UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
PROGRAM PLANNING AND INTEGRATION
Silver Spring, Maryland 20910

FEB 7 2013

To All Interested Government Agencies and Public Groups:

Under the National Environmental Policy Act (NEPA), an environmental review has been performed on the following action.

TITLE: Programmatic Environmental Assessment on the final management plan for the Monitor National Marine Sanctuary

LOCATION: Monitor National Marine Sanctuary, off the coast of North Carolina

SUMMARY: The MNMS management plan review process began in December 2008 with public scoping meetings to obtain information about the public's interests and priorities for MNMS management. Subsequently, NOAA worked with the MNMS Advisory Council to prioritize issues and develop appropriate management strategies and activities for the preparation of a draft revised management plan and draft programmatic environmental assessment (PEA). The draft plan and PEA went out for public comment from April through June 2012. Based on input from the public, NOAA prepared a final revised management plan and final PEA. The final plan consists of eight action plans: resource protection, education and outreach, archaeological research, resource monitoring, *Monitor* sailors (human remains), conservation of *Monitor* artifacts, sanctuary expansion and operations and administration.

RESPONSIBLE OFFICIAL:
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The environmental review process led us to conclude that this action will not have a significant effect on the human environment. Therefore, an environmental impact statement will not be prepared. A copy of the finding of no significant impact (FONSI) including the supporting PEA is enclosed for your information.

Although NOAA is not soliciting comments on this completed PEA/FONSI we will consider any comments submitted that would assist us in preparing future NEPA documents. Please submit any written comments to the sanctuary official named above.

Sincerely,

Patricia A. Montanio
NOAA NEPA Coordinator

Enclosure

Monitor
National Marine Sanctuary

Final Management Plan and Environmental Assessment

February 2013

National Marine Sanctuaries

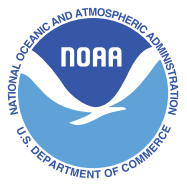
United States Department of Commerce
National Oceanic and Atmospheric Administration
Office of National Marine Sanctuaries

2013 Final Management Plan and Environmental Assessment Monitor National Marine Sanctuary

FINAL MANAGEMENT PLAN AND ENVIRONMENTAL ASSESSMENT

Monitor National Marine Sanctuary

February 2013



Front Cover: NOAA archaeologist surveys *Monitor* wreck site, summer 2011 (NOAA).
Back Cover: Portion of *Monitor* drawing published in 1862 (The Mariners' Museum).

Monitor National Marine Sanctuary
National Oceanic and Atmospheric Administration
100 Museum Drive
Newport News, VA 23606
http://monitor.noaa.gov

Recommended citation: U.S. Department of Commerce. National Oceanic and Atmospheric Administration. Office of National Marine Sanctuaries. 2013. *Monitor National Marine Sanctuary Final Management Plan*. Silver Spring, MD.

Above: *Monitor* officers on deck. Photo taken on July 9, 1862, by James Gibson (Library of Congress).

About This Document

This document is a result of the Office of National Marine Sanctuaries' (ONMS) periodic review of the strategies and activities detailed in the 1992 Final Management Plan and the emerging resource protection issues for Monitor National Marine Sanctuary (MNMS or sanctuary).

Between 1998 and 2002, NOAA and the United States Navy conducted a major archaeological recovery effort which resulted in over 2,000 artifacts being excavated, conserved and curated from the shipwreck of the USS *Monitor*. Most notably, this project resulted in the recovery of the Civil War ironclad's revolving gun turret and engine. During this recovery period, the sanctuary was guided by an interim management plan, which dealt specifically with the archaeological recovery titled *Charting a New Course for the* Monitor, which was released in 1997. Typically a management plan review is conducted at a sanctuary every five years.

A sanctuary management plan is a site-specific planning and management document that describes the goals, objectives, policies, management strategies, and activities for a sanctuary. This document is the result of numerous public hearings, and many years of effort by the sanctuary advisory council and sanctuary staff.

This document is the 2013 Final Management Plan and Environmental Assessment that outlines the program activities for MNMS over the next five years and beyond, along with staffing and budget needs, and performance measures.

Comments or questions on this Final Management Plan should be directed to:

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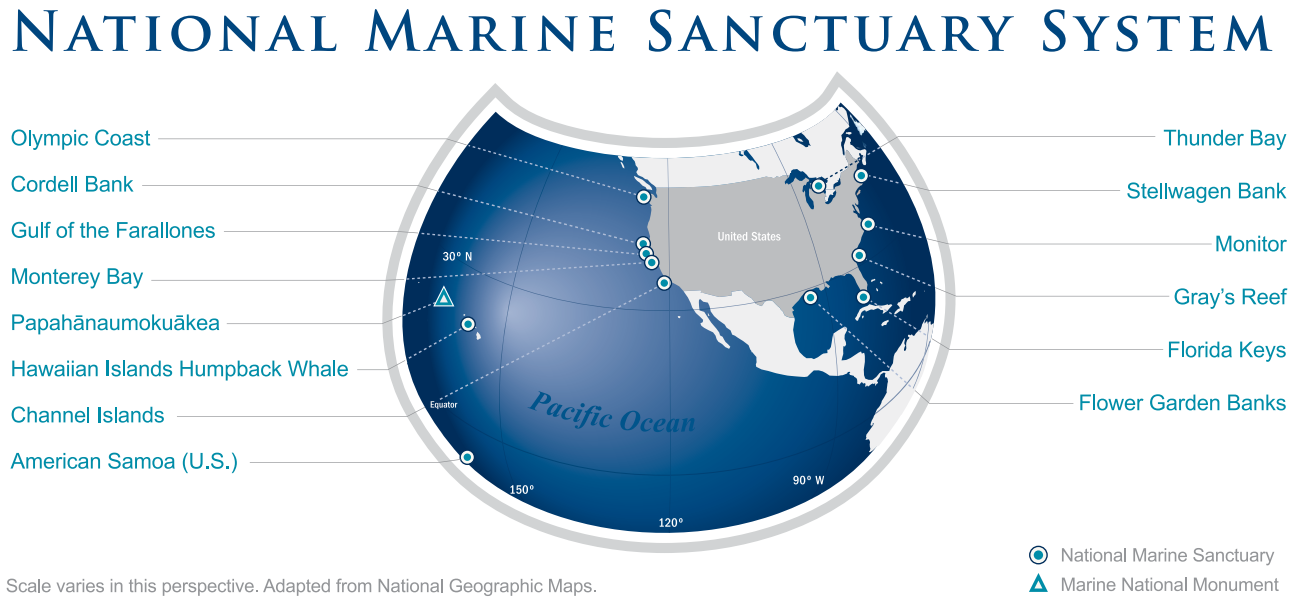
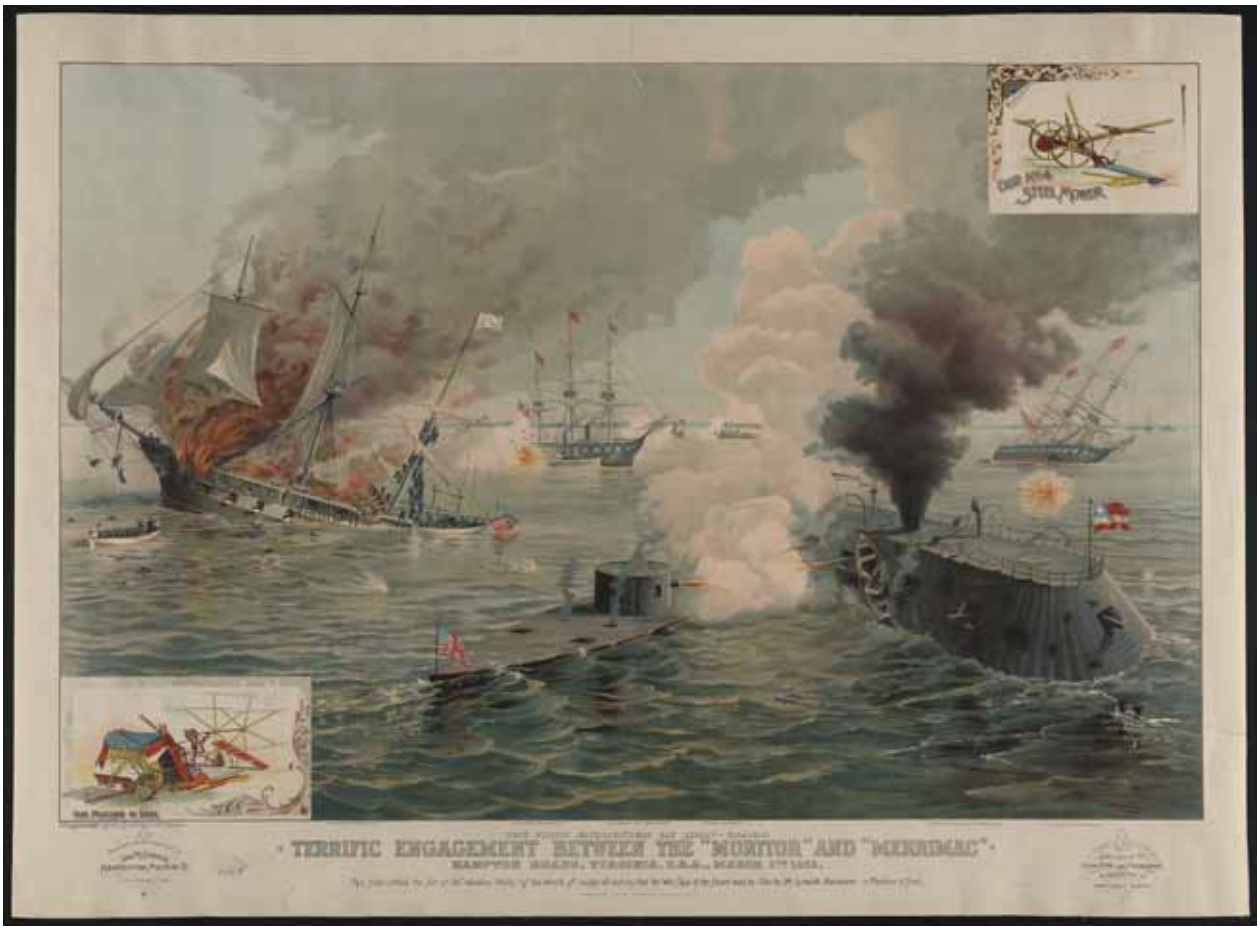


Figure 1: National Marine Sanctuary System



Above: The first encounter of Iron-Clads. *Terrific engagement between the* "Monitor" and "Merrimac." Published-Chicago : The McCormick Harvesting Machine Co., ca. 1891 Mar. 2 (Library of Congress).

Opposite page: Map depicting location of Monitor National Marine Sanctuary (NOAA).

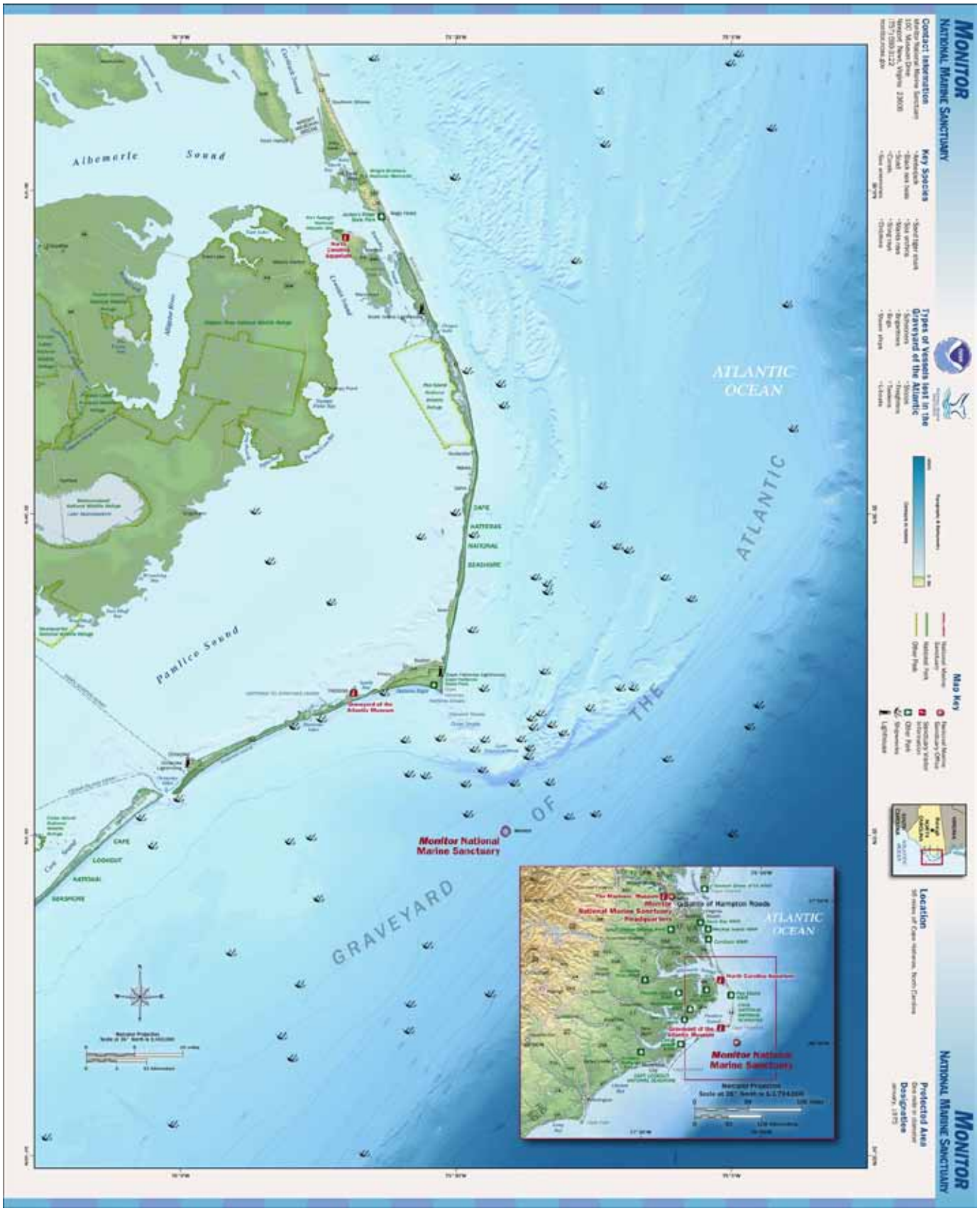


Figure 2: Monitor National Marine Sanctuary Map

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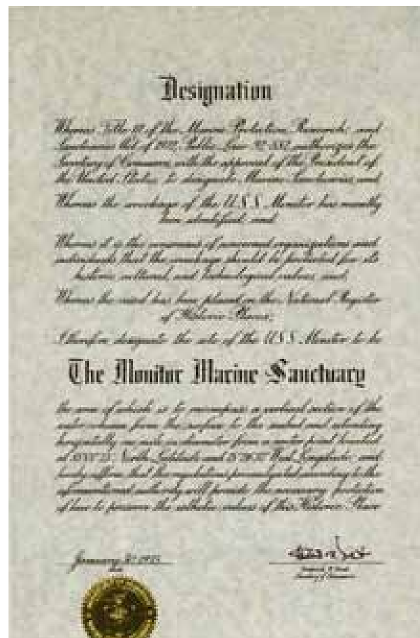
Abbreviations

ARCH	Maritime Archaeological Resources
ARPA	Archaeological Resources Protection Act of 1979
AUV	Autonomous Underwater Vehicle
CFR	Code of Federal Regulations
FAP	Federal Archaeological Program
GIS	Geographic Information System
JPAC	Joint POW/MIA Accounting Command
MHP	Maritime Heritage Program
MNMS	Monitor National Marine Sanctuary
MOA	Memorandum of Agreement
MPRSA	Marine Protection, Research, and Sanctuaries Act of 1972
NARA	National Archives and Records Administration
NDBC	NOAA National Data Buoy Center
NHPA	National Historic Preservation Act
NMSA	National Marine Sanctuary Act
NMSP	National Marine Sanctuary Program
NMSS	National Marine Sanctuary System
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
NPS	National Park Service
NRHP	National Register of Historic Places
OLE	Office of Law Enforcement
ONMS	Office of National Marine Sanctuaries
ROV	Remotely Operated Vehicle
SAC	Sanctuary Advisory Council
SWiM	System-Wide Monitoring
TMM	The Mariners' Museum
USCG	U.S. Coast Guard
UNESCO	United Nations Educational, Scientific and Cultural Organization
USN	United States Navy



Designation

The Monitor Marine Sanctuary

Left to Right: John Ericsson (TMM), Battle of Hampton Roads (J. O. Davidson, TMM), Loss of the *Monitor* (Harpers Weekly, Jan. 1863), Designation Document (NOAA), USS *Monitor*, ca. 1987 (NOAA)

"The rights of posterity take precedence over the desires of the present."

FREDERICK LAW OLMSTEAD, PUBLIC PARK DESIGNER

Executive Summary

The Sanctuary

On January 30, 1975, the National Oceanic and Atmospheric Administration (NOAA) designated the wreck of the USS *Monitor,* lying off the coast of Cape Hatteras, N.C., as the nation's first national marine sanctuary. The *Monitor* was the prototype for a class of U.S. Civil War ironclad, turreted warships that significantly altered both naval technology and marine architecture in the nineteenth century. Designed by the Swedish-American engineer John Ericsson, the vessel contained many emerging innovations that revolutionized warfare at sea.

The *Monitor*'s career as a warship was significant, though short-lived. On March 9, 1862, she battled the CSS *Virginia* (former USS *Merrimac*) in one of the most celebrated naval battles in history. On December 25, 1862, the ironclad received orders to proceed, under tow, to Beaufort, N.C. En route, the *Monitor* encountered a severe gale and began to take on water. On December 31, 1862, less than a year after her commissioning, the *Monitor* sank with a loss of sixteen men.

For over a century the *Monitor* lay undiscovered. In August, 1973, scientists aboard Duke University's research vessel *Eastward* located the *Monitor* in 230 feet of water, 16 miles off Cape Hatteras, N.C. The wreck was in relatively good condition, although some structural damage and deterioration was apparent.

Over the years, numerous research expeditions have visited the sanctuary. Between the years of 1998-2002, NOAA and the United States Navy mounted several major archaeological expeditions to the

Left: A U.S. Navy diver works to secure the spider to the *Monitor*'s turret in preparation for lift (NOAA).

wreck site recovering the ship's propeller, revolving gun turret, cannons, engine and over 1,500 other artifacts. Many of these artifacts are on display at The Mariners' Museum in Newport News, Va., the principal repository for the conservation, storage and exhibition of *Monitor* artifacts and at the Graveyard of the Atlantic Museum in Hatteras, N.C. Other traveling and temporary exhibits have also been displayed at various museums, conferences and special events across the country.

Today the *Monitor* represents a unique legacy from our nation's past. The shipwreck and its contents comprise an irreplaceable historical record and represent a monument to the American naval tradition that the vessel itself helped to create. Archaeological investigations of the *Monitor* have provided an opportunity to examine aspects of our past that are not recorded in surviving manuscript sources. Artifacts from the ship's stores and personal property of the crew have greatly enhanced our understanding of life aboard the United States Navy's first prototype ironclad warship. The shipwreck also serves as an important bridge to the future. As we face challenges from a changing world impacted by climate change, ocean acidification and a host of other environmental problems, the *Monitor* and the National Marine Sanctuary System can help the American public better understand these changes through science, monitoring, education and outreach.

The National Marine Sanctuaries Act (NMSA) requires NOAA to periodically review the management plan for each of the 13 National Marine Sanctuaries

(www.sanctuaries.noaa.gov/about/legislation/) to reevaluate site-specific goals and objectives and to develop management strategies and activities to ensure the sanctuaries continue to best protect their resources. Scoping comments were received between December 2008 and February 2009 and were reviewed for the Monitor Draft Management Plan. A draft management plan was then created and was available for public comment from April 2012 to June 2012. After careful consideration of all comments received, a final management plan was written. This final plan provides an integrated program of resource protection, research, education and interpretation. The plan outlines comprehensive management objectives that have been revised and expanded, based upon new knowledge of the site and upon new opportunities for research and education. This plan defines a framework for continued resource protection and preservation, as well as for an expanded program of on-site research that will contribute to the basic store of knowledge regarding this unique resource and its surrounding environment.

This management plan also provides for an expanded education program for the sanctuary. Because it is difficult for most people to visit the site, other than SCUBA divers, an effective, innovative education program offers an opportunity to "bring the *Monitor* to the public" through such means as lectures, films and exhibits. The education program also addresses the need to inform users (e.g. divers, fisherman, boaters, etc.) of the *Monitor*'s significance in order to limit inadvertent damage to the wreck, while still encouraging those that can to visit the site. To reinforce these educational efforts and to further protect the site, the plan outlines NOAA's agreement with the U.S. Coast Guard for enforcement of the sanctuary's regulations. Lastly, this plan outlines options for increasing access to the sanctuary for non-research purposes.

Above: The turret breaks the surface of the water on Aug. 5, 2002, for the first time in nearly 140 years (NOAA).

Scope of the Issues

During the initial scoping phase of the draft management plan review, Monitor National Marine Sanctuary (MNMS) staff collected and summarized input from the public on potential resource protection and management issues to be addressed in the revised management plan and regulations. Taking into consideration the advice and recommendations from MNMS Advisory Council, sanctuary staff identified eight priorities: resource protection; education and outreach; archaeology; resource monitoring and science; identification of human remains recovered from USS *Monitor*; conservation of *Monitor* artifacts, site expansion, and finally, site administration and operations. These priorities were further characterized and discussed in working groups, at advisory council meetings, and through public hearings. They have been addressed in the development of the final management plan and are summarized below.

Resource Protection

Potential impacts on sanctuary resources from visitation by SCUBA divers are an ongoing concern as the wreck is extremely fragile. Although the removal of artifacts and site alteration by visiting divers is a concern, there is no direct evidence of either activity. NOAA lacks quantitative information on direct and indirect human impacts to sanctuary resources from diving activities, and specifically, on whether there are any differences between impacts from recreational diving activities and scientific diving activities. The collection of information on diving impacts is addressed in the Resource Protection Action Plan, as is the outreach program to better educate divers about sanctuary resources and responsible diving practices. NOAA works closely with local dive operators and charter operators to ensure a positive dive experience for visitors to the sanctuary. Diving in the sanctuary is done through a permitting system and NOAA strives to promote access and minimize the time it takes to obtain a permit.

Enforcement at MNMS is difficult due to the distance of the sanctuary from shore and limited site access. The primary at sea enforcement presence is the U.S. Coast Guard (USCG) District Five. However, as NOAA is working to increases its presence on the water using the NOAA Small Boat R/V 8501, it will provide additional on-water presence and opportunity to augment the USCG and NOAA Office of Law Enforcement (OLE) efforts in the sanctuary.

Left: NOAA divers swim over the remains of the captain's quarters on the *Monitor*'s bow (NOAA).

Some fishing activities may negatively affect and threaten the fragile archaeological resources of MNMS, but most pose no threat. The primary concern from fishing activities is the use of bottom gear and anchoring (which is prohibited within the sanctuary) and marine debris in the form of derelict fishing gear becoming entangled on the wreck.

Many vessels enter the sanctuary for diving, fishing and research. Pollution concerns from visiting and transiting vessels include exhaust, oil spills, fuel spills, human waste and bilge discharge from fishing vessels. The discharge of untreated sewage from vessels is not allowed within or into the sanctuary.

The primary visitors to MNMS are recreational SCUBA divers and recreational fishermen. Although the precise status and trends of visitor use in the sanctuary are not known, visitation by SCUBA divers and fisherman is estimated to be relatively low compared to other sanctuaries. This is primarily due to the distance of the site from shore, its depth, and the potential lack of public awareness about the sanctuary. However, observations from sanctuary staff, long-time users of the sanctuary, and others suggest that the level of fishing activity has been increasing in recent years. In addition, NOAA has been working to make the wreck site more accessible to SCUBA divers through greater outreach efforts and by encouraging new permit applications.

Above: Diver on bow of USS *Monitor* during an expedition summer 2011 (NOAA).

As interest in, and use of the sanctuary increases, potential conflicts among users may surface. However, this risk can be reduced through education, good coordination with the USCG during dive operations, and adherence to safe diving protocols. Further, increased visitation may also increase demand for mooring buoys. These combined pressures make minimizing user conflict, promoting safe practices and protecting sanctuary resources top management priorities.

Education and Outreach

The *Monitor* played a significant role in Naval and Civil War History, as well as the local histories of New York, Virginia and North Carolina. Sanctuary education and outreach programs are designed to raise public awareness about the sanctuary and its resources, encourage public involvement in resource protection, increase knowledge about maritime history, and expand ocean and climate literacy. Education and outreach at the Monitor National Marine Sanctuary (MNMS) includes both formal and informal programs for sanctuary visitors and constituents, including user groups impacting sanctuary resources. Education and outreach at the sanctuary also includes increasing public awareness of the

sanctuary, The Mariners' Museum in Newport News, Va., and the Graveyard of the Atlantic Museum. While education and outreach efforts are concentrated in and around Virginia and North Carolina, they extend out to the broader region and nation with initiatives in maritime heritage, archaeology, and ocean and climate literacy.

Above: Section of the *Monitor*'s armor belt covered in marine life (NOAA).

Archaeology

Although major archaeological recovery work at MNMS has been finished, the current archaeological objective of the sanctuary will be site stabilization, characterization and *in-situ* preservation. However, future recovery of artifacts is not ruled out. NOAA will continue to study and document the on-going condition of the shipwreck and to assure that the many thousands of hours of film and video records, along with tens of thousands of archival records are properly documented and preserved. Any future recovery of artifacts from the site would be considered only after a strong scientific justification or justification based on imminent threat to the resource had been made. Additionally, no recovery shall be made until such time as a detailed archaeological research design is proposed or initiated by NOAA or other research entity. Lastly, NOAA, through ONMS Maritime Heritage Program, will work to complete the final archaeological report on the *Monitor* recovery work to date. The archaeological resources within MNMS are protected by a number of federal laws, including the National Historic Preservation Act (NHPA), Archaeological Resource Protection Act (ARPA), and the Sunken Military Craft Act (SMCA).

Research and Monitoring

Science in MNMS plays a vital role in making informed resource management decisions. Scientific understanding of the sanctuary is developed through archaeological assessment, general exploration and habitat characterization, investigations of specific research questions, and routine monitoring of resource health. Information gathered by the sanctuary science team and its partners is essential for expanding upon existing baseline data, comparing the current state with past conditions and targeting the most important management issues.

Continual research and monitoring of the sanctuary's biological and cultural resources, and a greater understanding of the physical and chemical characteristics that define the environment in which these resources are located, are primary goals of Monitor National Marine Sanctuary. Sanctuary staff conducts,

supports, promotes and coordinates all research with an aim toward characterization of the unique cultural and natural resources located within and adjacent to the sanctuary. Characterization is the process through which sanctuary resources are inventoried, located, documented, and ultimately analyzed within a broader context. Knowledge acquired through research is used to evaluate existing management practices, enhance future management decisions, and educate the public about the importance of the USS *Monitor* and the environment in which the ship is located.

USS *Monitor* Sailors

In 2002, NOAA and the United States Navy recovered the remains of two U.S. sailors lost on December 31, 1862, the night the *Monitor* sank. NOAA is working closely with the U.S. Navy and the Joint POW/MIA Accounting Command (JPAC) to try to identify these two service men. NOAA is leading the effort with genealogical research and facial reconstructions and has named this project *Monitor* Crew Investigations. NOAA and the Navy hope to identify the two individuals, and secure a proper burial at Arlington National Cemetery for these crewmen. This project intends to honor these two men and all who were lost the night the *Monitor* sank.

Conservation

Between 1998 and 2002, NOAA and the Navy recovered almost 400 tons of material from the *Monitor* including her revolving gun turret, engine, 11-inch Dahlgren guns and thousands of smaller artifacts. These materials are currently being conserved in the Batten Conservation Laboratory at The Mariners' Museum. It is estimated that the total conservation process to treat all of the artifacts will take up to thirty years and millions of dollars. Funding for this effort has been a mix of public and private monies.

These artifacts, once treated, provide a permanent record of life aboard the ironclad USS *Monitor* and serve as national treasures. NOAA and The Mariners' Museum will continue to work together to assure these artifacts are properly conserved and archived. Conservation funding will continue to be a challenge.

Below: The Mariners' Museum's Conservator, Dave Krop, inside the turret (NOAA).

Left: In 1998, USS *Monitor*'s steam engine was raised from the wreck site (U.S. Navy Photo, *Monitor* Collection, NOAA).

Sanctuary Expansion

The *Monitor* lies in an area known as the "Graveyard of the Atlantic." This region has claimed thousands of ships over the centuries and is known by mariners the world over as one of the most treacherous bodies of water in the Atlantic Ocean. The unique oceanographic and meteorological conditions of the region, numerous historic events and battles at sea and the many ships that have been lost in these waters have all contributed to its reputation. These shipwrecks offer a unique opportunity to study and better understand our maritime history. From pre-colonial shipwrecks to pirate ships, and Civil War ironclads to ships from both World Wars, the waters off North Carolina are literally a museum in the sea. These shipwrecks also serve as a valuable economic resource for local and regional economies and provide opportunities for historians, educators, wreck divers and fisherman.

During the 2008 scoping meetings for the Monitor National Marine Sanctuary management plan, many of the participants expressed an interest in expanding the sanctuary to include additional shipwrecks off the North Carolina coast. Further, Monitor National Marine Sanctuary Advisory Council has recommended that NOAA start a formal process to consider expansion and develop a cultural resource assessment to identify resources that may warrant greater protection. NOAA will work with local and state officials, the general public, the fishing and dive communities, and other stakeholders to study the possibility and implications of an expanded sanctuary.

Operations and Administration

In recent years, NOAA has directed additional resources to the State of North

Carolina to improve sanctuary education and research efforts along the coast. NOAA has provided significant financial support to several state museum and underwater archaeology projects including the Graveyard of the Atlantic Museum and Queen Anne's Revenge shipwreck project. In 2010, NOAA moved one MNMS staff person to Manteo, N.C., and is working with several partners to explore permanent office space for additional staff in years to come. Enhanced staffing and infrastructure resources are required to meet the expanded public demands and expectations raised by the management plan review process and to respond to legal mandates and policies. Strengthening the sanctuary's base level staffing, facilities infrastructure and program support to effectively meet the basic needs of sanctuary management is one of the priorities of this management plan.

Above: The conserved engine register was removed from the *Monitor* steam engine. It was the first piece of the ship recovered with the vessel's name on it (The Mariners' Museum).

Organization of this Document

This management plan is organized into four sections. Section 1 provides background information on the National Marine Sanctuary System, MNMS, and the purpose and need for updating the management plan; as well as a description of the *Monitor*'s condition and the environment in which the sanctuary lies. Section 2 is an overview of the institutional setting in which the sanctuary operates. Section 3 contains the action plans, which detail the management strategies and activities to address the priority issues of MNMS and meet the purposes and policies of the National Marine Sanctuaries Act (NMSA) (Appendix I). Section 4 is the environmental assessment developed to meet the requirements of the National Environmental Policy Act (NEPA). Section 4 includes the appendices and references cited in this document.

Left: *Monitor*'s bow (*Monitor* Collection, NOAA/ Joe Poe).

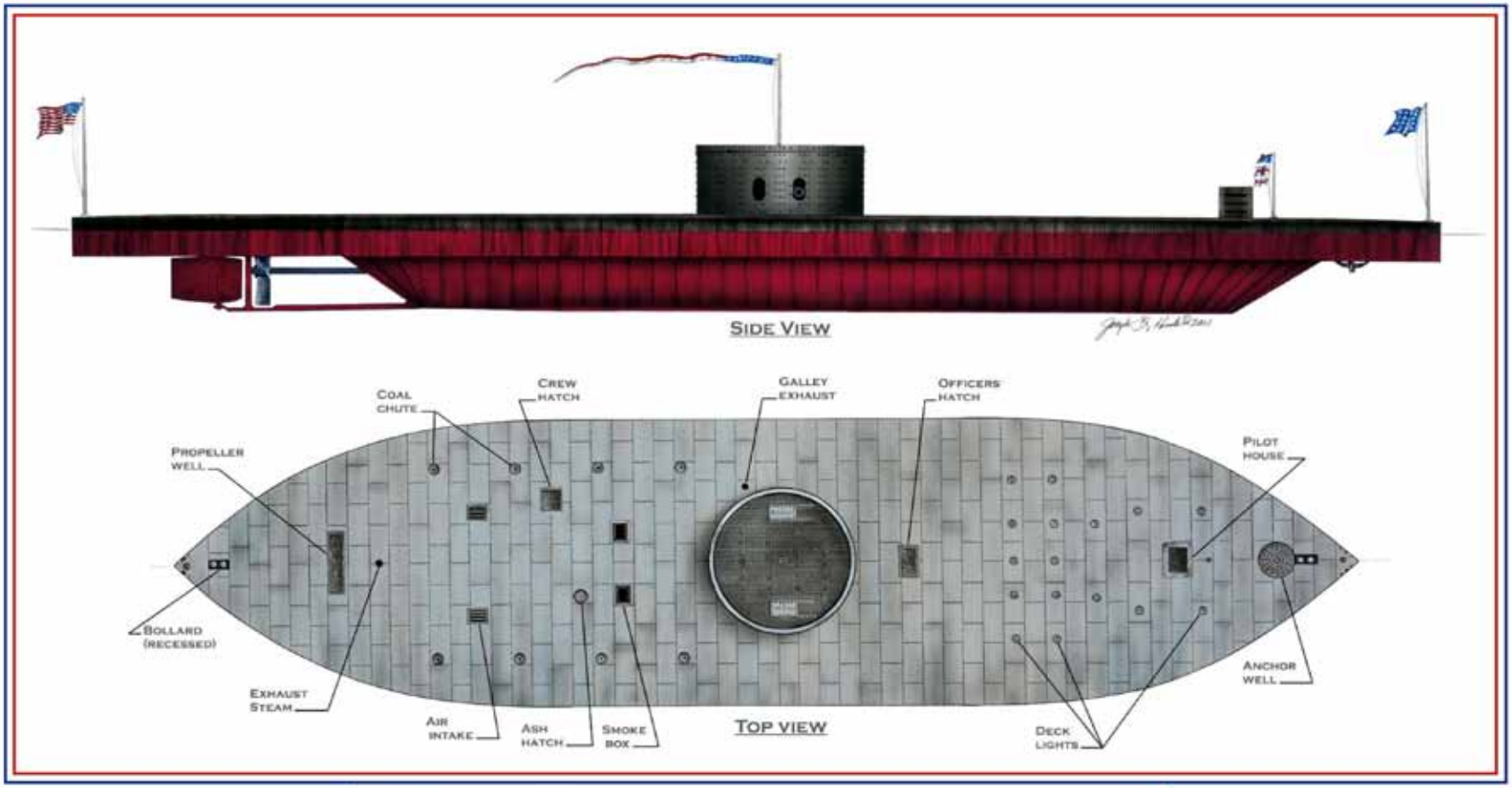
Acknowledgements

The staff of NOAA's Office of National Marine Sanctuaries and Monitor National Marine Sanctuary developed this document with essential support from many contributors, including the public. Primary NOAA contributors include David Alberg, John Armor, Special Agent Sara Block, Jamon Bollock, Reed Bohne, John Broadwater, Kathy Broughton, June Craddick, Helene Scalliet, Tom Culliton, Steve Gittings, Cirse Gonzalez, Jeff Gray, Lauren Heesemann, Joe Hoyt, Jeff Johnston, Ed Lindelof, Liz Moore, Lauren Pidot, Jim Sullivan, Lisa Symons, Paul Ticco, Shannon Ricles, Kate Ringelstein, Katherine Van Dam, Anne Walton, Vicki Wedell, and Paula Whitfield.

