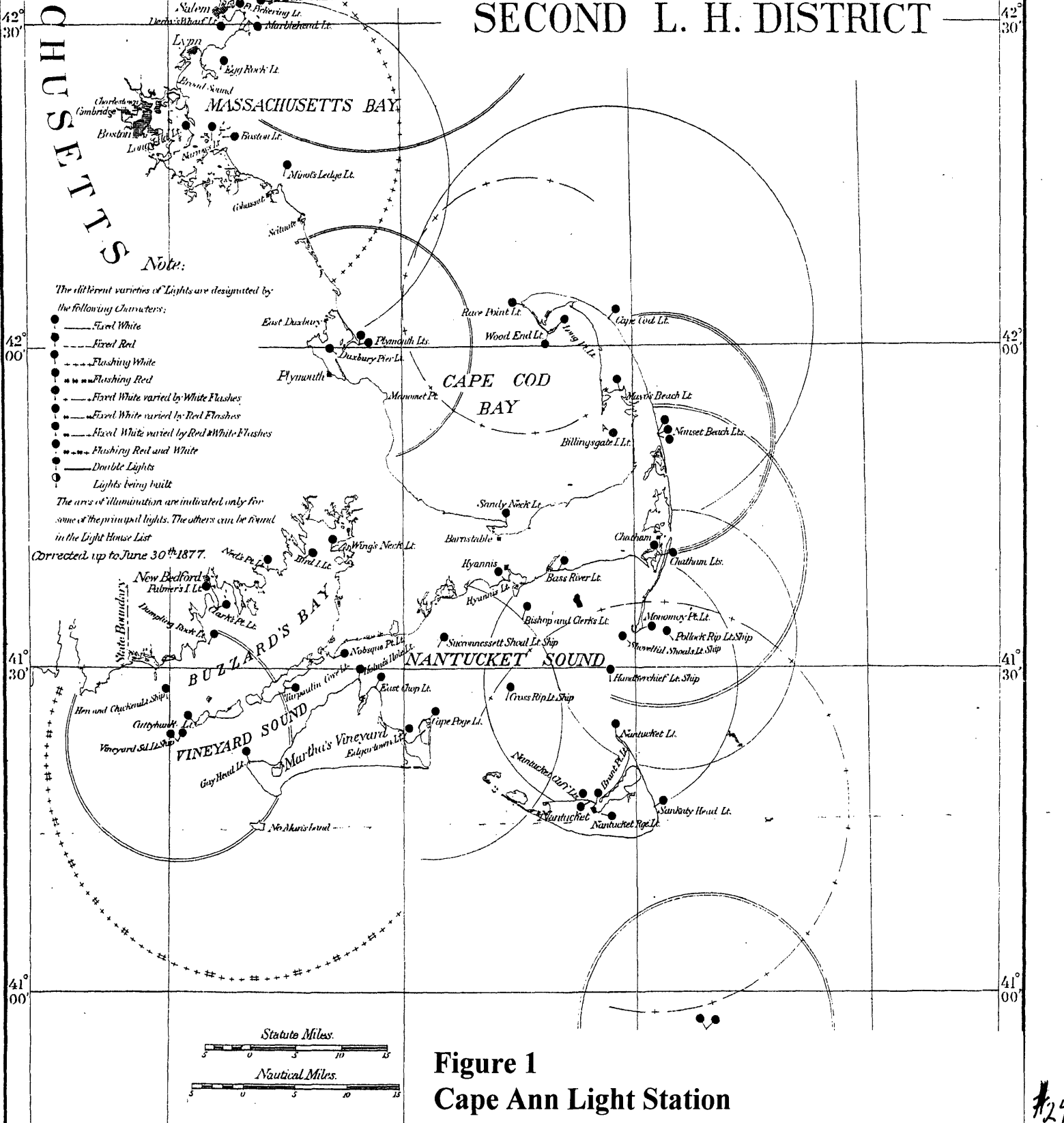
70°30'

70°00'

69°30'

MASSACHUSETTS

# SECOND L. H. DISTRICT



Note:

The different varieties of Lights are designated by the following Characters:

- Fixed White
- Fixed Red
- - - - - Flashing White
- Flashing Red
- Fixed White varied by White Flashes
- Fixed White varied by Red Flashes
- Fixed White varied by Red & White Flashes
- Flashing Red and White
- Double Lights
- Lights being built

