1. NAME OF PROPERTY

Historic Name: Thomas Point Shoal Light Station

Other Name/Site Number: AA-358

2. LOCATION

Street & Number: Not for publication: N/A

City/Town: near Annapolis Vicinity: X

State: Maryland County: Anne Arundel Code: 003 Zip Code: N/A

3. CLASSIFICATION

Ownership of Property	Category of Property
Private:___	Building(s): X
Public-Local:___	District:___
Public-State:___	Site:___
Public-Federal: X	Structure:__
	Object:___

Number of Resources within Property

Contributing	Noncontributing
1	___ buildings
_____	_____ sites
_____	_____ structures
_____	_____ objects
1	____Total

Number of Contributing Resources Previously Listed in the National Register: 1

Name of Related Multiple Property Listing:

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

6. FUNCTION OR USE

Historic:	Transportation	Sub:	Water related/lighthouse
Current:	Transportation	Sub:	Water related/lighthouse

7. DESCRIPTION

ARCHITECTURAL CLASSIFICATION: None

MATERIALS:
Foundation: Cast iron
Walls: Wood
Roof: Sheet metal
Other: Lantern: cast iron

Describe Present and Historic Physical Appearance.

General Description[1]

Thomas Point Shoal Lighthouse is a hexagonal-shaped, 1½-story, wood balloon framed "cottage," built over a steel frame deck mounted to a wrought-iron screwpile foundation. On the north side of the lighthouse is a steel icebreaker set on a steel pile tripod. The lighthouse is located approximately 1½ miles southeast of Thomas Point near the entrance to the South River, middle Chesapeake Bay, western shore, near Annapolis, Maryland. Thomas Point Shoal Lighthouse remains as built in 1875 with only minor alterations. Owned by the U.S. Coast Guard, access to the station is via boat.

Existing structure

The foundation consists of a central wrought-iron screwpile surrounded by six perimeter wrought-iron screwpiles spaced at 60-degree intervals. On both the ebb and flow side of the foundation a single fender pile is driven, connected to the foundation by horizontal spandrel channels and then riprap rock piled over it to serve as an ice break. All seven piles are 10-inch-diameter wrought-iron screwpiles set vertical in the bottom and screwed 11 feet, 6 inches into the bottom. At a later date three connected screwpiles were driven on the northern side of the foundation to serve as an ice fender to break up ice flows so as not to damage the screwpile foundation. Approximately 2 feet above mean tide level, horizontal iron spandrels forming the framing are attached to the fender screwpiles which are made up of back-to-back 11⅜-inch-wide C-channels with 2¾-inch flanges hammer riveted together. All the remaining spandrels are made of rolled wrought-iron I-beams 12-inches deep with 6½-inch-wide flanges on the top and bottom. These I-beams may date from some 1921 iron work replacement, as they are less corroded and slightly deeper in depth, not making a perfect fit with the sockets of the "shoulder" joint. The spandrels are joined to the top of each screwpile at a "shoulder" or a cast-iron knuckle which caps the vertical perimeter screwpiles. They are fitted with a plate for bolting it to the horizontal channels which radiate from the central screwpile and spandrels which run between each of the perimeter screwpiles. The central pile has a six slotted "shoulder" to receive the six radial channel beams. The radial channel beams are braced laterally with a specially cast "X" shaped iron piece which is bolted midspan. These all appear to be original. Above the lower horizontal frames and into each "shoulder," a cast-iron column continues upward. The perimeter columns are set at a 60-degree tilt toward the central column.

On top of the columns are mounted another set of "shoulders" which receive another set of radial channel beams and spandrels. The I-beam spandrels are marked "Phoenix Iron, Philadelphia." On average, 2-inch-diameter tie rods for diagonal bracing cross every tangential face as well as run radially from the central column. They are connected to the frame by a clevis assembly held in place with a 1-inch cotter pin at the top and the bottom. These tie rods can be adjusted by a turnbuckle located ⅜ of the way up the rod. All the cast-iron foundation is painted a dark red/brown, though much is rusted through.

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[1] This section is based on visit to lighthouse on May 5, 1995; and "Chesapeake Bay Lighthouses," Gredell & Associates: Structural Engineers (1991), pp.121- 136.

Originally, the lower platform located within the spider foundation was used for storage of fuel and livestock when the lighthouse was manned. Wooden 3- by 12-inch members run radially from a "shoulder" clamped on the central column and are fastened to hanger rods attached to the iron beams on the first level deck. The wood deck consists of 3- by 12-inch timbers laid flat and parallel to the hexagonal shape of the perimeter spandrels. The underside of the first level framing is covered with ½-inch plywood battened at the joists.

A wooden hexagonal-shaped cottage, 18 feet on a side, 35-feet in diameter, is built upon the upper set of iron beams that run between the perimeter of the raked columns. On top of each perimeter column, a radial beam which is seated on the central column extends 5 feet outboard creating a cantilever around the entire foundation. Wood spandrels clear span the radial beams. The exterior (cantilevered) deck is framed with 4-foot-long joists between the perimeter iron beam and the wood spandrel. The interior deck frames rest on the iron radial and perimeter beams.

The gallery on the first-level is supported by a 4- by 12-inch spandrel and by 4- by 10-inch wooden joists set on approximately 16-inch-centers. The railing consists of 3½- by 4½-inch wooden posts capped with a 1-inch-thick wooden plate located at each corner and held in place by iron brackets on the inboard side. The decorative splat balusters are made from 1-inch-thick stock. The pattern consists of a circle with a round hole in the middle with expanding curved-sided necks running both up and down from the circle and joined to the upper and lower rail at a squared off block. An elongated circular hole is found in the top and bottom thickened portion of the baluster. By repeating this pattern the design resembles an elliptical oval intersected by a mid level line of circles. This design is unlike any other cottage-type screwpile lighthouse; simple square vertical pickets are the norm (the Craighill Channel Lower Range Rear Lighthouse has splat balusters but they are different and have a less elaborate design.) The bottom rail is made from 2- by 4-inch wood stock and the top rail is made from 4- by 4-inch milled wood stock with a double bevel to shed water. The railing is obviously a recent replacement and the workmanship is of poor quality. The original privy, located on the south side of the gallery deck, is made of board and bullnosed battens and is cantilevered over the side for a direct drop into the water. The wooden toilet seat is intact. The roof of the privy continues to and is attached to the side of the cottage, providing a protected area over the outhouse entrance. On the north side of the gallery deck is a 48-inch-wide by 144-inch-long storage building cantilevered over the side. Double doors provide access to this storage area from the gallery. The roof of this structure continues across the open deck to the side of the cottage, which like the privy, provides a protected area. The door is a wooden ventilated door with a wood handle.