Special acknowledgment is also given to the participation of both current and former members of the MNMS Advisory Council and working groups who worked on this plan including: Debbie Boyce, Mitch Bowman, Scott Boyd, LCDR Tim Brown-USCG, Jim Bunch, Alexis Catsambis, Steve Claggett, Dave Conlin, Ron Grayson, Terri Kirby Hathaway, Lauren Hermley, Anna Holloway, Jay Kavanagh, Roger Kirchen, David Krop, Susan Langley, Richard Lawrence, Larry Murphy, Robert Neyland, Claire Peachy, Joe Poe, Scott Powell, Donald Reynolds, LCDR Kevin Saunders-USCG, Joseph Schwarzer, Will Serratelli, Andy Shepard, Wayne Smith, Doug Stover, Mark Wilde-Ramsing, Gordon Watts, Joanna Wilson, and Channing Zucker.

RIGHT: Photo taken by James Gibson on July 9, 1862, of the USS *Monitor*'s crew on deck (Library of Congress).

OPPOSITE PAGE: Drawing by marine artist Joseph Hinds ©Joseph Hinds.



U.S.S. MONITOR

THE U.S.S. MONITOR WAS THE PROTOTYPE, TURRETED, ARMORED WARSHIP THAT CHANGED THE COURSE OF NAVAL HISTORY FOREVER. MADE FAMOUS BY ITS DUEL WITH THE CSS VIRGINIA ON MARCH 9,1862, THIS VALIANT AND INNOVATIVE SHIP MET DISASTER IN A GALE OFF CAPE HATTERAS AND SANK WITH A GREAT LOSS OF LIFE IN LATE 1862.

HULL LENGTH:172'-0" BEAM: 41'-0" DRAFT: 10'-5" SPEED:8 KNOTS CREW: 59 ARMOR: 11" TURRET, 5" SIDES, 1" DECK, 9" PILOTHOUSE. ARMAMENT: TWO 11" DAHLGREN SMOOTHBORES

ABOVE: Conservators at The Mariners' Museum work on the *Monitor*'s steam engine (The Mariners' Museum).

"It continues to amaze and delight us, that evidence resting on the ocean floor for nearly two centuries, helps reveal our collective history."

JAMES DELGADO, DIRECTOR, NOAA'S OFFICE OF NATIONAL MARINE SANCTUARIES MARITIME HERITAGE PROGRAM

Introduction

The Office of National Marine Sanctuaries

The National Marine Sanctuaries Act (NMSA; formally Title III of the Marine Protection, Research, and Sanctuaries Act of 1972 (16 U.S.C. 1431-1435) (MPRSA), authorizes the Secretary of Commerce to designate discrete areas of the marine environment as national marine sanctuaries based on their special conservation, recreational, ecological, historical, scientific, educational, cultural, archaeological and aesthetic qualities, which give them special national, and in some cases, international significance. National marine sanctuaries may be designated in coastal and ocean waters, in submerged lands and in the Great Lakes and their connecting waters. The NMSA is administered by the National Oceanic and Atmospheric Administration (NOAA) through the National Ocean Service (NOS) and the Office of National Marine Sanctuaries (ONMS).

ONMS serves as the trustee for 14 marine protected areas, encompassing more than 180,000 square miles of ocean and Great Lakes waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa.

National marine sanctuaries contain deep ocean gardens, coral reefs, whale migration corridors, deep-sea canyons, historically significant shipwrecks and other underwater archaeological sites. Sites managed by ONMS range in size from a one mile radius of the Monitor National Marine Sanctuary to more than 134,000 square miles at the Papahānaumokuākea Marine National Monument , located in the northwest Hawaiian Archipelago.

ONMS fosters public awareness of marine resources and maritime heritage through scientific research, monitoring, exploration, education and outreach

and works closely with its many partners and the public to protect and manage sanctuaries. Sanctuaries protect biologically diverse marine environments, water quality and maritime heritage resources, while maintaining recreational and commercial activities that are sustainable and compatible with long-term preservation.

Office of National Marine Sanctuary Program Goals

The Office of National Marine Sanctuaries' (ONMS) goal is to establish a system of National Marine Sanctuaries based on the identification, designation and comprehensive management of special marine areas for the long-term conservation and protection and use of these resources by the public. The overall purposes and policies of the National Marine Sanctuaries Act are to:

Office of National Marine Sanctuaries' Mission: Identify, protect, conserve, and enhance the natural and maritime heritage resources, values and qualities of the National Marine Sanctuary System for this and future generations throughout the nation.

- Identify and designate as national marine sanctuaries areas of the marine environment which are of special national significance and to manage these areas as the National Marine Sanctuary System;
- Provide authority for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities;
- Maintain the natural biological communities in the national marine sanctuaries, and to protect, and where appropriate, restore and enhance natural habitats, populations and ecological processes;
- Enhance public awareness, understanding, appreciation and wise and sustainable use of the marine environment, and the natural, historical, cultural and archeological resources of the National Marine Sanctuary System;
- Support, promote and coordinate scientific research on, and long-term monitoring of, the resources of these marine areas;
- Facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities;

- Develop and implement coordinated plans for the protection and management of these areas with appropriate Federal agencies, State and local governments, Native American tribes and organizations, international organizations, and other public and private interests concerned with the continuing health and resilience of these marine areas;
- Create models for the conservation of managing these areas, including the application of innovative management techniques. This would include creating incentives for new conservation and management ideas; and
- Cooperate with global programs encouraging conservation of marine resources.

The National Marine Sanctuary System

Thirteen national marine sanctuaries and one marine national monument have been established since the program's inception in 1972. The sanctuaries harbor a fascinating array of plants and animals from whales to brightly colored sea snails. In many cases, these protected waters provide a secure habitat for species close to extinction. Some of the sanctuaries protect significant historical and cultural resources, as well as natural resources.

Many of the sanctuaries are also cherished recreational spots for diving and fishing in addition to supporting valuable commercial industries, such as the harvesting of fish and kelp. A major part of the challenge of managing these areas is balancing compatible multiple uses of the resources. These sanctuaries are a public trust to be managed for the use and enjoyment of present and future generations.

ABOVE: Signal Lantern from USS *Monitor* (The Mariners' Museum).

The following descriptions of the areas ONMS manages are given in the order of their designation:

- **Monitor National Marine Sanctuary** was designated the nation's first national marine sanctuary in 1975. The site protects the wreck of the famed Civil War ironclad USS *Monitor*, best known for its 1862 battle with the Confederate ironclad CSS *Virginia* at Hampton Roads. It is located approximately 16 miles southeast of Cape Hatteras, N.C. and consists of a column of water one mile in diameter extending from the seabed to the surface, centered on the shipwreck. Established January 30, 1975.

View of Channel Islands (NOAA).

- **Channel Islands National Marine Sanctuary** encompasses the waters surrounding San Miguel, Santa Rosa, Santa Cruz, Anacapa and Santa Barbara islands off the coast of California. The combination of warm and cold water currents around the Channel Islands results in a great variety of plants and animals, including large forests of giant kelp, flourishing populations of fish and invertebrates, and abundant and diverse populations of whales, dolphins, sea lions, harbor seals and seabirds. Established September 22, 1980.

Marine Life on Gray's Reef (NOAA).

- **Gray's Reef National Marine Sanctuary** surrounds one of the largest live bottom reefs in the southeastern United States, located just off the Georgia coast. The 22-square-mile sanctuary consists of rocky outcroppings separated by sandy troughs, resulting in a complex habitat of ledges covered by a "living carpet" of algae and invertebrates ranging from sponges to sea stars. Gray's Reef also supports loggerhead sea turtles, migrating right whales and a wealth of fish species, making the sanctuary a popular sport fishing and diving destination. Established January 16, 1981.

View of Gulf of the Farallones (NOAA).

- **Gulf of the Farallones National Marine Sanctuary** covers nearly 1,300 square miles of coastal and ocean wilderness west of San Francisco. The sanctuary is home to some of the largest concentrations of white sharks and blue whales on Earth, along with one-fifth of California's breeding harbor seals and hundreds of thousands of breeding seabirds. The sanctuary also protects numerous estuaries, bays and beaches for the public to enjoy. Established January 16, 1981.

TOP: Marine Life at American Samoa (NOAA).

RIGHT: Corals at Cordell Bank (NOAA).

BOTTOM: Manatee in Florida Keys (NOAA).

- **National Marine Sanctuary of American Samoa** embraces a fringing coral reef ecosystem contained within an eroded volcanic crater in American Samoa. This sanctuary is the nation's largest marine sanctuary at 13,523 square miles and contains the nation's only true fringing tropical reef. Hundreds of species of corals, colorful reef fish, algae and other invertebrates can be found in the warm waters of the sanctuary, along with sea turtles, dolphins, sharks, giant clams and migratory humpback whales. Established April 29, 1986.

- **Cordell Bank National Marine Sanctuary** gets its name from the underwater mountain that rises to within 115 feet of the ocean's surface off Point Reyes, California Upwelling of nutrient-rich deep water supports a flourishing ecosystem on and around Cordell Bank, making the 529-square-mile sanctuary a productive feeding destination for diverse marine creatures. Common sanctuary inhabitants and migratory visitors include whales, dolphins, sea lions, seabirds, rockfish and Pacific salmon. Established May 24, 1989.

- **Florida Keys National Marine Sanctuary** surrounds the Florida Keys archipelago and supports one of the most diverse marine ecosystems in North America. The sanctuary is home to the continent's only living coral barrier reef and beckons divers from around the world. The shallow waters of the 2,900-square nautical mile sanctuary also contain mangrove-fringed islands and lush seagrass meadows. Together, these complex ecosystems provide the basis for the valuable tourism and fishing industries that are vital to Florida's economy. Established November 16, 1990.

- **Flower Garden Banks National Marine Sanctuary** lies 70 to 115 miles off the Texas- Louisiana coast, where underwater "gardens" emerge from the depths of the Gulf of Mexico. The sanctuary encompasses three submerged features called salt domes that harbor the northernmost coral reefs in the continental United States. These premier diving destinations feature numerous Caribbean reef fish and invertebrate species and are frequented by majestic whale sharks and graceful manta rays. Established January 17, 1992.

Diver in Flower Garden Banks (NOAA).

- **Monterey Bay National Marine Sanctuary** spans more than 6,000 square miles of coastal waters off central California. Within its boundaries — which were expanded to include the Davidson Seamount in 2009 — are a variety of habitats, from rocky shores and lush kelp forests to an underwater canyon over 10,000 feet deep. The sanctuary's diverse marine life includes 33 species of marine mammals, 94 species of seabirds, 345 species of fish and thousands of invertebrates. Established September 18, 1992.

Sea lion with pup in Monterey Bay (NOAA).

- **Hawaiian Islands Humpback Whale National Marine Sanctuary** lies within the shallow, warm waters surrounding the main Hawaiian Islands and is one of the most important humpback whale habitats in the world. Scientists estimate that two-thirds of the entire North Pacific humpback whale population migrates to Hawaiian waters each winter to breed, calve and nurse their young. The continued protection of humpback whales and their habitat is crucial to the long-term recovery of this endangered species. Established November 4, 1992.

Humpback whales migrating throughout Hawaiian Humpback Whale (NOAA).

Whale tagging in Stellwagen Bank (NOAA).

- **Gerry E. Studds Stellwagen Bank National Marine Sanctuary** sits at the mouth of Massachusetts Bay, just 25 miles from the busy port of Boston. The 842-square-mile sanctuary is one of the world's premier whale watching destinations and a historically important fishing ground. Its waters support a rich assortment of marine life, including the critically endangered North Atlantic Right Whale and the economically important Atlantic Cod. A plethora of shipwrecks, representing more than 400 years of maritime travel, rest on the sanctuary seafloor. Established November 4, 1992.

Native tribe in Olympic Coast (NOAA).

- **Olympic Coast National Marine Sanctuary** spans 3,310 square miles of marine waters off the rugged Olympic Peninsula. The sanctuary is home to many marine mammals and seabirds, diverse populations of kelp and intertidal algae, and thriving invertebrate communities. This sanctuary is also rich in cultural resources, with more than 180 documented historical shipwrecks and the vibrant contemporary cultures of the Makah, Hoh and Quileute Tribes and the Quinault Indian Nation. Established July 16, 1994.

- **Thunder Bay National Marine Sanctuary** boasts nearly 100 shipwrecks preserved by the cold, fresh waters of Lake Huron within its 448-square-mile boundary. Thunder Bay's unpredictable weather and treacherous shoals have earned it the nickname "Shipwreck Alley," and its collection of wrecks represents a cross-section of the diverse vessels that have traveled

Shipwreck in Thunder Bay (NOAA).

the Great Lakes since the 19th century. From wooden schooners to modern freighters, these cultural treasures provide a window into the region's rich maritime history. Established September 25, 2000.

- **Papahānaumokuākea Marine National Monument** contains one of the last large-scale, predator-dominated coral reef ecosystems on the planet. The monument's waters are home to more than 7,000 marine species — a quarter of which are found only in the Northwestern Hawaiian Islands – including endangered and threatened species like Hawaiian monk seals and green sea turtles. Encompassing nearly 134,000 square miles of ocean and coral reefs, the monument has great cultural significance to Native Hawaiians and blends the management of terrestrial, marine, and cultural resources with a focus on the connections between land and sea. Established June 15, 2006.

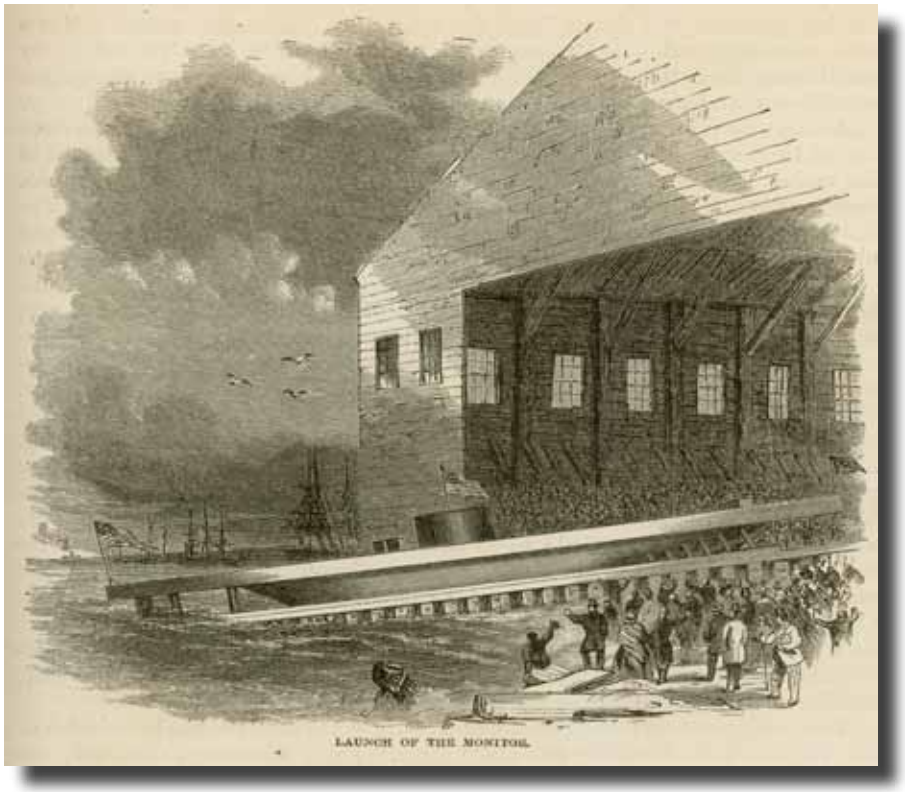
Wildlife in Papahānaumokuākea (NOAA).

ABOVE: John Ericsson, "Father" of the USS *Monitor* (The Mariners' Museum).

ABOVE: John L. Worden was the first commander of the USS *Monitor* and took her into the historic Battle of Hampton Roads (Naval Historical Center).

Background and History

The USS *Monitor* was designed by John Ericsson, a Swedish-American engineer and was built at Greenpoint, N.Y., at a total cost of $275,000. The *Monitor* was the prototype for a new class of American ironclads. Among her many unique features were a revolving gun turret, an anchor that could be raised and lowered from below deck, forced-air ventilation and a flushing shipboard toilet. Her first battle on March 9, 1862, at Hampton Roads, Va., was with the Confederate ironclad ram CSS *Virginia* (formerly known as the *Merrimac*). The battle between the *Monitor* and *Virginia*, the first confrontation between ironclad warships, was one of the most celebrated naval battles in American history, changing forever the course of naval warfare and setting a totally new direction in naval architecture and ship design.



RIGHT: Harpers Weekly illustration of the launching of the USS *Monitor* on Jan. 30, 1862 (Harpers' Weekly, September 1862, *Monitor* Collection, NOAA).

ABOVE: J.O. Davidson painting depicting the Battle of Hampton Roads on March 9, 1862 (Library of Congress).

Eleven months after being launched, the *Monitor's* promising career was cut short. The *Monitor* and 16 of her crew were lost while under tow by the vessel USS *Rhode Island* off Cape Hatteras, N.C., an area long known as the "Graveyard of the Atlantic." The ironclad, unable to weather the heavy gale-driven seas, foundered and sank on December 31, 1862.

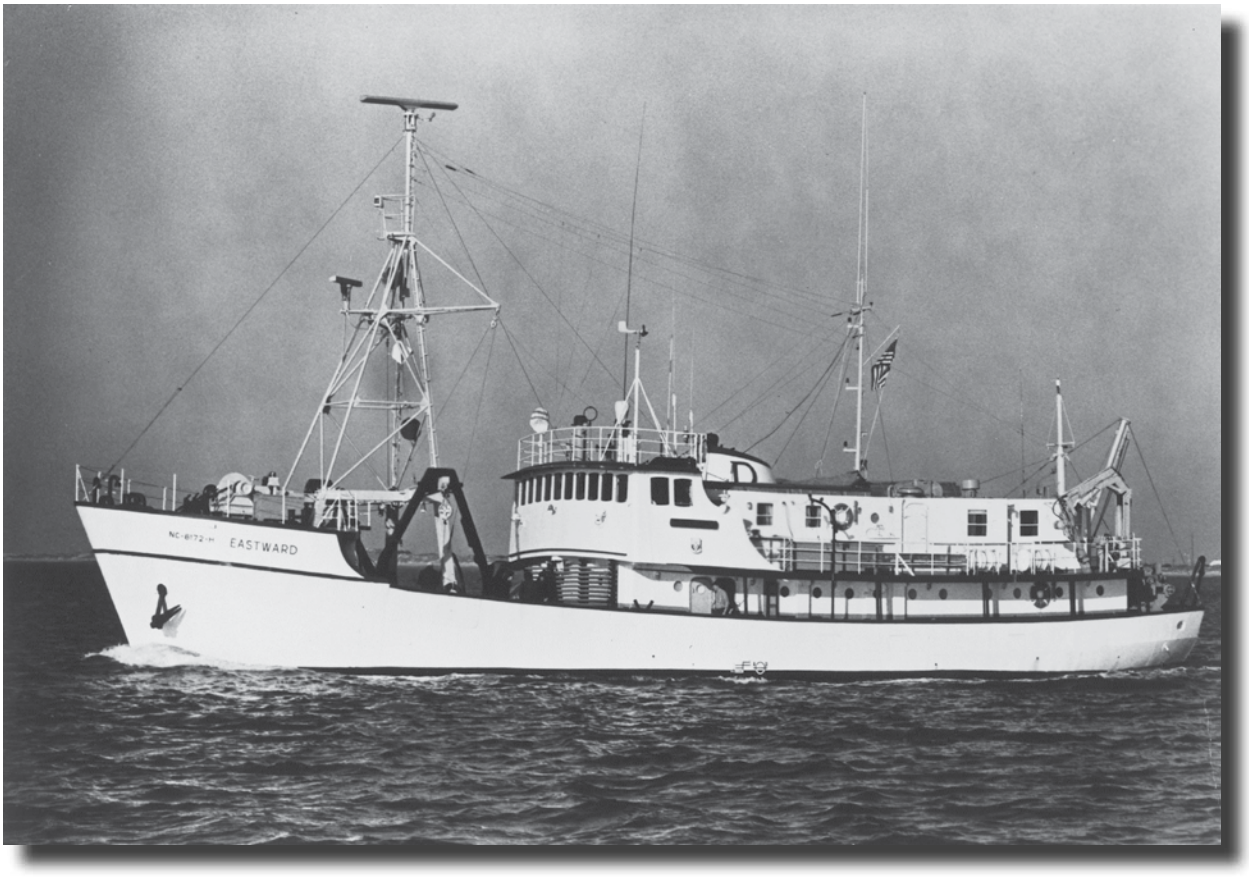
ABOVE: Engraving from *Leslie's Illustrated* depicting *Monitor*'s last minutes, with USS *Rhode Island* in the background sending up distress signals (The Mariners' Museum).

The *Monitor*'s final resting place in the Atlantic Ocean remained unknown for more than a century. A number of unsuccessful searches for the wreck took place after World War II.

In August 1973, scientists conducting a research project using side-scan sonar onboard the R/V *Eastward*, located the *Monitor*'s remains approximately 18 miles southeast of Cape Hatteras, N.C. Using remotely operated still and video cameras, these scientists obtained the first images of the wreckage. In April 1974, a second expedition to the site, aboard the R/V *Alcoa Seaprobe*, verified the ship's identity and produced the first photomosaic of the wreck.

The discovery of the *Monitor* made headlines around the world and was announced jointly by Duke University and the North Carolina Department of Archives and History on March 7, 1974. With the verification that the wreck discovered by Duke was indeed the USS *Monitor,* there was significant concern over how the United States could protect an archaeological site that was, at that time, lying in international waters.

Below: Research vessel *Eastward*, from Duke University Marine Laboratory, which successfully supported the search for the *Monitor* in Aug. 1973 (*Monitor* Collection, NOAA).



Above: 1974 photo mosaic of the USS *Monitor* wreck compiled from hundreds of individual 35mm photographs. (*Monitor* Collection, NOAA).

Sanctuary Designation

Title III of the Marine Protection, Research and Sanctuaries Act (MPRSA) of 1972, later renamed the National Marine Sanctuaries Act, established the National Marine Sanctuary Program. Under the Act, the US Secretary of Commerce was granted the authority to designate national marine sanctuaries. The Act further stated the need for protecting "special areas" of the ocean and noted that, "*certain areas of the marine environment possess conservation, recreational, ecological, historical, scientific, educational, cultural, archaeological or esthetic qualities which give them special national, and in some cases international, significance.*"

The *Monitor* clearly fit into the criteria for designation as a marine sanctuary and the Act was first used to provide protection to the wreck site. The first step towards designating the *Monitor* as a national marine sanctuary came on September 26, 1974, when the governor of North Carolina, James E. Holshouser, Jr., nominated the wreck site for National Marine Sanctuary status under the MPRSA. The nomination received a tremendous amount of support and furthered the significance of the *Monitor* to the American people. The *Monitor* site was added to the National Register of Historic Places by Secretary of Interior Rogers C. Morton on October 11, 1974.

Designation

Whereas Title III of the Marine Protection, Research, and Sanctuaries Act of 1972, Public Law 92-532 authorizes the Secretary of Commerce, with the approval of the President of the United States, to designate Marine Sanctuaries; and,

Whereas the wreckage of the U.S.S. Monitor has recently been identified; and,

Whereas it is the consensus of concerned organizations and individuals that the wreckage should be protected for its historic, cultural, and technological values; and,

Whereas the vessel has been placed on the National Register of Historic Places;

I, therefore, designate the site of the U.S.S. Monitor to be

The Monitor Marine Sanctuary

the area of which is to encompass a vertical section of the water column from the surface to the seabed and extending horizontally one mile in diameter from a center point located at 35°00'23" North Latitude and 75°24'32" West Longitude; and hereby affirm that the regulations promulgated according to the aforementioned authority will provide the necessary protection of law to preserve the esthetic values of this Historic Place.

January 30 1975
Date

Frederick B. Dent
Secretary of Commerce

ABOVE: Designation document creating the nation's first national marine sanctuary on Jan. 30, 1975 (*Monitor* Collection, NOAA).

On January 30, 1975, the Secretary of Commerce Frederick Baily Dent formally designated the remains of the USS *Monitor* and a column of water one-mile in diameter surrounding the vessel as the nation's first national marine sanctuary. Twelve years later, on March 9, 1987, the 125th anniversary of the Battle of Hampton Roads, the Secretary of the Interior, Donald Hodel, designated the *Monitor* shipwreck as a National Historic Landmark.

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Whereas the wreckage of the U.S.S.* Monitor *has recently been identified; and

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Whereas the vessel had been placed on the National Register Of Historic Places;

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January 30, 1975 ***Frederick B. Dent***

Building a New Management Plan

New challenges and opportunities emerge with time. For this reason, the National Marine Sanctuaries Act requires periodic updating of sanctuary management plans to reevaluate site-specific goals and objectives and to develop management strategies and activities to ensure the sanctuary best protects its resources. Management plans are sanctuary-specific planning and management documents used by all national marine sanctuaries. They identify immediate, mid-range, and long-term challenges and opportunities, and develop a course for the future. A management plan describes resource protection, research and education programs that guide sanctuary operations, specify how a sanctuary should best protect its resources, and describes sanctuary regulations if appropriate.

A management plan guides sanctuary programs and operations by setting budget and project priorities. Plans also assist advisory councils in providing guidance on management decisions by providing a better understanding of strategies to protect sanctuary resources. In addition, management plans also include specific performance measures designed to assess the progress of the sanctuary in the implementation of a new management plan.

This document is the 2013 Monitor National Marine Sanctuary Final Management Plan and Environmental Assessment, and its contents are the result of the sanctuary's first management plan review since 1992. In 1996, NOAA developed a comprehensive archaeological recovery plan for the USS *Monitor,* which served as the management plan during major recovery at the site until 2003. NOAA has prepared this current management plan in cooperation with the advisory council and with input from the public, state and federal agencies, as well as other stakeholders.

The Monitor National Marine Sanctuary management plan review began in December 2008 with a series of public scoping meetings held in Manteo, N.C. (12/01/2008), Raleigh, N.C. (12/02/2008), Pine Knoll Shores, N.C. (12/03/2008), Hatteras Village, N.C. (12/04/2008), and Newport News, Va. (12/06/2008). The scoping meetings were used to gather input on resource management issues from resource users, interest groups, government agencies, and other members of the public. NOAA also received written comments via mail, fax, and email from December 01, 2008 to January 31, 2009. Approximately 100 comments were received from the public. These public comments were used to identify issues to be addressed in the updated management plan.

Comments received during scoping fell into 11 major categories including; resource protection, education and outreach, archaeology, *Monitor* human remains, permitting, access, enforcement, research, conservation, facilities and operations, and expansion. Following the initial public scoping meetings, the Monitor National Marine Sanctuary Advisory Council established eight working groups consisting of sanctuary staff, members of the advisory council, and members of the public to address these 11 categories.

The eight working groups included: Education and Outreach, Research, Archaeology, *Monitor* Human Remains, Permitting/Access/Enforcement, Conservation, Resource Protection, and Expansion. These working groups met numerous times in 2009. They developed suggestions and recommendations for action plans, strategies, and activities, which were presented to the advisory council for consideration on October 27, 2009. The advisory council voted unanimously to accept these recommendations, which are reflected in the draft management plan. Notably, the Expansion Working Group evaluated whether the sanctuary should consider a future expansion effort. At that same meeting, the full advisory council voted unanimously to accept a resolution recommending NOAA explore expansion of the existing sanctuary boundaries.

On April 12, 2012, a draft management plan and environmental assessment was circulated to the public for written comment through June 11, 2012. Additionally, five hearings were held in North Carolina and Virginia to gather further public comments and suggestions.

Left: Management plan scoping meeting in North Carolina, Dec. 2008 (NOAA).

The core of this management plan consists of eights action plans: Resource Protection, Education and Outreach, Archaeological Research, Resource Monitoring, *Monitor* Sailors (Human Remains), Conservation of *Monitor* Artifacts, Sanctuary Expansion, and Operations and Administration. Each action plan begins with background information on current sanctuary programs and an overview of the direction the sanctuary will take to address current management needs. The goals and objectives are also stated for each action plan.

Strategies describe how the goals will be accomplished for a particular issue or program area. Each strategy is divided into specific activities for sanctuary staff to complete. Action plan resource requirements are estimated based on the overall needs for conducting the strategies, including staff salaries. These estimates have been developed to represent the full requirements to conduct programs and projects, including outside funding, as described over a five-year period. Full implementation of these action plans is dependent on continued support from state and federal funding, grants, donations and contributions from partners.

Performance measures for each action plan are identified to assist in evaluating NOAA's progress over time. As these measures are monitored, data is collected on progress toward the achievement of outcomes. In areas where NOAA is falling short of targets, staff will work to identify the obstacles to reaching the targets. Results will be compiled, synthesized and then reported by the site superintendent annually at an advisory council meeting.

This final management plan is comprised of the draft management plan and an environmental assessment with modifications made after analyzing the public comments. All comments were considered, and NOAA provided a response to comments in this final management plan (see Appendix I). This final management plan will be the primary guide for sanctuary actions to ensure that the sanctuary maintains long-term preservation measures and uses its maritime heritage resources for the benefit of current and future generations.

The strategies and activities contained in the Monitor *2013 Final Management Plan and Environmental Assessment support the sanctuary's mission to preserve the nationally significant shipwreck site of the USS* Monitor *and promote the maritime heritage resources of the nation through resource protection, education, responsible use and greater stewardship of the oceans.*

Monitor National Marine Sanctuary Goals and Objectives

Sanctuary goals and objectives provide the framework for developing management strategies. Management strategies for MNMS focus on the goals and objectives outlined herein. While these goals and objectives are listed separately, their effects overlap. Resource protection efforts, for instance, include expanding the sanctuary's education program.

Resource Protection

The NMSA authorizes NOAA to manage sanctuaries' historical resources, among others. In doing so, the agency must comply with the Federal Archaeological Program (FAP) as outlined in Executive Order 11593, the National Historic Preservation Act of 1966 (NHPA) and the Archaeological Resources Protection Act of 1979 (ARPA), as well as those acts' implementing regulations.

NOAA had no existing historical/cultural resources management policy when the USS *Monitor* was designated in 1975. Because the *Monitor* was one of the most significant historic shipwrecks in U.S. waters, a special policy was adopted for that site (Title III, sec. 314 added by PL 100-627, MPRSA). ONMS has since published a comprehensive historical context study and resources policy, entitled "Fathoming our Past" that addresses the historic and cultural resources of all of the national marine sanctuaries.

LEFT: U.S. Coast Guard 47' motor life boat (USCG).

The highest priority management goal for MNMS is resource protection through comprehensive and coordinated conservation and management of the wreck and its surroundings. An important part of our nation's history, the *Monitor*, its artifacts, the archaeological information at the site, the archaeological collection, and the *Monitor*'s records are all part of sanctuary resources. The objectives of the resource protection program are to:

- Encourage public access to the wreck site, while promoting safe, responsible and well-informed enjoyment of sanctuary resources;
- Enhance public awareness of sanctuary regulations and the permitting process;
- Ensure compliance with sanctuary regulations; and
- Ensure continued refinement of access and permitting policies of MNMS management plan based upon changing site conditions.

ABOVE: Students help to calculate seagrass coverage (NOAA).

Education and Outreach

Education and outreach is an effective tool to protect and promote MNMS. Jointly, education and outreach directly support resource protection by creating a better-informed public not only on issues affecting the sanctuary, but larger ocean conservation issues as well. MNMS will use education to promote awareness and protection of the sanctuary's natural and cultural resources and to enhance local, regional, and national knowledge of the surrounding ocean's climatological and ecological significance. The objectives of education and outreach are:

- Build an education and outreach program that complements and promotes sanctuary resource protection and historical, climatological, and ecological research programs;
- Increase ocean and climate literacy among local, regional and national audiences;
- Target user groups and underrepresented audiences' participation in sanctuary programs; and
- Enhance communication and coordination among sanctuary partners.

Archaeological Research

Future archaeological work at MNMS will serve better to protect the sanctuary's resources and maritime landscape by inventorying, locating, documenting, assessing, managing, and interpreting the sanctuary's archaeological, historical, and environmental resources. This work will remain a major goal of the sanctuary. The objectives of future archaeological research are to:

- Characterize the sanctuary's maritime heritage resources;
- Scientifically monitor the sanctuary's maritime heritage resources to better understand existing and potential threats; and
- Develop and encourage collaborative research programs to meet Monitor National Marine Sanctuary's on-going management needs.

ABOVE: Maritime archaeologists work on a site plan (NOAA).

Resource Monitoring

Monitor National Marine Sanctuary requires a research program that addresses resource protection, as well as other management issues. Initial research supported by NOAA was primarily directed toward protection through a comprehensive site characterization process that increased our understanding of the *Monitor*'s remains and how they have been affected by natural deterioration and human activities. This research was critical to developing effective approaches to long-range management issues.

NOAA's initial site characterization research and recent monitoring and research activities by NOAA and private researchers, resulted in the detection of a significant increase in the rate of deterioration of the *Monitor*. The rapid degradation of the hull, as described later in this document, may have been precipitated by an incident in 1991, when a private fishing boat was cited by the U.S. Coast Guard for anchoring illegally on the wreck. It is also possible, however, that the structural integrity of the *Monitor* has also decreased through natural deterioration to the point that the rate of collapse has begun to accelerate.

As a result of this new information, current research goals for the sanctuary are to ensure the scientific recovery and dissemination of historical and cultural information from the site and to preserve and manage the

RIGHT:
Archaeologists from NOAA and JPAC worked carefully to recover the remains of two U.S. sailors (NOAA).

remains of the *Monitor* in a manner that appropriately enhances the significance and interpretive potential of the warship.

