Monitor National Marine Sanctuary
Water Quality

Management Issue
Maritime heritage resources can be significantly impacted by changes in water quality. Limited baseline data inhibits the ability to track water quality and can impede effective management decisions and action.

Description
There is a need to improve water quality research within the *Monitor* National Marine Sanctuary (MNMS or Sanctuary) as baseline data can be used to detect changes as well as to compare future results. It is important to monitor water quality not only for biological purposes, but for archaeological purposes as well. 'Good' water quality must be maintained for the living marine resources as well as for the Sanctuary and other wreck sites found within and around the sanctuary. These conditions may be different, and therefore, what constitutes 'good' water quality must be established. A NOAA Data Buoy, installed in the sanctuary in 2006, can provide real-time ocean conditions and track those conditions over time, but more comprehensive data is needed to effectively monitor water quality.

NOAA Data Buoy located within the Monitor National Marine Sanctuary. Photo Credit: MNMS

Questions and Information Needs
1) What is the overall water quality in regard to marine life?
2) What is the overall water quality in regard to cultural resources?
3) What is the eutrophic condition of sanctuary waters?
4) Is water quality changing?
5) What toxins, pollutants, contaminants, particles are present?
6) Is vessel discharge affecting water quality?
7) What is the most efficient way to collect data on a regular basis?

Scientific Approach and Actions
- Commence sampling within the sanctuary
- Install water sampling/ monitoring equipment on NOAA Data Buoy
- Establish interagency relationships in order to conduct water quality research

Key Partners and Information Sources
NOAA's National Center for Coastal Ocean Science, North Carolina Coastal Ocean Observing System, North Carolina Aquarium, East Carolina University, Duke Marine Lab, University of North Carolina Coastal Studies Institute, NOAA Fisheries Lab (Beaufort, NC), National Marine Fisheries Service Northeast Fisheries Science Center

Management Support Products
- Scientific papers and reports
- Identification of point source and non-point source pollution
- Quantitative water quality data

Planned Use of Products and Actions

- Baseline data will be used as a starting point with which to detect changes and compare future results
- Appropriate management action

Program References

MNMS Management Plan,

- The MNMS is currently going through Management Plan Review

MNMS Condition Report

- Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality and how are they changing?
- What is the eutrophic condition of sanctuary waters and how is it changing?
- Do sanctuary waters pose risks to human health and how are they changing?
- What are the levels of human activities that may influence water quality and how are they changing?

ONMS Performance Measures

- Measure 3.1: Measuring Water Quality Performance

Other Documents

- *Monitor* National Marine Sanctuary State of the Sanctuary Report 2008