The cottage is sheathed with wooden horizontal German molded lap siding. The cottage is painted white with grey decks and drab olive window and door trim. There are two sets of davits for launching small craft. All are made of metal and able to pivot from supports attached to the cottage siding and gallery deck. They are painted a light yellow-tan. The davit pair on the west side is still operational, while the pair on the east side has had the winch drum removed. A group of four piles has been driven in the water on this side of the lighthouse, presumably to assist in tying up a vessel. In addition, a single davit for hoisting supplies is located just to the west of the privy. The roof is painted red.

The first level of the cottage is partitioned (running in a counterclockwise direction) into a mechanical room, bedroom, bathroom, day room, and kitchen. In the mechanical room the original beaded tongue-and-groove wall and ceiling paneling as well as original flooring is intact. The flooring is diagonally laid, random-width Georgia pine. A 525-gallon cypress water tank is located in this room, but it is not set on the original wooden base which supported the original metal water tank. A copper funnel fitted through the floor is still extant under where the original water tank spigot would have been located. A generator takes up most of the space in this room. A 200-gallon wooden water tank is located in one of the two closets in this room. The spigot for this tank would have extended through the closet wall into the kitchen, below which the copper drip funnel is still in place. This water tank sits on one of two of the original four water tank wooden bases.

The bedroom walls have been covered with painted plywood paneling with thin battens covering the joints. The floor is covered with carpeting. The interior doors, window casings and sash appear to be original. The exterior door is probably not original. The bathroom is equipped with an incinerator toilet, sink, shower, and heater. The walls are covered with plywood paneling. The day room contains the control monitor system equipment, switch-gear, double rack of batteries and other electrical equipment. The floor is covered with carpet and the walls and ceiling covered with plywood. The kitchen is equipped with a sink, stove, and cabinets. In the pantry area the original beaded tongue-and-grove wall paneling is extant. The fenestration consists of six-over-six windows on the first level.

The second level of the cottage is accessed by a spiral wooden staircase winding around a central wooden column. The stairwell is hexagonal-shaped and sided with vertical tongue-and-groove beaded variable-width wall paneling. The stair treads and risers appear to be original. At the top of the stairs to the second-level is a graceful, curved wooden railing cap. Just inside the entrance to the bedroom from the stairs is a hatch which allowed for raising and lowering of stores without having to use the narrow spiraling stairwell. The bedroom appears to have all original wall and ceiling paneling. Under the carpeted floor is the original random-width flooring. The beaded "Philadelphia" boards on the walls and ceiling, casement-type windows, sash, and casework are all original. The second room, where the fog signal striking mechanism would have been located, has original floors, wall and ceiling paneling, just like the bedroom. There are storage closets all around the outside walls under the eaves of the roof. There are six dormer windows, one on each side of the structure. Each window consists of a single pane, though photographs suggest they were originally four-pane single-sash windows in each of the second-level dormers. Window screens are attached by hinges to the inside of the windows.

The fourth-order octagonal lantern is accessed by a wooden ship's ladder which is fitted with an iron rail on the left side. The lantern parapet walls are cast iron, the interior sheathed with vertical beaded board below the sills and above a 14-inch-high wooden baseboard. Within each of four of the parapet walls is a ventilator with brass regulator. An external ventilator ball and lightning rod surmounts the lantern roof peak which is made of standing seam sheet metal. The roof was described as copper in 1938. Inside, the roof ceiling is lined with galvanized sheet metal and the smoke funnel is still intact. There are six glass panes set in cast-iron lantern frames. Gredell reports that somewhere on the frame is the inscription "Atlantic Steam Engine Works, Brooklyn, New York, 1875," but this was not found during a 1995 visit. The lantern and

lantern gallery are painted black. Historic photographs show the upper gallery balustrade was painted white in 1885, but it is now painted black.

The fourth-order Fresnel lens was made by "L. Sautter & Co" and consisted of four panels with five fixed elements in each panel of the central drum lens with five fixed prisms in each panel above the central drum and three fixed prisms in each panel below the central drum. This lens has been removed and is located in the Commander's Office, U.S. Coast Guard Activities, Baltimore. A 300mm acrylic lens sits on the original cast-iron pedestal. There are two backup 250mm acrylic lenses mounted on the roof, one on the southwest side and one on the northeast side. Both have two red sectors to match the lantern room. Access to the lantern level gallery is through an original cast-iron half door. The gallery deck is made of flat seam sheet metal. The gallery wooden railing is identical in design to the lower gallery rail. A smokestack through the roof is located on the southwest side.

Historic Integrity

The screwpile foundation is original except for replacements for pieces broken by ice. The wooden gallery rails retain their original ornamented pattern. The privy is intact. All the interior wooden wall paneling, floors, and ceilings are original though some are covered by plywood. The water tank funnels are intact; the only known example to survive in their original state. All the windows are original or have had appropriate replacements. All the interior doors appear to be original or at least early replacements. The exterior door does not appear to be original. This light station has the highest degree of historic integrity of any operational station in Maryland.

Previously Existing Structures

The 1875 station replaced an onshore station established in 1825. The original stone tower, similar to Donahoo's Concord Point and Pooles Island lighthouse towers, was built onshore at the tip of Thomas Point. It was a round tower 30 feet tall, 18 feet across at the base, and 9 feet in diameter at the top. The tower wall was 3 feet thick at the base decreasing to 20 inches in thickness at the top. A stone keepers quarters was built near the tower, 24 by 20 feet in plan. It consisted of two rooms, each with a fireplace and a common chimney. Attached was a kitchen 14 by 12 feet in plan, containing a fireplace and an oven with an iron door. Though a fog signal is known to have been used on Thomas Point, its design and placement is unknown. A well, lined with brick or stone, fitted with a pump or windlass and iron bucket and a privy were called for in the original construction contract.[2]

The tower, rebuilt by Lewis, finally fell down on February 28, 1894. The original land had eroded from 7 acres to about 2 usable acres and was now separated from the mainland by a narrow strip of water. It was sold in 1914 for $426 to Garnett Y. Clark of Ellicott City, Maryland, just over $100 less than the original 1824 purchase price. None of the structures from the earlier land-based station survive.

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[2] Thomas Point Shoal Lighthouse bid of Joshua Turner February 15, 1825, Lighthouse Superintendent's Correspondence, Baltimore, 1825-52, National Archives, Washington D.C.

