



Conserving Fort Jefferson's Harbor Light



Located at nautical crossroads of the Atlantic Ocean, Gulf of Mexico, and the Caribbean Sea, Dry Tortugas National Park sits at an international crossroads for maritime travel and trade.

Many resources at the park serve as physical connections to the maritime heritage of the Dry Tortugas. The Tortugas Harbor Light constructed in 1876 was a key navigational aid used to identify the deep water harbor as a refuge for countless ships over the years.

Today this light is no longer an active Aide to Navigation (AToN) but rather a significant contributing historic structure for understanding and exploring the maritime heritage associated with Dry Tortugas National Park.

Garden Key Lighthouse History

The Tortugas Harbor Light anchored on top of the southeast bastion of Fort Jefferson was constructed in 1876 and replaced an earlier structure originally built in 1825-1826.

The first lighthouse at the Dry Tortugas was roughly 50-foot tall, brick and had an exterior white wash. The foundation of this structure is visible within the parade ground of Fort Jefferson today. Overtime, after repairs, improvements, and the construction of Fort Jefferson it was determined by the Lighthouse Board in 1874 that a new tower be constructed on top of the walls of Fort Jefferson.

Approval by the War Department was received and in 1875 Congress appropriated \$5000 for the construction. Thus in late 1875 and early 1876 a new hexagonal tower constructed of boiler plate iron was built. Iron was chosen over brick due to the danger of brick fragments in the event that the tower was attacked by exploding shells.

The Tortugas Harbor Light was lit on April 5th, 1876. The oil lanterns were active until 1912. After a major fire in 1912, the light was automated. After automation the Tortugas Harbor Light continued as an active Aide to Navigation (AToN) until 1921 at which time Lighthouse Board discontinued the light as an AToN.

In the 1920's after the lighthouse was decommissioned, this structure fell into disrepair until after the Dry Tortugas became a National Monument in 1935. In the late 1930's the recommendation was made to install some kind of good strong light (not necessarily a beam) to aid in navigating the harbor after dark. This project was completed and a light has lit up the harbor ever since.

In every decade since then NPS has taken ownership of the Tortugas Harbor light some form or repair work has been executed on this structure. These projects ranged from welding additional reinforcing metal onto the base to restoration of historical accurate shutters and doors. Incompatible metals and the natural deterioration of iron in this extreme marine environment have once again pressed the need for additional repairs to this historic structure.



1826 Lighthouse on Garden Key

Preservation Issues

Ironically, the harsh marine environment, remote location, and technologically advanced iron features such as the armaments and lighthouse that made Fort Jefferson and the Dry Tortugas so formidable and ideal for our national defense in the 19th Century, are today threatening the existence of these cultural resources.

The 1876 iron Tortugas Harbor Light was an improvement to navigation in the Tortugas and at the time was a much superior material than brick in the event of warfare. Cast iron is extremely strong and durable when used appropriately and protected from adverse exposure. It is, however, highly susceptible to corrosion when exposed to moisture.

The cast iron structure of the Tortugas Harbor Light, is in varying condition, between good and poor, depending upon exact location

within the structure. The base is in poor condition, despite that it has been repaired and augmented several times during the last 50 years.

Significant structural work needs to be performed at the base of the structure where it is attached to the granite. Loose material, primarily corrosion products at the roof eaves, catwalk railings, and the curved brackets that support them, need to be addressed. Additionally, there is significant corrosion at the joint between the Service Room and the Watch Room.

Other than these obvious poor conditions, other concerns about the lighthouse are the likely lack of ventilation at the top of the tower, caused by replacement of the ventilator ball sometime in the last 70 years and repairs to existing windows and doors where they do not operate properly.

Work in Progress

As is often the case with building preservation projects, many factors need to be considered. Planning issues, economic justification, site safety, usage patterns, and environmental issues all factor into the final decision about the best way to preserve the property in question.

The National Park Service has a team of architects, engineers, conservationists, and preservationists working together to develop treatment recommendations for a full Rehabilitation of the historic lighthouse.

The priority treatment currently is to secure the tower, closing off a small area of the Parade Ground, and removing loose debris while awaiting recommendations and funding to potentially dismantle the tower and rehabilitate it in a controlled environment.

Contractors are scaffolding the Harbor Light in order to provide additional access for the structural engineers and to provide some stability to the tower. In addition to the structural and architectural elements being restored and stabilized an entirely new hi-performance marine grade coating system will be applied to all iron components.

The cost of site mobilization justifies performing this work in as few phases as possible and the NPS is striving for a project completion in the fall of 2018.



1876 Lighthouse with Corrosion



Corrosion at Base of Lighthouse

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