

In its early days as a village port of entry, Buffalo's experience with lighthouses was to build them and then begin to ponder replacing them within a few years. This was true of the initial 1820 tower, which was quickly "obscured by the smoke of the village" and resulted in an appropriation for a better beacon by 1826. The replacement tower of 1833, while still standing to this day, was quickly judged by some as merely "a good stationary light," but one which must be augmented by a more powerful beacon station. The reason these two towers failed to provide for Buffalo's maritime needs was the explosive growth of the city on the heels of the Erie Canal's opening in 1825. The waterway had its westernmost endpoint in Buffalo, which led to a fourfold increase in population by 1832.

In 1838, a Lighthouse Board report noted that while Buffalo's stone tower was currently adequate to the bustling ship traffic, a greater problem was the lack of an enlarged harbor entrance. The report describes how Buffalo's harbor is in an "elongated shape," being defined by the "narrow but deep...Buffalo Creek." At the creek mouth was located the tower, "erected (on) a substantial pier," but at this juncture the crowd of ship traffic was noted to be "of serious inconvenience."

Despite these admonishments, it wasn't until 1868 that definitive action was taken. In this year, a 4,000 foot long breakwater, unattached to the land, was constructed 2,500 feet away from the lighthouse. This structure's purpose was to increase the harbor's size and allow ships more room for docking and maneuvering.

In 1870, a Treasury Department appropriation was made for two lights to be placed on the new breakwater. Only the northern end of the bulwark was finished, so at this time only the large station on its wooden crib was planned for construction. An 1871 Board report lamented that the low budget "appropriation would not admit of a very elaborate structure," and therefore outlined a plan to use cheap timber for building. The report also acknowledged the difficulty with commuting from on shore to the breakwater owing to rough waters, necessitating fully integrated keeper's quarters at the station.

By 1871 contracts were made for the timber and framing of the structure, as well as the limited amounts of iron and stone which would be used. On May 18<sup>th</sup> of that year, a forty foot square crib was sunk near the breakwater's north end. Work was halted until June 15<sup>th</sup> to permit the crib to settle into the lake bottom, at which point six extra courses were added to it. The pier for the dwelling was elevated twelve feet above the water level, and the beacon tower began eight feet above that. The light's tower was supported "by heavy upright oak timbers securely framed into the pier, the oak timber being firmly held by adjustable wrought iron rods." The signal was produced by a 4<sup>th</sup> order Fresnel lens, fixed and tinted red, with a focal plane 37 feet above the lake. On the beacon's west edge and standing 24 feet over the water's surface, a fog bell was located. This bell was made to ring three times in rapid succession every thirty seconds. To underscore the importance of the new breakwater light, this fog bell was transferred to it from the old

stone tower now sitting comparatively further back in the harbor.

Completion of the north breakwater light was delayed until 1872, owing to "continued and irregular settling of the pier..." When it became clear in 1871 that the pier would not properly align in order to finish work that year, heavy stone was deposited around its northwest corner to hold it in place over the winter. Construction began again in the spring, and by midsummer the interior of the house had been completed. In 1880 the lantern and keeper's quarters were given a fresh coat of paint. 1888 saw some more significant repairs to the piles guarding the crib's northeast corner, and the Board noted that "the station is in fair condition." Two years later, the timbers and foundation beneath both the fog bell and the keeper's quarters were replaced. Noting that the fog bell was not very useful, the District Inspector recommended repeatedly over the next few years that a steam signal be put in its place. He believed that this could be accomplished for \$4,300.

A ten inch, steam powered fog whistle was finally installed at the station in 1893. To clear the necessary room for the fog signal house, the keeper's quarters and beacon tower were moved from the center of the crib to its westernmost corner. The signal house was essentially the same make as the one used at the Genesee light station. The outside of the building was sheathed in corrugated iron, and its interior was finished with smooth iron. It came equipped with closets and reflector lamps, and also had a sizable room for coal storage on its western side. The fog signal originally

made a couple of 3 seconds blasts every minute, but within a few years this was changed to a single blast per minute to cut down on noise pollution. For this same reason, a "concave structure constructed somewhat on the principle of a parabolic reflector" was placed behind the whistle to "divert the sound waves from the city and toward the lake."