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, 4

NHL Theme(s): V. Developing the American Economy
3. Transportation and Communication

Areas of Significance: Maritime History
Transportation
Commerce
Architecture (naval)

Period(s) of Significance: 1875-1964

Significant Dates: 1875

Significant Person(s): N/A

Cultural Affiliation: N/A

Architect/Builder: U.S. Lighthouse Board

Historic Context: XIV. Transportation
B. Ships, Boats, Lighthouses, and other structures

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

Statement of Historic Significance

Thomas Point Shoal Light Station is the last unaltered screwpile, cottage-type lighthouse on its original foundation in the United States. Screwpile foundation technology greatly improved the U.S. aids to navigation system in that it allowed lighthouses to be built in offshore locations that previously could only be marked by bouys or expensive lightships. Perhaps as many as 100 spider-like screwpile lighthouses were built throughout the Carolina sounds, the Chesapeake Bay, Delaware Bay, along the Gulf of Mexico, and one even at Maumee Bay on Lake Erie in Ohio. Thomas Point Shoal Lighthouse replaced a land-based station in 1875. The last manned lighthouse on the Chesapeake Bay from 1964[3] until automation in 1986, it continues to serve as an active aid to navigation in 1998.

The preceding statement of significance is based on the more detailed statements that follow.[4]

Development and Importance of Screwpile Foundation Lighthouses

Politics, need, cost, location, and geography of the site, as well as technology available at the time of construction influenced lighthouse designs. Before the mid-19th century, lighthouse construction technology required solid rock or other stable foundation soils; however, onshore towers sometimes proved inadequate to warn ships off a shoal located offshore. In some locations a lighted buoy or lightship solved this problem. In addition, riverine and estuarine environments often had unstable muddy and/or sandy bottoms which could not support heavy masonry towers. In areas such as the Chesapeake Bay, Delaware Bay, the Gulf of Mexico, the Mississippi River delta, and the coral reefs of the Florida Keys, the development of newer technology using screwpile, caisson, and skeletal tower lighthouse construction was essential to adequately light the marine hazards.

Unlike heavy masonry foundations, the pile foundation lighthouse utilized the principle of least resistance. Waves would pass through rather than crash against the foundation. To increase the holding power of the pile, a screw-like flange was fastened to the bottom of the pile and wound like a screw into the substrate. There are two principal screwpile lighthouse types, one which uses a low spider-like foundation and a small cottage-type house used for rivers, bays, and sounds, and the other whose foundation supports a tall coastal tower.

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[3] Generally the year of automation or decommissioning is used to end the period of significance for light stations, but since 1986 would bring the period of significance into a too recent time period, 1964 is being used.

[4] For additional information, please refer to the "Summary Context Statement for NHL Lighthouse Nominations."

Development of the Pile Foundation

A wealthy Quaker merchant from Liverpool, England, John Phillips, erected a lighthouse in 1773 on Smalls Rock, in the British Channel off the west coast of Wales. Instead of hiring an engineer to design the structure, he chose a musical instrument maker, Henry Whiteside, who built the lighthouse on piles rather than using the conventional masonry tower. Phillips' choice and Whiteside's design were to prove revolutionary. Construction began in June 1775, and, when finished, the lighthouse consisted of nine oak posts each 24 inches in diameter and 40 feet in length with a small two-story octagonal wooden cabin built on top. The first floor was where the keepers lived and the top floor housed the light. It stood for 85 years, but more importantly, proved the principle of least resistance (waves would tend to pass through as opposed to crash against the foundation) for the design of lighthouse structures built in waveswept locations.[5]

The first iron straightpile lighthouse built in the United States was on Minots Ledge, a dangerous ledge off the coast of Cohasset, Massachusetts, visible only at low tide. Shortly after a severe storm swept the lighthouse off the ledge, an inspection revealed the piles were broken at a juncture where lower bracing should have been placed. Surviving examples of straightpile lighthouses include: South Pass (Range Rear) Lighthouse (1881), Louisiana; Oyster Bay (Bayou) Lighthouse (1903), Louisiana; and Oakland Harbor Lighthouse (1903), California (concrete-piles).

Development of Screwpile Foundation

Another Englishman, Alexander Mitchell, invented the screwpile, a major improvement over the standard straightpile construction type. A talented mathematician, he pursued a career in engineering even though he became blind in 1820 at age 20. With his son, he patented his wrought-iron screwpile design in the 1830s which he described as follows,

> *A bar of iron having at its lower extremity a broad plate or disk of metal in a spiral...on the principle of a screw, in order that it should enter into the ground with facility, thrusting aside any obstacles to its descent, without materially disturbing the texture of the strata it passed through, and that it should at the same time offer an extended base, either for resisting downward pressure or an upward strain.*[6]

He further stated that his screwpile was a device for "obtaining a much greater holding power than was possible by any pole or mooring then in use." William Johnstone, harbor master at Glasgow stated in a letter to Mitchell and his son on May 7, 1837,

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[5] Layne Bergin, "Screwpile Lighthouses: From Britain to the Bay," *The Keeper's Log* (Summer, 1987), p. 11.

[6] quote given in Bergin, p. 11.

The great strain they bear... the safety for vessels grounding above them, the unexpected ease with which they are put down, and their exemption from frequent lifting, to which other moorings are liable, will make me recommend them.[7]

In 1838 Mitchell combined his wrought-iron screwpile moorings with Whiteside's pile construction technique and built the first screwpile lighthouse foundation at Maplin Sands. Mitchell screwed the piles into the sea bottom where he left them to "ascertain if any changes would occur, from the action of the sea or other causes" before completing the lighthouse structure. In the meantime, he and his son began construction in 1839 on the Fleetwood on Wyre screwpile lighthouse at the mouth of the Wyre, a harbor in Lancashire, England. Mitchell used 36-inch-diameter, 48-foot-long "balks of Baltic timber" on whose bottoms were attached 16-foot-long wrought-iron piles with three-foot diameter screws. The screwpiles were inclined toward the center as in Whiteside's standard pile design. Wyre was completed in March and first lighted on June 6, 1840. Mitchell then returned to Maplin Sands and completed that screwpile structure which was first lighted in February 1841.[8]

Mitchell later noted, "by reason of the various descriptions of sea-worms which everywhere infest our coast" wrought-iron piles were necessary. This led to his next and best remembered achievement, the Maplin Sands Lighthouse. In partnership with James Walker who was responsible for the superstructure, Mitchell contracted with the Trinity Corporation (England's lighthouse authority) to build a lighthouse at the mouth of the Thames River, an area subjected to high winds, strong currents, and consisting of a soft bottom. Completed in 1841, this structure was the first lighthouse to be built upon a screwpile foundation made entirely of iron. The hexagonal dwelling was supported by one central and eight surrounding iron piles, either 5 or 6 inches in diameter, each tipped with a 4-foot-diameter flanged screw and each turned 22 feet into the sandy bottom. Unlike the Wyre Lighthouse, these piles were screwed vertically into the bottom, and capped with hollow cast iron columns which not only formed the foundation but supported the dwelling as well. The Maplin Sands Lighthouse became a prototype for other screwpile lighthouses.[9]

The first mention of Mitchell's screwpile invention in the United States may be in an 1842 report on buoys written by engineer I.W.P. Lewis,

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[7] quotes given in Bergin, p. 11.

