

Bygone Tidal Indicator Lost in History's Memory

By Bob Trapani, Jr.

Twenty-first century seafarers may take for granted the wealth of navigational information available to today's professional mariner, but not that many years ago, such electronic wizardry was unthinkable. Much of this highly useful information in the form of real-time digital data, colorful graphs and up-to-the-minute marine conditions is now at our finger tips thanks to trusted maritime resources on the Internet such as NOAA, the U.S. Coast Guard and regional Maritime Exchanges. The real-time data is designed to not only enhance navigational safety but also to improve the operational effectiveness of commercial maritime interests aboard vessels and in ports throughout America.

But what did the pilots and captains of vessels 100 years ago do before the digital age and all its boundless, on-demand assistance enhanced the art of navigation when it came to assessing a critical element like the tidal levels in route to ports of call? As could be expected, the masters of vessels and their crews relied heavily on firsthand experience accrued from their time at sea, as well as the available instruments and accepted navigational practices of a century ago. But just like today, the maritime interests at the turn of the 1900s were always seeking new technology to help reduce the margin of error in navigation by providing the professional mariner with as many additional navigational aids and resources as possible.

One such technological device was called the tidal indicator – a simplistic, yet invaluable source of information to mariners of the late 19th century and early 20th century. Just what is a tidal indicator you might ask? The 1908 United States Coast Pilot explains the device, noting, "The arrowhead in the middle of the semicircle when pointing upward indicates a rising tide, and when pointing downward a falling tide. The pointer near the arrowhead points to the height of the tide (in feet), which is indicated by figures on the semicircle, the zero agreeing with mean low water." The overall face of the tidal indicator was thirty feet in diameter.

The tidal indicator was maintained by the Coast and Geodetic Survey and was established along waterways leading to important

American ports that possessed problematic shoals. These navigational hazards required mid to high water for safest passage and thus presented an opportunity for the technology of the time to assist mariners. Port interests represented by the Maritime Exchanges for regions such as Philadelphia and New York were vital advocates for such improvements in navigational aids one hundred years ago as they are today.

The 1895 *Hand Book of the Lower Delaware River*, a historical overview (1875-1895) of the purpose and activities of the Philadelphia Maritime Exchange, contains an entry highlighting the many accomplishments of the organization from its inception at that time. An entry from 1894 noted, "Secretary of the Treasury petitioned to have established and maintained at the National Quarantine Station, Reedy Island, a tidal indicator, to advise vessels of the depth of water over Dan Baker Shoals and Duck Creek Flats.

This tidal indicator instrument at Reedy Island, which is a marshy island located in the Delaware River south of Philadelphia, could be plainly seen by the crews of passing ships in the vicinity. The 1908 *Coast Pilot* notes that the tidal indicator was "erected on the quarantine wharf at Reedy Island, and faces up the river." For vessels transiting the river to sea eastward of Reedy Island, the instrument was found on the northeastward side of the island.

Another tidal indicator along the Delaware River – though smaller in size, was located upriver from Reedy Island at the Port of Philadelphia. The instrument was mounted in the Bourse Building, which was home to the



The Tidal Indicator on Reedy Island in the Delaware River. Photo courtesy of NOAA.

Philadelphia Maritime Exchange, and conveyed the status and level of the tide at the all-important Chestnut Street wharf where maritime activity was always bustling.

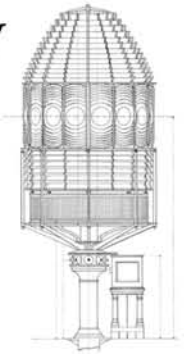
Philadelphia was not the only port to make use of the tidal indicator. The New York Maritime Exchange also advocated for the device and obtained it for such locations as The Narrows and at Nos. 78-80 Broad Street, New York City. In similar fashion as their comrades in Philadelphia, the tidal indicator at the Broad Street location was mounted in the New York Maritime Exchange building and showed the state of tide at Pier A, North River.

An 1897 *Report of the Superintendent* notes that at that time, only one other tidal indicator of this style was being utilized by the Coast and Geodetic Survey, which was located on the West coast in San Francisco.

In hindsight you might say the tidal indicator device was a sort of 'wheel of fortune' that offered critical information to ship captains of a bygone era – an instrument that could easily be the difference between disaster and safe passage at a time when its presence was state-of-the-art and highly valued by maritime interests.



Join the U.S. Lighthouse Society Today or Give the Gift of Membership!



Restoration & Preservation



Thomas Point Shoal Lighthouse, MD

The U.S. Lighthouse Society has donated to many lighthouse preservation projects throughout the U.S. Most recently we were honored by being presented with the Preserve America Stewardship Award from The White House for our restoration work at Thomas Point Shoal Lighthouse.

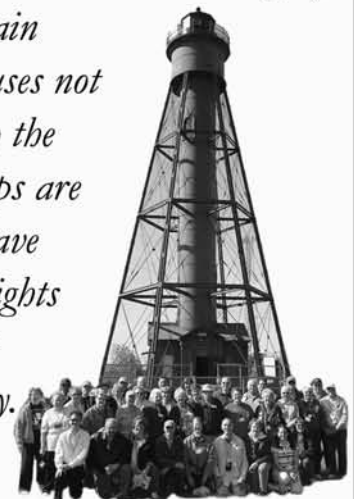
Help Support Our Important Mission!

Education



The Keeper's Log magazine is the only one of its kind and has been published quarterly since 1984. Receive this award-winning publication as a benefit of membership.

The Society organizes domestic and international lighthouse tours. Many of our excursions gain access to lighthouses not normally open to the public. These trips are a great way to have fun, see lots of lights and learn about lighthouse history.



Tincum Lighthouse, NJ

*To learn more visit
www.uslhs.org
or
call Headquarters at
415-362-7255*