THE KEEPER'S LOG

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Delaware Breakwater East End Lighthouse Stands the Test of Time

By Bob Trapani, Jr.

The story of the Delaware Breakwater East End Light Station cannot be told without first delving briefly into the history of the Delaware Breakwater's massive stone wall.

At the time of its construction, the engineering marvel that yielded the eight-tenths-of-a-mile-long wall of protection off Cape Henlopen was the second largest such work of its kind in the world. Though the breakwater's obvious value as a harbor of refuge proved immense for mariners caught in the midst of a northeast storm, the initial undertaking in the 1820s was tied more to the financial concerns and maritime losses of Pennsylvania and Delaware merchants than to humanitarian aspects.

Another political force lobbying Congress for a protective breakwater was the nation's War Department, which envisioned the stone wall as a huge benefit for its largest class of naval war vessels.

Though Congress appropriated $22,700 by the Act of May 7, 1822, for "erecting in the bay of Delaware two piers of sufficient dimensions to be a harbor of shelter for vessels from the ice," seven years passed before the project commenced. Contractors finally dropped the first stones into the waters of the harbor in 1829, and 40 years later, in 1869, the Delaware Breakwater was finally completed.

During the early 1880s, raging surf and shifting sands were steadily undermining the vulnerable Cape Henlopen Beacon Light (not to be confused with the Cape Henlopen Lighthouse) on the nearby point of the cape. Finally in 1884, the U.S. Lighthouse Service put forth plans to transfer the duties of the doomed beacon light and its fog signal station from its eroding cape location to the east end of the offshore Delaware Breakwater.

By April 5, 1885, the Delaware Breakwater East End Light Station construction process progressed to the point that a temporary light 50 feet above mean low water could be exhibited from the site. The 1885 *Annual Report* stated, "The lantern is of the fourth order, and is fitted with a red panel to correspond in all aspects with the permanent beacon which is to replace it."



A view of the Delaware Breakwater in 2006 from atop the lighthouse. Photo by Bob Trapani, Jr.

On October 2, 1885, the temporary beacon was discontinued and the newly constructed Delaware Breakwater East End Lighthouse was illuminated for the first time. During November of the same year, a Daboll trumpet fog signal was established at the light station, thus officially replacing the steam fog signal station that still remained at the site of the former Cape Henlopen Beacon Light.

The Delaware Breakwater East End Lighthouse was constructed as a conical cast-iron tower, standing 56 feet tall from its base to the cupola and painted brown. The light's focal plane was 61 feet above the water.

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The lighthouse was originally outfitted with a fourth-order Fresnel lens and showed a fixed white light seaward for approximately 13 miles. Red panels or sectors were placed in the lantern to warn mariners of a dangerous shoal just off Cape Henlopen as vessels entered the harbor.

The caisson base of the Delaware Breakwater East End Lighthouse was established into the stone breakwater at a depth of 11 feet. The interior of the lighthouse contained six levels within a tapered cylinder, which was lined with brick. Lightkeepers accessed the structure from the west side of the tower and entered the first level, which was a work area for the fog signal machinery.

The second level housed the kitchen and office area and the third and fourth levels were sleeping quarters for the keepers and the occasional laborer. The diameter of the first four levels of the lighthouse was approximately 22 feet, making the living area within the structure quite confining for its keepers, especially during the long, cold days of winter.

The fifth level of the lighthouse tapered off to 18 feet and contained a watchroom and an exterior gallery below the lantern. The sixth and final level served as the lantern.



A vintage mid-20th century view of the light station from the breakwater. Photo from Lewes Historical Society Collection.

Though the navigational value of its shining light was undoubtedly critical, ship captains considered the sentinel's "voice" paramount during times of thick weather. No other light station in Delaware Bay history sounded its fog signal more often than Delaware Breakwater East End.