[8] Henry Gonzalez, "Screwpile Lighthouse, Part 1: Origins," *Chesapeake Lights* (Fall 1997, volume IX, issue 4) pp. 4 and 6; quotes from Alexander Mitchell, "On Submarine Foundation, particularly the Screw-pile & Moorings" a paper given before the Institute of Civil Engineers, 22 February 1848, reprinted by the Nautical Research Center; and Bergin, pp. 11-12.

[9] Bergin, p. 12; Douglas B. Hague and Rosemary Christie, *Lighthouses: Their Architecture, History and Archeology* (Wales: Gamer Press, 1975), and John Naish, *Seamarks: Their History and Development* (London, Stanford Maritime), 1985. p. 127. Note, Naish gives the date of completion of the Maplin Sands Lighthouse as 1836 on page 127 and 1848 on page 128, F. Ross Holland, Jr., *America's Lighthouses: An Illustrated History* (New York, Dover Publications, Inc., 1988 edition) p. 99 gives the date 1838, Bergin gives the date 1841, and Hague and Christie gives the date 1838 on page 221 and 1841 on page 137. These various dates may reflect the experimental nature of several adaptations in the development of the screwpile type lighthouse at Maplin Sands, but also reflect the tendency for the British to use starting date of construction while Americans use the date of the first lighting.

The use of screw moorings are yet unknown in this country, while England has availed herself of this valuable invention... as a means of founding lighthouses upon shoals hitherto considered inaccessible to the engineer.[10]

Screwpile Lighthouses in the U.S.

Congress was willing to give the screwpile technique a try at Flynn's Knoll in New York Harbor, but the project died with little support outside of Congress; most people believed nothing more than a buoy was needed. The first screwpile lighthouse built in the United States was at Brandywine Shoal, Delaware Bay, an area served by a lightship since 1823 and an ordinary straightpile lighthouse which stood briefly there in 1828 until destroyed by ice. Major Hartman Bache, a distinguished engineer of the Army Corps of Topographical Engineers, began work in 1848 and completed the task in 1850; construction cost $53,317. Alexander Mitchell served as consultant. The screwpiles were turned by a 4-foot capstan worked by 30 men. To protect the structure from ice floes an ice-breaker consisting of a pier of 30 iron screwpiles, 23 feet long and 5 inches in diameter, were screwed down into the bottom and interconnected at their heads above water reinforcing them together. This cost an additional $11,485.[11]

Major Bache also built the second screwpile lighthouse in the United States with construction of the Pungoteague River Lighthouse (1854), built in Chesapeake Bay. Pungoteague Lighthouse, completed next, was made of seven hollow iron piles sunk 10 feet, 8 inches, into the bottom and connected by spider-web braces and cross-braces between each screwpile. It lasted only 459 days when it was destroyed by a heavy ice floe on February 2, 1856. As a result, in 1857 the Brandywine Shoal Lighthouse was further protected by an additional "fence" and riprap of stone. Pungoteague River was followed by Deep Water Shoals, White Shoals, and Point of Shoals, all on the James River, Virginia. Seven Foot Knoll Lighthouse, also built in Chesapeake Bay, was made with solid metal piles and completed in 1855.[12]

The screwpile lighthouse construction technique became especially popular after the American Civil War when the Lighthouse Board adopted a policy to replace inside (bays, sounds, and rivers) light vessels with screwpile lighthouses.[13] This was particularly true for lighthouses built in ice-free, shallow, slow-moving sheltered waters, where soft bottom shoals stood too far offshore to be protected by the more traditional onshore lighthouse structure. Examples of screwpile lighthouses built to replace lightships include: Roanoke River (1867), Harbor Island Bar (1867), Southwest Point Royal Shoal (1867), Long Point Shoal (1867), Brant Island (1867), and Horseshoe Shoal (1868), all in North Carolina; Upper Cedar Point (1867), Lower Cedar

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[10] quote in Bergin, p. 12

[11] Arnold B. Johnson, *The Modern Lighthouse Service* (Washington, D.C.: Government Printing Office), 1889, p. 26; Holland (1972), p. 99; Bergin, pp. 12-13; and Putnam, p. 84.

[12] Bergin, p. 13; Holland (1988), p. 99; F. Ross Holland, Jr., "Lighthouses" (draft National Historic Landmark Context Theme Study, 1993), p. 34; and Robert de Gast, *The Lighthouses of the Chesapeake* (Johns Hopkins University Press: Baltimore), 1993, p. 169.

[13] Holland (1988), p. 128.

Point (1867), and Janes Island (1867), all Maryland (Potomac River politically belongs to Maryland); and Windmill Point (1869), Virginia. None of these exist today.

Screwpile-type lighthouses were relatively inexpensive, easy to construct, and comparatively quick to build. A temporary platform or stage was constructed to facilitate the work. The typical screwpile lighthouse was square or hexagonal in plan. The hexagonal plan consisted of a central pile which was set first and then the six or eight perimeter piles were screwed in place around it. Occasionally, two additional fender piles were set, one on each of the ebb and flow sides of the structure for additional stability against ice such as was the case for the Bowlers Rock Lighthouse (1868), the Smith Point Lighthouse (1868), the Windmill Point Lighthouse (1869), the York Spit Lighthouse (1870), and the Tue Marshes Lighthouse (1875), all once located in Virginia and now dismantled. The York Spit Lighthouse had two extensions built over these additional piles, one for the placement of a fog signal and the other as a landing deck fitted with davits to accommodate a station boat. For the 14 or so screwpile lighthouses with rectangular or square plans, the piles were placed vertically around the perimeter of the structure, not in an incline as was typical of the hexagonal design foundations. Care was taken to ensure proper position and plumbness of each screwpile. This was often done by using a jig especially made for the job varying by the desired distance from the central pile, and angle of incline if any. Once in place, any deviation was corrected by the temporary placement of blocks and tackles fastened to the tops of the screwpiles until connecting pieces could be fitted. In addition to turning the screwpiles by hand using a capstan, horses and donkeys were sometimes employed, as well as water jets. Piles were then cut off at the uniform elevation of the lowest pile, capped with cast-iron socket castings, and reinforced with horizontal, radial, and perimeter girders to stiffen the assembly. Further stability was added by the placement of rolled iron diagonals running both tangentially and radially between the piles and girders.[14]

Upon this spider-like cast-iron foundation six spandrel and six radial beams support the keepers quarters and lantern, which was usually built of wood so as not to overload the foundation (the only exceptions known are the Brandywine Shoal Lighthouse (1848), Delaware Bay, and the Seven Foot Knoll Lighthouse (1855) which had a cylindrical iron keepers quarters described above).[15] The typical hexagonal keepers quarters was a wooden framed 1½-story cottage with horizontal clapboard siding and a metal roof. The first floor was divided into a sitting room, kitchen, store room, and sleeping room. A central enclosed spiral staircase connects the first floor to the second half story where a sleeping room, oil room, and storage area were located. The interior walls and ceilings were of finished tongue-and-groove beaded board paneling. The circular stairwell continued to the lantern room which was surrounded by an exterior deck and railing. The lantern room had glass panels set in cast-iron mullions covered with vertical tongue-and-groove on the inside and sheet metal on the outside.