Additionally, resource-monitoring programs will help NOAA better understand the living and natural resources within the sanctuary and in the surrounding waters. The objectives of the revised research program include:

- Recognize, document, and track changes in the structural integrity of USS *Monitor* and associated artifacts;
- Monitoring of MNMS's living resources and their habitats; and
- Promoting the sanctuary as an ocean observing station due to its unique location within an important area for biological productivity and climate change.

Monitor Sailors

NOAA and the U.S. Navy recovered the remains of two U.S. servicemen who lost their lives on the night that the *Monitor* sank. NOAA is working to identify these two men and to establish a protocol for dealing with human remains if additional remains are found at the *Monitor* site. NOAA will follow a standard protocol, based on dignity, respect, and honor for the deceased and their families; for dealing with known human remains; as of yet undiscovered human remains; and associated personal effects encountered within MNMS. The objectives of the

Monitor Sailors identification research program include:

- Positive identification of known human remains and any additional human remains encountered within the sanctuary;
- Make recommendations to the U.S. Navy concerning the final disposition of human remains and personal effect;
- Care for, conserve, portray and display human remains and personal effects prior to final disposition; and
- Enhance public education and awareness of personal stories and social history associated with human remains encountered within the sanctuary.

Above: Conservator, Colleen Brady, conserved this lantern from *Monitor*'s gun turret and painstakingly reassembled its shattered glass globe (The Mariners' Museum).

<u>*Monitor* Artifact Conservation</u>

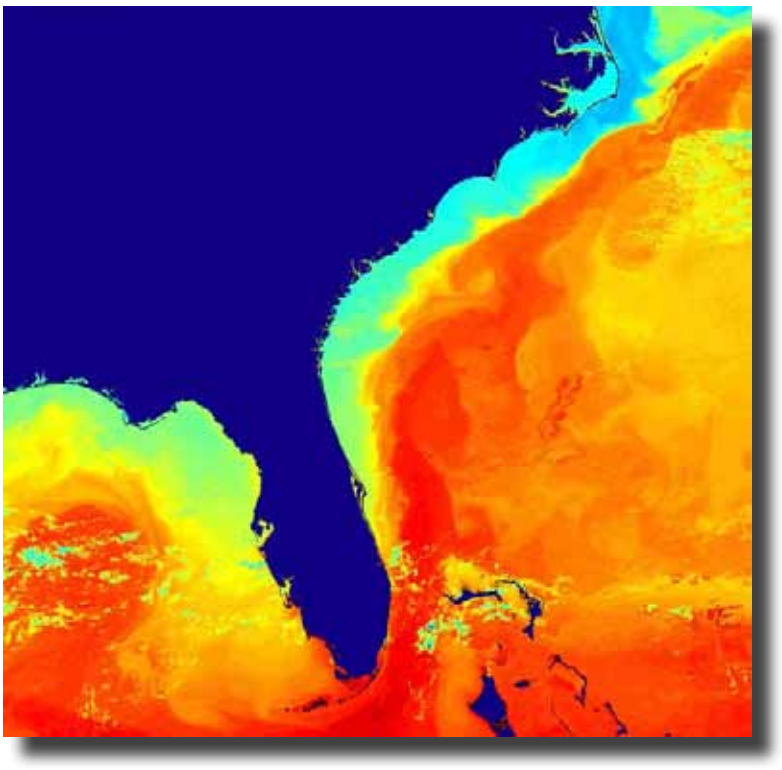
One of Monitor National Marine Sanctuary's primary and ongoing functions is to oversee and facilitate the conservation of artifacts and materials recovered from the shipwreck since its discovery in 1973. The sanctuary works in close partnership with The Mariners' Museum to achieve this goal. This effort will take more than 30 years for some of the larger artifacts. Due to the lifespan of this effort, NOAA must continually find ways to increase the current levels of funding and other means to better conserve *Monitor* artifacts. The objectives of the *Monitor* Artifact Conservation program include:

LEFT: Two hard rubber U.S. Navy buttons recovered from the *Monitor*'s gun turret (*Monitor* Collection, NOAA).

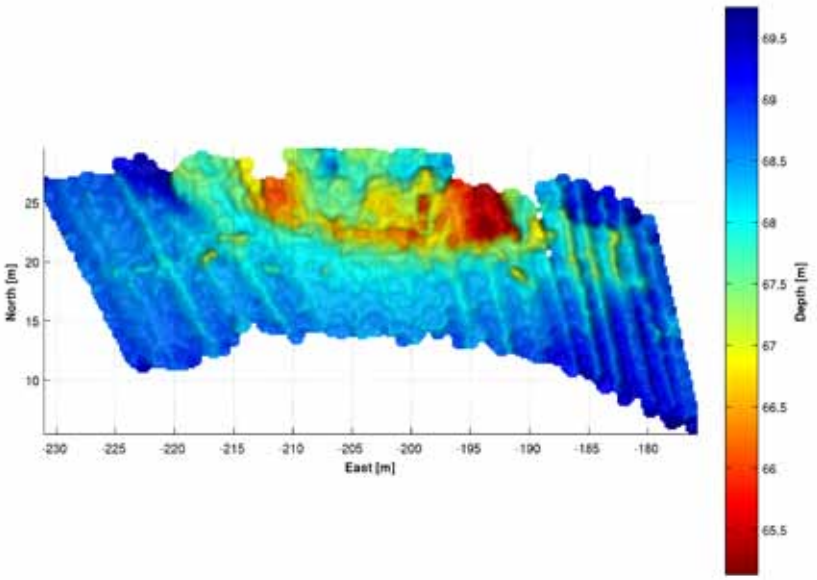
- Identify additional funds to support existing federal dollars allocated towards the conservation of USS *Monitor* archaeological materials;
- Support The Mariners' Museum efforts to increase their levels of funding for the conservation of USS *Monitor* archaeological artifacts;
- Establish additional outside partnerships for USS *Monitor* artifact conservation. This should include the scientific, engineering, and mechanical communities;
- Identify other conservation facilities and conservators to explore new techniques that might be applicable to the treatment of USS *Monitor* artifacts; and
- Increase the public visibility, knowledge, and support for the conservation efforts on USS *Monitor* artifacts.

Environmental Setting

The *Monitor's* remains lie on the continental shelf 16.1 nautical miles south-southeast of the Cape Hatteras Lighthouse. Monitor National Marine Sanctuary consists of a vertical column of water in the Atlantic Ocean one mile in diameter extending from the surface to the seabed. The center of the water column is 35°00'23" north latitude and 75°24'32" west longitude.



LEFT: Satellite image of the southeastern U.S. coast showing surface water temperatures. The confrontation off Cape Hatteras between the northerly-flowing Gulf Stream (red) and southerly-flowing Labrador Current (blue) is clearly visible (NOAA).



LEFT: Multi-beam sonar survey of the USS *Monitor* (NOAA).

In the vicinity of the *Monitor*, the ocean bottom is composed of sand, shell hash, and clay below the surface. Bathymetric profiles (topography of the sea floor) of the area indicate that the bottom surface slopes gently away to the southeast at less than seven feet per 1000 feet.

The NOAA National Data Buoy Center (NDBC) repositioned the Diamond Shoal Data Buoy (NDBC-41025) within the boundaries of Monitor National Marine Sanctuary. This data buoy collects oceanographic and meteorological information including temperature, wind conditions, sea states, and current data. This real-time data aides seafarers in determining sea conditions off the coast of Cape Hatteras and assists staff in monitoring conditions at the sanctuary. The public can access data online from the buoy 24-hours a day.

Visibility. Visibility in the 230-foot-deep water varies according to turbidity, the presence of microorganisms and the intensity and angle of sunlight. Records to date indicate that visibility varies from approximately 10 feet to more than 150 feet.

Currents. The site lies at the western margin of the Gulf Stream, and the area is influenced both by the current itself and by eddies it creates. Changes in current direction and velocity occur frequently. Within a 24-hour period, direction has been observed to change 360°. Current velocities are known to vary from zero to more than 1.5 knots (1.7 mph) at the bottom, and surface currents can be considerably stronger. Water temperature in the area seems to be related to these current patterns. While little specific data are available, temperature projections indicate an annual variation between 52 degrees and 78 degrees Fahrenheit.

ABOVE: Shark on the *Monitor* wreck (NOAA).

RIGHT: Stormy skies at sunrise, Cape Hatteras, N.C. (NOAA).

Wind patterns. In the area of the sanctuary, wind patterns can be generalized as prevailing from the north to west between November and February; north-northwest and south southwest between March and June; south-southeast during July and August; and north-northeast during September and October. However, unpredictable variations are common and spontaneous storms frequently occur.

Biological organisms. A biological study carried out by NOAA in June 1990, identified encrusting organisms and motile invertebrates on the wreck (Table 1). The wide variety of encrusting organisms included coral, sponges, sea squirts, sea anemones, hydroids, barnacles, tubeworms, mussels and oysters. *Oculina arbuscula* was the most abundant of the coral species observed, but at least 40 species of sponges were observed. Although many invertebrates are cryptic and hard to detect, those identified were crabs, brittlestars, sea urchins, snapping shrimp and spiny lobsters.

The *Monitor's* remains are located near the northern boundary of tropical reef fish habitat and therefore, support a mixture of temperate and tropical species. Fish abundance has been estimated by visual counts and verified from videotape from five transect lines over the length of the *Monitor*. Twenty-five species were observed (Table 2). The most abundant species was the red barbier. Thousands of fish, approximately 1.5 to 5 inches total length, formed schools at the stern and throughout the center of the vessel. The predominant predator species was the

greater amberjack. Fifty-four fish were counted when approaching the *Monitor*. Approximately half of the wreck was visible so the number of jacks was estimated to be 108. Estimates of other common species included scad (several hundred), black sea bass (35), scup (14), bank sea bass (10), slippery dick (10), and vermilion snapper (6).

Cold-water intrusions by the Labrador Current may limit biological productivity of tropicals at the wreck site. Several fish kills have been observed in the Cape Hatteras area since 1957. Reports indicate cold-water intrusion on the outer continental shelf may have contributed to the killing of red snapper and vermilion snapper. Most of the tropical species observed on the *Monitor* on past expeditions were juveniles or young adults. Significant changes in the numbers and types of fish, corals and sponges have been noted over the years. Variations in the environment and even changes in the condition of the *Monitor's* hull have been suggested as possible explanations.

ABOVE: Amberjack swarm around diver on *Monitor* (NOAA).

The Monitor National Marine Sanctuary Condition Report

The National Marine Sanctuary System manages marine areas in near shore and open ocean waters that range in size from a one-mile radius to almost 140,000 square miles. Each area has its own concerns and requirements for environmental monitoring, but ecosystem structure and function in all these areas have similarities and are influenced by common factors that interact in comparable ways. Furthermore, the human influences that affect the structure and function of these sites are similar in a number of ways. For these reasons, in 2001 the sanctuary system began to implement System-Wide Monitoring (SWiM). This monitoring framework facilitates the development of effective, ecosystem-based monitoring programs that address management information needs by using a design process that can be applied in a consistent way at multiple spatial scales and to multiple resource types.

The framework identifies four primary components common among marine ecosystems: water, habitats, living resources, and maritime archaeological resources. By assuming that a common marine ecosystem framework can be applied to all places, the National Marine Sanctuary System developed a series of questions that are posed to every sanctuary and used as evaluation criteria to assess resource condition and trends. The questions, which are shown on page 31 and 32 and explained in Appendix G (Rating Scheme for System-Wide Monitoring Questions), as well as in the *Condition Report 2008* Appendix, are derived from both a generalized ecosystem framework and from the National Marine Sanctuary System's mission. They are widely applicable across the sanctuary system and provide a tool with which the program can measure its progress toward maintaining and improving natural and archaeological resource quality throughout the system. Similar reports summarizing resource status and trends will be prepared for each marine sanctuary approximately every five years and updated as new information allows. The information in the condition report is intended to help set the stage for the management plan review process. The report also helps sanctuary staff identify monitoring, characterization, and research priorities to address gaps, day-to-day information needs, and new threats.

In April 2008, Monitor National Marine Sanctuary released a System-Wide Monitoring or Condition Report, on the health of the sanctuary. This report provided a summary of resources in MNMS, pressures on those resources, the current condition and trends and management responses to the pressures that threaten the integrity of the marine environment. Specifically, this document includes information on the status and trends of water quality, habitat, living resources and maritime archaeological resources, and the human activities that affect them. It presents responses to a set of questions posed to all sanctuaries (Appendix G).

Resource status was rated on a scale from good to poor, and the timelines used for comparison vary from topic to topic. Trends in the status of resources were also reported, and were generally based on observed changes in status over the past five years, unless otherwise specified. Evaluations of status and trends were made by sanctuary staff, based on interpretation of quantitative and, when necessary, qualitative assessments and observations of scientists, managers, and users. In many cases, sanctuary staff consulted outside experts familiar with the resources as well as previous and current scientific investigations. While ratings thus reflect the collective interpretation of program staff and outside experts based on their knowledge and perceptions of local problems, sanctuary staff determined the final ratings. Similar reports summarizing resource status and trends will be prepared for every marine sanctuary approximately every five years and updated as new information allows. This information is intended to help set the stage for management plan reviews at each site and to help sanctuary staff identify monitoring, characterization and research priorities to address gaps, day-to-day information needs, and new threats. The current report has been peer-reviewed and complies with the White House Office of Management and Budget's peer review standards as outlined in the Final Information Quality Bulletin for Peer Review.

While most of the research conducted in Monitor National Marine Sanctuary to date has focused on the archaeological documentation of the shipwreck, NOAA scientists are devoting increased attention to the water quality and marine environment of the wreck site. A NOAA data buoy installed in the sanctuary in 2006, provides scientists and the public the opportunity to monitor weather and sea conditions 24 hours a day. The sanctuary's remote distance from shore poses special challenges for enforcement, but it is also an important factor in the *Monitor*'s continued preservation. The site depends heavily on education, word-of-mouth within the dive community, and voluntary compliance with regulations. When those measures are ineffective, partnerships with NOAA Office of Law Enforcement and other government agencies such as the U.S. Coast Guard are vital to enforcing sanctuary regulations. MNMS regulations prohibit 1) anchoring, stopping, and drifting within the sanctuary, 2) conducting salvage or recovery operations, 3) using diving, dredging or wrecking devices, 4) conducting underwater detonation, 5) drilling in the seabed, 6) laying cable, and 7) trawling. Access is generally limited to scientific research conducted under a permit issued by NOAA; however, special-use permits may be issued for non-research visits to this historic site.

Proceeding, this section provides background and summaries of the condition and trends within four resource areas: water, habitat, living resources, and maritime archaeological resources. For each resource area, sanctuary staff and selected outside experts considered a series of questions. The set of questions originate from the National Marine Sanctuary System's mission and a system-wide monitoring framework. This framework was developed to ensure the timely flow of data and information to those responsible for managing and protecting resources in the ocean and coastal zone, and to those that use, depend on, and study the ecosystems encompassed by sanctuaries. The questions were designed to set the limits of judgments, so that responses can be confined to certain reporting categories; eventually this method will allow for a comparison among all sanctuary sites.

Appendix G clarifies the set of questions and presents the statements that were used to judge the status of resources, and along with their corresponding color codes, which were designated on a scale from "good" to "poor." These statements are customized for each question. This section of the report provides answers to the set of questions. In addition, the following options are available for all questions: "N/A" – the question does not apply; and "undetermined" – resource status is not defined. In addition, symbols are used to indicate trends: "▲" – conditions appear to be improving; "**–**" – conditions do not appear to be changing; "▼" – conditions appear to be declining; and "**?**" – the trend is undetermined. In the condition report, answers to the questions are supported by specific examples of data, investigations, and monitoring and observations; the basis for judgment is provided in the text and summarized in the table for each resource area.

Above: Technicians ready an Autonomous Underwater Vehicle (AUV) to map the ocean floor in Ocracoke, N.C., aboard the SRVx R-*8501* (NOAA).

Monitor National Marine Sanctuary Condition Summary Table

Status: Good | Good/Fair | Fair | Fair/Poor | Poor | Undet.

Trends:
- Conditions appear to be improving ▲
- Conditions do not appear to be changing –
- Conditions appear to be declining ▼
- Undetermined trend. ?
- Question not applicable NA

Condition Summary: The results in the following table are a compilation of findings from the "State of Sanctuary Resources" section of this report. (For further clarification of the questions posed in the table, see the Appendix.)

#	Questions/Resources	Rating	Basis for Judgment	Description of Findings	Sanctuary Response
WATER					
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality and how are they changing?	–	Water current modeling and its effects on dissolved oxygen. No human impacts.	Conditions do not appear to have the potential to negatively affect living resources or habitat quality.	Monitor National Marine Sanctuary regulations state that discharge of waste material within sanctuary boundaries is prohibited. There is a need to develop a water quality monitoring program in order to track conditions that could affect the integrity of the site.
2	What is the eutrophic condition of sanctuary waters and how is it changing?	–	The Monitor is located in water that is deep and well-mixed, therefore eutrophication is not a management concern.	Conditions do not appear to have the potential to negatively affect living resources or habitat quality.	
3	Do sanctuary waters pose risks to human health and how are they changing?	–	No evidence that there is any risk posed.	Conditions do not appear to have the potential to negatively affect human health.	
4	What are the levels of human activities that may influence water quality and how are they changing?	–	Relatively few hazardous discharges, debris or other impacts.	Few or no activities occur that are likely to negatively affect water quality.	
HABITAT					
5	What is the abundance and distribution of major habitat types and how is it changing?	▲	Monitor attracts biological assemblages as an artificial reef.	Habitats are in pristine or near-pristine condition and are unlikely to preclude full community development.	Monitor National Marine Sanctuary regulations prohibit activities that could in any way alter the sanctuary's existing habitats or disturb or damage its natural resources. Activities such as anchoring, discharging waste material into the water, seabed drilling, seabed cable-laying, detonation of explosive material, dredging and trawling are highly restricted within the sanctuary's boundaries.
6	What is the condition of biologically structured habitats and how is it changing?	?	No specific studies conducted; encrusting faunal organisms reduce the rate of corrosion.	Undetermined status and trend.	
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?	–	Lack of sources and constant resuspension of sediments flushing any contaminants that may accumulate.	Contaminants do not appear to have the potential to negatively affect living resources or water quality.	
8	What are the levels of human activities that may influence habitat quality and how are they changing?	–	Limited human activity due to remote location and restrictions.	Some potentially harmful activities exist, but they do not appear to have had a negative effect on habitat quality.	
LIVING RESOURCES					
9	What is the status of biodiversity and how is it changing?	?	Lack of biological monitoring program.	Undetermined status and trend.	Prohibition of commercial fishing and trawling in the sanctuary helps to eliminate the pressure of fishing gear on the living resources. The Monitor sanctuary's long-term goal is to coordinate scientific research and monitoring of the ecological conditions of the sanctuary.
10	What is the status of environmentally sustainable fishing and how is it changing?	NA	NA	NA	
11	What is the status of non-indigenous species and how is it changing?	▼	One Red Lionfish identified in sanctuary in summer 2007.	Non-indigenous species exist, precluding full community development and function, but are unlikely to cause substantial or persistent degradation of ecosystem integrity.	
12	What is the status of key species and how is it changing?	?	No key species have been identified; no specific studies conducted.	Undetermined status and trend.	
13	What is the condition or health of key species and how is it changing?	?	No key species have been identified; no specific studies conducted.	Undetermined status and trend.	
14	What are the levels of human activities that may influence living resource quality and how are they changing?	–	Evidence that fishing activities affect habitat quality and thus living resources.	Some potentially harmful activities exist, but they do not appear to have had a negative effect on living resource quality.	

Monitor National Marine Sanctuary Condition Summary Table (Continued)

#	Questions/Resources	Rating	Basis for Judgment	Description of Findings	Sanctuary Response
MARITIME ARCHAEOLOGICAL RESOURCES					
15	What is the integrity of known maritime archaeological resources and how is it changing?	–	Combination of natural deterioration and site alteration due to archaeology activities from 1998-2002.	Selected archaeological resources exhibit indications of disturbance, but there appears to have been little or no reduction in historical, scientific or educational value.	The Monitor sanctuary was specifically designated to protect and preserve the remains of the Monitor. Therefore, regulations prohibit removal of or damage to any historical or cultural resource in the sanctuary. Activities such as subsurface salvage or recovery operation, diving, and lowering below the water any grappling, suction, conveyor, dredging or wrecking device are also prohibited. A major exhibit on the Monitor opened in March 2007 at The Mariners' Museum in Newport News, Va., to better inform the public about the Monitor and its history.
16	Do known maritime archaeological resources pose an environmental hazard and how is this threat changing?	–	Lack of hazardous cargo.	Known maritime archaeological resources pose few or no environmental threats.	
17	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?	–	Prior evidence of marine debris and anchoring. Site is susceptible to future incidents of fishing strikes and debris accumulation.	Selected activities have resulted in measurable impacts to maritime archaeological resources, but evidence suggests effects are localized, not widespread.	

Figure 3: Summary Table from *Monitor* SWiM Report Marine Sanctuary

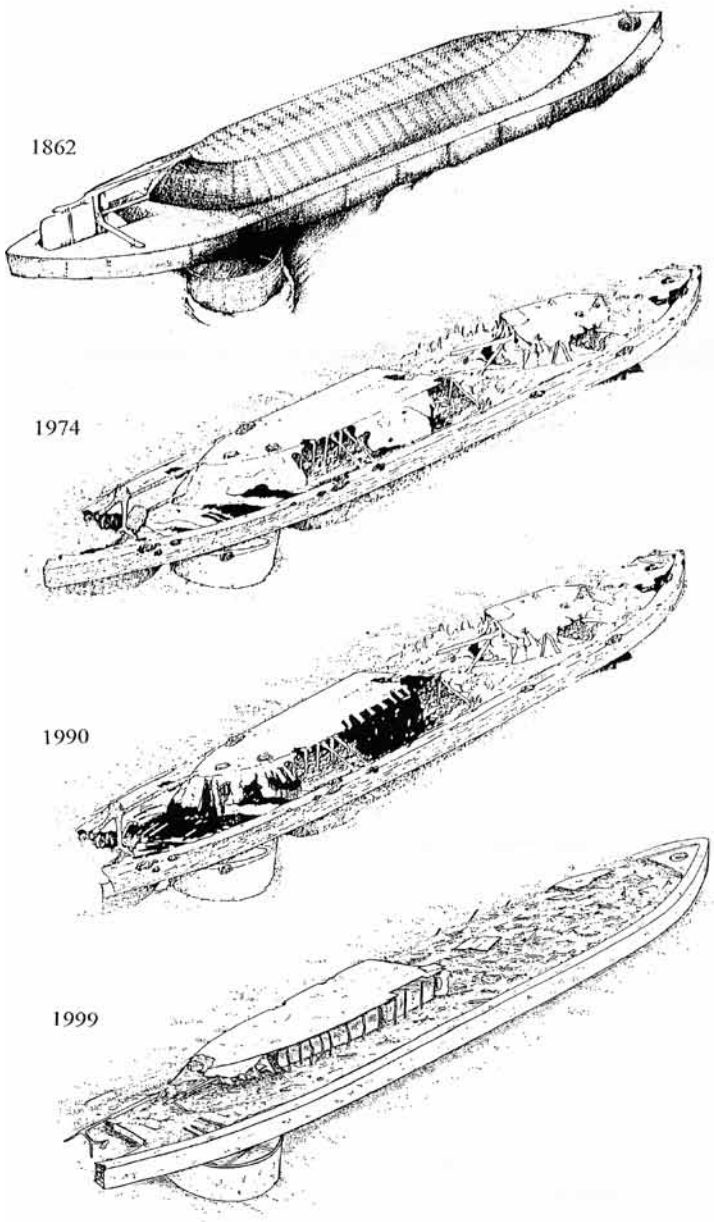
Vessel Condition

Since the *Monitor* sank on December 31, 1862, its hull and contents have been slowly transforming from a ship of war to an archaeological site. The *Monitor* sank at an offshore location where a hard seabed and strong currents have prevented the hull from becoming imbedded in a protective layer of sand and sediment. The inverted hull of the *Monitor* rests in a nearly east-west orientation, partially submerged in bottom sediment with the port armor belt supported by a series of concrete grout bags placed under the wreck in 2000 to provide stability.

The *Monitor's* present condition is the result of a number of factors including: damage that may have occurred at the time of sinking, natural degradation of ferrous material that has resulted from more than a century and a half of immersion in a seawater environment and damage from human activities. There is some evidence to suggest that the *Monitor* was depth-charged during World War II causing possible damage to the stern and lower hull. There is also evidence that the stern may have suffered damage in 1991, from one or more vessels anchoring on the *Monitor*.

Over the years, the wreck has become covered in fishing line, monofilament, cables and other types of fishing gear and marine debris. Much of this debris was the direct result of fishing activities on the wreck, while other material had drifted onto the wreck in the form of derelict fishing gear. Fishing hooks and lines observed on the site during several NOAA and private expeditions suggest that fishing boats could be a source of this material and thus, pose an ongoing management concern. However, the primary source of most of the observable change to the *Monitor*'s hull may, in fact, be the direct result of natural site formation processes.

During the 1980s, NOAA continued to document the deterioration at the stern of the ship, which led to the development of a management plan, *Charting a New Course for the* Monitor, issued in 1998. This plan outlined an ambitious stabilization and recovery proposal that focused on recovering some of the key components from the vessel in order to prevent their loss in the event of a catastrophic collapse. This included placing mechanical shoring (grout bags) under the raised areas of the port armor belt, recovering the *Monitor*'s unique steam engine and the world's first rotating gun turret.



LEFT: *Monitor*'s hull began to deteriorate at an accelerating rate during the 1980s and 1990s. Line drawing depicting the rate of deterioration (*Monitor* Collection, NOAA).

ABOVE: Midships section of the *Monitor* (NOAA).

This recovery work began with the propeller and segment of the propeller shaft, which were recovered with assistance for the U.S. Navy in 1998. In 2000, NOAA and the Navy installed mechanical shoring under the raised portions of the port side of the wreck. In 2001, the steam machinery and associated components were removed from the wreck and in 2002, the vessel's rotating gun turret and its contents were successfully brought to the surface.

In 2004, a cleanup expedition with the Navy revealed significant damage to the site. All of the remaining bottom plate and framing over the boilers and galley area was found lying to the south of the wreck. The midships bulkhead had completely collapsed into a pile of plating around the turret truss. An investigation of the area found a segment of trawl net tangled in the wreckage. Further investigation was conducted by a private research expedition later that year, but could not prove conclusively that the damage had been the result of illegal fishing activities or derelict fishing gear brought onto the wreck as a result of Hurricane Isabel.

Since the turret recovery in 2002, NOAA has continued to study the site. Areas of wood that were exposed during the large item recovery expeditions (1998-2002) have led to degradation of the wood components that were exposed during those expeditions. In more recent years, surveys on the site have revealed the additional loss of deck plating at the stern.

During a 2011 NOAA expedition to the site, researchers observed a build-up of modern marine debris. However, earlier, accelerated deterioration of the site from recovery activities appears to have slowed and has begun to approach equilibrium with natural site formation processes. The site also displayed observable natural collapse of bottom hull plating.

It is clear that while natural and man-made processes will continue to affect the site, the site remains a military gravesite and a valuable repository of significant archaeological information and historical material for the foreseeable future. Furthermore, the site is listed as a National Historic Landmark.

Monitor Artifact Conservation

Conservators at The Mariners' Museum (TMM) in Newport News, Va., have been documenting, stabilizing, treating, and exhibiting artifacts recovered from the USS *Monitor* since the first large-scale excavations in the 1990s. Over 200 tons of artifacts have been recovered from the wreck. Archaeologists and U.S. Navy divers recovered the revolving gun turret, vibrating side-lever steam engine, steam condenser, auxiliary steam equipment, propeller and shaft assembly, Dahlgren guns and gun carriages, and other structural and personal items. These artifacts are composed primarily of wrought iron, cast iron, and copper alloys. Additional materials included lead, tin, steel, rubber, canvas, wood, wool, glass, and ceramic.

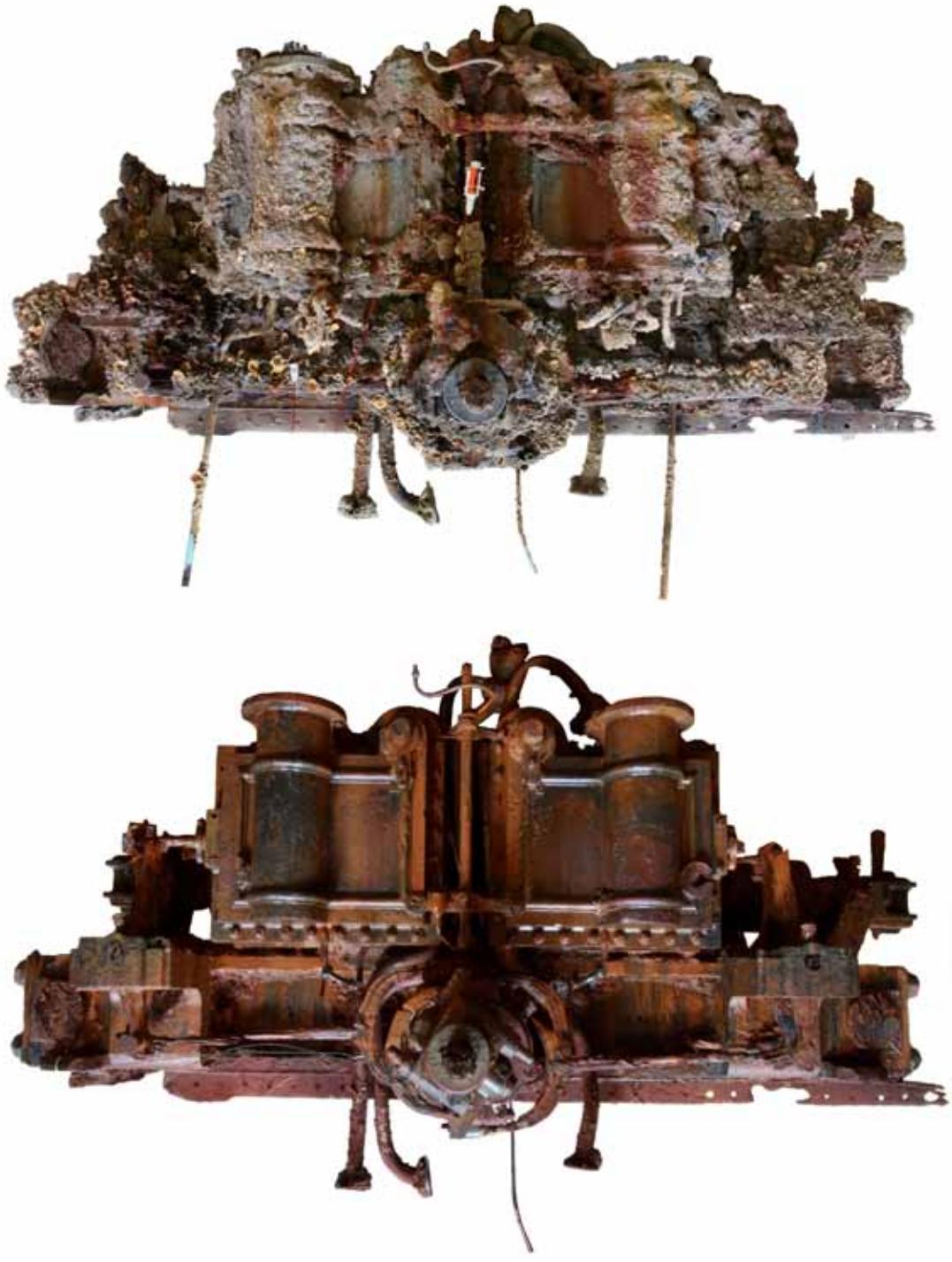
To date, fully one-quarter of the approximately 2,000 artifacts and components have been stabilized, treated, and displayed or stored. Fifty-percent of all organic materials were documented, stabilized, and treated during the past five years. Additionally, conservation staff discovered and accessioned over 200 new artifacts during initial conservation of the gun turret between 2005 and 2010.

All *Monitor* artifacts received initial stabilization when they arrived at TMM. Following stabilization, artifacts were prioritized for treatment based upon condition, material type, and other considerations. As indicated by the previous statistics, organic artifacts, such as the wood chest, leather shoes, and boots received high priority. Owing to significant facility upgrades between 2006 and 2008, including the construction of the USS *Monitor* Center and Batten Conservation Complex and acquisition of specific capital equipment, conservators are now making significant progress with *Monitor*'s auxiliary steam equipment, steam condenser, Dahlgren guns, composite gun carriages, and other structural components.

In late 2010 and early 2011, conservators focused on the deconcretion and disassembly of *Monitor*'s 30-ton main steam engine in support of complete treatment. Composite artifacts composed of differing material types and tightly sealed components require disassembly to promote thorough desalination and cleaning. This fact considerably increases the amount of hands-on work and overall treatment time for all composite artifacts recovered from the *Monitor*. Conservation of the revolving gun turret is ongoing and conservators have reduced the corrosion rate by an order of magnitude. The turret is currently stable and is undergoing a lengthy desalination process.

It is anticipated that the entire conservation project will take at least another fifteen to twenty years to complete. This timeframe is based upon the volume of material recovered by NOAA archaeologists, the stability and fragility of these materials, as well as specific conservation treatment parameters. In order to facilitate public access to this historic and iconic material during this time period (aside from an award-winning exhibit), TMM provides large viewing platforms and windows into the conservation lab. The lab is also outfitted with three live web cameras that can be directed at every portion of the lab to show activities as they occur. Additionally, The Mariners' Museum conservators maintain a blog in which they post new and interesting information, images, and discoveries on a weekly basis. The web cameras and conservation blog can be found at http://www.marinersmuseum.org.

BELOW: USS *Monitor* steam engine before and after deconcretion (The Mariners' Museum).



"The *Monitor* became and remains a part of the American mind, its bare mention conjuring up images of what we are as a people, of our experiences as a people, and some of the major events and motifs in our history."

LARRY E. TISE, 1978 - AUTHOR AND PROFESSOR

Administration and Sanctuary Management

Organizational and Leadership Responsibilities

Office of National Marine Sanctuaries

ONMS develops a general budget, setting out expenditures for program development, operating costs, and staffing. Funding priorities are reviewed and adjusted annually to reflect evolving conditions at Monitor National Marine Sanctuary, as well as ONMS priorities and requirements. ONMS also establishes priorities and procedures in response to specific issues in each sanctuary. Detailed ONMS responsibilities are listed below in the resource protection, research and education sections.