During the first full two years of operation, 1886 and 1887, the U.S. Lighthouse Service reported that the fog signal sounded its raucous warning 898 and 912 hours respectively. To keep the fog signal working through such hours of operation, the lightkeepers were feeding the system an average of six tons of coal per year.

Like other offshore lighthouse sites, the keepers of the Delaware Breakwater East End Lighthouse witnessed their share of severe gales and high seas, with none greater than the legendary storms of March 1888 and September 1889.

The *Denton Journal* reported that the March 1888 blizzard caused more than 23 vessels to be stranded and that "twenty-five lives were lost."

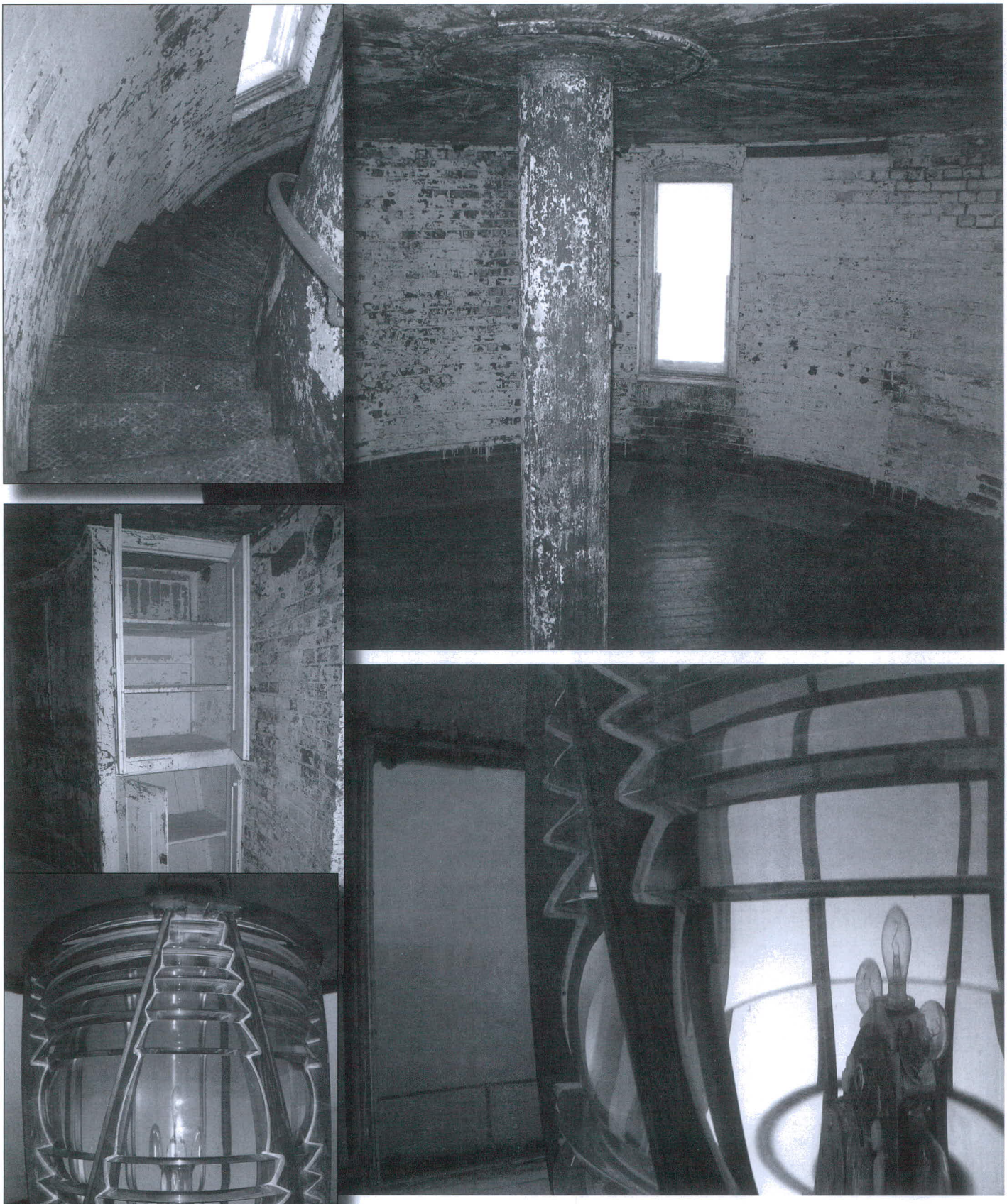
The September 14, 1889 edition of the *Denton Journal* noted, "…no language can picture the terrible scene along the coast. The wind is blowing with almost hurricane fierceness, driving the rain with a force that cuts like hail. The half-mile reach of sand between town and coast is a tossing, billowy ocean, bearing wreckage on every wave. Through the mist of spray and storm, the tattered sails and naked masts of a score of dismantled vessels can be dimly seen."

