



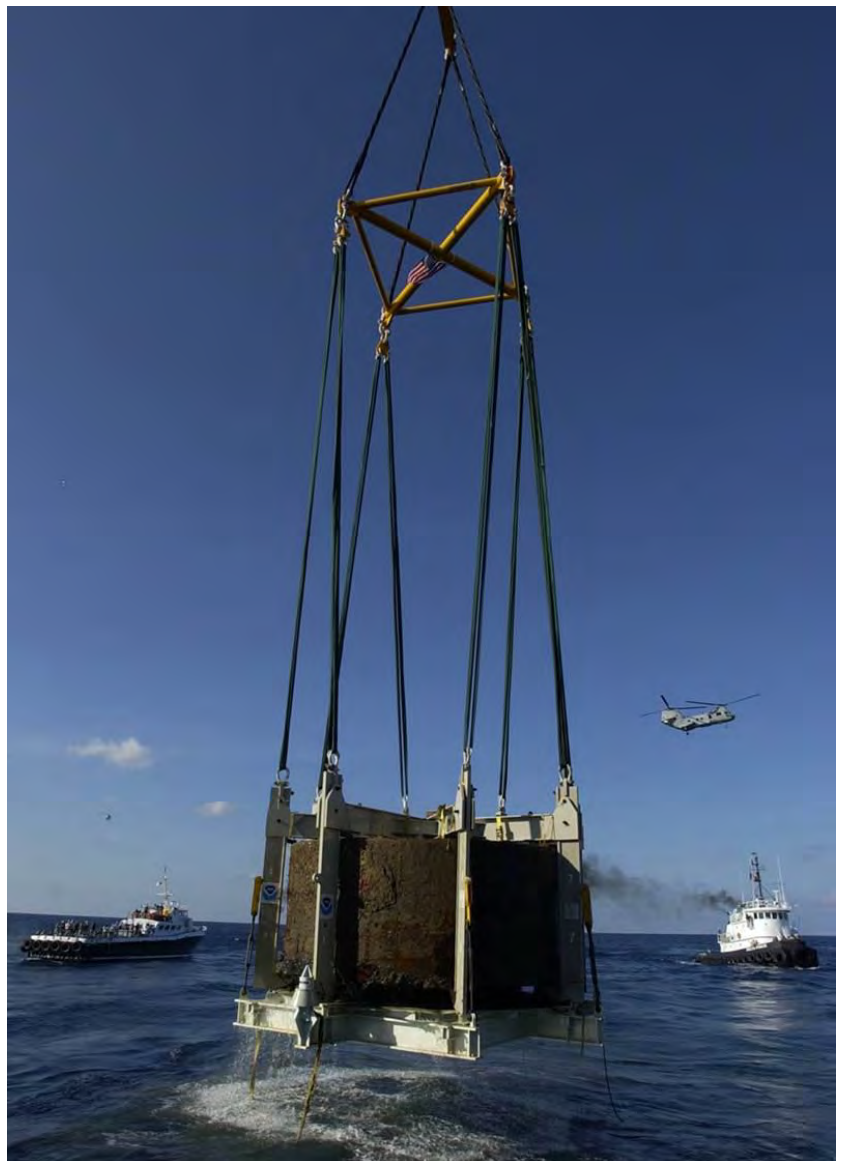
## Science Needs Assessment Resource Degradation and Corrosion

### Conservation Issue

Analysis of the potential for corrosion among submerged historical material is required to make informed management decisions regarding Monitor National Marine Sanctuary (MNMS) and aid in predictive modeling.

### Description

The USS *Monitor* and the historical resources within the region are considered non-renewable resources. Water quality, climate change, biological distribution, and other factors all potentially impact historical resources within a marine ecosystem. Resources off the coast of North Carolina exist in a wide range of environmental conditions, all which have a different effect on the severity and rate of corrosion. Strategy RM-1 of the Resource Monitoring Action Plan section of the MNMS management plan highlights a need to collect new data on the shipwreck to better understand these factors and enable managers to make informed decisions regarding future management and potential survey work.



The USS *Monitor* turret was removed in 2002; conservation is underway to reduce the effects of corrosion. Photo: NOAA

## Data and Analysis Needs

1. Environmental factors that influence corrosion

## Potential Products

- Regional model that could be indicative of corrosion rates for a broad range of resources based on known factors
- Predictive model of corrosion rates for potential management decision use
- Scientific papers and reports
- Potential mitigation recommendations
- Maps and GIS distribution models
- Communication and outreach materials aimed at stakeholder and community member audiences that focus on resource degradation issues



The wreck of the USS *Monitor*, a Civil War era ironclad, is a valuable historical resource. Chemical and biological factors can affect corrosion rates for historical resources like the USS *Monitor*. Improved understanding of these factors will aid in determining appropriate and effective management strategies for MNMS resources. Photo: NOAA

**For more information about this assessment, contact [monitor@noaa.gov](mailto:monitor@noaa.gov).**