At least six, and no doubt more, screwpile lighthouses were built by first driving wooden piles, then slipping a cast-iron screw sleeve over them, and then screwing the sleeve into the bottom.

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[14] "Chesapeake Bay Lighthouses," Gredell & Associates: Structural Engineers (Wilmington, Delaware, 1991), pp. 9-10; file on copy at the National Maritime Initiative Office, National Park Service, Washington, D.C.

[15] "Chesapeake Bay Lighthouses," Gredell & Associates: Structural Engineers (Wilmington, Delaware, 1991), p. 9, copy in files at Maritime Initiative Office, National Park Service, Washington, D.C.

This variation of the screwpile foundation was probably less expensive and an easier method to drive piles. The iron sleeves also protected the wooden pile from shipworm damage. Examples of screwpile lighthouses using this cast-iron screw sleeve method include: White Shoals Lighthouse (1855), Virginia; Hooper Strait Lighthouse (first) (1867), Maryland; York River Spit Lighthouse (1870), Virginia; Wolf Trap Lighthouse (1870), Virginia; Choptank River Lighthouse (1871), Maryland; and Pages Rock Lighthouse (1893), Virginia.[16]

Cottage-type Screwpile Lighthouses

There are two principal types of screwpile lighthouses: the spider-like, cottage-type and exposed skeletal tower type. The *spider-like, cottage type screwpile lighthouse* consisted of the screwpile foundations built over open water upon which a wooden cottage for the keepers quarters was constructed. Initially the cottage was a one-story building surmounted by a lantern room, but the later 1½-story cottage surmounted by a lantern room described above became more popular. Perhaps as many as 100 spider-like, cottage-type (1½-story wooden dwelling) screwpile lighthouses were built throughout the Carolina sounds, the Chesapeake Bay, Delaware Bay, along the Gulf of Mexico, and one even built at Maumee Bay, Lake Erie, Ohio.[17] However, the Chesapeake, with 42, has the distinction of having the most spider-like, cottage-type screwpile lighthouse structures of any area in the world.[18] At least 15 were built in North Carolina.[19]

The cottages were almost uniformly hexagonal in shape though there were at least 16 exceptions. The Roanoke River Lighthouse (1867), North Carolina, and the New Canal Lighthouse (1901), Louisiana, both have square keepers quarters, and both moved to shore; Roanoke River is now used as a home, and New Canal as an active aid to navigation. These two are apparently the only square cottages from a screwpile-type lighthouse to survive in the United States.[20] The other 14 exceptions, none of which exist today, include: Harbor Island Lighthouse (1867), North Carolina;[21] Upper Cedar Point Lighthouse (1867), Potomac River, Maryland, screwpile

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[16] de Gast, pp. 23, 39, 127, 152, 153, and 164; Richard Bowman Cohen, "Once There Was Light,"volume 27, number 1 (*Virginia Cavalcade*, summer 1977), p. 12; and Holland, "Chesapeake Bay Lighthouses," chapter 3, pp. 24-25 and chapter 5, p. 11. Note Holland's Benoni Point Lighthouse is the same as the Choptank River Lighthouse.

[17] Robert L. Scheina, "The Evolution of the Lighthouse Tower," in U.S. Lighthouse Service Bicentennial, a U.S. Lighthouse Society Event Souvenir Program (Newport, Rhode Island, September 21-24), 1989. pp. 20-21; and Clifford, p. 372.

[18] Ralph E. Eshelman, *A History of Drum Point Lighthouse* (Solomons, Maryland, Calvert Marine Museum, 1978), p. 1.

[19] David Stick, *North Carolina Lighthouses* (North Carolina Department of Cultural Resources, Division of Archives and History, Raleigh, 1980), pp. 60-61.

[20] Nancy and Don Kohr, "The Lost Light of Roanoke," *Lighthouse Digest* (November, 1994), 3(2):3; Shirleyan Phelps, "Remembering Good Times at Lighthouse," (*Lighthouse Digest,* June, 1995), 4(6):28-29; and Clifford, pp. 80 and 372.

[21] Stick, p. 59.

foundation survives;[22] Lower Cedar Point Lighthouse (1867), Potomac River, Maryland, and destroyed by a fire in 1893;[23] Somers Cove Lighthouse (1867), entrance to Crisfield, Maryland, screwpile foundation survives;[24] Hooper Strait Lighthouse (first) (1867), between Bloodsworth and Hooper Island, Maryland;[25] Bowlers Rock Lighthouse (1868), about 30 miles up the Rappahannock River, of Virginia;[26] Horn Island Lighthouse (1874), located off the coast of Mississippi;[27] Tue Marshes Lighthouse (1875), located at the mouth of the York River, Virginia, screwpile foundation survives;[28] Great Shoals Lighthouse (1884), Chesapeake Bay near Wicomico River, Maryland;[29] Old Plantation Flats Lighthouse (1886), located southwest of Capes Charles;[30] Killick Shoal Lighthouse (1886), near the southern entrance of Chincoteaque Bay, Virginia;[31] Cobb Point Bar Lighthouse (1889), entrance to Wicomico River, Maryland;[32] and Tangier Sound Lighthouse (1890), southeast of Tangier Island, Virginia.[33] The Seven Foot Knoll Lighthouse (1855), on Patapsco River, Maryland, relocated to the inner harbor of Baltimore in 1988, consists of a screwpile foundation surmounted with a cylindrical iron plated keepers quarters.[34] The second Northwest Passage Lighthouse (1879), Florida, had a square cottage, but a straightpile-type foundation.[35]

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[22] Clifford, p. 368; de Gast, p. 158; Orlando Ridout, "Background Briefing on Maryland Lighthouses" (ms on file at the Maryland Historical Trust, Crownsville, Maryland, no date), no page numbers; and Holland, "Maryland Lighthouses of the Chesapeake Bay," chapter 3, p. 18.