The news account went on to state, "Since Monday night the storm has raged without abatement. Yesterday's dawn showed a hundred vessels which had sought the refuge of the breakwater. The refuge was insufficient. By eleven o'clock the sea broke over the breakwater…there were in all about thirty vessels washed ashore and forty lives lost."



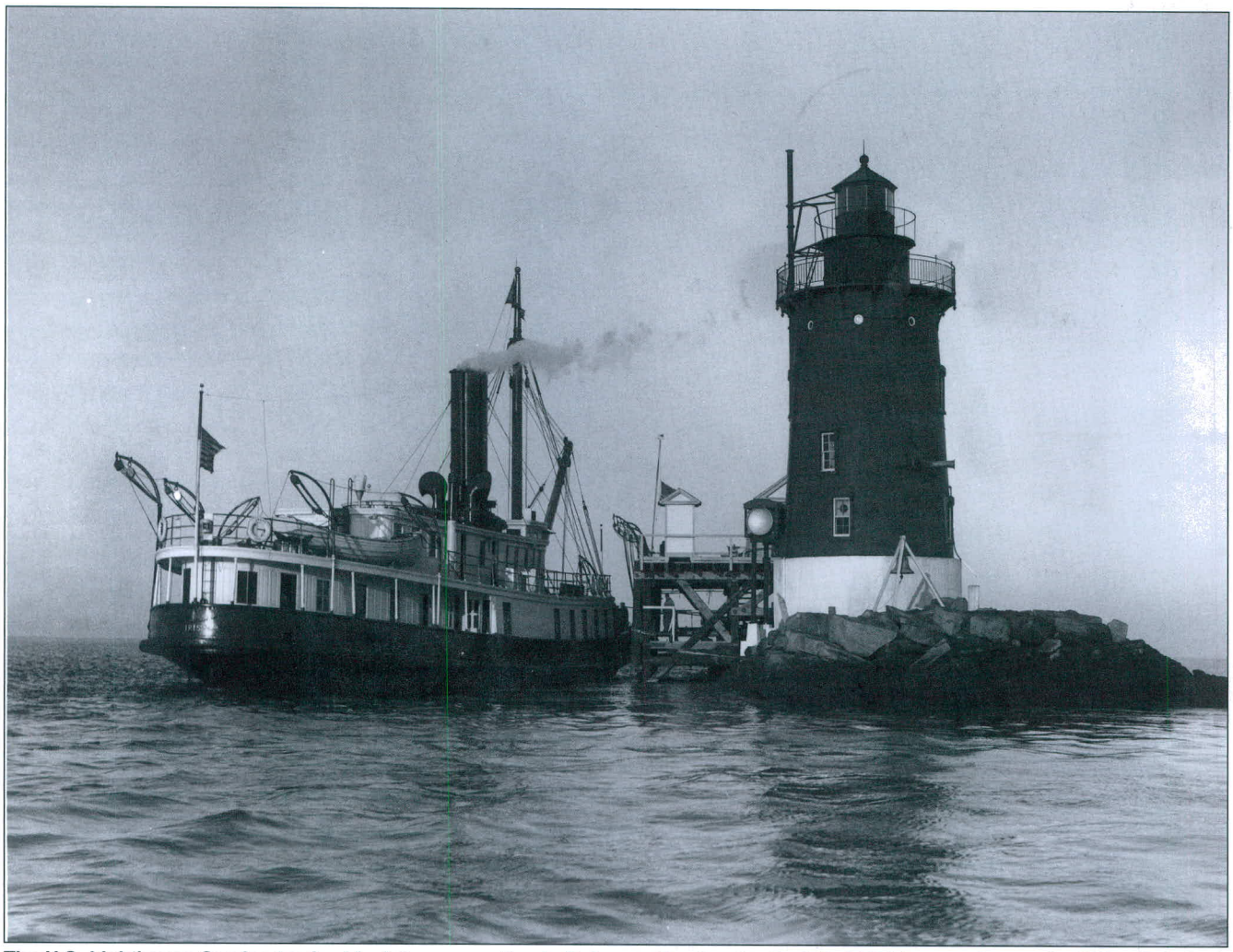
Left: The temporary beacon established at the site circa 1885 during the construction of the lighthouse. U.S. Coast Guard Photo.