Sanctuary Management

NOAA's management of Monitor National Marine Sanctuary is designed to protect the site and its resources. NOAA conducts and permits scientific research on the *Monitor*. NOAA is also involved in a number of off-site management activities, including research and public education.

The Mariners' Museum in Newport News, Va., was selected in 1987 as the principal museum for curation of *Monitor*-related artifacts and papers and to cooperate with NOAA on a variety of educational projects, as described in the Administrative and Education sections of this plan.

Opposite Page: *Monitor*'s turret breaking the ocean's surface on August 5, 2002 (*Monitor* Collection, NOAA).

Since designation of the site as a national marine sanctuary, access to the *Monitor* has been limited primarily to permitted scientific research related to the vessel. However, there is a mechanism for a concessionaires permit making it possible to allow appropriate non-research activities. Prior to conducting on-site activities, a permit must be issued to NOAA pursuant to 15 CFR 924.5.

Staffing

Minimum staffing for Monitor National Marine Sanctuary is considered to be a sanctuary superintendent, an education coordinator, two maritime archaeologists, a research coordinator, a conservator, an IT coordinator, and an administrative assistant. The current management structure for MNMS includes a superintendent, an education coordinator, two maritime archaeologists, and an IT coordinator all located at NOAA's Maritime Archaeology Center in Newport News, Va. Additionally, MNMS has a research coordinator located in Manteo, N.C., on the campus of the University of North Carolina's Coastal Studies Institute. MNMS staff reports to the Northeast and Great Lakes Region (NEGLR) of the Office of National Marine Sanctuaries, NOAA.

Sanctuary Superintendent

The sanctuary superintendent for Monitor National Marine Sanctuary reports directly to the Northeast and Great Lakes (NEGLR) Regional Director. ONMS is responsible for the overall management of the sanctuary; however, the sanctuary superintendent is responsible for the day-to-day management of the site and sets the direction for future activities impacting the sanctuary. The superintendent represents ONMS as a spokesperson for Monitor National Marine Sanctuary.

Target staffing levels would include additional positions for deputy superintendent, vessel operations coordinator (VOC), outreach coordinator, GIS specialist, graphics designer and a number of intern positions.

The sanctuary staff works closely with NOAA's Office of Law Enforcement, the U.S. Coast Guard, other federal and state agencies and private organizations in order to provide adequate site surveillance and enforcement and to maintain active cooperative programs in research and education.

Monitor National Marine Sanctuary Headquarters & The Mariner's Museum

The sanctuary's headquarters is located at The Mariners' Museum (TMM) in Newport News, Va. On September 4, 1986, NOAA published guidelines in the *Federal Register* for submitting proposals for consideration as principal museum for the *Monitor* Collection of Artifacts and Papers (now known as the *Monitor* Collection). After a thorough evaluation of all proposals, NOAA designated The Mariners' Museum, Newport News, Va., as the Principal Museum for the *Monitor* Collection. A Memorandum of Agreement between NOAA and the museum was signed on July 13, 1987.

Above: Replica of the USS *Monitor* at The Mariners' Museum (The Mariners' Museum).

Today, the relationship between NOAA and The Mariners' Museum is governed by two separate agreements: a four-part Programmatic Agreement between NOAA, TMM, The Virginia State Historic Preservation Officer, and The Advisory Council on Historic Preservation, as well as a Curatorial Services Agreement with TMM. These agreements set out the responsibilities of NOAA and TMM related to MNMS. A programmatic cooperative agreement was signed between NOAA and TMM in October 1989. This agreement remains in effect until December 31, 2013 and contains an option for renewal.

In the agreements, NOAA committed to:

- Provide financial support for the services of The Mariners' Museum subject to annual appropriations, Federal law, and NOAA's approval;
- Deliver to TMM artifacts, papers, and records related to Monitor National Marine Sanctuary; and
- Initiate special projects agreed to by TMM and NOAA subject to annual appropriations.

Below: Monitor National Marine Sanctuary's offices in Newport News, Va. (NOAA).

In the agreements, The Mariners' Museum committed to:

- Maintain archives, a research library, and a conservation facility for the *Monitor*;
- Develop permanent and traveling exhibits for the sanctuary, and assist other participating museums in developing exhibits and interpretive displays;

Above: Conservator at The Mariners' Museum works on a shoe recovered from the turret (*Monitor* Collection NOAA).

- Manage the lending of portions of the *Monitor* Collection to other qualified repositories for research, interpretation, or educational purposes;
- Maintain the *Monitor* Collection under environmentally and physically secure conditions within storage, exhibition, laboratory, and study areas;
- Inspect the *Monitor* Collection on a regular basis and make recommendations as to necessary maintenance conservation measures;
- Adequately insure the *Monitor* Collection from theft and other loss;
- Catalog all known *Monitor*-related materials in both private and public collections;
- Assist and advise NOAA regarding the future planning of MNMS and development of the *Monitor* Collection;
- Comply with relevant Federal regulations regarding the curatorship of Federally owned archaeological collections;
- Provide other services relating to Monitor NMS as agreed to by NOAA and the Museum; and
- Serve on the MNMS Advisory Council.

United States Coast Guard

Below: U.S. Coast Guard cutter (USCG).

NOAA maintains a cooperative agreement with the United States Coast Guard (USCG) for enforcement of sanctuary regulations. The *Monitor* site is within the USCG Fifth District, and Sector North Carolina directly assists NOAA with surveillance efforts and actions related to enforcing regulations at Monitor National Marine Sanctuary.

Coast Guard units conduct surveillance during routine operations in the vicinity of the sanctuary and also schedule periodic site inspections. Both air and surface craft are involved in surveillance activities. Group Cape Hatteras has provided excellent site coverage, as well as support for research operations. Additionally, the USCG has a permanent seat on the Monitor National Marine Sanctuary Advisory Council.

United States Navy

Although the U.S. Navy legally abandoned the USS *Monitor* in 1953, the Naval History and Heritage Command has maintained an active interest in the wreck, providing NOAA with comments and suggestions for historical and archaeological research. In addition, the U.S. Navy has actively participated in *Monitor* research beginning in 1974, with the R/V *Alcoa Seaprobe* expedition that mapped and confirmed the identity of the *Monitor*. Since that mission, the Navy has provided support for several research projects, including NOAA's *Monitor* Archaeological Research and Structural Survey (MARSS) in 1993 and in 1995, a major cooperative project, the *Monitor* Archaeological Research, Recovery and Stabilization Mission (MARRS'95).

The Navy was also instrumental in the recovery of *Monitor* artifacts during the large artifact recovery period between 1998-2002. The Navy provided significant resources including personnel, equipment and technical expertise.

The U.S. Navy has agreed to participate with NOAA in future *Monitor* research to the extent that equipment and personnel are available. The U.S. Navy is also represented with a permanent seat on the MNMS Advisory Council.

Above: The *Monitor* 2002 expedition team gathered in front of the turret for a group photo soon after the turret was safely on deck. (Divers rotated on and off the barge throughout the expedition. This photo represents only the ones on board at recovery time.) (*Monitor* Collection, NOAA).

United States Department of the Interior

The National Park Service developed the historical and archaeological context studies for designation as a National Historic Landmark (1985-1987), and continues to work closely with the Office of National Marine Sanctuaries (ONMS) to help build capacity for maritime heritage. In addition, the Bureau of Ocean Energy Management has provided significant support to ONMS for maritime heritage research.

Below: National Park Service divers assist with MNMS expeditions (NOAA).

Other Governmental Agencies

NOAA also obtains frequent assistance from the staffs of the North Carolina Department of Cultural Resources and the (Federal) Advisory Council on Historic Preservation. The U.S. Navy and the National Park Service Submerged Resources Center have permanent representative seats

on the MNMS Advisory Council. The State of North Carolina is represented on the sanctuary advisory council, with seats for North Carolina Maritime Heritage/Tourism Promotion, North Carolina Department of Environment and Natural Resources, and the North Carolina Department of Cultural Resources, which is currently represented by the North Carolina Underwater Archaeology Branch. Additionally, a representative of the Cape Hatteras National Seashore occupies the alternate seat for the National Park Service on the advisory council. Other NOAA agencies are also important partners including the Office of Ocean Exploration and Research, the Office of Marine and Aviation Operations, and the National Centers for Coastal and Ocean Science.

Academic Partners

NOAA has a long-standing relationship with multiple academic institutions, such as East Carolina University and the University of North Carolina Coastal Studies Institute and pursues formal agreements with academic institutions to facilitate partnerships and collaborative research and outreach initiatives. NOAA also collaborates with other university partners throughout the world on an opportunistic basis to further the mission of the site.

Non-Governmental Organizations and Private Dive Support

Over the years, a number of private organizations and individuals have provided valuable assistance to Monitor National Marine Sanctuary. In 1990, for the first time, NOAA issued research permits to private dive groups who dove to the *Monitor* using conventional scuba equipment. Since then, the number of private research expeditions to MNMS has increased dramatically, contributing photographs, video, computer-aided mapping and artifact recovery. NOAA is actively seeking to encourage and participate with private researchers in attaining common research goals. Additionally, it is the goal of the sanctuary to facilitate, through the existing permit system, greater access to the site as long as that access does not negatively impact sanctuary resources.

LEFT: USS *Monitor* image captured by private dive support (NOAA).

ABOVE: Bodie Island Lighthouse, N.C. (NOAA).

"...at its best, preservation engages the past in a conversation with the present over a mutual concern for the future."

WILLIAM J. MURTAGH, AUTHOR, *KEEPING TIME: THE HISTORY AND THEORY OF PRESERVATION IN AMERICA*

Action Plans

Action plans identify a series of steps that would be carried out to address priority issues in Monitor National Marine Sanctuary (MNMS) over the next five years. Action plans are a collection of strategies sharing common management objectives. The plans provide an organized structure and process for implementing these strategies, including a description of the required activities and a schedule for implementation. This management plan, and the action plans contained within it, is not intended to be comprehensive in scope. Rather it is designed as a strategic document that would address those priority issues that can be realistically accomplished in a five-year time frame.

How were action plans developed?

Action plans arose from issues and concerns that were identified in the *Monitor* State of the Sanctuary Report, during the public scoping process in December 2008, and through many discussions with partners, constituents and other interested parties. After compiling and categorizing the areas of concern, MNMS staff worked with the sanctuary advisory council to evaluate and prioritize the issues.

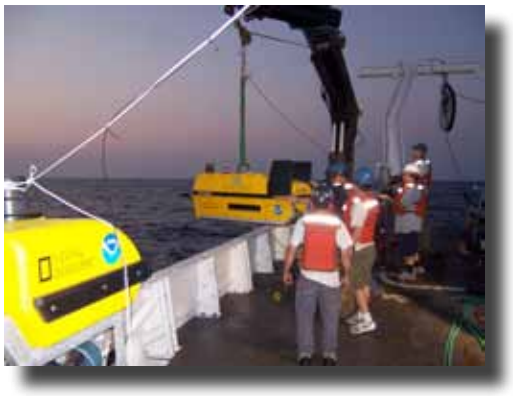
The council currently consists of 18 seats and five alternates. The council seats represent a variety of regional interests and stakeholders, including: recreational diving, recreational and commercial fishing, conservation, education, and archaeology. The governmental representatives include: National Park Service, U.S. Navy, U.S. Coast Guard, and the states of North Carolina and Virginia. The council serves as a forum for consultation and deliberation among members and as a source of advice to the sanctuary superintendent regarding

Opposite Page: Sunset over the USS *Monitor* (NOAA).

the management of MNMS. The combined expertise and experience of these individuals are a valuable and effective resource for the sanctuary superintendent.

Eleven main issues were identified during the 2008 scoping meetings and were selected as the top priority subjects for the sanctuary to address. These issues include: resource protection, education and outreach, archaeology, *Monitor* human remains, permitting, access, enforcement, research, conservation, facilities and operations, and expansion. These eleven issues were organized into eight working groups, including members from the sanctuary advisory council, members of the community, and MNMS staff. The working groups recommendations formed the basis for the final set of action plans contained in the revised draft management plan:

- Resource Protection Action Plan
- Education and Outreach Action Plan
- Archaeological Research Action Plan
- Resource Monitoring Action Plan
- *Monitor* Sailors Action Plan
- Conservation Action Plan
- Expansion Action Plan
- Operations/Administration Action Plan



Above: An ROV is deployed off the *Endeavor*, a research vessel based out of the University of Rhode Island (URI), during its expedition to the USS *Monitor* in 2006 (URI).

After public comments were reviewed, these eight action plans were incorporated into the 2013 Final Management Plan and Environmental Assessment.

How will they be evaluated?

Implementation of each action plan will be evaluated through one or more performance measure(s). A table at the end of each action plan contains measures specific to the action plan strategies. However, not all strategies will have an associated performance measure.

Ongoing and routine performance evaluation is a priority for ONMS as part of an effort to improve overall management of sanctuaries. Both site-specific and national efforts are underway to better understand NOAA's ability to meet stated objectives and to address the issues identified in this management plan.

Performance evaluation has many benefits, including:

- Identifying successful or less successful efforts of MNMS management;
- Keeping the public, Congress, and other interested parties apprised of MNMS effectiveness;
- Helping MNMS management identify resource gaps;
- Improving accountability;
- Improving communication among sanctuaries, stakeholders, the general public, and partners in plan implementation;
- Fostering the development of clear, concise, and measurable outcomes;
- Providing a means to comprehensively evaluate MNMS management in both the short and long term;
- Fostering an internal focus on problem solving and improved performance;
- Providing additional support for the resource allocation process; and
- Motivating staff with clear policies and a focused direction.

Performance measures are the means by which the sanctuary staff will evaluate its progress towards achieving the desired outcomes of each action plan. Measures provide information on results over time, from the near term (within one year) to the long term (over the span of ten years or more). NOAA staff will conduct routine performance evaluations over time using the performance measures. NOAA staff will then determine effectiveness by evaluating progress towards achievement of each action plan's desired outcomes and assessing the role or added value of those outcomes in the overall accomplishment of site goals and objectives.

Results from the performance evaluation will also be analyzed and used to meet ONMS, National Ocean Service (NOS), or NOAA-wide performance requirements. Performance data may also be presented annually by: identifying each measure, detailing how it was evaluated and describing the next steps. Based on this analysis, NOAA, in cooperation with the advisory council, will identify accomplishments and determine those management actions that may need to be changed to better meet their stated targets or outcomes.

How are they organized?

Action plans consist of a description of the issue, the goal and objectives of the action plan and the particular strategies and activities that will be used to implement the action plan. A table that estimates the 5-year costs of implementing the strategies is included and connections to other action plans are identified. Finally, relevant performance measures related to the action plan are posted at the end.

What are the requirements for implementation?

Sanctuary staff developed budgets for each action plan by evaluating the resources necessary for implementation. The cost estimates serve as a general guide and are based on many factors that are difficult to predict for a five-year time frame. Staff estimated the programmatic costs, materials, supplies and travel-time required to address each activity. Labor estimates are incorporated in the Sanctuary Operations and Administration Action Plan and not included in the estimated costs for the other action plans. Some activities will require outside funding in addition to current estimated costs. A summary of the cost for each action plan is included on page 51.

Above: Conservators clean a wool coat found in the USS *Monitor*'s turret during excavations (The Mariners' Museum).

Table 1: Estimated Total Costs for the Monitor National Marine Sanctuary Management Plan

Action Plan	Estimated Cost ($11,220,000)					Total Estimate 5-Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
Resource Protection Action Plan	$210	$170	$120	$120	$140	$760
Education and Outreach Action Plan	$85	$110	$115	$140	$165	$615
Archaeological Research Action Plan	$180	$190	$220	$220	$225	$1035
Resource Monitoring Action Plan	$225	$300	$240	$240	$240	$1245
Monitor Sailors Action Plan	$195	$95	$10	$10	$10	$320
Conservation Action Plan	$200	$250	$300	$350	$400	$1600
Expansion Action Plan	$25	$50	$30	$50	$30	$185
Operations/Administration Action Plan		$900	$1100	$1250	$1400	$5460

Above: NOAA divers stop for decompression, as they ascend to the surface (NOAA).

Resource Protection Action Plan

Description

The purpose of this action plan is to strengthen resource protection by: emphasizing and promoting responsible use of the resources, increasing and focusing education initiatives, and enhancing enforcement efforts.

Background

The primary purpose of the management plan is to provide a framework for the responsible protection and management of the *Monitor,* all associated artifacts, and the site itself. The management plan must also provide for resource protection in accordance with all applicable Federal laws. NOAA must ensure that all proposed site activities comply with the regulations of the National Marine Sanctuaries Act (NMSA), the Uniform Regulations for the Protection of Archaeological Resources, the National Historic Preservation Act (NHPA), and the National Environmental Policy Act (NEPA), among others.

Natural deterioration and human activities are the most significant threat to the long-term sustainability of the USS *Monitor* as an historical and archaeological resource. While effects of a deteriorating historical resource immersed in a deep saltwater environment will be addressed in the Research Action Plan, the Resource Protection Action Plan is designed to assess and reduce the human impacts on sanctuary resources.

Human activities have significant potential for damaging or destroying shipwrecks and other submerged cultural resources. These activities include, but are not limited to: anchoring, snags from trawling and fishing nets and inadvertent or intentional diving practices (i.e. improper anchoring, artifact manipulation or removal and deliberate looting) that damage resources.

Regulations

Monitor National Marine Sanctuary regulations prohibit anchoring, stopping, and drifting within the sanctuary; conducting salvage or recovery operations; using diving, dredging or wrecking devices; conducting underwater detonation; drilling in the seabed; laying cable; and trawling and discharging waste material into the water. Access to the wreck site is generally limited to scientific research conducted under a permit issued by NOAA.

Regulations are an essential part of managing and protecting our national treasures for current and future generations. People are interested in using the sanctuary for a variety of activities, such as wildlife viewing, photography and research. Some uses have a greater potential for impacting the natural and cultural resources of the sanctuary than others. Some activities may not have a measurable effect in small amounts, yet have an undesirable cumulative effect if the amount of the activity is too great. The challenge is to strike a balance between types and intensities of allowed uses so that those uses are sustainable and the resources are available to be enjoyed for generations to come.

The complete MNMS regulations can be found in Appendix B.

Access

Access to the *Monitor* wreck site is generally limited to scientific research conducted under a permit issued by the MNMS superintendent. Work conducted by NOAA is carried out through a management permit issued to the MNMS Superintendent. Authorization of recreational diving near this historic vessel could be granted through the issuance of an NMSA

special use permit. The NMSA requires that modification to the categories of activities subject to special use permits be available for public comment. Currently, a notice in the Federal Register proposes that recreational diving near the *Monitor* be added to the list of special use permit categories.

The sanctuary's permit procedures and criteria can be found in the sanctuary's regulations codified at 15 C.F.R. 922.48 and 922.62. As of this publication, all ONMS permitting regulations are undergoing review and may subsequently be revised through notice-and-comment rulemaking. However, the permitting regulations currently read as follows:

(a) Any person or entity may conduct in the sanctuary any activity listed in ß 922.61 if such activity is either: (1) For the purpose of research related to the *Monitor*, or (2) pertains to salvage or recovery operations in connection with an air or marine casualty; and such person or entity is in possession of a valid permit issued by the Director authorizing the conduct of such activity; except that, no permit is required for the conduct of any activity immediately and urgently necessary for the protection of life, property or the environment.

(b) Any person or entity who wishes to conduct in the sanctuary an activity for which a permit is authorized by this section (hereafter a permitted activity) may apply in writing to the Director for a permit to conduct such activity citing this section as the basis for the application. Such application should be made to: Manager, Monitor National Marine Sanctuary, 100 Museum Drive, Newport News, Virginia, 23606, (757)599-3122.

(c) In considering whether to grant a permit for the conduct of a permitted activity for the purpose of research related to the *Monitor*, the Secretary shall evaluate such matters as: (1) the general professional and financial responsibility of the applicant; (2) the appropriateness of the research method(s) envisioned to the purpose(s) of the research; (3) the extent to which the conduct of any permitted activity may diminish the value of the *Monitor* as a source of historic, cultural, aesthetic and/or maritime information; (4) the end value of the research envisioned; and (5) such other matters as the Director deems appropriate.

(d) In considering whether to grant a permit for the conduct of a permitted activity in the sanctuary in relation to an air or marine casualty, the Director shall consider such matters as: (1) the fitness of the applicant to do the work envisioned; (2) the necessity of conducting such activity; (3) the appropriateness of any activity envisioned to the purpose of the entry into the sanctuary; (4) the extent to which the conduct of any such activity may diminish the value of the *Monitor* as a source of historic, cultural, aesthetic and/or maritime information; and (5) such other matters as the Director deems appropriate.

(e) In considering any application submitted pursuant to this section, the Director shall seek and consider the views of the Advisory Council on Historic Preservation (ACHP).

f) The Director may observe any activity permitted by this section; and/or may require the submission of one or more reports of the status or progress of such activity.

Enforcement

The sanctuary's distance from shore makes enforcing regulations a significant challenge. NOAA depends heavily on education and public awareness and voluntary compliance with the regulations. In the event of an incident, NOAA's Office of Law Enforcement (OLE) and the U.S. Coast Guard (USCG) enforce sanctuary regulations. For additional information regarding ONMS enforcement strategies, see the three year planning document *Strategy for Clarifying Enforcement Needs and Testing Enforcement Measures*, which can be found at:

http://sanctuaries.noaa.gov/protect/pdfs/enforcement _strategy.pdf

One enforcement tool NOAA uses is "interpretive enforcement," also known as Community Oriented Policing and Problem Solving and Compliance Assistance Programs, which seeks to enhance compliance primarily through public awareness and education. The goal of interpretive enforcement is to gain the greatest level of compliance through public understanding and support of sanctuary goals. Interpretive enforcement emphasizes informing the public through education and outreach about responsible behavior before resources are adversely impacted. NOAA also works to create public awareness about state and federal laws that protect shipwrecks and archaeological sites. Additionally, MNMS Advisory Council has a USCG representative to advise the council on enforcement related issues.

Should a violation of the MNMS regulations be documented, NOAA can pursue two types of action: either a civil penalty and/or a natural or cultural resource damage assessment.

Goal

Encourage site access, within the current regulatory framework, to the *Monitor* wreck site, while ensuring that activities within the sanctuary are conducted safely and responsibly so as to assure the integrity and protection of the wreck site.

Objectives

- Encourage access to the wreck site, while promoting safe, responsible, and well-informed enjoyment of sanctuary resources.

- Enhance public awareness of sanctuary regulations and the permitting process.

- Ensure compliance with sanctuary regulations through education, monitoring and enforcement, including the continued partnership with the USCG for surveillance of the site and enforcement of sanctuary regulations, and work to increase ONMS presence on the water.

Strategies

Strategy RP-1: Refine the existing permitting system to enable increased recreational access to the *Monitor*, while maintaining an assurance of resource protection in compliance with the MNMS Management Plan.

Activity 1.1: Implement the use of special use permits to accommodate non-research dives to the wreck of the USS *Monitor* by a vendor (dive charter operation) or by private individuals.

Strategy RP-2: Refine sanctuary visitor use monitoring and regulations where appropriate to reflect changing site conditions and use.

Activity 2.1: Develop a public information outreach program clarifying and interpreting existing sanctuary regulations, such as the "drifting without power" prohibition.

Activity 2.2: Establish a monitoring system to track visitor use and the impact of such use.

A. Maintain up-to-date data on the current conditions of sanctuary resources.

B. Conduct site assessment surveys at the beginning and the end of the active field season (or as necessary) to monitor the current conditions of sanctuary resources.

C. Develop a method to track visitor use within the sanctuary.

D. Reevaluate and more clearly define the observer program require ments as they apply to the permitting system in the sanctuary regulations and permit guidelines.

Activity 2.3: Implement permit issuance guidelines that adapts to changing conditions at the site, especially those changes that are determined to be the result of human activities.

Activity 2.4: Evaluate and consider the advancements in underwater technologies (remotely operated vehicles (ROVs) and autonomous underwater vehicles (AUV) to determine if there is a need to amend the current prohibitions section of the sanctuary regulations to ensure such activities require a permit.

Activity 2.5: Develop education and outreach materials that clarify what the current sanctuary regulations allow and what they prohibit regarding fishing activities within the sanctuary.

Strategy RP-3: Work with NOAA Office of Law Enforcement (OLE) and U.S. Coast Guard (USCG) and other agencies and organizations to develop an effective approach to surveillance and enforcement of regulations and permits.

Activity 3.1: Adjust language to provide NOAA's OLE with the authority to carry out investigations of sanctuary regulation violations beyond the borders of the sanctuary (similar to Thunder Bay language in 15 CFR 922.193 (a) (1)).

Activity 3.2: Work with enforcement partners to develop new enforcement methods:

A. Investigate and test passive devices and technology for remotely distinguishing permitted from unpermitted activities, for example by distinct radar signatures or emitters.

B. Investigate and test active remote surveillance technology for the sanctuary; for example, surveillance buoys or airborne monitoring.

C. Work with NOAA headquarters on Section 307 of the NMSA to expand authority of the Lacy Act (16 U.S.C. §§ 3371-3378) to provide OLE clear authority to address cultural resource issues in absence of fish, wildlife or plants otherwise managed by NOAA.

Strategy RP-4: Promote safe and responsible visitor access by providing appropriate materials and facilities.

Activity 4.1: Provide and distribute printed material(s) that cite sanctuary regulations and charts to divers, dive shops, fishermen, charter boat operators and marinas. Provide outreach to fishing and diving communities to clarify permissible and prohibited activities.

Activity 4.2: Re-establish a subsurface mooring system off the bow and stern of the wreck. Additionally, explore the viability of establishing and maintaining a surface mooring system for public access via dive boats.

Strategy RP-5: Use outreach and education to enhance diver understanding of the site's significance.

Activity 5.1: Require permittees to provide divers with printed and video materials prior to making a site visit.

A. Develop and distribute printed materials describing the significance of the *Monitor* to divers.

B. Develop and distribute a video that presents the site's historic significance, diving operations and restrictions for the general public.

Right: Fish swim over the USS *Monitor* wreck site (NOAA).

Table 2: Estimated Costs for Resource Protection Action Plan

Action Plan	Estimated Cost ($ in thousands)					Total Estimate 5-Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
Refine the existing permitting system to enable increased recreational access to the *Monitor*, while maintaining an assurance of resource protection in compliance with the MNMS Management Plan.	-	-	-	-	-	-
Refine sanctuary visitor use monitoring and regulations where appropriate to reflect changing site conditions and use.	$50	$10	$10	$10	$30	$110
Work with NOAA Office of Law Enforcement and U.S. Coast Guard and other agencies and organizations to develop an effective approach to surveillance and enforcement of regulations and permits.	$50	$50	$50	$50	$50	$250
Promote safe and responsible visitor access by providing appropriate materials and facilities.	$100	$100	$50	$50	$50	$350
Use outreach and education to enhance diver understanding of the site's significance.	$10	$10	$10	$10	$10	$50
Total Estimated Annual Cost	$210	$170	$120	$120	$140	$760

Right: NOAA diver prepares to dive wearing a red hat in honor of Jacques Cousteau's 100th birthday celebration (NOAA).

Table 3: Performance Measures for Research and Monitoring Action Plan

Outcome	Performance Measure	Baseline
Regular site surveys, monitoring and characterization conducted by qualified archaeologists on an annual basis.	By 2017, increase in-house ability to acquire annual data on site integrity and monitor formation processes.	Since 2003, ONMS has had NOAA archaeologists visit the site only once (in 2011) to assess the condition. Site status between those dates was based on intermittent private-permitted surveys.
Clarify permitting system to facilitate increase site access to members of the public and scientific communities.	By 2014, new education outreach materials will be developed to clarify and promote the MNMS permit system to encourage more applications.	Under the current permitting system, the MNMS receives only 1-2 permit application per annum.
Increase enforcement patrols on site to ensure more regular monitoring use and potential violations	By 2016, develop and implement a plan with OLE and USCG that will increase on-the-water enforcement.	Currently, USCG patrols in MNMS are conducted by Sector North Carolina as part of "Operation Catch *Monitor*," a formal operation enforcing regulations protecting *Monitor*.
Increase public awareness via outreach and education of resource protection issues at the site of the MNMS.	By 2013, develop information brochure, which clarifies regulations and provides information on degrading impacts to the resources.	Currently, limited public information is available regarding resource protection issues within the MNMS.

Left: NOAA diver surveys the *City of Atlanta* shipwreck (NOAA).

Education and Outreach Action Plan

Description

The purpose of this action plan is to educate and enhance public awareness, understanding and stewardship of the sanctuary, the mid-Atlantic region, and the ocean.

Top: Students test their ROVs, as they prepare for competition (NOAA).

Background

Sanctuary education and outreach programs are designed to raise public awareness about the sanctuary and its resources, encourage public involvement in resource protection, increase knowledge about maritime history, and expand ocean and climate literacy. Education and outreach at the Monitor National Marine Sanctuary includes both formal and informal programs for learners of all ages of sanctuary visitors and constituents, including user groups impacting sanctuary resources. Education and outreach at the sanctuary also includes promotion of the sanctuary, The Mariners' Museum, and the Graveyard of the Atlantic Museum. While education and outreach efforts are concentrated in and around Virginia and North Carolina, they extend out to the Northeast rand Great Lakes Region and nation with initiatives in maritime heritage, archaeology and ocean/climate literacy. Various strategies, introduced below, allow the sanctuary to efficiently and effectively carry out its education objectives.

below: MNMS Youth Working Group member volunteers to sack oyster shells at Jockey's Ridge, N.C. (NOAA).

<u>The Mariners' Museum</u>

To foster appreciation and preservation of the USS *Monitor* and its maritime heritage, the sanctuary helped to develop exhibits at The Mariners' Museum. In March of 2007, the USS *Monitor* Center and the Batten Conservation Laboratory were opened to the public. The $30 million, 63,500 square foot facility serves as the primary visitor center for the MNMS. In partnership, the museum and NOAA brought the story of this unique ironclad to the public through this dramatic center, where visitors come face-to-face with history. Through a rich array of original artifacts, archival materials, immersive multimedia experiences, and recreated ship interiors, visitors learn the story of the USS *Monitor* and its pivotal role in the Civil War's Battle of Hampton Roads where she fought the

CSS *Virginia*. The center is also home to thousands of artifacts, a major interactive exhibition on the two ironclad vessels, and ongoing efforts to conserve more than 2,000 artifacts from the sanctuary. Visitors can walk on a full-scale replica of the *Monitor*, experience the drama of the Battle of Hampton Roads, watch the recovery of the turret, and observe the conservation efforts taking place in the state-of-the-art conservation facility.

The Graveyard of the Atlantic Museum

The sanctuary continues to support the development and installation of *Monitor* exhibits at various partnering museums and aquariums across the mid-Atlantic region. MNMS staff is working with the state of North Carolina through the Graveyard of the Atlantic Museum in Cape Hatteras, N.C., to create a unique *Monitor* exhibit to house various artifacts from the collection. Exhibit planning is ongoing and the displays created will make it possible for the public to visit the sanctuary without getting their feet wet.

Above: *Secrets of the Deep* exhibit at Nauticus (NOAA).

Other USS *Monitor* Exhibits

Secrets of the Deep, located at Nauticus in Norfolk, Va., is an interactive exhibit of a replica of a deep diving submersible that visited the wreck site of the *Monitor* on numerous occasions. Teachers can also receive free educational materials on the *Monitor* and other NOAA programs at the NOAA Education Resource Center, located on the third floor of the museum.

The North Carolina Aquarium on Roanoke Island features the largest aquarium in the state, a 285,000-gallon ocean tank complete with sharks, sea turtles, hundreds of fish and a replica of the USS *Monitor*. The one-third-scale model anchors the exhibit and scuba divers give daily educational programs.

The Richmond National Battlefield Park protects over 30 American Civil War Battlefield sites and historic structures around the Virginia capitol. One of those structures is the Confederate fortification on Drewry's Bluff that was attacked by the USS *Monitor* and other ships on May 15, 1862. The park's main visitor center is located in downtown Richmond at the historic Tredegar Iron Works, which rolled the armor plates for the Confederate ironclad CSS *Virginia*, as well as casting four rifled guns for the ironclad. Currently on display are a fragment of a *Monitor* deck plate and three glass bottles that were provided by Monitor National Marine Sanctuary for an exhibit about the Confederate and Union ironclads and their roles in Richmond history.

The Civil War Naval Museum in Columbus, Ga. is undoubtedly the premier museum in the country for American Civil War naval history. The story of the USS *Monitor* is told in an exhibit that includes a partial full size reconstruction of the famous ironclad. Also, on display are several artifacts that where loaned by Monitor National Marine Sanctuary, including a section of hull plating and condiment and medical bottles that were recovered from the wreck site.

Top: Visiting classrooms is an integral part of the MNMS education program (NOAA).

Monitor National Marine Sanctuary has also begun development of a multi-state outdoor heritage trail concept called the USS *Monitor* trail. This program will connect the public to the numerous localities that are connected to the *Monitor*'s history. The trail would start in Greenpoint, N.Y., where the *Monitor* was constructed and would end in Beaufort, N.C., where John Newton and the 1973 expedition to find the *Monitor* sailed. Using interactive media, signage and brochures, this project would connect hundreds of thousands of people to the *Monitor*'s story.

Classroom Initiatives

Providing educational opportunities for students and educators is a high priority for the sanctuary. To reach as many students as possible, the sanctuary provides curriculum and training opportunities to regional educators and students. Workshops and professional development opportunities for educators, supplementary classroom materials, and web sites further enhance students' opportunities to not only discover the rich history of the USS *Monitor* and other shipwrecks off the North Carolina coast, but to also learn about ocean and climate literacy principles.

Below: MNMS on the set at NASA's Distance Learning Network (NOAA).

Distance Learning

In partnership with The Mariners' Museum and NASA's Digital Learning Network, the sanctuary is able to offer a variety of distance learning initiatives allowing the sanctuary's education programs to extend across the nation. Education staff carries out a variety of programs as part of the sanctuary's approach to distance learning and/or interactive videoconferences.

Through these connections, sanctuary staff can reach classrooms around the country and showcase center exhibits and programs to a nationwide audience. Through distance learning, a wide variety of professional development opportu-

NOAA DAY AT BUSCH GARDENS AND WATER COUNTRY USA

Left: MNMS help Girl Scouts learn about the national marine sanctuary system (NOAA).

nities for educators are also available. Future live expeditionary broadcasts from the Outer Banks of North Carolina will feature archaeologists and scientists exploring the various shipwrecks associated with World War II's Battle of the Atlantic.

Below: NOAA CO-OPS office staff explain marine debris to Girl Scouts (NOAA).