[23] Holland, *Maryland Lighthouses of the Chesapeake Bay: An Illustrated History*, chapter 3, p. 18; and de Gast, p. 156.

[24] de Gast, p. 167; Holland, *Maryland Lighthouses of the Chesapeake Bay: An Illustrated History*, chapter 3, p. 19.

[25] Holland, *Maryland Lighthouses of the Chesapeake Bay: An Illustrated History*, chapter 3, p. 17; and de Gast, p. 127.

[26] Cohen, p. 14 (note the captions for Bowlers Rock and Wolf Trap Shoal lighthouses are reversed); de Gast, p. 154; and Clifford, p. 373.

[27] George Worthylake, "Only Yesterday: Horn Island," *The Keeper's Log*, volume XII, number 2,(Winter 1966), p. 33.

[28] Cohen, p. 11; de Gast, p. 152; and Clifford, p. 374.

[29] Clifford, p. 368; de Gast, p. 165; and Ridout, n.p.

[30] Cohen, p. 17; de Gast, p. 170; and Clifford, p. 374.

[31] Cohen, p. 19; Clifford, p. 374; Cohen spells it Killick and Clifford spells it Killock.

[32] Clifford, p. 368; de Gast, p. 158; and Ridout, n.p.

[33] Cohen, p. 16; de Gast, p. 168; and Clifford, p. 374.

[34] Clifford, p. 131; and de Gast, p. 91.

[35] Dean, p. 117.

Demise of the Screwpile Lighthouse

These relatively lightweight structures were occasionally destroyed by moving ice. This was the case with the Maumee Bay Range Lighthouse, Lake Erie, Ohio, destroyed by ice during its first winter; Janes Island Lighthouse (1867), Maryland, destroyed by ice on January 20, 1879; and Love Point Lighthouse (1872), Maryland, which had several of its screwpiles severed by ice in its first winter.[36] The keepers at these two last stations apparently deserted their stations during these instances which prompted the Office of the Lighthouse Inspector for the Fifth District, in which these stations are located, to issue the following warning in 1879,

> *As there appears to be a miss apprehension on the part of some Light Keepers as to their duty under circumstances when the Station is endangered by ice or other causes, they are reminded that this position of Light Keeper is one of danger, as well as trust, that they must remain by their light as long as the house stands; and if they are dismissed to do so, it is better to resign now, rather than be dismissed for desertion, when danger arises, as the Keepers of Janes Island & Love Point Lt. Houses have been.*[37]

Ice problems to screwpile lighthouses continued over the years. The cottage of the Sharps Island Lighthouse (1866), Maryland, was torn from the foundation, lifted on its side, and carried by heavy ice for 16 hours before it grounded on land on February 10, 1881.[38] The Wolf Trap Lighthouse (1870), Virginia, met a similar fate in January 22, 1893, when it was destroyed by ice and discovered the following day 20 miles to the south with only the lantern room visible above the ice.[39] The Lighthouse Board soon installed large amounts of stone rip-rap around these structures in the Delaware and Chesapeake Bays to protect their investments. Other enemies of the screwpile lighthouse were fire, fast-flowing water that could scour bottoms and undermine foundations, and even collision by vessels.[40]

The beginning of the end of screwpile cottage type lighthouses came in 1894 when the Lighthouse Board stated in its annual report,

> *In view of recent damages by ice to screwpile structures in Chesapeake Bay, the Board is now of the opinion that only caisson structures should be used where such dangers exist.*[41]

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[36] de Gast, pp. 163 and 167.

[37] Hand written "circular" from Silas W. Terry, Inspector Fifth District to lighthouse keepers, February 17, 1879, original in archives of the Chesapeake Bay Maritime Museum, St. Michaels, Maryland, reference number 67-48-2A, copy in National Maritime Initiative Office, National Park Service, Washington, D.C.

[38] de Gast, p. 131.

[39] de Gast, p. 39.

[40] Scheina, p. 19.

[41] U.S. Lighthouse Board, *Annual Report*, 1894 (Washington, Government Printing Office, 1894).

Many of the screwpile lighthouses in the Chesapeake Bay were replaced with lighthouses using the more durable caisson foundation which came into use during the last quarter of the 19th century. The last spider-like, cottage-type screwpile lighthouse built was Ragged Point Lighthouse (1910), Maryland (waters of Maryland but closer to Virginia shore), constructed in the Potomac River near Chesapeake Bay.[42]

Other Surviving Screwpile Lighthouses

In addition to Thomas Point Shoal, other existing screwpile cottage-type lighthouses include Hooper Strait (1879), Maryland; Drum Point (1883), Maryland; and Half Moon Reef (1858), Texas; all of which have been moved ashore. Also moved ashore, Seven Foot Knoll Lighthouse (1855), Maryland, is believed to be the oldest surviving screwpile lighthouse in the United States; however, only the screwpile foundation above the waterline was moved. The portion of the piles below the waterline are still in place in the Chesapeake Bay. Mobile Middle Bay Lighthouse (1905), Mobile Harbor, Alabama, is a screwpile, cottage-type lighthouse, but the cottage was destroyed in an 1916 hurricane and the present cottage is a 1984 reproduction of the Hooper Straight Lighthouse. Many lighthouses in the Florida Keys including Carysfort Reef Lighthouse (1852), have screwpile foundations supporting a skeletal tower and do not fall under the cottage-type classification. Similarly, the Southwest Reef Lighthouse (1858), Atchafalaya Bay, Louisiana, has a screwpile foundation but not a cottage-type keepers quarter on top. There are several additional former screwpile lighthouse sites where the screwpile foundations are still present, some with modern beacons fabricated on top; examples include Southwest Point Royal Shoal Lighthouse (1887), North Carolina; and Rebecca Shoal Lighthouse (1886), Florida.[43]

Construction and Operational History of Thomas Point Shoal Lighthouse

The need for a lighthouse at Thomas Point was stated in 1823:

> *Many ship owners and seafaring men of respectability have frequently spoken to me on the subject of a light to be placed at the end of Thomas' Point bar, a few miles below Annapolis; which extends a considerable distance out into the Bay, cutting the direct track of vessels bound up or down; at the end of which from four feet, you instantly deepen to six and seven fathoms water. A light placed here, would be of as great utility as perhaps any one in the Chesapeake Bay.*[44]

Congress appropriated $6,500 for the lighthouse on May 26, 1824. Jeremiah T. Chase sold a 7-acre parcel of land at Thomas Point to the government for $529.69 in 1824. John Donahoo of Havre de Grace, Maryland, and Simon Frieze of Port Deposit, Maryland, were awarded the contract to build the lighthouse for $5,626. (Donahoo built a total of 12 lighthouses on the

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[42] Holland (1993), p. 8. Holland gives no name for this lighthouse but Ragged Point is the only lighthouse listed for 1910 in Clifford p. 368 and de Gast p. 156.