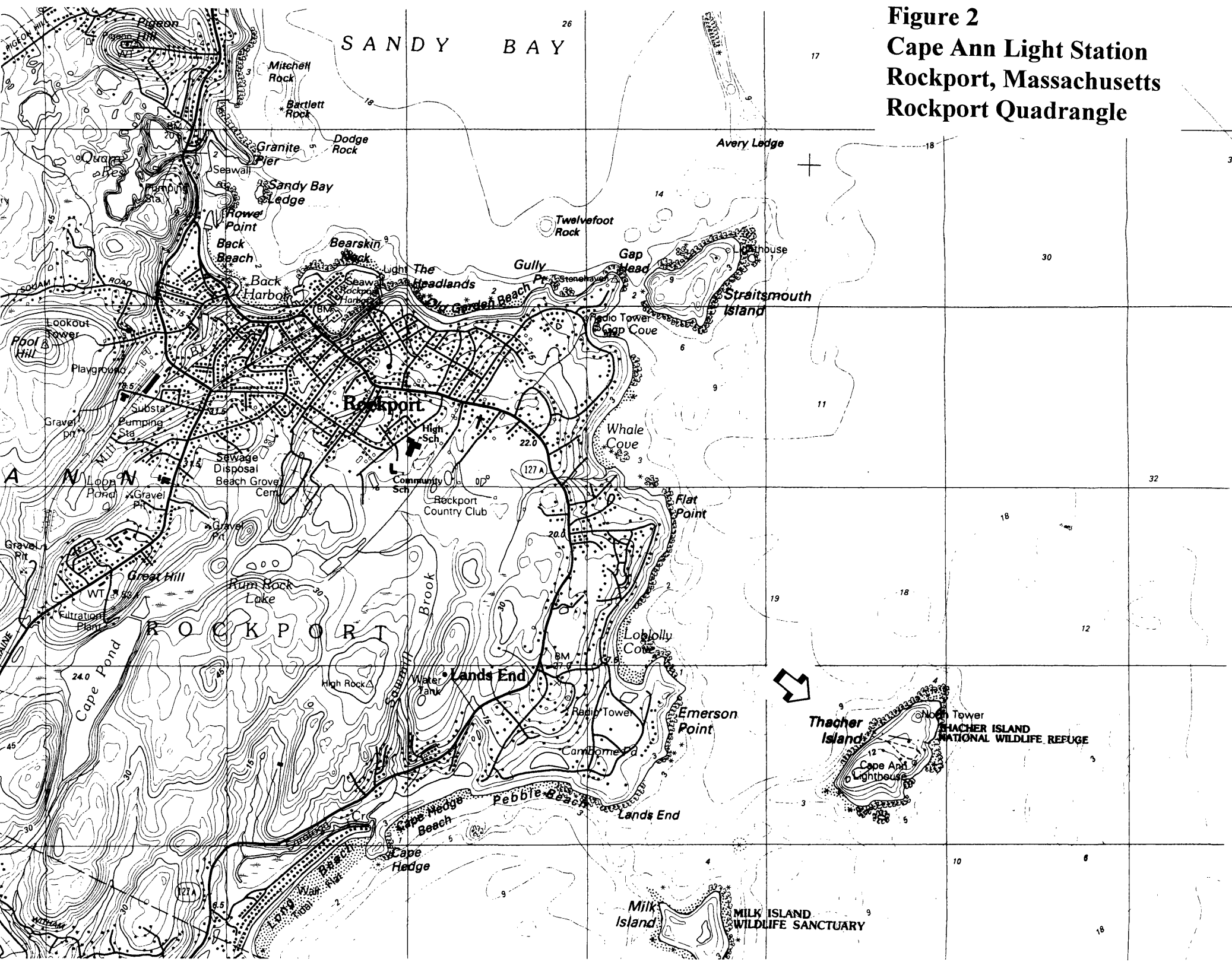
The arcs of illumination are indicated only for some of the principal lights. The others can be found in the Light House List

Corrected up to June 30<sup>th</sup> 1877.

Figure 1  
Cape Ann Light Station  
Rockport, Massachusetts  
Map of the Second Lighthouse District, 1877

#24

**Figure 2**  
**Cape Ann Light Station**  
**Rockport, Massachusetts**  
**Rockport Quadrangle**



# THACHER ISLAND

CAPE ANN LIGHT STATION  
ROCKPORT, MASSACHUSETTS



**Figure 3**  
**Cape Ann Light Station**  
**Rockport, Massachusetts**  
**Map of Thatcher Island**



# **Thacher Island Regulations**

- 1. All visitors are requested to register with the Keeper.**
- 2. No pets allowed.**
- 3. No camping, except by special permission.**
- 4. No open fires.**
- 5. No littering -- Visitors are responsible to bring their own trash back to the mainland.**
- 6. Please do not remove any type of vegetation -- we want to preserve the Island's natural beauty.**
- 7. Please Do Not Disturb Wildlife.**
- 8. Defacing or damaging Island property is strictly prohibited.**
- 9. Conduct which destroys the tranquillity of the island, or the enjoyment of others, is prohibited.**