Part of a Larger Organization

As part of NOAA, the National Ocean Service and the Office of National Marine Sanctuaries, MNMS has access to an extended network of scientific expertise and resources. This content is the foundation for sanctuary education and outreach initiatives. The implementation of NOAA's ocean literacy mandate – an increased awareness of oceans and one's connectedness to oceans – is also one of the core components of MNMS's education action plan. As scientists learn more about global weather and climate change, NOAA has mandated that climate literacy principles be incorporated into educational opportunities to better inform all ages of the issues our Earth and its ocean are facing. In addition to grounding our programs, NOAA products, services, and information are distributed via MNMS as an on-the-ground storefront and hub for access to NOAA in the mid-Atlantic region.

Events and Festivals

The sanctuary participates in a variety of community festivals and events in North Carolina, Virginia and across the mid-Atlantic region. These events help to enhance public awareness of the importance of the *Monitor* and the efforts of the National Marine Sanctuary System, as well as educate people about climate and ocean issues. Each year, the staff attends events across the region, including the Battle of the Hampton Road Weekend at The Mariners' Museum; Earthfest in Hampton, Va., in collaboration with NASA Langley Researcher Center; NOAA Day at Busch Gardens Williamsburg and Water Country USA; and many more. Through these events, thousands of people are reached each year.

Above: Group of 5th grade students design and build an ROV (NOAA).

ROV Building Competition

Designed to inspire the next generation of underwater scientists and explorers to pursue careers in marine technology, archaeology, and science, the sanctuary offers workshops and professional development opportunities for both students and educators to learn how to build a Remotely Operated Vehicle (ROV). The ROV program is very successful, with the ability to annually expose hundreds of people to sanctuary resources and messages through technology and engineering.

An Integrated Approach

The sanctuary will use education and outreach as a tool to address specific priority issues identified in the management plan. Education is essential to achieving many of the sanctuary's management objectives and will be used to both complement and promote resource protection and research programs.

Left: MNMS volunteers interact with students at Earthfest, an event in partnership with NASA (NOAA).

Goal

Use education to promote awareness and protection of the sanctuary's natural and cultural resources, and to enhance local, regional, and national knowledge of the surrounding ocean's climatological and ecological significance.

Objectives

- Build an education and outreach program that complements and promotes sanctuary resource protection and historical, climatological, and ecological research programs.
- Increase ocean and climate literacy among local, regional, and national audiences.
- Target user groups and underrepresented audiences for participation in sanctuary programs.
- Enhance communication and coordination among sanctuary partners.
- Collaborate with other sanctuary sites and partner organizations in support of education and outreach programs.

Strategies

Strategy ED-1: Increase awareness and knowledge of the sanctuary by developing education and outreach materials for a broader audience.

Activity 1.1: Develop educational curriculum and materials for students and educators based on needs assessments and evaluation.

Activity 1.2: Develop outreach materials for a wide variety of users.

Strategy ED-2: Increase awareness and knowledge of the sanctuary through education and outreach programs.

Activity 2.1: Expand educational offerings for elementary, secondary, and higher education teachers and students.

Activity 2.2: Bring Monitor National Marine Sanctuary content to a national audience through distance learning.

Activity 2.3: Utilize remotely operated vehicles (ROV) and research technology in sanctuary education.

Strategy ED-3: Enhance sanctuary communications and community presence to create greater awareness

Activity 3.1: Work with partners to support a marketing plan to promote the sanctuary.

Activity 3.2: Enhance the MNMS web site to provide quality, up-to-date information about the sanctuary, including implementing Web 2.0 components (social networking, wikis, blogs, etc.) to encourage collaboration and interaction with the public.

Activity 3.3: Sponsor, organize, and participate in outreach opportunities that promote the sanctuary's mission and that allow for dissemination of sanctuary information.

Activity 3.4: Begin development of the *Monitor* Trail using appropriate technology.

Activity 3.5: Explore feasibility of conducting an assessment of the socio-economic impact of the sanctuary.

Strategy ED-4: Maximize the impact and effectiveness of education and outreach efforts.

Activity 4.1: Create a standing working group of education experts from the sanctuary advisory council, schools, and other constituents to advise on sanctuary education and outreach programs.

Activity 4.2: Continue to seek ongoing input, foster youth leadership, and encourage youth participation in sanctuary education and outreach programs through a youth seat on the advisory council and a "youth working group," a volunteer group comprised of middle and high school students.

Activity 4.3: Develop and implement an ongoing system to evaluate and improve education and outreach programs.

Table 4: Estimated Costs for the Education and Outreach Action Plan

Action Plan	Estimated Cost ($ in thousands)					Total Estimate 5-Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
Increase awareness and knowledge of the sanctuary by developing education and outreach materials for a broader audience	$15	$15	$20	$20	$25	$95
Increase awareness and knowledge of the sanctuary through education and outreach programs	$10	$10	$10	$10	$10	$50
Enhance sanctuary communications and community presence to create greater awareness	$60	$75	$75	$100	$120	$430
Maximize the impact and effectiveness of education and outreach efforts	-	$10	$10	$10	$10	$40
Total Estimated Annual Cost	$85	$110	$115	$140	$165	$615

Above: MNMS offered free tours of the SRVx R-*8501* and rented a giant outdoor movie screen to host a free movie night on Ocracoke Island in North Carolina (NOAA).

Above: Students visit MNMS exhibit to learn about ocean acidification (NOAA).

Left: Students learn how to survey a shipwreck with the "Mock Shipwreck" activity (NOAA).

Table 5: Performance Measures for the Education and Outreach Action Plan

Outcome	Performance Measure	Baseline
MNMS will increase Maritime Heritage themed public education and outreach programs locally and regionally.	By 2015, MNMS will regularly maintain a network of 5 volunteers or interns trained to deliver maritime heritage programs within the community.	Currently, MNMS has no volunteers or interns that conduct education and outreach programs on behalf of MNMS independent of full-time staff.
Increased opportunities for public participation in sanctuary education and outreach programming.	By 2014, the total number of education and outreach programs offered to the public will increase by an average of 10% annually.	A baseline number of education and outreach programs will be determined in 2013.
Develop effective tele-presence programming at the sanctuary.	By 2017, MNMS will develop the ability to conduct tele-presence programming from both offshore and land-based facilities.	MNMS currently has no in-house tele-presence capability or programming content.
Increased effectiveness of sanctuary education and outreach programs.	By 2013, a performance evaluation tool will be developed and implemented to track the effectiveness of MNMS education and outreach programs.	There is currently no metric for performance evaluation in place at the sanctuary.

Archaeological Research Action Plan

Description

The purpose of the action plan is to outline the sanctuary's archaeological research and monitoring objectives and priorities. The action plan not only guides Monitor National Marine Sanctuary's effort, but also integrates and encourages a broad range of archaeological and interdisciplinary research by sanctuary partners.

Background

Developing knowledge of the sanctuary's maritime heritage resources through research is a primary function of Monitor National Marine Sanctuary, as is the need to better understand the environment in which they are located and the natural processes that may affect those cultural resources. Knowledge acquired through research is used to evaluate existing management strategies, enhance future management decisions, and educate the public about the importance of the site and its environments.

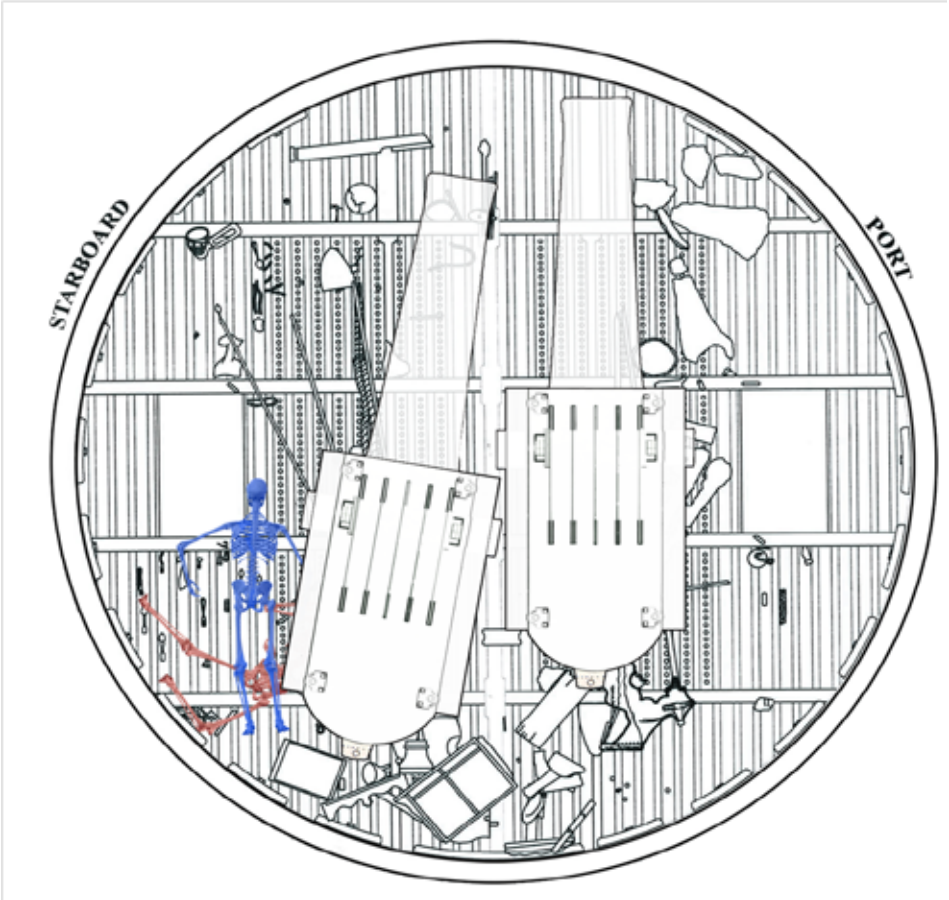
Characterization of the sanctuary includes an inventory of environmental data and the historical resources located, or potentially located, in and around the sanctuary. The inventory is an ongoing process where new data are continually added to the files and databases.

Physically studying and monitoring the remains of the *Monitor* and its environs also plays a role in characterization. Remote sensing surveys have been and continue to be undertaken within the sanctuary and surrounding waters with assistance from NOAA and other partners.

Documentation is a critical aspect of the sanctuary's characterization efforts. While there is a substantial amount of historical and archaeological documentation on hand, natural resources and processes merit comparable study and documentation. These provide baseline data to evaluate the current and ongoing state of preservation and can identify threats to the site, such as unintentional damage from fishing gear, anchors or drifting debris, intentionally harmful activities like looting, or potential threats from other natural processes active in the area.

Through documentation of recovered artifacts and on-site research, archaeologists are able to tell the story of this nationally significant Civil War shipwreck and help create products that allow the public to connect with the history that envelopes it. This is done in a variety of ways, including but not limited to, exhibits, educational materials, and outreach programs.

Due to the depth of sanctuary waters, as well as the distance from shore, casual diving is not possible. Research and documentation relies on combinations of techniques that include specialized diving, photo-mosaics, video and still imagery, and information collected by remotely operated vehicles. Data produced from this suite of techniques is essential for documenting change, evaluating the sanctuary's condition, and managing its resources.



Left: Turret diagram showing the placement of two sets of human remains discovered during excavation of the turret (NOAA).

Research is greatly enhanced through access to historical records and previous studies. These materials are held at the Christopher Newport University Trible Library and managed cooperatively with the sanctuary staff. As documents are processed at the sanctuary, they are forwarded to the library to be archived and made accessible to researchers and the public. Digitization is a goal for the collection, as this accelerates the pace of historic research, facilitates greater public access, and aids in the preservation of fragile documents and photographs by reducing direct physical contact.

Data produced from all phases of characterization and related research are being incorporated into the sanctuary's resource database and Geographic Information System (GIS). This permits researchers to relate historical information with the empirical elements of the sanctuary. Other scientific information is also incorporated into the GIS program to enable better management, interpretation, and public understanding of the sanctuary's historic and natural landscape.

Left: MNMS staff during a *Monitor* recovery expedition (NOAA).

Goal

Protect the sanctuary's resources and maritime landscape by inventorying, locating, documenting, assessing, managing, and interpreting the sanctuary's archaeological, historical, and environmental resources.

The sanctuary also works to enhance NOAA's and other partners' abilities to study, observe, protect, and manage historic and natural coastal resources. By collaborating with various partners on interdisciplinary regional research, the sanctuary works toward a better understanding of the physical, chemical, and biological processes affecting sanctuary resources.

Objectives

- Characterize the sanctuary's maritime heritage resources.
- Explore, map, and characterize new wreck sites surrounding sanctuary waters, as per MNMS science needs assessment.
- Scientifically monitor the sanctuary's maritime heritage resources to better understand existing and potential threats.
- Develop and encourage collaborative research programs to meet Monitor National Marine Sanctuary's on-going management needs.

Strategies

Strategy AR-1: Characterize the sanctuary's maritime heritage resources and landscape features.

Activity 1.1: Assemble and collate extant data regarding the *Monitor* and landscape features in and around the sanctuary and make these available through such media as technical and formal reports, the web, and via CD and/or DVD.

A. Research, compile, and collate data and documentation relevant to sanctuary resources.

B. Maintain files and databases on the *Monitor* and other maritime resources within the sanctuary.

C. Complete a working draft of the report on the *Monitor*, including all research and archaeology, up to and including the raising of the turret, by December 31, 2012, for use by NOAA staff and the SAC's Archaeology Working Group members for planning purposes.

D. Complete the final draft of the report on the *Monitor* for review and preparation for publication by March 09, 2014.

Activity 1.2: Conduct systematic remote sensing and visual surveys to monitor maritime heritage resources and landscape features in the sanctuary.

A. Define survey requirements for characterization.

B. Encourage and conduct systematic surveys with sanctuary partners based on the requirements above (1.2 A.).

C. Disseminate research results to professional and public audiences as above (1.1).

Activity 1.3: Prioritize archaeological data and documentation to establish a baseline for long-term monitoring.

A. Determine priorities for the *Monitor* site based on gaps identified in the extant data and/or as identified in the Report (1.1 C).

1. Define the gaps that are present.

2. Identify research questions that might be posed.

B. Determine priorities for the *Monitor* site based on the consideration that it may be deteriorating or becoming less accessible, as a result of natural and human processes.

C. Complete baseline documentation based on extant data and identified gaps including site plans, underwater video, still imagery, and photo-mosaics, particularly as these provide a chronology of imagery of the site through time.

D. Prepare and complete research reports in a timely manner.

E. Disseminate research results to professional and public audiences as above (1.1).

ABOVE: Archaeologist excavate the turret (NOAA).

BELOW: USS *Monitor,* 2011 (NOAA).

Activity 1.4: Continue to develop the sanctuary's Geographical Information System (GIS) for archaeological, historical, and geographical data management and dissemination.

A. Develop a comprehensive database using extant and new data sets.

B. Maintain and utilize GIS data and create products from the data.

C. Provide public access to the data via the sanctuary's web site.

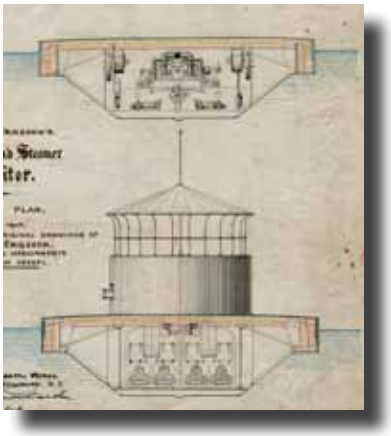
Strategy AR-2: Develop a monitoring program for the sanctuary's maritime heritage site.

Activity 2.1: Develop and implement a long-term monitoring plan to determine the natural and human impacts on the site.

A. Collect and evaluate existing data to establish baselines.

B. Establish site-specific requirements for monitoring.

C. Collect monitoring data and continually evaluate monitoring requirements.



Above: Plan drawing of the *Monitor* (The Mariners' Museum).

Strategy AR-3: Develop and continue partnerships with the Christopher Newport University Trible Library, the Center for Coastal Fisheries and Habitat Research, the National Centers for Coastal Ocean Service, and other regional research and academic facilities.

Activity 3.1: Preserve Monitor National Marine Sanctuary collection at the Christopher Newport University Trible Library and continue to partner with the library to make it accessible to the public.

A. Ensure the collection infrastructure and policies meet archival standards.

B. Determine and implement digitization priorities.

C. Ensure the collection is publicly accessible, physically and online.

Activity 3.2: Evaluate opportunities to increase Monitor National Marine Sanctuary research collection holdings.

A. Develop an acquisitions policy for the collection.

B. Define the scope for the collection.

C. Actively pursue donation of archival materials.

ABOVE: Archaeologists with NOAA and ECU work on a site plan (NOAA).

Strategy AR-4: Develop partnerships with local, state, national, and international researchers and organizations to enhance sanctuary research programs.

Activity 4.1: Develop partnerships to characterize the sanctuary's maritime cultural and natural resources.

Activity 4.2: Develop partnerships with multi-disciplinary researchers and organizations to study the natural processes within the sanctuary and their impact on associated cultural resources within and adjacent to the site.

Activity 4.3: Create a standing research working group of multidisciplinary researchers from the sanctuary advisory council, government agencies, academic institutions, and non-governmental organizations to provide input to further develop and implement a comprehensive sanctuary advisory research program.

Strategy AR-5: Utilize volunteers, students, fellows, and interns for sanctuary characterization, research and monitoring, in so far as is practical and with due consideration of safety.

Activity 5.1: Recruit, train, and retain volunteers to assist sanctuary staff on various research projects and with the Monitor National Marine Sanctuary research collection.

A. Offer a variety of training modules for sanctuary volunteers.

B. Work with the NOAA Dive Center to establish protocols for certifying and utilizing NOAA-certified and volunteer divers, within established sanctuary dive safety standards.

C. Develop a list of research opportunities for volunteers.

BELOW: Divers from UNC CSI, ECU, and NOAA ascend to the surface during a dive on the U-*701* (NOAA).

D. Develop a list of opportunities for volunteers in the sanctuary research collection.

Activity 5.2: Establish partnerships with universities, colleges, and other institutions to create a robust program for student research internships and fellowships.

A. Work with ONMS headquarters and NOAA's Maritime Heritage Program to establish memoranda of agreement with appropriate institutions.

B. Develop a list of prospective student research projects.

Above: With support from MNMS, ECU students surveyed and documented several beach and nearshore shipwrecks as part of a summer field school (ECU).

Table 6: Estimated Costs for the Archaeological Research Action Plan

Action Plan	Estimated Cost ($ in thousands)					Total Estimate 5-Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
Characterize the sanctuary's maritime heritage resources and landscape features.	$100	$100	$100	$100	$100	$500
Develop a monitoring program for the sanctuary's maritime heritage site.	$10	$10	$30	$20	$20	$90
Develop and continue partnerships with the Christopher Newport University Trible Library, the Center for Coastal Fisheries and Habitat Research, the National Centers for Coastal Ocean Service and other regional research and academic facilities.	$30	$40	$40	$40	$45	$195
Develop partnerships with local, state, national and international researchers and organizations to enhance sanctuary research programs.	$30	$30	$40	$50	$50	$200
Utilize volunteers, students, fellows and interns for sanctuary characterization, research and monitoring, in so far as is practical and with due consideration of safety.	$10	$10	$10	$10	$10	$50
Total Estimated Annual Cost	$180	$190	$220	$220	$225	$1035

Table 7: Performance Measures for the Archaeological Research Action Plan

Outcome	Performance Measure	Baseline
Develop a long-term monitoring and archaeological research program for *Monitor* wreck site.	By 2015, draft a document that outlines a long-term approach to dealing with archaeological issues at the wreck site.	Since recovery, there has been no formal long-term archaeological plan for the materials, which remain on the seabed.
Annual site monitoring will be conducted by the MNMS utilizing divers or remote sensing technologies.	By 2016, MNMS will have the in-house capability to conduct annual site surveys of the *Monitor* wreck site.	Currently there is no policy for long-term monitoring and sanctuary staff only intermittently get data or access the site.
MNMS will develop a volunteer and internship/fellowship program for archaeological research.	By 2017, MNMS will begin conducting annual avocational archaeology programs (such as NAS) and maintain an average of 2 regular volunteers or interns to assist staff with AR goals.	Currently, MNMS has no volunteers or interns that assist with archaeological research goals.
Complete a final archaeological report for NOAA's work on the *Monitor* site up to 2012.	By 2014, (in conjunction with partners) complete and publish a comprehensive technical archaeological report on all activity conducted on the *Monitor* since its discovery.	Currently, there are only interim technical reports and annual survey summaries written. A comprehensive report on major initiatives has not yet been completed.

LEFT: Sunset over the *Monitor* (NOAA).

Resource Monitoring Action Plan

Description

The purpose of this action plan is to outline the sanctuary's natural and cultural resource research and monitoring objectives and priorities. The action plan will guide Monitor National Marine Sanctuary's efforts, while promoting and integrating interdisciplinary research by sanctuary partners.

Background

Continual research and monitoring of the sanctuary's biological and cultural resources and a greater understanding of the physical and chemical characteristics that define the environment in which these resources are located are primary goals of Monitor National Marine Sanctuary. Sanctuary staff conducts, supports, promotes, and coordinates all research with an aim toward characterization of the unique cultural and natural resources located within and adjacent to the sanctuary. Characterization is the process through which sanctuary resources are inventoried, located, documented, and ultimately analyzed within a broader context. Knowledge acquired through research is used to evaluate existing management practices, enhance future management decisions, and educate the public about the importance of the USS *Monitor* and the environment in which she is located.

Since its discovery in 1973, the wreck of the USS *Monitor* has suffered significant deterioration in almost every portion of its hull, with the most extensive damage occurring in the stern. As a result of this deterioration, the wreck site has become increasingly fragile and is even more vulnerable to impact. Therefore, it is particularly important that the remainder of the wreck is monitored using multiple techniques so that structural changes can be assessed. Using specialized diving equipment, sanctuary researchers have documented several deepwater shipwreck sites, using a combination of techniques including photo-mosaics, archaeological site plans, artistic renderings and video and still imagery. The sanctuary also uses remotely operated vehicles (ROV) and autonomous underwater vehicles (AUV) to access deeper archaeological sites. Performing corrosion analysis, which measures the electron transfer between metals and the surrounding seawater, is another method through which valuable information is collected on wreck sites. These multiple techniques provide data that are essential for evaluating the *Monitor* and informing future management decisions within the sanctuary.

In proximity to Monitor National Marine Sanctuary are wreck sites of vessels that were part of the Battle of the Atlantic during World War II. MNMS, in conjunction with the National Marine Sanctuary's Maritime Heritage Program, has incorporated the investigation of these wreck sites into a multi-year study of the Battle of the Atlantic. The goal of this study is to analyze the material remains from WWII vessels, determine their historical significance and identify degradation from environmental and human impact. In addition to studying each site individually. MNMS is identifying how these sites are connected in a cohesive 'battlefield." Therefore, Allied, Axis, and merchant vessels have been and will continue to be vessels of interest that will aid in this broader understanding. Through this research project, MNMS also aims to draw attention to the critical role this event played in history as it was the closest theater of war during World War II to the continental United States. As this project progresses, this chapter of American history becomes more comprehensive and better understood.

Monitor National Marine Sanctuary is uniquely situated at the confluence of the subtropical and temperate zones of the western Atlantic where the cold, southerly-flowing Labrador Current meets warm Gulf Stream waters, making it one of the most biologically productive coastal areas in the Atlantic Ocean.

Above: NOAA data buoy installed in MNMS (2006), offers real-time information to seafarers in determining sea conditions off the coast of Cape Hatteras , N.C. Data from the buoy can be accessed online 24-hours a day (NOAA).

The sanctuary consists of natural rocky outcrops, sand flats, muddy patches, and artificial hard surfaces created by the *Monitor* itself, providing habitat for diverse tropical, sub-tropical, and temperate marine communities. These communities include marine algae, sessile and mobile invertebrates (sponges, lobsters and corals), and economically valuable fishes, including large grouper and snapper. It is the goal of sanctuary staff to characterize these biological communities and the chemical, geological, and physical characteristics. A comprehensive look at these living and non-living parameters will provide baseline data and a better understanding of the ecological importance and function of the sanctuary within a unique, dynamic, and understudied environment.

A NOAA data buoy, which was installed in the sanctuary in 2006, allows real-time data to be viewed and collected. Water and air temperature, wind direction, wave height, and other environmental conditions measured at Monitor National Marine Sanctuary aide seafarers in determining sea conditions off the coast of Cape Hatteras and assist staff in monitoring conditions of the sanctuary. Data from the buoy can be accessed online 24 hours a day.

Finally, the sanctuary recognizes that global climate change has far-reaching effects on the oceans. Understanding and confronting climate change are increasingly important aspects of marine conservation. The Monitor National Marine Sanctuary is in the process of becoming one of the Office of National Marine Sanctuaries' sentinel sites. Sentinel sites are locations in the marine environment that support sustained observations of changes in the status of the marine environment including climate change. They allow investigators to track the status of key indicators of ecosystem integrity and serve as a means to provide early warning to resource managers. Because of the amount of data collected within the sites, they also offer opportunities for technology and protocol testing. Sentinel sites address NOAA activities in areas of mandated responsibility and help address questions about regional issues, such as habitat degradation and invasive species impacts.

The sanctuary also works to enhance NOAA's and other partners' abilities to observe, protect, and manage. The Office of National Marine Sanctuaries has created a Science Needs Assessment website (http://sanctuaries.noaa.gov/science/assessment/mnms.html), which provides information about priority management issues facing each sanctuary and the science needs necessary to address these issues. This resource allows potential partners and research institutions to view needs of Monitor National Marine Sanctuary in order to collaboratively meet research requirements of the site. By collaborating with various partners

on interdisciplinary research, the sanctuary is working toward a better understanding and long-term monitoring of the cultural and natural resources, while systematically managing and distributing the data collected.

Finally, public participation is critical to all aspects of resource conservation. Research towards understanding and quantifying the socioeconomic impacts of Monitor National Marine Sanctuary, as well as perceptions by the public towards marine protected areas off the coast of North Carolina, is an important part of resource monitoring.

Goal

Gain increased knowledge of Monitor National Marine Sanctuary's natural and cultural resources in order to monitor and protect them, and to better understand the sanctuary environment holistically within a local, regional, and global context.

Objectives

- Establish and maintain a monitoring and research program to recognize, document, and track changes in the structural integrity of USS *Monitor* and associated artifacts.

- Establish and maintain a monitoring and research program of the MNMS's living resources and their habitats.

- Establish and promote the sanctuary as an ocean observing station or ONMS sentinel site due to its unique location within an important area for biological productivity and environmental change.

Strategies

Strategy RM-1: Establish and maintain a monitoring and research program to recognize, document, and track changes in the structural integrity of USS *Monitor*, including the remaining hull structure and associated artifacts.

Activity 1.1: Review and catalogue data from past studies to identify gaps and track changes over time.

Activity 1.2: Identify and target research and monitoring on especially vulnerable areas.

Activity 1.3: Collect baseline data against which structural changes to the USS *Monitor* and associated artifacts can be assessed (e.g. concretion characterization and corrosion studies).

A. Data from laboratory conservation should comprise part of the data set.

B. Periodic photo- and video-mosaics should be conducted.

C. Visual examination of the site should be conducted at regular intervals, either through submersibles, AUVs, ROVs or diving.

D. Archaeological approaches should be further tested and used to assess biological communities.

Activity 1.4: Work with research partners to systematically manage and disseminate data from monitoring and research done within the MNMS.

A. Create Federal Geographic Data Committee (FGDC) compliant metadata records with all datasets.

B. Develop products derived from data.

C. Archive data and metadata on public website.

D. Access data through web portal.

E. Promote research projects to potential partners via the ONMS Needs Assessment website.

Strategy RM-2: Establish and maintain a monitoring and research program of the USS *Monitor*'s living resources and their habitats to better understand ecosystem changes within and adjacent to the sanctuary.

Activity 2.1: Assess and monitor the sanctuary's associated biological, geological, chemical and physical characteristics to better understand the factors that control and influence biological productivity and change at the site, including:

A. Biological communities and succession (e.g. fishes, algae, sponges, lobsters and hard corals).

B. Atmospheric parameters (e.g. maintain and enhance NOAA data buoy).

C. Physical and chemical water column parameters to better understand Gulf Stream dynamics, upwelling and ocean acidification including: temperature, currents, internal waves, optical properties, chlorophyll, oxygen, pH, salinity, and nutrients.

D. Geological characteristics (e.g. sedimentological analysis, characterization and movement).

Activity 2.2: Work with research partners to systematically manage and disseminate data from monitoring and research done within the MNMS.

Strategy RM-3: Establish and promote the sanctuary as an ocean observing station or ONMS sentinel site due to its unique location within an important area for biological productivity and environmental change.

Activity 3.1: Develop Ocean Observing System (OOS) implementation plan.

Activity 3.2: Integrate existing data within the National Integrated Ocean Observing System (IOOS).

A. Establish real time capabilities, including telepresence above and below the water.

Activity 3.3: Enhance remote observing system with *in situ* sensors to monitor physical, chemical and optical water quality parameters.

Activity 3.4: Conduct historic comparison of satellite data to detect changes in ocean color, sea surface temperature (SST), and Gulf Stream dynamics and related events.

Activity 3.5: Work with research partners to systematically manage and disseminate data from monitoring and research done within MNMS.

Strategy RM-4: Develop and maintain operational capabilities to sustain research and monitoring (e. g. instrumentation, diving, telepresence, and personnel).

Activity 4.1: Establish collaborations and regional partners.

A. Southeast Coastal Ocean Observing Regional Association (SECOORA) and the Mid-Atlantic Coastal Ocean Observing Regional Association (MACOORA)

B. Regional dive operators

C. Commercial, academic and government research vessels

Activity 4.2: Utilize volunteers, students, fellows, and interns.

Table 8: Estimated Costs for the Resource Monitoring Action Plan

Action Plan	Estimated Cost ($ in thousands)					Total Estimate 5-Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
Establish and maintain a monitoring and research program to recognize, document and track changes in the structural integrity of USS *Monitor* including the remaining hull structure and associated artifacts.	$50	$50	$50	$50	$50	$250
Establish and maintain a monitoring and research program of the USS *Monitor*'s living resources and their habitats to better understand ecosystem changes within and adjacent to the sanctuary.	$50	$50	$50	$50	$50	$250
Establish and promote the sanctuary as an ocean observing station due to its unique location within an important area for biological productivity and climate change.	$25	$100	$40	$40	$40	$245
Develop and maintain operational capabilities to sustain research and monitoring (instrumentation, diving, tele-presence, personnel).	$100	$100	$100	$100	$100	$500
Total Estimated Annual Cost	$225	$300	$240	$240	$240	$1245

Table 9: Performance Measures for the Resource Monitoring Action Plan

Outcome	Performance Measure	Baseline
Increased environmental and ecological monitoring in the sanctuary accompanied by appropriate dissemination to both public and scientific communities.	By 2017, the data buoy will contain increased capabilities (including a functional ADCP), and MNMS will work with partners to conduct a comprehensive baseline ecological analysis on site.	Currently, MNMS resource monitoring has focused predominantly on maritime heritage related issues, with the exception of a 2008 condition report, which includes a cursory assessment of the biological community.
Establish and enact formal plan for on-site corrosion monitoring at the *Monitor* site.	By 2015, work with partners such as NPS and The Mariners' Museum to develop and draft a long-term plan for assessing corrosion potential at the remains of the wreck site on the seabed.	Currently, the best corrosion information comes from the recovered materials and does not address the materials at the wreck site with up-to-date technology.
In-house ability to conduct field operations on the wreck of the *Monitor.*	By 2016, MNMS will have sufficient qualified staff and operational resources to coordinate and conduct research and monitoring at the *Monitor* wreck site.	Currently, MNMS does not have sufficient operational capabilities or staff to access the sanctuary and relies on partner agencies to conduct monitoring activities.

The Monitor *Sailors Action Plan*

Description

During the major artifact recovery period of 1998-2002, NOAA considered the very real possibility that human remains might be found in the wreck site. NOAA knew that any archaeological investigation into the wreck of the USS *Monitor* carried with it a social responsibility to handle any discovered human remains with the utmost dignity and to do so in accordance with established U.S. Navy and federal archaeological guidelines.

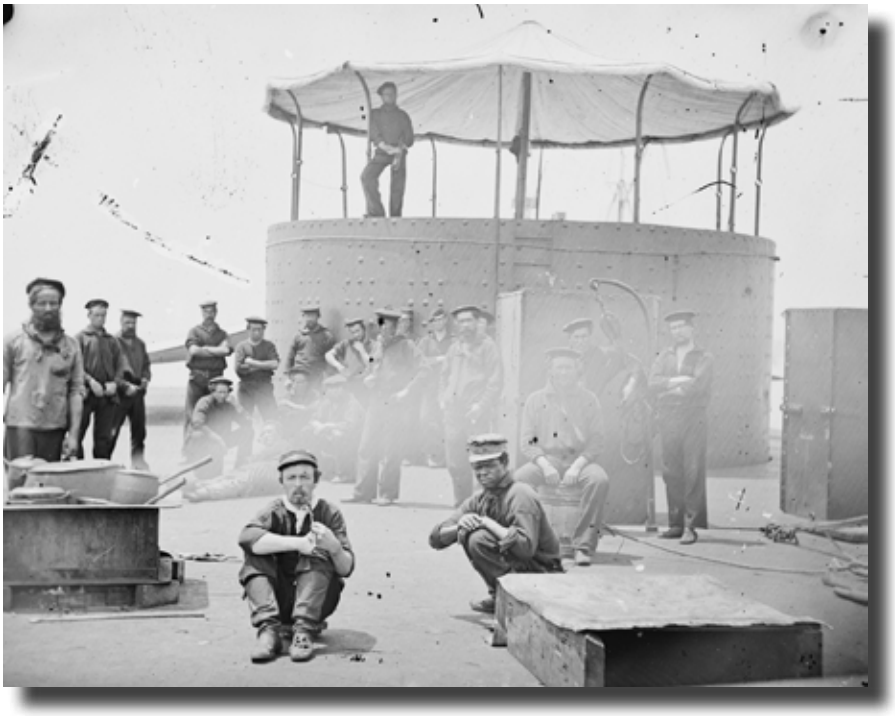
ABOVE: Casts of the skulls of *Monitor*'s two crewmen (*Monitor* Collection, NOAA).

Background

The likeliness of encountering human remains was elevated during the planning phases for the turret recovery that took place in 2002. The Monitor National Marine Sanctuary worked with staff from the U.S. Navy History and Heritage Command and the Central Identification Laboratory, Hawaii (CILH), currently known as Joint POW/MIA Accounting Command (JPAC), to develop a plan in the event of an encounter.