[43] Clifford, pp. 1, 83, 126, 128, 134 and 309; and Holland, *Maryland Lighthouses of the Chesapeake Bay: An Illustrated History*, chapter 5, p. 15.

[44] William B. Barney letter to Stephen Pleasonton, Baltimore, December 22, 1823, Lighthouse Superintendent's Correspondence, Baltimore, 1819-24.

Chesapeake Bay.) Mr. Bovis of Baltimore supplied the lighting apparatus which consisted of 13 lamps with 16-inch-diameter reflectors. Built on a high bank 100 feet from the edge, continual erosion forced the Lighthouse Establishment to place stone along the bank; however, the bank had eroded to within 15 feet of the tower by 1838 and only a few feet from the tower by 1840. In 1838 the Lighthouse Establishment noted that "rain, in windy weather, beats through the old masonry of the tower, flooding the inside of the structure, and frequently damaging the material in charge of the keeper." The tower was torn down by Winslow Lewis and rebuilt in 1840 behind the keeper's dwelling and raised 3 feet so the light would be clearly visible from behind the dwelling's chimney. Lewis re-used the old materials from the first tower and charged only $2,000 to rebuild the tower. A fifth-order Fresnel lens was installed on May 15, 1855. This lens was replaced with a fourth order in 1857.[45]

The shoal a mile and a quarter offshore from where the Thomas Point Shoal Lighthouse had been built, over time, had enlarged and forced vessels of deep draft to lie even farther offshore. Though the shoal was also marked by an inadequate buoy, the onshore lighthouse and fog bell became even less effective in warning larger vessels from running onto the expanding shoal. The Lighthouse Board in their 1872 annual report stated, "its present location is such that little use can be made of it at night, and in times of thick or foggy weather it is utterly useless." In addition, the existing tower was deteriorating—leaking badly and flooding during rains. Congress appropriated $20,000 on March 3, 1873, for a replacement screwpile lighthouse offshore.[46]

The Lighthouse Board wanted to build a steadier caisson-type lighthouse because of ice problems associated with similarly located screwpile lighthouses elsewhere in the Chesapeake Bay and requested an additional $25,000. When funding was not approved, they decided to build a much less expensive screwpile cottage-type lighthouse. The screwpile structure was built on five acres of submerged land conveyed by the State of Maryland to the Federal Government on October 28, 1874. Congress appropriated an additional $15,000 to complete the lighthouse on March 3, 1875. The old shore tower was taken out of service and the new lighthouse was commissioned on November 20, 1875. The new lighthouse was built on 10-inch wrought-iron piles and was fitted with a third-and-one-half-order lens exhibiting a red flash every 20 seconds.[47]

The concerns of the Lighthouse Board about ice problems proved valid in 1877 when the shore tower had to be briefly re-lit when vibrations or "oscillary motion" from ice floes in the Bay

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[45] Lighthouse Board, *Annual Report, 1855*; *1858*; *1868*; and *1869*; Fifth Auditor's Office, Lighthouse Letters, volume 12, p. 209, volume 13, pp. 323, 459, volume 14, p. 419, volume 15, pp. 445, 446, 480, and volume 17, p. 38; de Gast, p. 79; William Barney letter to Stephen Pleasonton, Baltimore, February 18 1825, Lighthouse Superintendent's Correspondence, Baltimore, 1825-52; and Holland, *Maryland Lighthouses of the Chesapeake Bay: An Illustrated History* Crownsville, chapter 1, pp. 16-18, chapter 4, p. 37, and chapter 6, pp. 1-2. de Gast, p. 79, states Dohohoo's inexperience and poor workmanship was responsible for the rebuild of the tower, not erosion. Linda Turbyville, *Bay Beacons: Lighthouses of the Chesapeake Bay* (Eastwind Publishing: Annapolis, 1995), p. 40 repeats inexperience as the cause for the tower rebuild. This, however, is not what the Lighthouse Establishment indicates in its reports which praise Donahoo. Erosion was the reason for the rebuild. de Gast also states the rebuild cost was $2,500 while Holland states $2,000.

[46] Lighthouse Board, *Annual Report, 1872*; and *1873*.

[47] Lighthouse Board, *Annual Report, 1874*; and *1875*.

caused the screwpile lighthouse lens to overturn. A fourth-order Fresnel lens was installed to replace the damaged lens. The screwpiles were pushed out of perpendicular about one inch to the foot and the lower spur pile was broken from the horizontal braces. The superstructure was not damaged. To protect the lighthouse from similar ice damage, a triangle of three wrought-iron screwpiles connected by double channel iron beams and surmounted by heavy cast-iron caps, securely bolted together was built about 90 feet north of the lighthouse. The ice breaker deflected ice moving down the Chesapeake Bay from the north. In 1883 the cast-iron socket on the northeast corner pile was damaged by ice. It was strengthened by heavy wrought-iron bands securely bolted to the old iron. The iron steps leading to the water landing were also repaired. In 1886 over 1,400 cubic yards of riprap stone were placed around the screwpile foundation to provide additional protection from ice. In 1887 another 200 cubic yards of riprap were added to replace stone carried away by the action of the ice and currents on the north and west sides. The main gallery deck was repaired and a new trap door installed the same year.[48]

In 1896 a new lightning rod was installed and four new water tanks supplied to replace the old ones. In 1899 new fourth-order lamps were supplied. The illuminant was changed from oil wick to incandescent oil-vapor in 1913. In 1918 ice broke two piles, damaged others, and destroyed the landing ladders. During an August 23, 1933, hurricane, nearly a ton of coal was washed from the damaged coal bin on the lower supply platform, and despite water being driven "in every crease and crack," no structural harm resulted.

In 1919 two contracts were awarded, one to place riprap around the station and the second to repair iron work at the station. Six-hundred tons of riprap were placed around the north and south fender piles or "ice breakers" in 1920. The metal work was not completed until 1921. A "spray hood" was installed in 1931, but the exact purpose for its use is unknown. A Kohler Generator was installed in 1933 for $2,500. The light was changed to electric on August 30, 1934, with two Aladdin lamps kept as backups. In 1938 the light characteristic was a two-second flash followed by a 13-second eclipse; the fog signal diaphone giving a 2-second blast every 13 seconds. A Gamewell striker which could give three strokes every 30 seconds stood standby. The bell was a standard 1000-pound bell.

The station carried an 18-foot "motor boat" powered by a Lathrop engine and a 16-foot "skiff," both hung from davits. A radiobeacon was installed on March 1, 1953. Thomas Point Shoal Lighthouse was outfitted with a Radio Direction Calibration Service beacon on May 15, 1963.

