**Historical Background:** Construction of Fort Jefferson began in 1846 and continued for 39 years. The location was chosen for its deep harbor and to protect key shipping lanes in the Straits of Florida and the Gulf of Mexico. The fort remained in Union hands during the Civil War and was used as a prison. In 1872-1873, one 15-inch smoothbore Rodman gun was mounted in each of the fort’s six bastions and four 300-pounder rifled Parrott guns were mounted on three from.

The U.S. Army garrison left Fort Jefferson in 1874. In 1900 the War Department sold the ordnance stores, including the cannon, carriages, ammunition, and associated equipment to Henry A. Hibbert’s Sons, an iron and steel scrap dealer from Philadelphia for $14,054.20. By 1913, only the largest Rodman and Parrott guns remained. Removing these ten guns appeared to be more trouble than they were worth. The iron carriages were salvaged and the large guns were left behind.

**Nationally Significant Collection:** The park’s museum collection includes six of the twenty-five 15-inch Rodman guns known to survive, and four of the thirteen surviving 300-pounder Parrott guns. With most guns going to World War II scrap metal drives, the Fort Jefferson guns represent c. 25% of the extant guns of each size. These Parrott guns were manufactured at the West Point Foundry in 1864-1865 and the Rodman guns were cast in Boston in 1871.

**Conservation Challenges:** Logistical and professional challenges that had to be addressed in the proposed treatments included:
- Remote location of the national park.
- Design limitations of the historic fort.
- Working in a national park with its sensitive cultural and natural resources.
- Limited NPS infrastructure, utilities, and staffing on site.
- Heat, humidity, rain, storms, and hurricane season.
- Location of the guns on the terreplein of Fort Jefferson (c. 45 feet above parade ground).
- Size and weight of the objects (c. 25-ton Rodman and c. 11-ton rifled Parrott guns).
- Condition of the guns, which exhibited extensive corrosion.
- Ability to retreat in the future.
- Sustainability of the treatment in the harsh marine climate.

**Coating System:** NPS requirements were for a long-term stable primer and paint system that would withstand the harsh environment for a minimum of five years. In consultation with Keith Lucas, director of the Center for Corrosion Science and Engineering at the Naval Research Laboratory, Amercoat 68HS was selected. This zinc-rich, epoxy-based primer is designed for outstanding resistance in a marine environment.

The paint used is PPG Amercoat PS® 700, an engineered Siloxane coating designed for weather resistance and corrosion control in a marine environment. A glossy black paint was chosen based on historic photographs and military manuals, both of which suggest that “lacker” applied to the guns would have left a shiny appearance.

**Bore Treatment:** After removal of debris, the interior of the bore was flushed with compressed air and swabbed with Ship-2-Shore®, a semi-liquid dielectric barrier coating that prevents corrosion in aggressive environments.

**Bore Microclimate:** A second level of interior bore protection was introduced in the form of a passive microclimate. Two 12.5-pound Tyvek® bags of conditioned silica gel rest on an interior deck plate, installed with a two-part epoxy putty. A Hobo® Pro V2 data logger with external sensors was installed to monitor the interior temperature and relative humidity. The outer port allows for downloading the data from top left: Photographs, clockwise from top left: Weight of Rodman gun; Mis-struck stamp; U.S. stamp; Robert P. Parrott stamp; number on right breech face; Ordnance officer and date; Grafton from 1919; muzzle face markings for Parrott.

**Treatment Methodology:** The NPS requirement was for abrasive blasting over other approaches which were deemed impractical for this project. Conservation protocols were:
- Mechanically remove delaminating and heavy oxidation using ball peen hammers.
- Blast all exterior surfaces with 80 mesh garnet.
- Size and weight of the objects (c. 25%).
-Logistics of the historic fort.
- Working in a national park with its sensitive cultural and natural resources.
- Limited NPS infrastructure, utilities, and staffing on site.
- Heat, humidity, rain, storms, and hurricane season.
- Size and weight of the objects (c. 25-ton Rodman and c. 11-ton rifled Parrott guns).
- Condition of the guns, which exhibited extensive corrosion.
- Ability to retreat in the future.
- Sustainability of the treatment in the harsh marine climate.