In 1899, the breakwater's lantern was raised 12 feet higher to attain greater visibility. Along with this upgrade, a watchroom was built underneath the lantern, and the oil room and fog bell machinery was moved lower down beneath the keeper's quarters. A new smokestack was also supplied for the steam whistle boilers, which were themselves replaced in 1901. Despite these improvements, the breakwater station was subjected to numerous collisions during these years, including an accident with a tugboat in 1899 and another with a barge in 1900 (the light was also struck by both a freighter and a steamship between 1909-10). Perhaps owing to these difficulties, a temporary red post lantern was erected on the now completed south end of Buffalo's north breakwater. In addition, the south and east sides of the crib were reinforced with new timbers, and the deck was also redone with new planks. The timbers composing the truss frame that supported the keeper's dwelling were almost all replaced as well.

In 1903 the concrete foundation for the new iron 'bottle' light on the south end of the breakwater was finished, and the ironwork for the station was delivered to Buffalo. A "fixed red lens lantern light" was first exhibited from this small tower in September. In

1908, the Board reported that the crib of the main breakwater station was "greatly decayed" and that both the fog signal house and keeper's dwelling were either leaking water or otherwise unstable. In 1910, after some urging, \$60,000 was allocated to rebuild the Buffalo Breakwater North End light station. By 1912 this work was around 60 percent completed, with the brickwork up to the second story having been laid and \$16,790.79 having been spent. The contractor's task was completed on April 25, 1914, and the new structure possessed a compressed air diaphone signal and a third order Fresnel lens.

The rebuilt breakwater station was constructed on the ruins of its predecessor. The old crib and foundation were removed to a level 4 feet below the depth of the lake, and a reinforced concrete base was laid. Rectangular in shape, the structure was composed of "vitrified cream colored brick, with trim of Westerly granite." The building's roof was covered in tile, with steel framing, wood sheathing, and gutters and flashing made of copper coated in tin. The interior of the light station was furnished with enameled brick and ceramic tile floors, though the flooring for the living room, office and bedrooms was maplewood. The stairway possessed cast iron treads and landings and was framed with steel. There was enough living space for three single keepers to share, and their bedrooms were all on the second floor along with the living room, pantry and lavatory. The first story contained the storeroom, engine room and office.

The station's Fresnel lens was a four panel variety, which

turned on a foundation consisting of a "mercury pot and ball bearing support." An oil vapor lamp provided 180,000 candlepower at a height of 65 feet above the lake, for a visibility range of 15  $\frac{3}{4}$  miles. The air compressor for the fog signal was run by twin 22 horsepower engines, powered by gasoline. This apparatus contained an air reserve which could be employed both for igniting the engines or for operating the signal itself, if there was a problem with the compressors. The timer for the signal was driven by a rotary motor also running on compressed air. Water for the station was furnished by a pump which drew from either the lake, or the cistern in the cellar. The cellar also held a coal bin, oil tanks, air receivers and a paint room.

The breakwater station saw a great deal of experimentation with air diaphones and radio beacons during the 1920's. In July of 1958, however, disaster befell it when the giant Great Lakes freighter Frontenac set too wide a course out of the Buffalo River. Crewmen on duty at the station screamed warnings at the oncoming vessel, but even dropped anchor chains were not enough to prevent the inevitable collision. The lighthouse was imparted with a list of 15 degrees and driven backwards almost 20 feet. A temporary beacon had to be erected to cope with this tragedy.

In 1961, the breakwater light's permanent replacement came in the form of a 71 foot tower further out in the harbor. During that year, the Pittsburgh based American Demolition Company tore down what had become known as Buffalo's leaning lighthouse. The accompanying

bottle light on the breakwater's south end was torn off its foundation in 1985, and given a new home on display next to the original 1833 stone tower. Fully restored with a reproduction of its ventilator dome, the bottle light is now part of a 1,400 foot promenade with detailed historical signage on Buffalo's waterfront.

Resources:

Vogel, Mike. "Beacon to the Heartland." The Keeper's Log, Fall 1987.