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Clockwise from top right:
A view of the staircase inside the lighthouse.
An interior view of the lighthouse.
A close-up view of the classical lens and a red sector inside the lantern.
A view of the classical lens inside the lighthouse.
A view of built-in wooden cabinets inside the lighthouse.
All photos circa 2006 by Bob Trapani, Jr.

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The U.S. Lighthouse Service tender *Iris* delivers supplies to Delaware Breakwater East End Lighthouse circa early 1900s. U.S. Coast Guard Photo.

In 1903 the east end lighthouse took over for the decommissioned Delaware Breakwater West End Lighthouse as the front light for the Delaware Breakwater Range.

The range light duties of Delaware Breakwater East End Lighthouse remained in place for 15 years until 1918, when the Delaware Breakwater Range was discontinued.

At this point, the Delaware Breakwater East End Lighthouse reverted back to serving as a stand-alone navigational aid marking the old or inner breakwater (by this time, a larger breakwater, the National Harbor of Refuge, had been constructed further east of the 1829 stone breakwater).

Ed Kassick, a Coast Guard lightkeeper in the 1940s, described life at Delaware Breakwater East End Lighthouse (in a March 1997 edition of the *Cape Gazette*, Lewes, Delaware), saying, "The duty was four hours on and four hours off. While on duty we had to make radio checks every hour to make sure that system was operating properly and keep the log book up to date."

Kassick went on to note, "We hauled bags of coal to keep the stoves burning, took turns cooking, shined brass, varnished, painted and cleaned the lens. A whole lot of housekeeping is what it amounted to. And the glass at the top of the light, around the prism, had to be cleaned to keep the salt spray off."

When he wasn't tending to his lighthouse duties, one of keeper Kassick's favorite pastimes was fishing. "And we caught a lot of fish. Did a lot of fishing off the walls (the breakwater). There were nice holes in the rocks where the black fish were always biting. Those men knew how to salt them down for the winter."

With the passing years, the old Delaware Breakwater grew less important as a protective harbor, which prompted the U.S. Coast Guard to move toward automating the Delaware Breakwater East End Lighthouse.

A letter dated June 12, 1950, from the desk of the commander of the Third Coast Guard District, stated, "The added burden of transportation of aids to navigation personnel and the maintenance of aids to navigation quite frequently leaves the Lewes Lifeboat Station short of personnel should an emergency occur. In view of the above, it is recommended that two of the personnel now authorized for Delaware Light Station be assigned to Lewes Lifeboat Station in order that the station may perform its search and rescue duties in a more efficient manner."

This recommendation was carried through, and the last resident Coast Guard lightkeepers were ordered to leave the Delaware Breakwater East End Lighthouse. A Coast Guard memo dated July 20, 1950, was very brief in conveying this change at the lighthouse, as it simply stated, "The light station was changed to unwatched on 11 July, 1950."