Early on the morning of July 26, 2002, a U.S. Navy diver working underwater inside the *Monitor*'s turret (beside the starboard cannon) uncovered a fragment of human bone. MNMS staff on watch instructed the diver to gently fan the area around the bone clearing off additional sediment, which revealed what appeared to be an intact human humerus bone. NOAA immediately alerted the JPAC archaeologist, who verified that the bone encountered was in fact a human humerus. As the work of clearing and fanning continued, it was quickly determined that the bone was part of a full human skeleton lying face down and heavily concreted to the iron roof components of the turret.

Once the turret was on deck, the examination of the skeleton revealed that there was a second set of skeletal remains lying under portions of the first. The excavation of the two sets of remains was completed once the turret was safely on land and in a conservation tank at The Mariners' Museum. Both sets of remains were transferred to the JPAC laboratories for cleaning, forensic examination and possible identification.



Above: Crewmen on deck of the USS *Monitor*. Photo taken by James Gibson on July 9, 1862 (Library of Congress).

below: JPAC's Central Identification Laboratory conducted detailed forensic analyses of *Monitor*'s two crewmen discovered in the turret (*Monitor* Collection, NOAA).

Associated Artifacts

Several artifacts were recovered from the immediate area around and under the two sets of skeletal remains. These included; "pocket contents" consisting of a hard rubber USN comb, badly corroded coins and a pocketknife. Additional artifacts associated with the two individuals included small glass buttons and large, hard rubber USN buttons. The lack of any brass buttons and brass or gold bullion threads (deteriorated shoulder boards, hat bands, etc.) indicate that the two individuals were likely enlisted personnel.

Above: The first set of remains recovered, *Monitor* 1, was wearing a gold ring on his right hand (*Monitor* Collection, NOAA).

Forensic Investigation

A forensic study of the two individuals revealed some significant information as to race, age and health issues, as well as the presence of DNA, but could not provide conclusive identification, as there were no known living descendants with whom to compare the DNA.

Goal

Follow all protocols established by the U.S. Navy and other federal agencies, based on dignity, respect and honor for the deceased and their families, for dealing with known human remains, as of yet undiscovered human remains, and associated personal effects encountered within the Monitor National Marine Sanctuary (MNMS).

Right: U.S. Navy sailor at Arlington National Cemetery (USN).

Objectives

- Pursue positive identification of known human remains and any additional human remains encountered within the sanctuary.
- Make recommendations to the U.S. Navy concerning the final disposition of human remains and personal effects.
- Follow established parameters for the care, conservation, portrayal and display of human remains and personal effects prior to final disposition.
- Enhance public education and awareness of personal stories and social history associated with human remains encountered within the sanctuary.

Strategies

Strategy MS-1: Continue collaborating with JPAC and the U.S. Navy to pursue positive identification of the human remains recovered in 2002, from the *Monitor*'s turret, as well as any additional human remains encountered in the future.

Activity 1.1: Devote staff time and resources towards the pursuit of identification of human remains that were recovered in 2002, and if possible, locate living descendants. This activity includes working with genealogical services, archival research and increasing public awareness of the two recovered sailors.

Activity 1.2: Work with the Forensic Anthropology and Computer Enhancement Services (FACES) laboratory at Louisiana State University and staff at Texas A&M University, Smithsonian Institution and personnel from JPAC on the facial reconstructions of the two sets of human remains recovered from inside the gun turret.

A. Work with scientists and technicians to determine best method for facial reconstructions (clay vs. digital) are for accurate reconstructions.

B. Work with JPAC to ensure that a comprehensive isotopic analysis has been completed for both sets of skeletal remains.

C. Evaluate the value of obtaining and using nuclear DNA in addi tion to mitochondrial testing already conducted on the two sets of skeletal remains.

Clay reconstruction of *Monitor* #2 (LSU).

Digitized reconstruction of *Monitor* #2 (LSU).

Clay reconstruction of *Monitor* #1 (LSU).

Digitized reconstruction of *Monitor* #1 (LSU).

Strategy MS-2: Work with the U.S. Naval History and Heritage Command towards a goal of having the two sets of human remains securely interred in a respectfully within Arlington National Cemetery at Arlington, Va. The internment would serve as a tribute to the other 14 individuals who were lost when the ship sank and to the *Monitor*'s impact and significance on U.S. and world history.

Activity 2.1: If no living descendants of the two *Monitor* sailors recovered in 2002 can be located, submit a recommendation on internment to the U.S. Navy by June 1, 2012.

A. Make recommendations that the remains be interred at Arlington National Cemetery on or by March 9, 2013.

B. Recommend that the monument not only be a memorial to the two recovered sailors, but to all of the 16 who were lost the night the *Monitor* sank. This type of memorial would serve as a tribute to the USS *Monitor*'s role in history and serve as fitting location in the event additional associated remains are encountered and recovered from within Monitor National Marine Sanctuary.

C. Recommend that burial be conducted in such a manner that assures the security of the interred remains.

Above: A wreath was laid at the statute of the Lone Sailor, Navy Memorial Museum in Washington, D.C. (NOAA).

Activity 2.2: Work with the U.S. Congress and the U.S. Navy to fund, develop, and erect a monument to the *Monitor* and her crew in Arlington National Cemetery.

A. MNMS should take the lead in finding funds for the design and construction of a monument and should work with Congress, the U.S. Navy, private citizens and NGOs.

B. Work directly with Arlington National Cemetery to determine what, if any, design restrictions or constraints will be encountered.

C. Work with partners to identify an appropriate artist for the monuments design.

Activity 2.3: In the event that living descendants are located for one or both of the *Monitor* sailors, MNMS should work with the Navy History and Heritage

Command and JPAC to encourage the descendants to inter the remains in a manner that honors the individual(s), the other men lost the night the *Monitor* sank, and the importance of the *Monitor* and her crew to this nation's maritime history.

Strategy MS-3: Define a protocol for the disposition and display of the personal effects associated with the human remains recovered from the *Monitor* in 2002. The protocol will emphasizes their historical significance and ensure that any exhibition provide a strong measure of dignity, respect, and honor towards the deceased and their descendants.

Activity 3.1: Clearly define the differences between "associated" artifacts and "directly associated" artifacts relating to the two individuals recovered from inside of the *Monitor*'s gun turret.

Activity 3.2: Identify existing policies relating to the display of personal effects recovered from an archaeological site, which are directly associated with human remains. This should specifically include a study on the treatment of personal effects belonging to naval personnel, but not limited to naval personnel.

Activity 3.3: In the event that legitimate descendants are located, work with descendants and the U.S. Navy to impart an understanding of the importance of the associated artifacts and their significance to the national story of the USS *Monitor,* with a recommendation that all or some of the associated artifacts of the individual(s) remain part of Monitor National Marine Sanctuary's archaeological collection.

Above: Researchers are puzzled why so many items of silverware, some with engraved names or initials, were found deep inside the turret (The Mariners' Museum).

Strategy MS-4: Develop outreach and educational materials and programs based on the personal stories and social history associated with the *Monitor*'s crew.

Activity 4.1: Engage a production company to develop a documentary or docudrama surrounding the two individuals recovered in 2002. This should include historical background of the events, the forensic data records derived from the individuals, documentation of the facial reconstruction procedures, and imagery of the final results. This production should be geared towards reaching a prime time market.

Table 10: Estimated Costs for *Monitor* Human Remains Action Plan

Action Plan	Estimated Cost ($ in thousands)					Total Estimate 5-Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
Continue collaborating with JPAC and the U.S. Navy to pursue positive identification of the human remains recovered in 2002, from the *Monitor*'s turret, as well as any additional human remains encountered in the future.	$50	$10	$10	$10	$10	$90
Work with the U.S. Naval History and Heritage Command towards the goal of having the two sets of human remains interred in a secure and respectful manner that honors the two sailors within Arlington National Cemetery at Arlington, Va., and serves as a tribute to the other 14 individuals who were lost while highlighting the *Monitor*'s impact and significance on U.S. and world history.	$100	$50	-	-	-	$150
Define a protocol for the disposition and display of the personal effects associated with the human remains recovered from the *Monitor* in 2002, that emphasizes their historical significance and assures that any exhibition provides a strong measure of dignity, respect and honor towards the deceased and their descendants.	$30	$20	-	-	-	$50
Develop outreach and educational materials and programs based on the personal stories and social history associated with the *Monitor*'s crew.	$15	$15	-	-	-	$30
Total Estimated Annual Cost	$195	$95	$10	$10	$10	$320

Table 11: Performance Measures for *Monitor* Human Remains Action Plan

Outcome	Performance Measure	Baseline
Establish an appropriate ceremony and inter the remains of the individuals recovered from inside the *Monitor*'s turret	By 2013, erect an appropriate monument to serve as the final resting place for the crew and conduct an appropriate ceremony, preferably at Arlington National Cemetery.	Currently the remains are undergoing forensic and genealogical analysis at JPAC. There are currently no formal plans for the remains.
Identify the two sets of human remains	By 2013, determine, via genealogical research and public outreach, the identity of the individuals, and consequently identify descendants. If no results are gained by 2013, interment will proceed.	This is an ongoing effort for the sanctuary.

Left: Conserved shoes found in turret (The Mariners' Museum).

Monitor *Artifact Conservation Action Plan*

Background

In the mid-1990's, NOAA began reporting to Congress that based on corrosion studies and expert observations, the USS *Monitor*'s degraded hull was at risk of a catastrophic collapse. This collapse could happen at anytime and would likely result in a significant loss of the ship's structure and many of its historic contents.

In response to these reports, Congress issued a mandate to the Secretary of Commerce in October 1996, to produce "a long-range, comprehensive plan for the management, stabilization, preservation, and recovery of artifacts and materials of the USS *Monitor*." The mandate further stated that "to the extent feasible," NOAA should, "utilize the resources of other Federal and private entities with expertise and capabilities that are helpful" and to submit the plan within 12 months of the date of enactment of the sanctuaries act.

The final plan titled *Charting a New Course for the* Monitor was submitted to Congress in November 1997. The plan outlined an ambitious stabilization and recovery proposal for some of the key components of this historic vessel and after a review, was approved by Congress and formally issued in April 1998.

A critical element to the plan was the need to adequately conserve what NOAA was proposing to recover. Monitor National Marine Sanctuary's main partner in the preservation of the USS *Monitor* is The Mariners' Museum, which was selected as the principal repository for archival materials and artifacts in 1987. The museum's role in the project was substantially increased with the issuance of the recovery plan. Conservators contracted by the museum worked with sanctuary and museum staff to develop a preliminary plan for a facility that outlined the variety of materials likely to be recovered and the space and equipment that would be necessary to hold and treat these artifacts. [See *Charting a New Course for the* Monitor, Appendix B, pg. 31 - 43 for complete details.]

In June 1998, NOAA and the U.S. Navy recovered the *Monitor*'s unique cast iron propeller and the majority of the wrought iron propeller shaft. The remaining segment of propeller shaft (with the stuffing box attached) and the rudder skeg, were recovered in 2000. The *Monitor*'s vibrating lever steam engine was recovered in July 2001, and the rotating gun turret was raised from the sea floor in August 2002. The combined weight estimates of the large components recovered from 1998 – 2002 is in excess of 190 tons with an additional estimate of five tons

of associated artifacts comprised of brass, bronze, copper, glass, ceramics, wood, and other organic materials as well as approximately two tons of anthracite coal. In all, NOAA has delivered almost 200 tons of waterlogged archaeological materials to The Mariners' Museum since recovery operations began in 1998.

In March 2007, The Mariners' Museum and NOAA officially opened the USS *Monitor* Center. *Monitor* Center is a 64,000 square foot addition to the museum's existing building that is dedicated to telling all facets of the USS *Monitor* story including John Ericsson, the CSS *Virginia*, and the Monitor National Marine Sanctuary. A major component to the USS *Monitor* Center is the 15,000 square foot Batten Conservation Laboratory Complex, which was built specifically as a facility for treatment of the archaeological materials recovered from the Monitor National Marine Sanctuary.

The Batten Conservation Laboratory Complex far exceeds the original proposal that was incorporated into the 1998 recovery plan. The facility's main areas are the wet lab, dry lab and the artifact treatment area, which includes the offices for conservation staff. The facility houses 95 percent of the waterlogged artifacts in a variety of storage and treatment tanks. The other five percent of the recovered components are maintained in controlled wet storage under a covered shed behind the main facility.

Artifact conditions are initially assessed through a triage approach and artifacts deemed to be at the most risk receive priority attention. Artifacts not requiring immediate treatment are placed in wet storage and the corrosion processes are chemically controlled. Conservation staff continually monitor the water quality and water level on these passive treatment tanks, as well as those artifacts undergoing active treatments.

Artifacts undergoing conservation are kept in a variety of treatment tanks ranging in size from the 90,000-gallon turret tank down to small sealed storage bins on shelves. Many of the singular components (pumps, blower engines, valves, etc.) expand their footprints in the facility, as they are disassembled for treatment. Some containers can hold multiple components of a disassembled artifact, but some components require individual tanks or bins depending on the material or specific needs of the artifact. Composite artifacts like the *Monitor*'s condenser, steam engine, and rotating gun turret will require a variety of treatments and a significant number of treatment tanks throughout the conservation processes.

The overall scope of the conservation of *Monitor* archaeological materials is vast and some of the components are very complex. Estimates for completed treatment of artifacts are dependent on many factors, including staff, funding and the artifact itself. Preliminary estimates for complete conservation of some of the larger components are estimated at 10 – 15 years, and long-term conservation requires long-term funding.

Goal

Ensure successful conservation treatment of artifacts recovered from the *Monitor* and find ways to ensure adequate funding to increase the current levels of funding.

Objectives

- Ensure all artifacts recovered from the *Monitor* are properly and adequately conserved.
- Identify additional funds to support existing federal dollars allocated towards the conservation of USS *Monitor* archaeological materials.
- Support The Mariners' Museum's efforts to increase their levels of funding for the conservation of USS *Monitor* archaeological artifacts.
- Work with The Mariners' Museum to establish additional outside partnerships for USS *Monitor* artifact conservation. These partnerships should include the scientific, engineering, and mechanical communities.
- Identify other conservation facilities and conservators to explore new techniques that might be applicable to the treatment of USS *Monitor* artifacts.
- Collaborate closely with museum conservation staff to increase the public visibility, knowledge, and support for the conservation efforts on USS *Monitor* artifacts.

Above: Dahlgren gun in conservation tank at The Mariners' Museum. (The Mariners' Museum).

Strategies

Strategy CN-1: Ensure adequate long-term base funding for conservation needs for Monitor artifacts, and pursue increased federal funding for the conservation of Monitor archaeological artifacts.

Activity 1.1: Develop briefing materials for ONMS HQ staff that detail the scope of the USS *Monitor* conservation project and stress the need to increase funding for MNMS's contribution to artifact conservation efforts.

Activity 1.2: Work with ONMS HQ on securing Congressional support for increasing MNMS budget, specifically to support the ongoing conservation of USS *Monitor* archaeological materials.

ABOVE: Engine register, after conservation, from the *Monitor*'s steam engine (The Mariners' Museum).

Strategy CN-2: Work with The Mariners' Museum on ways to increase their level of funding for the conservation of USS *Monitor* archaeological materials.

Activity 2.1: Assist The Mariners' Museum in identifying outside funding sources, particularly grant opportunities, outside federal systems.

Activity 2.2: Assist The Mariners' Museum with locating and jointly applying for federal grants that apply to the conservation of USS *Monitor* archaeological materials.

BELOW: Conserved shoe (The Mariners' Museum).

Strategy CN-3: Continue to establish relationships within the scientific, engineering and mechanical communities to further the study of USS *Monitor* archaeological materials.

Activity 3.1: Develop a list of companies and agencies that utilize specialized equipment (laser scanners, deionized water generation, plumbing, chemical companies, etc.) and that might be attracted to in-kind partnerships with NOAA and The Mariners' Museum on conserving USS *Monitor* archaeological materials for publications and advertising incentives. Agencies and companies can likely be approached jointly by MNMS and The Mariners' Museum.

Strategy CN-4: Foster relationships with conservation facilities and conservators that are involved in waterlogged archaeological projects.

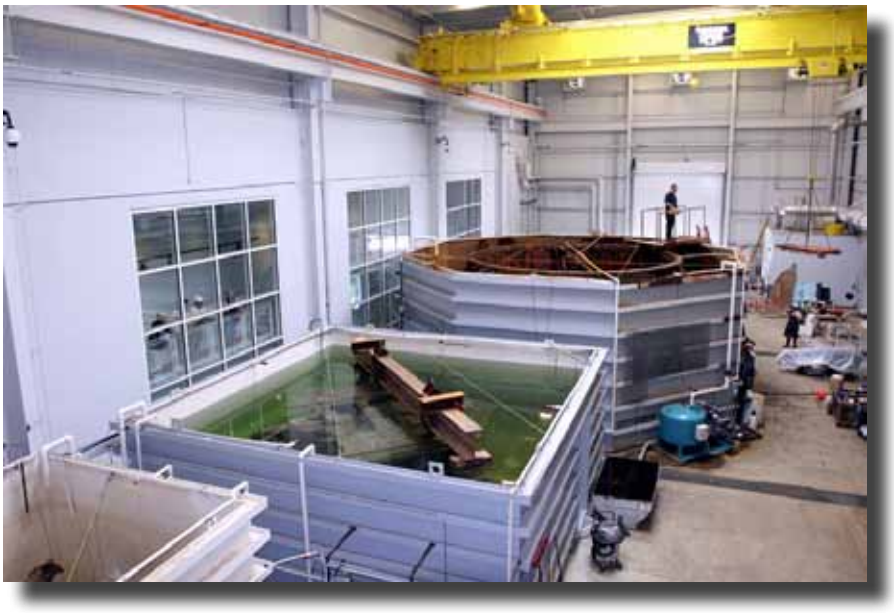
Activity 4.1: Actively research what other conservation facilities are engaged in and what alternative techniques are available in the field, particularly in areas that accelerate the entire conservation processes (form fitting anodes, modified electrolyte solutions, current densities, etc.).

Activity 4.2: Support alternative conservation techniques where possible. Treatments that are considered experimental can be investigated by applying techniques to sample pieces recovered from the USS *Monitor* wreck site.

Strategy CN-5: MNMS and The Mariners' Museum should work jointly on presentations and through publications to maintain an awareness of the needs of conserving archaeological materials from the USS *Monitor*.

Activity 5.1: MNMS staff and The Mariners' Museum should collaborate on presentations directed at the historical and historical preservation communities to promote awareness of the value of the USS *Monitor* archaeological collection and the preservation efforts involved.

Activity 5.2: MNMS staff and The Mariners' Museum should work together and individually to have articles published in a variety of historical and trade publications that would help make people aware of the value of the USS *Monitor* archaeological collection and efforts to preserve the collection.



RIGHT: Batten Conservation Laboratory Complex (The Mariners' Museum).

Table 12: Estimated Costs for *Monitor* Artifact Conservation Action Plan

Action Plan	Estimated Cost ($ in thousands)					Total Estimate 5-Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
Assure adequate long-term base funding for conservation needs for *Monitor* artifacts and pursue increased federal funding for the conservation of *Monitor* archaeological artifacts.	$200	$250	$300	$400	$450	$1600
Work with The Mariners' Museum on ways to increase their level of funding for the conservation USS *Monitor* archaeological materials.	-	-	-	-	-	0
Continue to establish relationships within the scientific, engineering and mechanical communities to further the study of USS *Monitor* archaeological materials.	-	-	-	-	-	0
Foster relationships with conservation facilities and conservators that are involved in waterlogged archaeological projects.	-	-	-	-	-	0
The MNMS and The Mariners' Museum should work jointly on presentations and publications to maintain an awareness of the needs of conserving archaeological materials from the USS *Monitor*.	-	-	-	-	-	0
Total Estimated Annual Cost	$200	$250	$300	$350	$400	$1600

Table 13: Performance Measures for *Monitor* Artifact Conservation Action Plan

Outcome	Performance Measure	Baseline
Increased funding via a combination of federal, state and private sources to meet the needs of *Monitor* conservation.	Maintain a minimum level of base conservation funding of $350k per year, with an increase to $500k by 2015.	Minimum level of funding required to maintain conservation efforts is $300k per year.

Left to right top: Dry lab at The Mariners' Museum and gun carriage (The Mariners' Museum).

Left To Right Bottom: steam engine and entrance to the USS *Monitor* Center (The Mariners' Museum).

Expansion Action Plan

Description

Our rich heritage as a seafaring nation includes not only physical resources, such as historic shipwrecks and prehistoric archaeological sites, but also terrestrial structures which link human activity to the sea (lighthouses, life-saving stations, wharves, docks, shipyards, etc.), archival documents, oral histories, and traditional maritime and ecological knowledge of indigenous cultures. When comprehensively studied and interpreted, these maritime heritage resources add an important dimension to our understanding and appreciation of our nation's rich maritime history and make us more aware of the critical need for wise stewardship of our ocean's biological and cultural resources. Responsible, informed decisions must be made on how to manage and protect these resources for the enjoyment and appreciation of current and future generations.

Along the Outer Banks of North Carolina, maritime history and heritage has been central to the identity of the region. Shipwrecks, lifesaving stations, and iconic lighthouses are important elements of heritage tourism and regional identity. Known archaeological sites in this area represent many facets of maritime commerce and conflict, including sites associated with colonial commerce, piracy, shipbuilding, the American Civil War, World War I, and World War II. There is also a wide range of materials associated with regional coastal heritage and possible material remains of early indigenous habitation sites on the continental shelf. The broad range and high quality of maritime heritage resources that exist in this region are unique to the country in abundance, integrity, and accessibility, and in some cases, represent the only examples of a particular event in history or maritime technological development. The variety and richness of the resources in this region is of particular significance, which may merit elevated recognition, and management that incorporates federal, state, and local interests.

In recent years, there has been growing public interest in our nation's collective maritime heritage. The body of heritage resources off North Carolina may represent an ideal location to celebrate, study, and preserve an area of nationally significant historic sites. Many of these sites, which in some cases are military gravesites, merit further characterization and preservation. As such, constituents such as veterans groups, historians, archaeologists, divers, the preservation community, the general public, and MNMS Advisory Council have approached NOAA to formally assess their national significance and consider expansion of the Monitor National Marine Sanctuary as a means to protect and preserve these historic sites.

State craft are protected under the 2005 Sunken Military Craft Act (10 U.S.C. 113 note; Pub. L. 108-375, Sections 1401-1408) permits divers to visit and touch these sites, but prohibits individuals from possessing, disturbing, removing, or injuring any sunken military craft resources. The Sunken Military Craft Act does not address or restrict fishing activities or other commercial ventures that may inadvertently damage these resources. Enforcement of the Sunken Military Craft Act is difficult, partially because the U.S. Navy has not yet promulgated implementing regulations. As a consequence, NOAA is working with local divers, the State of North Carolina, and other stakeholders to identify additional measures to provide better protection for the submerged cultural resources in this area so that they may remain a valuable national heritage resource and continue to be enjoyed by the public, historical interests, divers, and others for years to come.

Background

During the 2008 scoping meetings, held as part of the management plan review process, and in the subsequent comments received, the issue of possible expansion of MNMS boundary was raised repeatedly. Most comments and questions revolved around issues of access and increased protection. In 2009, the sanctuary advisory council considered this topic and voted unanimously to establish a working group to examine the benefits and implications of possible future expansion of MNMS. That working group studied the issues and concerns regarding possible expansion and submitted to the full advisory council a recommendation that NOAA should explore expansion formally. The following is a statement of the formal language approved by the full MNMS Advisory Council regarding its recommendations:

Left: Sand tiger sharks on the *Dixie Arrow* wreck site (NOAA).

MNMS SAC Recommendation

The Advisory Council of the Monitor National Marine Sanctuary recognizes that the waters off of coastal North Carolina contain a unique collection of shipwrecks, which document over 500 years of our nation's maritime past, and further acknowledges that these shipwrecks are of great significance to the people of the United States.

The Monitor National Marine Sanctuary Advisory Council therefore recommends that the Office of National Marine Sanctuaries evaluate and assess an expansion of the Monitor National Marine Sanctuary or the designation of an entirely new National Marine Sanctuary to protect, manage and interpret additional shipwrecks and other potential maritime heritage resources that exist in the adjacent waters of North Carolina in an area known as the Graveyard of the Atlantic.

Such an evaluation should be accomplished in a way that assures continued public access and takes into consideration the potential effects of an expanded area on all users including divers, fisherman (charter, recreational, and commercial), boaters, and the local communities near the sanctuary. If an expansion is pursued, it should be based on the management model adopted by the Thunder Bay National Marine Sanctuary in terms of open access for all and focus on the maritime heritage resources within any proposed sanctuary boundary. The advisory council strongly encourages the Sanctuary Program to work with all stakeholders as they evaluate this proposal.

Protecting additional submerged cultural resources in the waters off of Cape Hatteras, N.C., in the area popularly known as "The Graveyard of The Atlantic," emerged as the number one issue voiced during scoping. Specifically, comments expressed concern that many of the shipwrecks located in these waters (many of which are war graves) were not being adequately protected. Other comments focused on the concern for continued public access to these shipwrecks, which serve as important economic resources for tourism and SCUBA diving within the state. Many of these comments were received from dive shop owners, divers, dive charter operators, and members of the general public.

The National Marine Sanctuaries Act (NMSA) has specific requirements for sanctuary expansion or designation that include inter-agency consultations and environmental analyses, among other activities. NOAA will formally consider expansion through a public process guided by requirements of the NMSA, National Environmental Policy Act (NEPA) and other applicable laws and

regulations. This process requires the development of an Environmental Impact Statement (EIS), which describes the affected environment, the development of alternatives, and the environmental consequences to the human and natural environments of each of the alternatives.

Objective

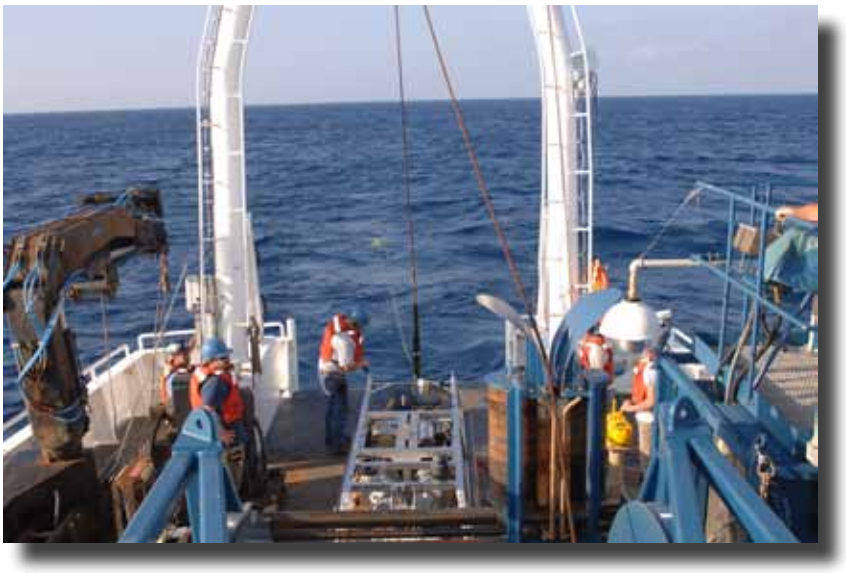
The Sanctuary Expansion Action Plan (SEAP) outlines the process of looking at the submerged cultural resources in the Graveyard of the Atlantic. Under this action plan, a working group of state, federal, and county officials, as well as non-governmental organizations and community stakeholders (fishing, diving, recreational users) will be established to assess all aspects of the expansion. This group will make recommendations to MNMS Advisory Council on expansion alternatives and rely extensively on input from the public.

Strategy

The SEAP contains one strategy to initiate a process that will begin exploring the implications and justifications for any future expansion of MNMS. This process, guided by the NEPA, will include: a socio-economic study; a maritime cultural heritage resource assessment; a public scoping period with meetings; meetings with relevant state and local agencies; opportunities for input from potentially affected stakeholder groups, such as the dive industry and recreational fishers; a potential draft environmental impact statement DEIS; a study of boundary and regulatory options; a management plan assessment; and most importantly, numerous and frequent opportunities for public input. This process will likely take two years or more to complete.

Strategy SE-1: Evaluate and consider the benefits, need, and impact of a future boundary expansion of MNMS to include additional submerged cultural resources.

Activity 1.1: Catalog the known historic resources located in the waters adjacent to the MNMS through a cultural resource assessment in partnership with



Left: NOAA crew members recover an ROV from the back of the SRVx R-*8501* (NOAA).

the State of North Carolina, other federal agencies, universities, local communities, the MNMS Advisory Council, and members of the public.

Activity 1.2: Initiate public scoping, including public meetings on boundary expansion based on information developed through Activity 1.1. Meet with relevant state and local agencies and provide opportunities for input from potentially affected stakeholder groups.

Activity 1.3: Initiate the preparation of a Draft Environmental Impact Statement (DEIS) and Draft Management Plan (DMP), for proposed expanded area, to analyze the impacts of alternatives for sanctuary expansion, with one alternative being to take no further action on expansion.

Activity 1.4: Hold a series of public information sessions to gather input on DEIS and DMP.

Activity 1.5: Complete Final Environmental Impact Statement (FEIS) and final management plan (FMP).

Activity 1.6: Make final decision and issue final management plan, if appropriate.

Table 14: Estimated Costs for Expansion Action Plan

Action Plan	Estimated Cost ($ in thousands)					Total Estimate 5-Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
Evaluate and consider the benefits, need and impact of a future boundary expansion of the MNMS to include additional submerged cultural resources.	$25	$50	$30	$50	$30	$185
Total Estimated Annual Cost	$25	$50	$30	$50	$30	$185

Table 15: Performance Measures for Expansion Action Plan

Outcome	Performance Measure	Baseline
Completed Draft Environmental Impact Statement and Draft Management Plan.	Completed DEIS & DMP by 2014.	Currently, no baseline for this performance measure exists.

LEFT: *Dixie Arrow* as it burns after being hit by torpedoes (Library of Congress).

ABOVE: Photomosaic of the U-*85* located off the North Carolina coast (NOAA).

Operations and Administration Action Plan

Background

The Operations and Administration Action Plan (OAAP) provides recommendations to strengthen the sanctuary's base-level staffing, facilities, infrastructure and program support to effectively meet the basic needs of sanctuary management. Emphasis is placed on the physical infrastructure and financial resource requirements of the site.

Objective

The purpose of the OAAP is to ensure the administrative, operational and financial capacities of the sanctuary are adequate to effectively implement the goals and objectives of the sanctuary.

Strategies

The OAAP has two strategies and associated activities to build the additional capacity needed for the sanctuary to meet basic requirements for staffing, infrastructure support and program implementation. In brief:

Strategy OA-1: Strengthen sanctuary human resources and program support capabilities.

Activity 1.1: Maintain, and increase when necessary, human resources required to support existing, new or expanded sanctuary programs.

Activity 1.2: Enhance the use of volunteers, partnerships, internships and cooperative programs to fulfill human resource needs, when possible.

Strategy OA-2: Maintain and enhance sanctuary facilities, vessels and other infrastructure.

Activity 2.1: Effectively operate and maintain the regional sanctuary vessel SRVx R-*8501*.

Activity 2.2: Maintain existing facility infrastructure, and develop and implement a long-range facilities plan.

Activity 2.3: Establish a permanent sanctuary office presence in North Carolina.

Strategy OA-1: Strengthen sanctuary human resource and program support capabilities.

As sites update and revise management plans, they identify and evaluate needs for more effective management. Additional staffing and infrastructure resources are required to meet the expanded public demands and expectations raised by the process and to respond to legal mandates and policies. Strengthening the sanctuary's base level staffing, facilities infrastructure and program support to effectively meet the basic needs of sanctuary management is one of the priorities of this management plan.

Activity 1.1: Maintain, and increase when necessary, human resources required to support existing, new or expanded sanctuary programs.

MNMS will maintain basic staffing requirements to support existing programs in the areas of conservation science, education and outreach, resource management and administration.

Current (2012) staff positions and responsibilities include:

Management

- Sanctuary Superintendent

Administration

- IT Specialist

Education & Outreach

- Education Coordinator/SAC Coordinator

Research and Monitoring

- Maritime Archaeologist and Permit Coordinator
- Maritime Archaeologist/Cultural Landscapes Specialist
- Research Coordinator
- Program Specialist

Over the next five years, it is anticipated that additional staff positions will be necessary to carry out the activities and programs identified in this management plan. Subject to funding allocations, the following positions may be needed:

Management

- Deputy Superintendent
- Resource Protection Specialist

Administrative

- Secretary/Receptionist – NC/SAC Coordinator
- Administrative Assistant

Education and Outreach

- Volunteer Coordinator
- Outreach/Media Specialist
- Graphic Designer/Program Specialist

Operations

- Marine Engineer
- Captain, SRVx R-*8501*
- Vessel Operations Coordinator

Research and Monitoring

- Archaeologist/Historian
- Geographic Information System (GIS) Specialist

Additional positions will be considered as warranted.

Activity 1.2: Enhance the use of volunteers, partnerships, internships and cooperative programs to fulfill human resource needs, when possible.

Given the limited funding generally available to address personnel requirements, MNMS will utilize to the fullest extent alternative mechanisms to meet human resource needs. This will include support of an active volunteer base to capitalize on the interest of constituents to assist with sanctuary programs. MNMS will also promote the use of student internships and cooperative programs with

universities and other institutions to address specific sanctuary issues. Existing programs, such as the Hollings Scholarship, the Nancy Foster Scholarship and Student Conservation Association (SCA), will be utilized, as appropriate, to fill future needs. Programs associated with the University of North Carolina's Coastal Studies Institute (UNCCSI), East Carolina University's Program in Maritime Studies and others will be investigated to provide support to the site, as well as to promote a greater sense of community and individual ownership of the sanctuary.

Left: Volunteers help with outreach events (NOAA).

Right: MNMS Youth Working Group members volunteer for community events (NOAA).

Strategy OA-2: Maintain and enhance sanctuary facilities, vessels and other infrastructure.

In 2005, the sanctuary office moved into a brand new facility on the grounds of The Mariners' Museum in Newport News, Va. At the time the facility was opened, the Maritime Archaeology Center (MAC), as it is known, housed the offices of both MNMS and the Maritime Heritage Program (MHP) for ONMS. In 2008, MHP was relocated to ONMS headquarters in Silver Spring, Md.

The sanctuary facility in Newport News was built partially to support the conservation and interpretive efforts of The Mariners Museum. It is located within a few hours drive of Washington, D.C. and serves a large metropolitan area. It also supports the larger NOAA presence in the Hampton Roads area including the Center for Operational Oceanographic Products and Services (CO-OPS), the Atlantic Marine Center, NOAA Fisheries, National Weather Service and others. Staff has easy and convenient access to our partners at The Mariners' Museum and can oversee activities related to the *Monitor* Collection.