During the Coast Guard operation of the light station, four men alternated duty. Each man served 21 days on and 7 days off, with three men living at the station at one time. By the 1970s a crew of only three men served; 14 days on and 7 days off with only two men living at the station at one

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[48] Lighthouse Board, *Annual Report, 1877*; *1883*; *1886*; *1887*; *1896*; and *1899*; Holland, *Maryland Lighthouses of the Chesapeake Bay: An Illustrated History*, chapter 5 p. 3; log book quote from H.F.G. Bryant, keeper at Thomas Point Shoal Lighthouse; and National Archives photograph 26-LG-25-54 taken August 18, 1885 by Major Jared A. Smith of the Corps of Army Engineers, shows the ice breaker in place; copy of photo in Thomas Point Shoal Light file, National Maritime Initiative Office, National Park Service, Washington, D.C.

time. Every Tuesday when the rotation shifted, the new man brought the incoming mail and groceries for the week and the leaving man took the outgoing mail and garbage.[49]

By 1964, Thomas Point Shoal Lighthouse was the only manned light station on the Chesapeake Bay (excluding Cape Henry Lighthouse). There was no telephone but communication to shore was possible by radio. Fresh water was caught by the gutter downspout system and stored in two 1,400-gallon tanks. Water could be replenished in times of drought by a Coast Guard buoy tender. Mail at one time was kept in a leather pouch which hung by the front door and was exchanged with the first vessel to visit. Today a wooden box hangs on the inside wall by the entrance door and labeled in paint "Outgoing Mail USCG." About 1971 the toilet was changed to an "Incinomode," an electrically super heated toilet which incinerates waste.[50]

When the Coast Guard announced plans to demolish the lighthouse in the early 1980s, a public outcry ensued. "The Lighthouse Foundation, Inc." a non-profit organization, headed by Rodney Little, Director of the Maryland Historical Trust, was formed to save the historic lighthouse. Politicians at the state and federal level were lobbied, many who then took the lead in the fight to save the lighthouse. Several federal and state politicians visited the Thomas Point Shoal Lighthouse in October 1974. Their efforts were successful, when the last manned lighthouse within the Maryland portion of the Chesapeake Bay, was placed in the National Register of Historic Places in 1975. The Coast Guard considered renting the lighthouse to a civilian in an effort to keep the light station operational and to protect it from vandalism without further cost to the Coast Guard. At least 68 applications were received, but the Coast Guard decided against the idea in favor of automation in 1986 at a cost of $172,000. Automation, they estimated, would reduce the operational costs from $38,000 to $5,000 per year. The lighthouse was "hardened" to protect it from vandalism, including replacing the glass with bullet-proof LEXAN® and having the station alarmed. The nearby Smithsonian Environmental Research Institute, at Edgewater, Maryland, had expressed interest in using Thomas Point Shoal Lighthouse as part of their educational programming.[51]

Vandalism was reported in 1984. In 1985 a C-MAN, NOAA automatic weather gathering system was installed on the southwest side of the upper gallery deck. On September 5, 1986, the lighthouse was completely automated. The lighthouse uses a 300mm acrylic lens with lamps powered by solar panels. Rated at 6,000 candlepower, the white light sector is visible 11.9 miles. The two red sectors are rated at 1,300 candlepower visible at a distance of nine miles. The fog

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[49] Linda Turbyville, *Bay Beacons: Lighthouses of the Chesapeake Bay* (Eastwind Publishing: Annapolis, 1995), pp. 42-43; and Patricia Rossey letter to Bill Morrison, August 19, 1992, copy in Thomas Point Shoal Lighthouse file, National Maritime Initiative, National Park Service, Washington, D.C.

[50] Thomas Point Shoal Light file, and Milton Hartig oral communication with Ralph Eshelman, February 9, 1995, USCG facility, Curtis Bay, Baltimore, Maryland. Hartig states there were three cedar water tanks at the station but they have since been removed.

[51] New Release by Congresswoman Marjorie Holt, April 5, 1975; "Good View Guaranteed In Lighthouse for Rent," *New York Times* (April 26, 1984); and Bob Grieser, "Thomas Point is Manned No More," *Chesapeake Bay Magazine* (September 1986), pp. 26-37. There are numerous newspaper clippings and press releases related to this issue, copies of which are in the Thomas Point Light file, National Maritime Initiative Office, National Park Service, Washington, D.C.

signal is also solar powered, audible for half a mile when conditions warrant. Some structural beams and tie rods were replaced in 1992, and the lighthouse cleaned, and painted by USCGC *Red Cedar* in 1993.[52]

The last unaltered screwpile, cottage-type lighthouse on its original foundation in the United States, Thomas Point Shoal Light Station continues to serve as an aid to navigation and a popular landmark to boaters on the Chesapeake Bay. In 1998, the Chesapeake Bay Lighthouse Society was exploring the possibility of undertaking the preservation of the structure for the U.S. Coast Guard with the possibility of leasing it as a bed and breakfast.

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[52] Lighthouse Board, *Annual Report, 1913*, p. 45, *1919*, p. 52, *1920*, p. 46, and *1921*, p. 50; "Description of Thomas Point Light Station, March 26, 1938," copy in Thomas Point Shoal Light file, National Maritime Initiative Office, National Park Service, Washington, D.C.; de Gast, p. 79; USCG Work Order Book from the Lazaretto Depot, archives of the Chesapeake Bay Maritime Museum, St. Michaels, Maryland (catalog number CBMM 68-110-21); and *New York Times* (April 26, 1984) 111:1; The 1,000-pound fog bell and compressed gas striker (catalog number CBMM 68-42-1), Gamewell Number 3 fog bell striker (CBMM 81-4-1), and Aladdin mantle lamp (CBMM 81-14-1) used as a backup light from Thomas Point Shoal Lighthouse were loaned to the Chesapeake Bay Maritime Museum, St. Michaels, Maryland, and are now displayed at the Hooper Straight Lighthouse.

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Previous documentation on file (NPS):

___ Preliminary Determination of Individual Listing (36 CFR 67) has been requested.
_X_ 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:

X State Historic Preservation Office
___ Other State Agency
X Federal Agency
___ Local Government
___ University
___ Other (Specify Repository): National Maritime Initiative, National Park Service, Washington, D.C.

10. GEOGRAPHICAL DATA

UTM References:	Zone	Easting	Northing
	18	**375440**	**430200**

Verbal Boundary Description:

The boundary encompasses the screwpile foundation of the light station, protective rocks, and ice breaker.

Boundary Justification:

The boundary completely encompasses the historic light station.

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