GRANT SPOTLIGHT

ILLUMINATING A LANDMARK

Grant Launches Restoration of Outer Banks Lighthouse

For 133 years, the Bodie Island Light Station has been a reassurance to mariners navigating the "graveyard of the Atlantic" off North Carolina's Outer Banks. Standing since 1872, the lighthouse, located within Cape Hatteras National Seashore, still sends its powerful beam out to sea. But in recent years, the impressive, towering brick structure has begun to show the effects of time.

From its wrought iron staircase to the massive lens on top—a wonder of period technology—the lighthouse is wearing out. A grant from the National Park Service-administered Save America's Treasures program is helping turn the tide of decay. The $160,000 award, matched by the state, paid for full documentation of the site and a critical structural assessment.

The lighthouse, which spent many years under Coast Guard purview, was transferred to the National Park Service in 2000. "This is a new structure for us," says Steve Harrison, the seashore's cultural resource manager, who also served as project leader. "We really needed to get that documentation."

The NPS Historic American Engineering Record provided large format photographs, measured drawings, and a historical report. HAER architects also brought a laser scanner with them, producing 3D renderings from all perspectives. "It measures every facet of each piece of stone," says HAER's Todd Croteau, who led the team. The technology, used primarily in civil engineering and industry, provides views that cannot be captured in drawings or photographs.

The lighthouse towers 150 feet over the surrounding marshlands. One of its two predecessors, eventually abandoned, began leaning only two years after construction. Confederates destroyed its replacement during the Civil War.

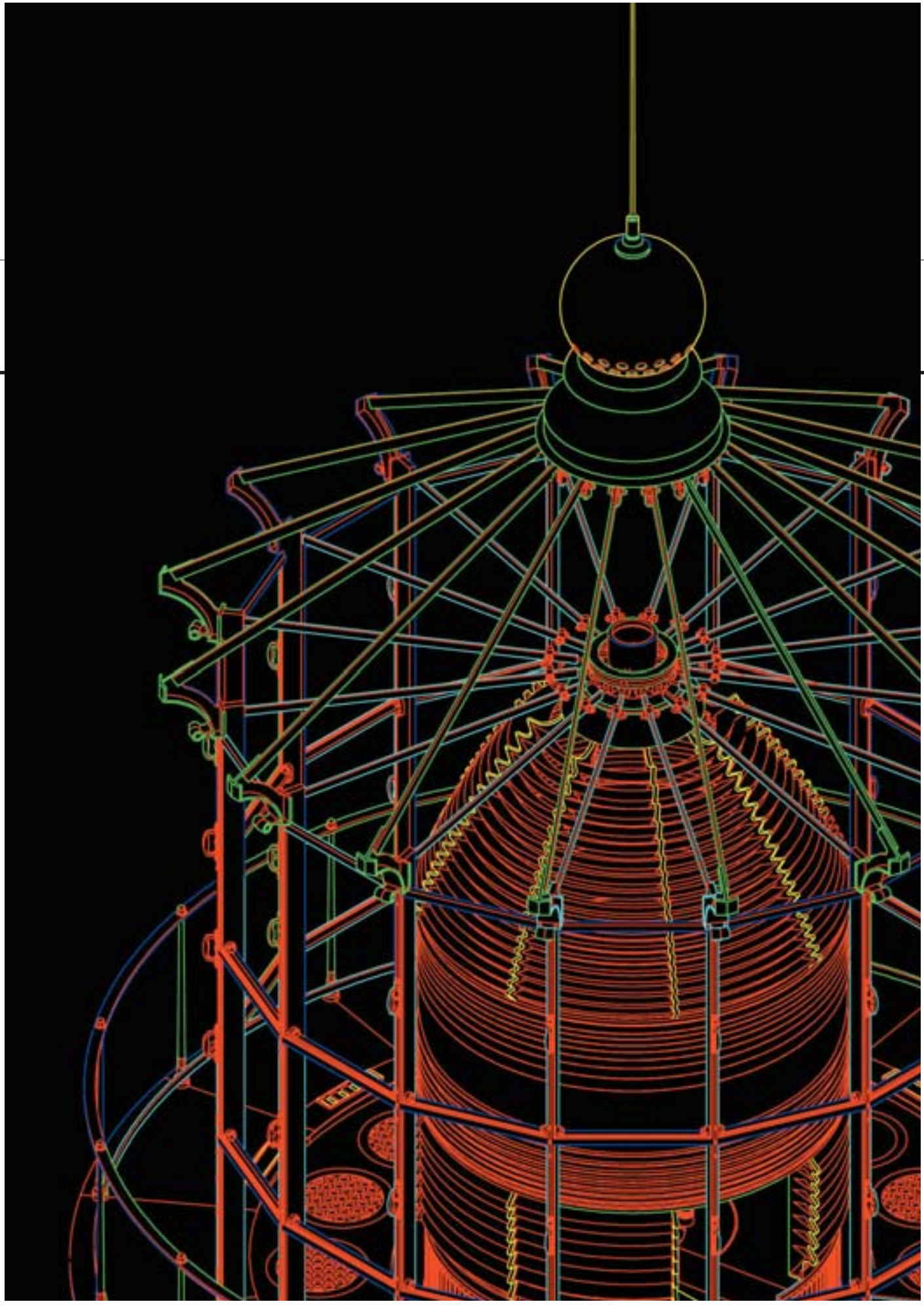
The station was part of a network to guide ships along the Outer Banks. In the 1850s, after an outcry over the poor lighting along the coast, Congress established a blue ribbon safety panel, which consulted sea captains. The powerful Fresnel lens was the preferred choice, though American lighthouses were slow to adopt them.

The grant provides a body of information to guide a restoration in 2008. In addition, it funded an assessment by structural engineers and lead paint removal from areas heavily visited by tourists. The HAER team prepared a nomination to the National Register of Historic Places, which led to its listing.

THE STATION WAS PART OF A NETWORK TO GUIDE SHIPS ALONG THE OUTER BANKS. IN THE 1850S, AFTER AN OUTCRY OVER THE POOR LIGHTING ALONG THE COAST, CONGRESS ESTABLISHED A BLUE RIBBON SAFETY PANEL, WHICH CONSULTED SEA CAPTAINS. THE POWERFUL FRESNEL LENS WAS THE PREFERRED CHOICE, THOUGH AMERICAN LIGHTHOUSES WERE SLOW TO ADOPT THEM.

Facing page: With the 3D software, sections such as the lens can be turned about as though an object in the hand; in the ground around the keeper's house, even slight undulations are visible. The technology could be indispensable for studying cultural landscapes, says team leader Todd Croteau. Above right: The Fresnel lens, named for the French physicist who designed it in the 1820s, was the first of the refracting type and the most powerful of the era, its beam visible 20 miles out. The metal is severely corroded.

For more information, contact Steve Harrison, (252) 473-2111, extension 159, steve_harrison @nps.gov or Todd Croteau, (202) 354-2167, todd_croteau@nps.gov.



ALL IMAGES NPS/HAER