Since the site has been established, MNMS has made a commitment to building relationships and maintaining partnerships with the State of North Carolina and Virginia. The current location of the MNMS offices is critical with regard to overseeing sanctuary resources housed in The Mariners Museum. Additionally, MNMS currently has a small vacant office within the Graveyard of the Atlantic Maritime Museum in Cape Hatteras, N.C. This office primarily serves as a temporary field office and provides a workplace for staff during joint operations with the museum. MNMS also has an office and one full-time staff member at UNC Coastal Studies Institute in Manteo, N.C. This office and its staffing allocation were created to meet the need of developing an increased presence in North Carolina. As a result of these two offices, MNMS has some, albeit limited, means of supporting staff in North Carolina. However, in the long term, MNMS will require more permanent and substantial support facilities, in addition to office space, to conduct field operations, education and outreach efforts, public engagement and other critical sanctuary functions requisite for developing enhanced services to the state of North Carolina.

In 2011, MNMS became property custodian and primary user of the regional NOAA Vessel SRVx R-*8501*. The SRVx R-*8501* is a highly capable 85' research platform intended for regional use among east coast ONMS facilities, as well as

Left: The SRVx R-*8501*, an important tool for research, monitoring, and emergency response (NOAA).

Left: Archaeologists deploy a side-scan sonar off the back of the SRVx R-*8501*, during the Battle of the Atlantic expedition (NOAA).

partner agencies, universities and NGO's that have a need for a research vessel. The vessel is not intended for exclusive use of MNMS, but will be managed through MNMS. The site will establish a long-range maintenance, manning and operations protocol for the vessel to maximize the use of this asset.

Activity 2.1: Effectively operate and maintain the sanctuary vessel SRVx R-*8501*.

The SRVx R-*8501* will be operated and maintained in a safe and efficient manner and will meet or exceed the standards established by the NOAA Small Boat Program and the NOAA Office of Marine and Aviation Operations (OMAO). A rigorous maintenance program will be established and implemented. MNMS staff will ensure that vessel operations are conducted in as environmentally sensitive a manner as possible, including the incorporation of the use of biodegradable marine products, when possible.

MNMS will establish a review process for the use of the SRVx R-*8501* by sanctuary partners and research institutions. The process will include mechanisms for partners to request use of the vessel, submit cruise instructions and submit required documentation (e.g., permits, authorizations).

MNMS, as acting Vessel Operations Coordinator (VOC) will coordinate with the ONMS Chief Mariner, and duly appointed contractors to ensure the vessel is properly staffed and maintained to support cruise plans. MNMS, in cooperation with ONMS Chief Mariner, will develop a long-term plan for sustainable operations and vessel operations coordination to ensure the vessel is adequately utilized.

Activity 2.2: Maintain existing facility infrastructure and develop and implement a long-range facilities plan.

MNMS staff will develop a long-range (5 to 10 years) facilities plan to consider the need for office space, vessel support facilities, visitor centers, signage and other infrastructure located throughout the sanctuary's operational area, as necessary to support implementation of the management plan. A national facilities plan is under development for all sites within the National Marine Sanctuary System. Facility planning for MNMS will be consistent with and incorporated into that plan.

The administrative headquarters for MNMS is located on The Mariners' Museum grounds in Newport News, Va. This building is large enough to meet the current administrative needs of MNMS, but will become inadequate as increased operations and programming in North Carolina develops. Additional facilities and office space will be necessary to accommodate existing needs and potential growth within the next five years. There are potential partners in the state of North Carolina (UNC CSI, NOAA/NCCOS, etc.) that may be willing to

partner with MNMS for facilities space in the future, or it may be necessary for MNMS to have a stand-alone facility in North Carolina. Assessing the merit, requirements and feasibility of the MNMS needs in the state of North Carolina is a fundamental action item under this management plan.

The sanctuary vessel, SRVx R-*8501*, is currently housed at the U.S. Navy Little Creek amphibious base in Virginia Beach, Va., approximately 20 miles from the current MNMS administrative offices. In the long-term, a permanent dock for this vessel needs to be established. While secure at the Navy base, access to the vessel is limited, particularly for contractors or operators who need temporary access to the vessel for service. Additionally, a vessel support facility is needed near the dock location to provide storage, a dive locker, a workshop and an office for vessel crew. As plans for MNMS facilities and offices develop as a result of this management plan, permanent berthing and associated vessel specific facilities will be incorporated, which may also include the possibility of SRVx R-*8501* being relocated to North Carolina.

MNMS also has a need for increased marine operations capability. SRVx R-*8501* has the capability to support many of the ongoing missions at the site. However, there are several types of operations for which the vessel is inappropriate. Chiefly, small operations, which require few staff and limited time on the water, need a much smaller and operationally efficient platform. The vessel, while excellent for extended and complex missions, is overly costly and complex for day-to-day operations. A platform with the ability to facilitate on-water access for MNMS staff with minimal planning and support is needed. Developing a requirements/needs assessment for a smaller, day-use platform will be an action item under this facilities portion of the management plan.

Significant public input was received during the scoping process regarding the perception of the sanctuary moving *Monitor* artifacts, from federal waters off North Carolina and relocating them along with personnel and resources to Virginia. Additionally, the fact that the sanctuary is located in federal waters off North Carolina has led to a much stronger effort on behalf of the sanctuary to engage both Virginia and North Carolina communities equally. During an ONMS facility long-range planning program, MNMS identified the need to establish a permanent office presence and visitor center on the Outer Banks in North Carolina, where people could go to learn more about MNMS and the coastal resources of North Carolina. Over the next three years, MNMS staff will investigate options and develop a plan for the establishment of a visitor center or visitor contact point. A MNMS visitor center would likely be modest in size,

but incorporate new technologies to allow visitors to experience the sanctuary without actually going there. The plan will encourage working with partners, such as other federal, state and local agencies, in visitor center development and operation. The plan will also include an analysis of possible locations, size, type of messages and information to be provided and operational costs. Options suggested during discussions on this topic include a visitor center in the old Oregon Inlet Life Saving Station, currently vacant and owned by the State of North Carolina Department of Natural Resources and managed by North Carolina Aquariums. This is a highly visible and accessible location on HWY 12 on the northern end of Pea Island National Wildlife Refuge.

MNMS staff will develop and implement an educational exhibits plan to utilize existing outreach venues to assist in the dissemination of information about the sanctuary. MNMS staff have identified a number of outreach venue locations that could provide for the sanctuary's interpretive needs from both geographical and thematic points of view. These facilities cover a geographic area from Hampton Roads, Va. to Wilmington, N.C. The sanctuary will seek funding and work with the identified facility to develop appropriate exhibits, informational signage and other outreach materials. Outreach and interpretive exhibit venues being established or considered include:

- The Mariners Museum, Newport News, Va.
- Nauticus, Norfolk, Va.
- North Carolina Aquariums, Manteo, Pine Knoll Shores and Wilmington (Fort Fisher) N.C.
- Graveyard of the Atlantic Maritime Museum, Hatteras, N.C.
- Beaufort Maritime Museum, Beaufort, N.C.
- Southport Maritime Museum, Wilmington, N.C.
- Cape Hatteras National Seashore, Coastal N.C.
- Jeanette's Pier, Nags Head, N.C.

Table 16: Estimated Costs for Operations and Administration Action Plan

Action Plan	Estimated Cost ($ in thousands)					Total Estimate 5-Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
Strengthen sanctuary human resource and program support capabilities.	$610	$700	$800	$900	$1000	$4010
Maintain and enhance sanctuary facilities, vessels and other infrastructure.	$200	$200	$300	$350	$400	$1450
Total Estimated Annual Cost	$810	$900	$1100	$1250	$1400	$5460

Table 17: Performance Measures for Operations and Administration Action Plan

Outcome	Performance Measure	Baseline
Identify long-term facility needs and staffing requirements.	By 2014, complete facility needs assessment document.	Current facilities are based on previous management plans.
Increased presence in visitor centers and partner institutions.	By 2017, increase the presence of ONMS/MNMS visibility at visitor centers by 50 percent.	MNMS will generate a baseline metric for this measure by 2013.
Complete a marine operations plan and vessels needs plan.	By 2013, complete a marine operations plan for increased on-water needs and draft a plan for the long-term management of R-*8501* and identify needs for additional vessels.	Currently, the sanctuary has no marine operations plan or statement of vessel needs.

Opposite Page

Top: Graveyard of the Atlantic Museum, Hatteras, N.C. (NOAA).

Middle: The Mariners' Museum, Newport News, Va. (The Mariners' Museum).

Bottom: Bodie Island Lighthouse, N.C. (NOAA).

Programmatic Environmental Assessment for the 2013 Final Management Plan for the Monitor National Marine Sanctuary

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Opposite Page: USS *Monitor*'s armor belt (NOAA).

Introduction

Introduction

Monitor National Marine Sanctuary (MNMS or sanctuary) was designated the nation's first national marine sanctuary in 1975. The site protects the wreck of the famed Civil War ironclad USS *Monitor*, best known for its battle in 1862 with the Confederate ironclad CSS *Virginia* at Hampton Roads. It is located approximately 16 miles southeast of Cape Hatteras, North Carolina and consists of a column of water one mile in diameter extending from the seabed to the surface, centered on the shipwreck.

The National Oceanic and Atmospheric Administration (NOAA) Office of National Marine Sanctuaries (ONMS) manages the sanctuary and is revising the current MNMS Management Plan consistent with the purposes and policies of the National Marine Sanctuaries Act (NMSA) and the statutorily-required management plan review (MPR) process established in section 304(e) of the Act. The NMSA requires periodic updating of the sanctuary management plans to re-evaluate site-specific goals and objectives and to develop management strategies and activities that ensure that sanctuary management continue to best protect sanctuary resources and qualities.

The current MNMS management plan was adopted in 1992. Since then, new challenges and opportunities have emerged, necessitating a revision of the management plan. NOAA proposes to update MNMS management plan strategies and activities and the site goals and objectives. The MPR process was initiated in December 2008 with public scoping meetings held in Hatteras, N.C., Manteo, N.C., Raleigh, N.C., Morehead City N.C., as well as one meeting in Newport News, Va. Input from the public informed the development of MNMS final management plan, which is the subject of this programmatic environmental assessment (PEA). A programmatic environmental assessment (PEA) is a useful tool to understand the environmental con- sequences of the broad range of activities proposed under the draft management plan for NOAA's Monitor National Marine Sanctuary (MNMS). The PEA provides the general analyses to inform the decision of approving MNMS final management plan. It also establishes that as individual actions become ripe for decision, alternatives will be evaluated under the National Environmental Policy Act (NEPA) to meet the broader goals outlined in this final management plan.

1.0 PURPOSE AND NEED

This section specifies the underlying purpose and need for the proposed action to adopt the 2013 final management plan for Monitor National Marine Sanctuary.

1.1. Need for action

A revised MNMS management plan is needed to reflect changing management approaches to protecting the sanctuary's resources. Much has changed since the 1992 Monitor Sanctuary Management Plan. The 1992 plan pre-dates recovery of major sections of the wreck. The site itself has changed significantly, as has the management philosophy. Rather than a focus on recovery and artifact collection, management is now focused on in situ monitoring and research. Public comments during scoping identified eight priority issues, which have been developed into action plans as part of this final management plan. These include: improving resource protection including identifying options for increasing access to the sanctuary for non-research purposes; providing for expanded and integrated education and outreach programs; providing an expanded program of on-site archaeological research; increased resource monitoring; identification of the two U.S. sailors' remains recovered from the *Monitor* in 2002; improving conservation of *Monitor* artifacts; exploring expansion of the existing site to protect additional cultural resources located in the waters adjacent to the Monitor National Marine Sanctuary; and an action plan focusing on operations and administration. Awareness of these new issues affecting sanctuary management and the fulfillment of many of the prior plan's objectives necessitates the revision to the management plan.

1.2. Purpose for taking action

ONMS serves as the trustee for a system of 14 marine protected areas, encompassing more than 180,000 square miles of ocean and Great Lakes waters. ONMS manages the national marine sanctuaries through the authority of the National Marine Sanctuaries Act of 1972 (NMSA; 16 USC §1431 et seq.).

The NMSA authorizes the Secretary of Commerce to designate discrete areas of the marine environment as national marine sanctuaries based on their special conservation, recreational, ecological, historical, scientific, educational, cultural, archaeological, and aesthetic qualities which give them special national, and in some cases international, significance.

ONMS fosters public awareness of marine resources and maritime heritage through scientific research, monitoring, exploration, education, and outreach, and works closely with its many partners and the public to protect and manage sanctuaries. Sanctuaries protect biologically diverse marine environments, water quality, and maritime heritage resources, while maintaining recreational and commercial activities that are sustainable and compatible with long-term preservation.

NMSAsection 304(e) requires that each of the national marine sanctuaries periodically engages in a management plan review process to reevaluate site-specific goals and objectives and to develop management strategies and activities to ensure the sanctuary best protects its resources. This revised management plan provides an integrated program of resource protection, research, education, and interpretation. The plan outlines comprehensive management objectives that have been revised and expanded, based upon new knowledge of the site and upon new opportunities for research and education. This plan defines a framework for continued resource protection and preservation, as well as for an expanded program of on-site research that will contribute to the basic store of knowledge regarding this unique resource. MNMS goals and objectives provide the framework for developing management strategies. The goals and objectives direct sanctuary activities, which address the dual purposes of resource protection and multiple uses, and are consistent with the intent of the NMSA.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This section identifies and summarizes how NOAA will accomplish the goals and objectives set forth in the statement of purpose and need. This section briefly describes the proposed action and alternatives that will fulfill the requirements of the purpose and need statement, and meet the purpose and policies of the NMSA, as well as fulfill the education, research, and other goals of ONMS and MNMS. Two alternatives are considered in the PEA: Alternative 1, leaving the current management plan in place (No Action); and Alternative 2, revising the management plan to address the emerging issues described above (Proposed Action).

2.1. Alternative 1 - No action

Under the No Action alternative, NOAA would not update the MNMS Management Plan to fulfill the education, research, and management mandates of NMSA. This alternative would maintain the 1983 MNMS Management Plan[1] and its nominal list of goals and objectives. Management actions described in the existing management plan, including educational and research activities and enforcement actions, would continue.

2.2. Alternative 2 - Proposed action

Under the Proposed Action, NOAA would revise the MNMS management plan, including: updating the sanctuary mission, goals, and objectives; removing completed tasks and incorporating new and planned management strategies and activities; laying out performance measures to better evaluate the effectiveness of sanctuary management; and laying groundwork for potential future actions to address high priority

1 U.S.S. Monitor National Marine Sanctuary. Management Plan. February 1983. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resource Management, Washington D.C. North Carolina Department of Cultural Resources, Raleigh N.C.

issues, such as those identified in the management plan. The proposed action is the preferred alternative.

Some management strategies for MNMS described in the proposed action focus on resource protection, research, and education, which were the focus on the 1983 management plan. However, in the revised management plan, more emphasis is put on providing detailed and measurable objectives as well as including monitoring of environmental factors near the wreck of the Monitor. In the previous management plan, only monitoring of the actual wreck and archaeological research were emphasized.

The revised management plan contains the following eight action plans:

1. Resource Protection

The NMSA authorizes the Secretary of Commerce, delegated to NOAA's ONMS, to manage sanctuaries' historical resources, among others. In doing so, the agency must comply with the Federal Archaeological Program as outlined in Executive Order 11593 and Federal statutes defined in the National Historic Preservation Act of 1966 (NHPA) and the Archaeological Resources Protection Act of 1979 (ARPA), as well as those acts' implementing regulations. The highest priority management goal for MNMS is resource protection through comprehensive and coordinated conservation and management of the wreck and its surroundings. An important part of our Nation's history, the Monitor, its artifacts, the archaeological information at the site, the archaeological collection, and the Monitor's records are all part of the sanctuary's resources. Contrary to the earlier focus on recovery of artifacts from the Monitor wreck, the new resource protection activities will emphasize in-situ conservation of artifacts and studying the effects of the environment on these artifacts over time.

2. Education and Outreach

Education and outreach will always be one of the most effective tools to protect and promote MNMS. Jointly, education and outreach directly support resource protection by creating a better-informed public, not only on issues affecting MNMS but larger ocean conservation issues as well. In following the new management plan, MNMS staff will put more emphasis on using education to promote awareness and protection of the sanctuary's natural and cultural resources, and to enhance local, regional, and national knowledge of the surrounding ocean's ecological and historical significance.

3. Archaeological Research

Future archaeological work at MNMS, including inventorying, locating, documenting, assessing, managing, and interpreting the sanctuary's archaeological, historical, and environmental resources, will serve to better protect the sanctuary's resources and maritime landscape. This work has been and will remain a major goal of the sanctuary.

4. Resource Monitoring

Effective management of MNMS requires a research program that addresses resource protection as well as other management issues. Initial research supported by NOAA was directed primarily toward protection through a comprehensive site characterization process that increased our understanding of *Monitor*'s remains and how they have been affected by natural deterioration and human activities. This research was critical to developing effective approaches to long-term management issues.

Research goals for the sanctuary are to ensure the scientific recovery and dissemination of historical and cultural information from the site, and to preserve and manage the remains of *Monitor* in a manner that appropriately enhances both the significance and interpretive potential of the warship. From now on, the monitoring will focus on monitoring artifacts in-situ and not on recovery of artifacts themselves.

Additionally, new resource monitoring programs will help sanctuary management better understand the living and natural resources within the sanctuary and in the surrounding waters. This focus on ecosystem monitoring (including monitoring of ocean acidification) is entirely new compared to the previous management plan.

5. USS *Monitor* Sailors

In 2002, NOAA and the United States Navy recovered the remains of two U.S. sailors lost on December 31, 1862, the night the *Monitor* sank. NOAA is working closely with the Navy and the Joint POW/MIA Accounting Command (JPAC) to try to identify these two servicemen. NOAA is leading the effort with genealogical research and facial reconstructions, and has named this project *Monitor* Crew Investigations. NOAA and the U.S. Navy hope to identify the two individuals and secure a proper burial at Arlington National Cemetery for these crewmen. This project intends to honor these two men and all who were lost the night the Monitor sank. It may also solve an important historical mystery about the identity of these two sailors. This action plan is entirely new compared to the previous management plan.

6. Conservation

Between 1998 and 2002, NOAA and the U.S. Navy recovered almost 400 tons of material from the *Monitor*, including her revolving gun turret, engine, 11-inch Dahlgren guns, and thousands of smaller artifacts. These materials are currently being conserved in the Batten Conservation Laboratory at The Mariners' Museum. It is estimated that the total conservation process to treat all of the artifacts will take up to thirty years and many millions of dollars. Funding for this effort consists of a mix of public and private funds. These artifacts, once treated, provide a permanent record of life aboard the ironclad USS *Monitor* and serve as national treasures. This action plan is entirely new compared to the previous management plan.

7. Expansion

In recent years, there has been growing public interest in our nation's collective maritime heritage. The body of heritage resources off North Carolina may represent an ideal location to celebrate, study, and preserve an area of nationally significant historic sites. Many of these sites, which in some cases are military gravesites, merit further characterization and preservation. As such, constituents such as veterans groups, historians, archaeologists, divers, the preservation community, the general public, and MNMS Advisory Council have approached NOAA requesting a formal assessment of their national significance and that NOAA consider expansion of the Monitor National Marine Sanctuary as a means to protect and preserve these historic sites.

The National Marine Sanctuaries Act (NMSA) has specific requirements for sanctuary expansion or designation that include inter-agency consultations and environmental analyses, among other activities. NOAA would formally consider expansion through a public process guided by requirements of the NMSA, National Environmental Policy Act (NEPA) and other applicable laws and regulations. This process requires the development of an Environmental Impact Statement (EIS), which describes the affected environment, the development of alternatives, and the environmental consequences to the human and natural environments of each of the alternatives. NOAA would begin a separate NEPA process to evaluate the potential expansion of the MNMS after publication of the final management plan; therefore, the potential environmental consequences of sanctuary expansion are not analyzed in this document.

8. Operations and Administration

The Operations and Administration Action Plan includes strategies to strengthen the sanctuary's base-level staffing, facilities, infrastructure and program support to effectively meet the basic needs of sanctuary management. Emphasis is placed on the physical infrastructure and financial resource requirements of the site. While there was an administration action plan in the 1983 management plan, this action plan contains much more detail about operational activities per updated ONMS standard practices.

In 2011, MNMS became property custodian and primary user of the regional NOAA Vessel SRVx R-8501. The SRVx R-8501 is a highly capable 85' research platform intended for regional use among east coast ONMS facilities, as well as partner agencies, universities and NGO's that have a need for a research vessel. The vessel is not intended for exclusive use of MNMS, but will be managed through MNMS. The site will establish a long-range maintenance, manning and operations protocol for the vessel to maximize the use of this asset, including the fulfillment of any necessary requirements under NEPA.

3.0 AFFECTED ENVIRONMENT

The three Monitor National Marine Sanctuary environments that are assessed for possible environmental impacts of the new management plan are: (1) the biological and physical environment; (2) the socioeconomic environment; and (3) the maritime heritage and cultural environment.

3.1 Biological and Physical Environment

The *Monitor*'s remains lie on the Continental Shelf 16.1 nautical miles south-southeast of the Cape Hatteras Lighthouse. The *Monitor* Sanctuary consists of a vertical column of water in the Atlantic Ocean one mile in diameter extending from the surface to the seabed. The center of the water column is 35°00'23" north latitude and 75°24'32" west longitude.

In the vicinity of the *Monitor*, the ocean bottom is composed of sand, shell hash, and clay below the surface. Bathymetric profiles (topography of the sea floor) of the area indicate that the bottom surface slopes gently away to the southeast at less than seven feet per 1000 feet.

Visibility. Visibility in the 230-foot-deep water varies according to turbidity, the presence of microorganisms, and the intensity and angle of sunlight. Records to date indicate that visibility varies from approximately 10 feet to more than 150 feet.

Currents. The site lies at the western margin of the Gulf Stream, and the area is influenced both by the stream itself and by eddies created by that current. Changes in current direction and velocity occur frequently. Within a 24-hour period, direction has been observed to change 360 degrees. Current velocities are known to vary from zero to more than 1.5 knots at the bottom, and surface currents can be considerably stronger. Water temperature in the area seems to be related to these current patterns. While few specific data are available, temperature projections indicate an annual variation between 52 degrees and 78 degrees Fahrenheit.

Wind patterns. In the area of the sanctuary, wind patterns can be generalized as prevailing from the north to west between November and February; north-northwest and south-southwest between March and June; south-southeast during July and August; and north-northeast during September and October. However, unpredictable variations are common and spontaneous storms frequently occur.

Biological organisms. A biological study carried out by NOAA in June 1990, identified encrusting organ- isms and motile invertebrates on the wreck. The wide variety of encrusting organisms included coral, sponges, sea squirts, sea anemones, hydroids, barnacles, tube worms, mussels, and oysters (Dixon 1990).

The *Monitor*'s remains are located near the northern boundary of tropical reef fish habitat, and therefore support a mixture of temperate and tropical species. Fish abundance has been estimated by visual counts and verified from videotape from five transect lines over the length of the *Monitor*. Twenty-five species were observed. The most abundant species was the red barbier. Thousands of fish, approximately 1.5 to 5 inches total length, formed schools at the stern and throughout the center of the vessel. The predominant predator species was the greater amberjack. Fifty-four fish were counted when approaching the *Monitor*. Approximately half of the wreck was visible, so the number of jacks was estimated to be 108. Estimates of other common species included scad (several hundred); black sea bass (35); scup (14); bank sea bass (10); slippery dick (10); and vermilion snapper (6).

The *Monitor* has become a productive reef habitat. However, cold-water intrusions by the Labrador Current may limit its productivity. Several fish kills have been observed in the Cape Hatteras area since 1957. Reports indicate cold-water intrusion on the outer continental shelf may have contributed to the killing of red snapper and vermilion snapper. Most of the tropical species observed on the *Monitor* on past expeditions were juveniles or young adults. Significant changes in the numbers and types of fish, corals and sponges have been noted over the years. Variations in the environment and even changes in the condition of the *Monitor*'s hull have been suggested as possible explanations.

The *Monitor* is located near the zoogeographical boundary of temperate and tropical species. Fish abundance has been estimated by visual counts and verified from videotape from five transect lines over the length of the *Monitor*. Twenty-five species were observed and cataloged (Dixon 1990).

3.2 Socioeconomic Environment

Tourism. Due to its historic significance, *Monitor* is considered a national treasure. As such, it is an important driver for heritage tourism in North Carolina and Virginia. The Mariners' Museum in Newport News, Va., and the Graveyard of the Atlantic Museum in Hatteras, N.C., serve as primary repositories of *Monitor* historic artifacts and are important to the economic health of those associated coastal communities. The Mariners' Museum in Newport News, Va., saw an almost 200% increase in attendance in 2007, following the opening of the USS *Monitor* Center. Today the museum continues to benefit immensely from the display of artifacts recovered from the USS *Monitor* in the form of increased attendance and new positions created to support the facility, and the museum remains a major draw for regional tourism.

Similarly, the Graveyard of the Atlantic Museum in Hatteras, N.C., has benefited from the relationship with the sanctuary. The museum employs about a dozen people and has received almost 2.6 million dollars in direct support from the sanctuary. In 2011, the museum had an attendance of almost 80,000 visitors. In both cases, the impact of the sanctuary to local communities has been clear and positive.

SCUBA diving also has had a positive impact on the local economy and plays a significant part in driving heritage tourism. Thousands of divers come to the Outer Banks of North Carolina each year to dive the shipwrecks of the Graveyard of the Atlantic. This region is characterized by popular wreck diving magazines as one of the top wreck diving destinations in the world year after year. The *Monitor* attracts divers each year and is considered by many to be one of the "Holy Grails" of shipwrecks in U.S. waters. Divers who dive the *Monitor* spend thousands of dollars in equipment, food, and lodging within the local communities as part of these dive trips.

Coastal Communities. Creating and supporting sustainable coastal communities is an overarching goal for ONMS. Methods of achieving this goal include promoting climate and ocean literacy at local, state, and national levels; establishing ocean observing stations; and providing useful scientific data, all of which can aid communities in effectively managing coastal and ocean resources, understanding climate change, and advancing effective long-term coastal and land-use planning.

Recreational Fishing. Additionally, the waters within and surrounding MNMS are used by sport fisherman and charter fisherman. Fishing is permitted within the boundaries of the sanctuary, and many of the charter captains operate both fishing and SCUBA charter businesses. Recreational fishing is a significant economic factor in the local economy, supporting hotel and restaurant business, tackle shops, and charter operators. This activity is responsible for hundreds of millions of dollars of revenue to the local economy. Although the sanctuary has no data on what portion of that is driven directly by the presence of MNMS, it is clear that sanctuary regulations permitting fishing serve to support the economy rather than hinder it.

3.3 Maritime Heritage and Cultural Environment

During the years since *Monitor* sank on December 31, 1862, its hull and contents have been slowly transforming from a ship of war to an archaeological site. *Monitor* sank at an offshore location where a hard seabed and strong currents have prevented the hull from becoming imbedded in a protective layer of sand and sediment. The inverted hull of *Monitor* rests on a nearly east-west orientation.

Monitor's present condition is the result of a number of factors, including damage that occurred at the time of sinking, natural degradation of material that has resulted from more than a century and a half of immersion in seawater, and damage from human activities, including recovery activities.

Major recovery work began with the propeller and a segment of the propeller shaft, which were recovered with assistance from the U.S. Navy in 1998. In 2000, NOAA and the Navy installed mechanical shoring under the raised portions of the port side of the wreck. In 2001, the steam machinery and associated components were removed from the wreck, and in 2002, the vessels' rotating gun turret and its contents were successfully brought to the surface.

Since the turret recovery in 2002, NOAA has continued to study the site. Areas of wood that were exposed during the large item recovery expeditions (1998-2002) have led to degradation of the wood components that were exposed during those expeditions. In more recent years, surveys on the site have revealed the additional loss of deck plating at the stern.

During a 2011 NOAA expedition to the site, researchers observed a build-up of modern marine debris; however, earlier accelerated deterioration of the site from recovery activities appears to have slowed. Over the years, the wreck has become covered in fishing line, monofilament, cables, and other types of fishing gear and marine debris. Some of this debris is the direct result of fishing activities on the wreck, while other material has drifted onto the wreck in the form of derelict fishing gear. Although some damage to the wreck has been attributed to fishing gear, either derelict or intentional, the primary source of most of the observable change to *Monitor*'s hull is the result of natural corrosion processes and NOAA's recovery efforts.

It is clear that while natural and man-made processes will continue to affect the site, the site remains a valuable repository of significant archaeological information and historical material for the foreseeable future. Furthermore, the site is considered a gravesite and is listed as a National Historic Landmark.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1. Alternative 1 - No action

Under this alternative, the goals and objectives of the 1983 MNMS Management Plan would remain in place and unchanged. While the revision of a management plan does not, in itself, enable the implementation of any particular strategy or activity, without the revision, the potential beneficial effects from the implementation of the revised management plan may not be realized because the overall management model would continue to be outmoded.

4.1.1. Biological and Physical Environments

The 1983 management plan does not reflect current archaeological preservation approaches that promote *in-situ* preservation and consequently provide more stability for the associated natural habitat, such as visibility and biological organisms. Under this alternative, current activities described in the 1983 plan would continue and could include additional recovery activities which would disrupt the bottom. Enhanced stability for the natural habitat associated with preservation of the *Monitor* wreck in place may not be realized. This would result in negative, but not significant impact to visibility and biological organisms since the area surrounding the site of the wreck is small. No impacts are expected on currents and wind patterns, which exist on a scale so broad that the disturbance of an artifact on the seafloor cannot affect them.

4.1.2 Socioeconomic Environment

As described in the Affected Environment section, tourism benefits slightly from the presence of the MNMS. The no-action alternative would promote the status quo, which has shown beneficial but not significant effects on the tourism in the area with *Monitor*-related attendance at museums. Coastal communities and recreational fishing would remain unaffected by the management of the MNMS under the previous management plan regime.

4.1.3 Maritime Heritage and Cultural Environment

The 1983 management plan does not reflect current archaeological preservation approaches that promote *in-situ* preservation. Under this alternative, current activities described in the 1983 plan would continue and could include additional recovery activities, which could lead to further deterioration of the site. The existing monitoring and education programing could have beneficial but not significant effects for maritime heritage and cultural resources. However, there would be less beneficial effects than those resulting from alternative 2 (preferred alternative) because the management regime would not be following the most current archaeological preservation approaches and the strategies and activities in the 1983 management plan would not address emerging issues, such as the *Monitor* sailors remains.

4.2. Alternative 2 - Proposed action

Alternative 2 includes several types of activities. Administrative activities con- ducted within existing facilities, such as consultations, outreach, administrative frameworks, development of plans and guidelines, and data analysis would have little to no potential to significantly affect the quality of the human environment according to NEPA standards. Management strategies and activities that may affect the environment are analyzed below. And as part of the Boundary Expansion Action Plan, NOAA commits to conducting an analysis of the effects of potential sanctuary expansion on the natural and human environment with the benefit of a full public process.

4.2.1 Biological and Physical Environment

Two action plans proposed in the revised *Monitor* Sanctuary Management Plan have objectives that would be relevant to affecting changes in the biological and physical environment. They are the Resource Protection and Resource Monitoring action plans.

The Resource Protection action plan would reflect current archaeological preservation approaches that promote in-situ preservation and consequently provide more stability for the associated natural habitat, such as visibility and biological organisms. This would result in enhanced stability of the natural habitat, and therefore beneficial but not significant impact to visibility and biological organisms since the area surrounding the site of the wreck is small. No impacts are expected on currents and wind patterns, which exist on a scale so broad that the disturbance of an artifact on the seafloor cannot affect them.

The Resource Protection action plan also has more emphasis on safe and responsible diving at the wreck site. Well- informed and responsible diving at the wreck site would result in beneficial but not significant impacts on the natural resources surrounding the wreck because divers would be more aware of their environment and how to engage in low-impact diving. Lastly, this action plan would result in increased protection of resources through interagency cooperation in management, including enforcement. This would result in beneficial but not significant effects on the biological and physical environment.

The Resource Monitoring action plan would add an emphasis on monitoring of natural processes (including ocean acidification). The new management plan establishes and promotes the sanctuary as an ocean observing station due to its unique location within an important area for biological productivity and climate change. While monitoring itself is not expected to have an impact on the biological and physical environment, increasing the body of knowledge of the ecosystem surrounding the wreck of the Monitor could result in a small beneficial effect because of better management decisions in the future as result of better knowledge about the environment.

As compared to the No Action alternative, the revised management plan places a new emphasis on the biological and physical environment rather than the narrow focus of protecting archaeological resources. Taken together, NOAA expects that the strategies and activities included in the revised management plan would have beneficial environmental effects to the biological and physical environment both directly by increasing protection of resources through *in situ* preservation of the site and interagency cooperation in management, including enforcement, and indirectly by increasing research and monitoring of the biological environment. These strategies and activities would result in improved information for management decisions and increased conservation and stewardship behaviors, respectively.

4.2.2 Socioeconomic Environment

Four action plans proposed in the revised *Monitor* Sanctuary Management Plan have objectives that would be relevant to affecting changes in the socioeconomic environment. They are the Resource Protection, Education, *Monitor* Sailors, and Conservation action plans.

The Resource Protection action plan encourages public access to the wreck site, while promoting safe, responsible, and well-informed enjoyment of sanctuary resources. It also enhances public awareness of sanctuary regulations and the permitting process.

The Education and Outreach action plan builds an education and outreach program that complements and promotes sanctuary resource protection and historical, climatological, and ecological research programs. It increases ocean and climate literacy among local, regional, and national audiences; and targets user groups and underrepresented audiences for participation in sanctuary programs.

The Monitor Sailors action plan enhances public education and awareness of personal stories and social history associated with human remains encountered within the sanctuary.

The Conservation action plan promotes working with The Mariners' Museum to establish additional outside partnerships for USS *Monitor* artifact conservation. This is expected to include the scientific, engineering, and mechanical communities. The action plan also maps out close collaboration with museum conservation staff to increase the public visibility, knowledge, and support for the conservation of USS *Monitor* artifacts.

The proposed action would benefit the socioeconomic environment because the revised management plan focuses on increasing public visibility of the sanctuary through improved museum and artifact conservation partnerships, enhanced education and outreach programs, and promoting recreational diving at the wreck site. This enhanced attention to *Monitor* would increase cultural heritage tourism in North Carolina and Virginia. The 1983 management plan did not focus on engaging the public through public process, nor was it consistent with the new Office of National Marine Sanctuaries standards for management plans. With the new management plan, more emphasis is given to public process, which in turn increases visibility of the MNMS in the eyes of the public and offers a larger audience for education and outreach efforts. In particular, the inclusion of a sanctuary expansion action plan has already generated a broader audience, even though NOAA will not begin the public scoping specifically for sanctuary expansion until after the publication of the new management plan. The *Monitor* Sailors action plan as well provides a new platform for increased interest by the public.