Automation would not bring an end to interesting history at Delaware Breakwater East End Lighthouse. Another unique chapter was forged a little over a decade later when

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A contemporary view of the lighthouse from the breakwater. Photo by Bob Trapani, Jr.

the structure was occupied by The Pilots Association for the Bay and River Delaware.

The Pilots Association for the Bay and River Delaware is an organization of professional captains who guide large commercial vessels safely along the Delaware River and Bay to ports of call in New Jersey, Pennsylvania, and Delaware.

Prior to 1979, the pilots did not have a land-based operation at the Delaware Capes. Their operational platform was the pilot boat *Philadelphia*, but challenges would arise when the *Philadelphia* required dry-dock services or emergency repairs.

A letter dated October 8, 1962, from the Pilots President W.R. Egan to the commander of the Third Coast Guard District conveyed the organization's desire to occupy the Delaware Breakwater East End Lighthouse as a base of operations during times of necessity. The letter stated:

> "Dear Admiral, we are interested in the possibility of our Association being able to use the facilities of the old breakwater lighthouse at Delaware Breakwater. The light is unmanned and the quarters are not being used. We wanted the facility as an emergency point of operation if it would become necessary. We would use it at least during times when our big boat is in the shipyard or has to leave the station. I would be glad to come to New York and talk this over with you and explain more in detail our reasons for this request and get your views on the matter, if you so wish."

The Coast Guard eventually approved of this arrangement in February 1963, with the stipulation that USCG servicing personnel have access to the lighthouse. The Pilots Association would utilize the Delaware Breakwater East End Lighthouse as a periodic base of operations well into the 1970s.

The Delaware Breakwater East End Lighthouse was deemed unnecessary as an aid to navigation and decommissioned by the Coast Guard in September 1996. The General Services Administration would later transfer ownership of the lighthouse from the Federal government to the State of Delaware on February 5, 1999.

The Delaware Division of Historical & Cultural Affairs leased the lighthouse to the Delaware River and Bay Authority (DRBA) on November 12, 2001. The lease agreement presented an opportunity to ensure the light's future preservation and enable the historic site to be used as an educational resource for the general public's benefit.

On September 30, 2004, the Delaware River and Bay Authority announced a working partnership with the nonprofit Delaware River and Bay Lighthouse Foundation.

The Delaware River and Bay Lighthouse Foundation made history at the lighthouse site when its educational efforts yielded the first-ever public tours of the Delaware Breakwater East End in spring 2006.

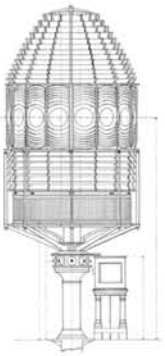
The historic importance of Delaware Breakwater East End Lighthouse and the public's admiration for this rugged sentinel was honored by Delaware Public Archives in a ceremony at the site on October 1, 2006, that witnessed the dedication of a historic bronze marker inside the tower.

The lighthouse continues to be cared for by the Delaware River and Bay Authority and the Delaware River and Bay Lighthouse Foundation.



Ice clogs the breakwater harbor during the winter of 2003-2004. Photo by Bob Trapani, Jr.

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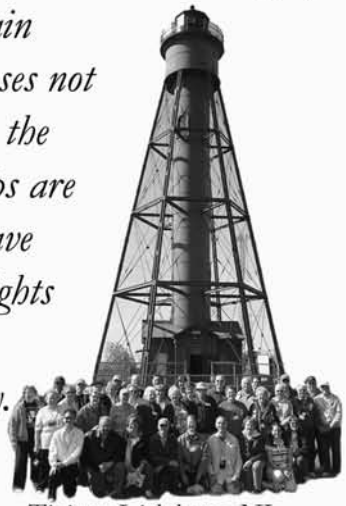
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