Benefits to cultural heritage tourism would be accomplished through financial, exhibit, artifact, and program support to The Mariners' Museum in Newport News, Va., and the Graveyard of the Atlantic Museum in Hatteras, N.C. These facilities are important to the economic health of their respective local coastal communities. These facilities provide jobs and support local businesses. Education and outreach efforts (identified in the management plan under the Education and Outreach and *Monitor* Sailors action plans) would support greater awareness of heritage resources and the sanctuary system. Increased public awareness and knowledge would enhance the public's tourism experience and may result in improved conservation and stewardship behaviors. Additionally, promoting ocean and climate literacy may help local communities better understand their connection to coastal and marine resources and how to adapt to climate change influences, such as sea-level rise, to aid in long-term coastal planning.

The Resource Protection Action Plan would encourage public access to the wreck site while promoting safe, responsible, and well-informed enjoyment of sanctuary resources. This is expected to have a beneficial effect on the socioeconomic environment.

The proposed action to revise the management plan would result in positive environmental effects, yet the impacts are not expected to be significant because the benefits of Monitor to the local communities in North Carolina and Virginia are already established. As a result, the beneficial effects would not meet the threshold for significance under NEPA standards.

4.2.3 Maritime Heritage and Cultural Environment

Six actions plans proposed in the revised *Monitor* Sanctuary Management Plan have objectives that would be relevant to affecting changes in the maritime heritage and cultural environment. They are the Resource Protection, Education, Archaeological Research, Resource Monitoring, *Monitor* Sailors, and Conservation action plans.

The Resource Protection action plan encourages public access to the wreck site, while promoting safe, responsible, and well-informed enjoyment of sanctuary resources. It also enhances public awareness of sanctuary regulations and the permitting process; ensures compliance with sanctuary regulations through education, monitoring, and enforcement, including the continued partnership with the U.S. Coast Guard for surveillance of the site and enforcement of sanctuary regulations, and work to increase ONMS presence on the water. Lastly, it ensures continued refinement of the access and permitting provisions of the *Monitor* management plan, based upon site conditions.

The Education action plan builds an education and outreach program that complements and promotes sanctuary resource protection and historical, climatological, and ecological research programs.

The Archaeological Research action plan calls for characterization of the sanctuary's maritime heritage resources and scientific monitoring of the sanctuary's maritime heritage resources to better understand existing and potential threats. Lastly, it aims to develop and encourage collaborative research programs to meet the Monitor National Marine Sanctuary's on-going management needs.

The Resource Monitoring action plan establishes and maintains a monitoring and research program to recognize, document, and track changes in the structural integrity of USS *Monitor* and associated artifacts.

The *Monitor* Sailors action plan directs NOAA to pursue positive identification of known human remains and any additional human remains encountered within the sanctuary; make recommendations to the U.S. Navy concerning the final disposition of human remains and personal effects; follow established parameters for the care, conservation, portrayal, and display of human remains and personal effects prior to final disposition; and enhance public education and awareness of personal stories and social history associated with human remains encountered within the sanctuary.

The Conservation action plan identifies additional funds to support existing federal dollars allocated towards the conservation of USS *Monitor* archaeological materials; and supports efforts of The Mariners' Museum to increase its levels of funding for the conservation of USS *Monitor* archaeological artifacts.

It also directs NOAA to work with The Mariners' Museum to establish additional outside partnerships for USS *Monitor* artifact conservation. This is expected to include the scientific, engineering, and mechanical communities. It will identify other conservation facilities and conservators to explore new techniques

that might be applicable to the treatment of USS *Monitor* artifacts; and collaborate closely with museum conservation staff to increase the public visibility, knowledge, and support for the conservation efforts on USS *Monitor* artifacts.

The proposed action would be beneficial to the maritime heritage and cultural environment of the *Monitor* and the sanctuary because it would enhance the protection and management of this national historic treasure and its artifacts by updating the management regime to shift from an artifact recovery model to an *in situ* preservation model. In addition, promoting safe and responsible diving would decrease the chance of resource damage by divers. The work done on the remains of the *Monitor* sailors will provide useful experience in following appropriate parameters for the care, conservation and display of human remains. The existing management plan is over 20 years old and reflects an outdated management approach based on recovery of artifacts from the shipwreck. The proposed management plan is based on an *in situ* model of preservation, which views the shipwreck as part of the environment and assures the least impact on the site and the surrounding environment. The proposed strategies and activities would be beneficial to the maritime heritage and cultural resources of MNMS because they would update the research, monitoring, management, and educational programs to reflect this new management model, which is more appropriate for the current issues facing the preservation and management of the sanctuary. The revised management plan would lead to greater protection and improved management of the wreck site and its artifacts. The effects of this action are not expected to be significant, according to the standards established under NEPA, because many artifacts have been recovered and are under protection, and the sanctuary has already promulgated regulations that further protect the site.

4.3. Cumulative Impacts

Activities to manage the sanctuary as proposed in the revised management plan generally result in beneficial effects to the biological, physical, socioeconomic and maritime heritage and cultural environment. No adverse effects of adopting the revised management plan have been identified. However, the positive impacts do not meet the NEPA threshold for significance because the activities would primarily provide incremental additional resource protection to the remains of a historic shipwreck and a small area of the ocean floor surrounding it. Most artifacts of the shipwreck have already been recovered and are being preserved in museum collections.

The beneficial effects considered together with the many natural and human-induced stressors to sanctuary resources do not result in a cumulative impact to the resources. Existing and future natural and human-induced stressors may somewhat lower the beneficial effects of implementing the proposed action. Such stressors include, for example: impacts of climate change, such as increased water temperatures and ocean acidification; major natural disasters, such as hurricanes; and major anthropogenic damage, such as oil spills and overfishing. The outcome of these external stressors is not expected to be altered by the implementation of the proposed action. This is because at a programmatic level, no single activity, when

taken in consideration with others, would have significant beneficial or negative impacts on any individual or combined resource. Therefore, cumulative impacts of this action are not considered significant under the NEPA.

4.4. Conclusion

It is anticipated that the PEA on the revised management plan for MNMS would have no significant impact on the human environment. Accordingly, no environmental impact statement has been prepared for the action of adopting the revised management plan. None of the currently-planned actions in the management plan are expected to have a significant impact. For consideration of future activities not analyzed in this document, such as the impacts of a potential expansion of the sanctuary, NOAA would undertake a separate public process under NEPA and analyze the potential for significant effects of that action and its alternatives in a future environmental assessment or environmental impact statement, as necessary, in the future.

4.5 FINDING OF NO SIGNIFICANT IMPACT

The Council on Environmental Quality (CEQ) Regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity, and lists ten criteria for intensity (40 CFR 1508.27). In addition, the National Oceanic and Atmospheric Administration Administrative Order (NAO) 216-6 Section 6.01b.1-11 provides eleven criteria, the same ten as the CEQ Regulations and one additional, for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action and considered individually as well as in combination with the others.

1. Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?

No. Activities to manage the sanctuary as described in the final management plan, considered together with the many natural and human-induced stressors to sanctuary resources generally result in a cumulative beneficial impact to these resources. Positive impacts of the proposed action include, but are not limited to increased awareness of the National Marine Sanctuary System; greater resource protection through education and outreach; increased archaeological and environmental knowledge for the public and to augment society's level of knowledge as a whole; and enhanced monitoring of the waters and environs surrounding the sanctuary. However, the positive impacts do not meet the NEPA threshold for significance because the activities are limited to education, increased knowledge, and monitoring of resources, none of which are having a direct or indirect impact on the environment. Therefore, the combined effects of all activities are not expected to be significant.

2. Can the proposed action reasonably be expected to significantly affect public health or safety?

No. The proposed action resulting in a revised MNMS management plan has no impact on either public health or safety because none of the activities planned would affect water quality or human access or use of the sanctuary. The only perceived risk would be to that of divers at the site and the proposed action has no impact on that activity.

3. Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?

No. The proposed action will update existing non-regulatory programs, call for new programs to be developed, revise the MNMS management plan, lay out performance measures to better evaluate the effectiveness of sanctuary management, and lay groundwork for potential future regulatory actions to address high priority issues. The proposed action strengthens the management of *Monitor* but does not constitute significant impacts to the unique characteristics of the site.

4. Are the proposed action's effects on the quality of the human environment likely to be highly controversial?

No. The proposed action, including administrative activities conducted within existing facilities such as consultations, outreach, administrative frameworks, development of plans and guidelines, and data analysis would have little to no potential to significantly affect the quality of the human environment according to NEPA standards, nor be controversial.

5. Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

No. The proposed action's effects on the human environment are neither highly uncertain or involve unique or unknown risks. NOAA is only modifying and updating existing management practices for which it has extensive experience; therefore, the potential for uncertain effects is very low.

6. Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

The proposed action does not establish any significant changes to existing management, nor suggest any regulatory changes to activities. Future activities from the revised management plan enhance the protection and management of Monitor but these revisions do not constitute any significant effects because NOAA is making minor modifications and updating existing management practices and not taking any new type of action which could be construed as a precedent for future actions.

7. Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?

No. No adverse effects of adopting the revised management plan have been identified. However, the minor beneficial impacts do not meet the NEPA threshold for significance because the activities would primarily provide incremental additional resource protection to the remains of a single historic shipwreck and a small area of the ocean floor surrounding it. The beneficial effects considered together with the many natural and human-induced stressors to sanctuary resources do not result in a cumulative impact to the resources. Such stressors include, for example: impacts of climate change, such as increased water temperatures and ocean acidification; major natural disasters, such as hurricanes; and major anthropogenic damage, such as oil spills and overfishing. Existing and future natural and human-induced stressors may somewhat lower the beneficial effects of implementing the proposed action. The outcome of these external stressors is not expected to be altered by the implementation of the proposed action. At a programmatic level, no single activity described in this management plan, when taken in consideration with others such as the stressors mentioned above, would have significant beneficial or negative impacts on any individual or combined resource. Therefore, cumulative impacts of this action are not considered significant under the NEPA.

8. Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?

No. The proposed action will not adversely affect any districts, sites, highways, structures or objects listed in or eligible for listing in the National Register of Historic Places, nor cause loss or destruction of any significant scientific, cultural, or historical resources. In fact, the proposed action will provide minor improvements to the protection and management of the *Monitor* and its artifacts, which are historic treasures of great value to the nation.

9. Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?

No. The proposed action is likely to have beneficial environmental effects by increasing protection of the resources through interagency cooperation in research and management and by reaching more people and expanding the stewardship message of the sanctuary. The new management plan includes an emphasis on monitoring the biological environment and habitat surrounding the wreck of the USS *Monitor*, which has the potential beneficial environmental effects by providing improved environmental data to sanctuary managers for future actions. This monitoring along with management plan activities is not expected to have significant impacts on living organisms, such as any endangered species. Therefore, the proposed action will not significantly impact endangered or threatened species as defined under the Endangered Species Act of 1973.

10. Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?

No. The proposed action is likely to have minor beneficial environmental effects by increasing protection of the resources through interagency cooperation in research and management and by reaching more people and expanding the stewardship message of the sanctuary. Therefore, the proposed action does not threaten any local, state or Federal law or requirement imposed for environmental protection, including those associated with the Coastal Zone Management Act, the Clean Water Act, or the Magnuson-Stevens Fishery Conservation and Management Act.

11. Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?

No. There are no expectations that the proposed action will result in the introduction or spread of any non-indigenous species because no activities presented in the management plan involve the physical movement of non-indigenous species by boat or any other means.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for Monitor National Marine Sanctuary, it is hereby determined that the Monitor National Marine Sanctuary Management Plan will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an environmental impact statement for this action is not necessary.

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Ocean Services and Coastal Zone Management

2/4/13
Date

5.0 LIST OF PREPARERS

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5.2. Literature Cited

Dixon, R., Biology of the USS *Monitor*, NOAA Center for Coastal Fisheries and Habitat Research, Beaufort, NC, 1990.

Appendices

Appendix A: National Marine Sanctuaries Act

16 U.S.C. 1431 et seq., as amended

Sec. 301 [16 U.S.C. 1431]. FINDINGS, PURPOSES, AND POLICIES; ESTABLISHMENT OF SYSTEM

(a) FINDINGS. --The Congress finds that--

(1) this Nation historically has recognized the importance of protecting special areas of its public domain, but these efforts have been directed almost exclusively to land areas above the high-water mark;

(2) certain areas of the marine environment possess conservation, recreational, ecological, historical, scientific, educational, cultural, archaeological, or esthetic qualities which give them special national, and in some instances, international, significance;

(3) while the need to control the effects of particular activities has led to enactment of resource-specific legislation, these laws cannot in all cases provide a coordinated and comprehensive approach to the conservation and management of special areas of the marine environment; and

(4) a Federal program which establishes areas of the marine environment which have special conservation, recreational, ecological, historical, cultural, archaeological, scientific, educational, or esthetic qualities as national marine sanctuaries managed as the National Marine Sanctuary System will-

(A) improve the conservation, understanding, management, and wise and sustainable use of marine resources;

(B) enhance public awareness, understanding, and appreciation of the marine environment; and

(C) maintain for future generations the habitat, and ecological services, of the natural assemblage of living resources that inhabit these areas.

(b) PURPOSES AND POLICIES.--The purposes and policies of this chapter are--

(1) to identify and designate as national marine sanctuaries areas of the marine environment which are of special national significance and to manage these areas as the National Marine Sanctuary System;

(2) to provide authority for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities;

(3) to maintain the natural biological communities in the national marine sanctuaries, and to protect, and, where appropriate, restore and enhance natural habitats, populations, and ecological processes;

(4) to enhance public awareness, understanding, appreciation, and wise and sustainable use of the marine environment, and the natural, historical, cultural, and archaeological resources of the National Marine Sanctuary System;

(5) to support, promote, and coordinate scientific research on, and long-term monitoring of, the resources of these marine areas;

(6) to facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities;

(7) to develop and implement coordinated plans for the protection and management of these areas with appropriate Federal agencies, State and local governments, Native American tribes and organizations, international organizations, and other public and private interests concerned with the continuing health and resilience of these marine areas;

(8) to create models of, and incentives for, ways to conserve and manage these areas, including the application of innovative management techniques; and

(9) to cooperate with global programs encouraging conservation of marine resources.

(c) ESTABLISHMENT OF SYSTEM.-There is established the National Marine Sanctuary System, which shall consist of national marine sanctuaries designated by the Secretary in accordance with this chapter.

Sec. 302 [16 U.S.C. 1432]. DEFINITIONS

As used in this chapter, the term--

(1) "draft management plan" means the plan described in section 304(a)(1)(C)(v) of this title;

(2) "Magnuson-Stevens Act" means the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.);

(3) "marine environment" means those areas of coastal and ocean waters, the Great Lakes and their connecting waters, and submerged lands over which the United States exercises jurisdiction, including the exclusive economic zone, consistent with international law;

(4) “Secretary” means the Secretary of Commerce;

(5) “State” means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, the Virgin Islands, Guam, and any other commonwealth, territory, or possession of the United States;

(6) “damages” includes--

(A) compensation for--

(i)(I) the cost of replacing, restoring, or acquiring the equivalent of a sanctuary resource; and (II) the value of the lost use of a sanctuary resource pending its restoration or replacement or the acquisition of an equivalent sanctuary resource; or

(ii) the value of a sanctuary resource if the sanctuary resource cannot be restored or replaced or if the equivalent of such resource cannot be acquired;

(B) the cost of damage assessments under section 312(b)(2) of this title;

(C) the reasonable cost of monitoring appropriate to the injured, restored, or replaced resources;

(D) the cost of curation and conservation of archaeological, historical, and cultural sanctuary resources; and

(E) the cost of enforcement actions undertaken by the Secretary in response to the destruction or loss of, or injury to, a sanctuary resource;

(7) “response costs” means the costs of actions taken or authorized by the Secretary to minimize destruction or loss of, or injury to, sanctuary resources, or to minimize the imminent risks of such destruction, loss, or injury, including costs related to seizure forfeiture, storage, or disposal arising from liability under section 312 of this title;

(8) “sanctuary resource” means any living or nonliving resource of a national marine sanctuary that contributes to the conservation, recreational, ecological, historical, educational, cultural, archaeological, scientific, or aesthetic value of the sanctuary;

(9) “exclusive economic zone” means the exclusive economic zone as defined in the Magnuson-Stevens Act; and

(10) ‘System’ means the National Marine Sanctuary System established by section 301 of this title.

Sec. 303 [16 U.S.C. 1433]. SANCTUARY DESIGNATION STANDARDS

(a) STANDARDS.--The Secretary may designate any discrete area of the marine environment as a national marine sanctuary and promulgate regulations implementing the designation if the Secretary determines that--

(1) the designation will fulfill the purposes and policies of this title;

(2) the area is of special national significance due to-

(A) its conservation, recreational, ecological, historical, scientific, cultural, archaeological, educational, or esthetic qualities;

(B) the communities of living marine resources it harbors; or

(C) its resource or human-use values;

(3) existing State and Federal authorities are inadequate or should be supplemented to ensure coordinated and comprehensive conservation and management of the area, including resource protection, scientific research, and public education;

(4) designation of the area as a national marine sanctuary will facilitate the objectives in subparagraph (3); and

(5) the area is of a size and nature that will permit comprehensive and coordinated conservation and management.

(b) FACTORS AND CONSULTATIONS REQUIRED IN MAKING DETERMINATIONS AND FINDINGS.--

(1) Factors.--For purposes of determining if an area of the marine environment meets the standards set forth in subsection (a) of this section, the Secretary shall consider--

(A) the area's natural resource and ecological qualities, including its contribution to biological productivity, maintenance of ecosystem structure, maintenance of ecologically or commercially important or threatened species or species assemblages, maintenance of critical habitat of endangered species, and the biogeographic representation of the site;

(B) the area's historical, cultural, archaeological, or paleontological significance;

(C) the present and potential uses of the area that depend on maintenance of the area's resources, including

commercial and recreational fishing, subsistence uses other commercial and recreational activities, and research and education;

(D) the present and potential activities that may adversely affect the factors identified in subparagraphs (A), (B), and (C);

(E) the existing State and Federal regulatory and management authorities applicable to the area and the adequacy of those authorities to fulfill the purposes and policies of this chapter;

(F) the manageability of the area, including such factors as its size, its ability to be identified as a discrete ecological unit with definable boundaries, its accessibility, and its suitability for monitoring and enforcement activities;

(G) the public benefits to be derived from sanctuary status, with emphasis on the benefits of long-term protection of nationally significant resources, vital habitats, and resources which generate tourism;

(H) the negative impacts produced by management restrictions on income- generating activities such as living and nonliving resources development;

(I) the socioeconomic effects of sanctuary designation;

(J) the area's scientific value and value for monitoring the resources and natural processes that occur there;

(K) the feasibility, where appropriate, of employing innovative management approaches to protect sanctuary resources or to manage compatible uses; and

(L) the value of the area as an addition to the System.

(2) Consultation.--In making determinations and findings, the Secretary shall consult with--

(A) the Committee on Resources of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate;

(B) the Secretaries of State, Defense, Transportation, and the Interior, the Administrator, and the heads of other interested Federal agencies;

(C) the responsible officials or relevant agency heads of the appropriate State and local government entities, including coastal zone management agencies, that will or are likely to be affected by the establishment of the area as a national marine sanctuary;

(D) the appropriate officials of any Regional Fishery Management Council established by section 302 of the Magnuson-Stevens Act (16 U.S.C. 1852) that may be affected by the proposed designation; and

(E) other interested persons.

Sec. 304 [16 U.S.C. 1434]. PROCEDURES FOR DESIGNATION AND IMPLEMENTATION

(a) SANCTUARY PROPOSAL.--

(1) Notice.--In proposing to designate a national marine sanctuary, the Secretary shall--

(A) issue, in the Federal Register, a notice of the proposal, proposed regulations that may be necessary and reasonable to implement the proposal, and a summary of the draft management plan;

(B) provide notice of the proposal in newspapers of general circulation or electronic media in the communities that may be affected by the proposal; and

(C) no later than the day on which the notice required under subparagraph (A) is submitted to Office of the Federal Register, submit a copy of that notice and the draft sanctuary designation documents prepared pursuant to paragraph (2),, including an executive summary, to the Committee on Resources of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Governor of each State in which any part of the proposed sanctuary would be located.

(2) Sanctuary designation documents.- The Secretary shall prepare and make available to the public sanctuary designation documents on the proposal that include the following:

(A) A draft environmental impact statement pursuant to the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.).

(B) A resource assessment that documents-

(i) present and potential uses of the area, including commercial and recreational fishing, research and education, minerals and energy development, subsistence uses, and other commercial, governmental, or recreational uses;

(ii) after consultation with the Secretary of the Interior, any commercial, governmental, or recreational resource uses in the areas that are subject to the primary jurisdiction of the Department of the Interior; and

(iii) information prepared in consultation with the Secretary of Defense, the Secretary of Energy, and the Administrator of the Environmental Protection Agency, on any past, present, or proposed future disposal or discharge of materials in the vicinity of the proposed sanctuary. Public disclosure by the Secretary of such information shall be consistent with national security regulations.

(C) A draft management plan for the proposed national marine sanctuary that includes the following:

(i) The terms of the proposed designation.

(ii) Proposed mechanisms to coordinate existing regulatory and management authorities within the area.

(iii) The proposed goals and objectives, management responsibilities, resource studies, and appropriate strategies for managing sanctuary resources of the proposed sanctuary, including interpretation and education, innovative management strategies, research, monitoring and assessment, resource protection, restoration, enforcement, and surveillance activities.

(iv) An evaluation of the advantages of cooperative State and Federal management if all or part of the proposed sanctuary is within the territorial limits of any State or is superjacent to the subsoil and seabed within the seaward boundary of a State, as that boundary is established under the Submerged Lands Act (43 U.S.C. 1301 et seq.).

(v) An estimate of the annual cost to the Federal Government of the proposed designation, including costs of personnel, equipment and facilities, enforcement, research, and public education.

(vi) The proposed regulations referred to in paragraph (1)(A).

(D) Maps depicting the boundaries of the proposed sanctuary.

(E) The basis for the determinations made under section 303(a) of this title with respect to the area.

(F) An assessment of the considerations under section 303(b)(1) of this title.

(3) Public hearing.--No sooner than thirty days after issuing a notice under this subsection, the Secretary shall hold at least one public hearing in the coastal area or areas that will be most affected by the proposed designation of the area as a national marine sanctuary for the purpose of receiving the views of interested parties.

(4) Terms of designation.--The terms of designation of a sanctuary shall include the geographic area proposed to be included within the sanctuary, the characteristics of the area that give it conservation, recreational, ecological, historical, research, educational, or esthetic value, and the types of activities that

will be subject to regulation by the Secretary to protect those characteristics. The terms of designation may be modified only by the same procedures by which the original designation is made.

(5) Fishing regulations.--The Secretary shall provide the appropriate Regional Fishery Management Council with the opportunity to prepare draft regulations for fishing within the Exclusive Economic Zone as the Council may deem necessary to implement the proposed designation. Draft regulations prepared by the Council, or a Council determination that regulations are not necessary pursuant to this paragraph, shall be accepted and issued as proposed regulations by the Secretary unless the Secretary finds that the Council's action fails to fulfill the purposes and policies of this title and the goals and objectives of the proposed designation. In preparing the draft regulations, a Regional Fishery Management Council shall use as guidance the national standards of section 301(a) of the Magnuson-Stevens Act (16 U.S.C. 1851) to the extent that the standards are consistent and compatible with the goals and objectives of the proposed designation. The Secretary shall prepare the fishing regulations, if the Council declines to make a determination with respect to the need for regulations, makes a determination which is rejected by the Secretary, or fails to prepare the draft regulations in a timely manner. Any amendments to the fishing regulations shall be drafted, approved, and issued in the same manner as the original regulations. The Secretary shall also cooperate with other appropriate fishery management authorities with rights or responsibilities within a proposed sanctuary at the earliest practicable stage in drafting any sanctuary fishing regulations.

(6) Committee Action.--After receiving the documents under subsection (a)(l)(C) of this section, the Committee on Resources of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate may each hold hearings on the proposed designation and on the matters set forth in the documents. If within the forty-five day period of continuous session of Congress beginning on the date of submission of the documents, either Committee issues a report concerning matters addressed in the documents, the Secretary shall consider this report before publishing a notice to designate the national marine sanctuary.

(b) TAKING EFFECT OF DESIGNATIONS.--

(1) Notice.--In designating a national marine sanctuary, the Secretary shall publish in the Federal Register notice of the designation together with final regulations to implement the designation and any other matters required by law, and submit such notice to the Congress. The Secretary shall advise the public of the availability of the final management plan and the final environmental impact statement with respect to such sanctuary. The Secretary shall issue a notice of designation with respect to a proposed national marine sanctuary site not later than 30 months after the date a notice declaring the site to be an active candidate for sanctuary designation is published in the Federal Register under regulations issued under this Act, or shall publish not later than such date in the Federal Register findings regarding why such notice has not been published. No notice of designation may occur until the expiration of the period for Committee action under subsection (a)(6) of this section. The designation (and any of its terms not disapproved under this subsection) and regulations shall take effect and become final after the close of a review period of forty-five days of continu-

ous session of Congress beginning on the day on which such notice is published unless in the case of a national marine sanctuary that is located partially or entirely within the seaward boundary of any State, the Governor affected certifies to the Secretary that the designation or any of its terms is unacceptable, in which case the designation or the unacceptable term shall not take effect in the area of the sanctuary lying within the seaward boundary of the State.

(2) Withdrawal of designation.-- If the Secretary considers that actions taken under paragraph (1) will affect the designation of a national marine sanctuary in a manner that the goals and objectives of the sanctuary or System cannot be fulfilled, the Secretary may withdraw the entire designation. If the Secretary does not withdraw the designation, only those terms of the designation or not certified under paragraph (1) shall take effect.

(3) Procedures.-- In computing the forty-five-day periods of continuous session of Congress pursuant to subsection (a)(6) of this section and paragraph (1) of this subsection--

(A) continuity of session is broken only by an adjournment of Congress sine die; and

(B) the days on which either House of Congress is not in session because of an adjournment of more than three days to a day certain are excluded.

(c) ACCESS AND VALID RIGHTS.—

(1) Nothing in this title shall be construed as terminating or granting to the Secretary the right to terminate any valid lease, permit, license, or right of subsistence use or of access that is in existence on the date of designation of any national marine sanctuary.

(2) The exercise of a lease, permit, license, or right is subject to regulation by the Secretary consistent with the purposes for which the sanctuary is designated.

(d) INTERAGENCY COOPERATION.--

(1) Review of Agency Actions.--

(A) In General.--Federal agency actions internal or external to a national marine sanctuary, including private activities authorized by licenses, leases, or permits, that are likely to destroy, cause the loss of, or injure any sanctuary resource are subject to consultation with the Secretary.

(B) Agency Statements Required.-- Subject to any regulations the Secretary may establish each Federal agency proposing an action described in subparagraph (A) shall provide the Secretary with a written statement describing the action and its potential effects on sanctuary resources at the earliest practicable time,

but in no case later than 45 days before the final approval of the action unless such Federal agency and the Secretary agree to a different schedule.

(2) Secretary's recommended alternatives.--If the Secretary finds that a Federal agency action is likely to destroy, cause the loss of, or injure a sanctuary resource, the Secretary shall (within 45 days of receipt of complete information on the proposed agency action) recommend reasonable and prudent alternatives, which may include conduct of the action elsewhere, which can be taken by the Federal agency in implementing the agency action that will protect sanctuary resources.

(3) Response to recommendations.--The agency head who receives the Secretary's recommended alternatives under paragraph (2) shall promptly consult with the Secretary on the alternatives. If the agency head decides not to follow the alternatives, the agency head shall provide the Secretary with a written statement explaining the reasons for that decision.

(4) Failure to follow alternative.- If the head of a Federal agency takes an action other than an alternative recommended by the Secretary and such action results in the destruction of, loss of, or injury to a sanctuary resource, the head of the agency shall promptly prevent and mitigate further damage and restore or replace the sanctuary resource in a manner approved by the Secretary.

(e) REVIEW OF MANAGEMENT PLANS.--Not more than 5 years after the date of designation of any national marine sanctuary, and thereafter at intervals not exceeding 5 years, the Secretary shall evaluate the substantive progress toward implementing the management plan and goals for the sanctuary, especially the effectiveness of site-specific management techniques and strategies, and shall revise the management plan and regulations as necessary to fulfill the purposes and policies of this chapter. This review shall include a prioritization of management objectives.

(f) LIMITATION ON DESIGNATION OF NEW SANCTUARIES.-

(1) FINDING REQUIRED.- The Secretary may not publish in the Federal Register any sanctuary designation notice or regulations proposing to designate a new sanctuary, unless the Secretary has published a finding that--

(A) the addition of a new sanctuary will not have a negative impact on the System; and

(B) sufficient resources were available in the fiscal year in which the finding is made to--

(i) effectively implement sanctuary management plans for each sanctuary in the System; and

(ii) complete site characterization studies and inventory known sanctuary resources, including cultural

resources, for each sanctuary in the System within 10 years after the date that the finding is made if the resources available for those activities are maintained at the same level for each fiscal year in that 10 year period.

(2) DEADLINE- If the Secretary does not submit the findings required by paragraph (1) before February 1, 2004, the Secretary shall submit to the Congress before October 1, 2004, a finding with respect to whether the requirements of subparagraphs (A) and (B) of paragraph 1 have been met by all existing sanctuaries.

(3) LIMITATION ON APPLICATION- Paragraph (1) does not apply to any sanctuary designation documents for--

(A) a Thunder Bay National Marine Sanctuary; or

(B) a Northwestern Hawaiian Islands National Marine Sanctuary.

Sec. 305 [16 U.S.C. 1435]. APPLICATION OF REGULATIONS; AND INTERNATIONAL NEGOTIATIONS AND COOPERATION

(a) REGULATIONS.--This title and the regulations issued under section 304 shall be applied in accordance with generally recognized principles of international law, and in accordance with the treaties, conventions, and other agreements to which the United States is a party. No regulation shall apply to or be enforced against a person who is not a citizen, national, or resident alien of the United States, unless in accordance with--

(1) generally recognized principles of international law;

(2) an agreement between the United States and the foreign state of which the person is a citizen; or

(3) an agreement between the United States and the flag state of a foreign vessel, if the person is a crewmember of the vessel.

(b) NEGOTIATIONS.--The Secretary of State, in consultation with the Secretary, shall take appropriate action to enter into negotiations with other governments to make necessary arrangements for the protection of any national marine sanctuary and to promote the purposes for which the sanctuary is established.

(c) INTERNATIONAL COOPERATION.--The Secretary, in consultation with the Secretary of State and other appropriate Federal agencies, shall cooperate with other governments and international organizations in the furtherance of the purposes and policies of this title and consistent with applicable regional and multilateral arrangements for the protection and management of special marine areas.

Sec. 306 [16 U.S.C. 1436]. PROHIBITED ACTIVITIES

It is unlawful for any person to--

(1) destroy, cause the loss of, or injure any sanctuary resource managed under law or regulations for that sanctuary;

(2) possess, sell, offer for sale, purchase, import, export, deliver, carry, transport, or ship by any means any sanctuary resource taken in violation of this section;

(3) interfere with the enforcement of this title by--

(A) refusing to permit any officer authorized to enforce this title to board a vessel, other than a vessel operated by the Department of Defense or United States Coast Guard, subject to such person's control for the purposes of conducting any search or inspection in connection with the enforcement of this chapter;

(B) resisting, opposing, impeding, intimidating, harassing, bribing, interfering with, or forcibly assaulting any person authorized by the Secretary to implement this title or any such authorized officer in the conduct of any search or inspection performed under this chapter; or

(C) knowingly and willfully submitting false information to the Secretary or any officer authorized to enforce this title in connection with any search or inspection conducted under this chapter; or

(4) violate any provision of this title or any regulation or permit issued pursuant to this chapter.

Sec. 307 [16 U.S.C. 1437]. ENFORCEMENT

(a) IN GENERAL.--The Secretary shall conduct such enforcement activities as are necessary and reasonable to carry out this chapter.

(b) POWERS OF AUTHORIZED OFFICERS.--Any person who is authorized to enforce this chapter may--

(1) board. search, inspect, and seize any vessel suspected of being used to violate this title or any regulation or permit issued under this chapter and any equipment, stores, and cargo of such vessel;

(2) seize wherever found any sanctuary resource taken or retained in violation of this title or any regulation or permit issued under this chapter;

(3) seize any evidence of a violation of this chapter or of any regulation or permit issued under this chapter;

(4) execute any warrant or other process issued by any court of competent jurisdiction;

(5) exercise any other lawful authority; and

(6) arrest any person, if there is reasonable cause to believe that such a person has committed an act prohibited by section 306(3) of this title.

(c) CRIMINAL OFFENSES-

(1) OFFENSES.- A person is guilty of an offense under this subsection if the person commits any act prohibited by section 306(3) of this title.

(2) PUNISHMENT.- Any person that is guilty of an offense under this subsection--

(A) except as provided in subparagraph (B), shall be fined under title 18, United States Code, imprisoned for not more than 6 months, or both; or

(B) in the case of a person who in the commission of such an offense uses a dangerous weapon, engages in conduct that causes bodily injury to any person authorized to enforce this title or any person authorized to implement the provisions of this title, or places any such person in fear of imminent bodily injury, shall be fined under title 18, United States Code, imprisoned for not more than 10 years, or both.

(d) CIVIL PENALTIES.--

(1) Civil penalty.--Any person subject to the jurisdiction of the United States who violates this chapter or any regulation or permit issued under this chapter shall be liable to the United States for a civil penalty of not more than $100,000 for each such violation, to be assessed by the Secretary. Each day of a continuing violation shall constitute a separate violation.

(2) Notice.--No penalty shall be assessed under this subsection until after the person charged has been given notice and an opportunity for a hearing.

(3) In rem jurisdiction.--A vessel used in violating this chapter or any regulation or permit issued under this title shall be liable in rem for any civil penalty assessed for such violation. Such penalty shall constitute a maritime lien on the vessel and may be recovered in an action in rem in the district court of the United States having jurisdiction over the vessel.

(4) Review of civil penalty.--Any person against whom a civil penalty is assessed under this subsection may obtain review in the United States district court for the appropriate district by filing a complaint in such court not later than 30 days after the date of such order.

(5) Collection of penalties.--If any person fails to pay an assessment of a civil penalty under this section after it has become a final and unappealable order, or after the appropriate court has entered final judgment in favor of the Secretary, the Secretary shall refer the matter to the Attorney General, who shall recover the amount assessed in any appropriate district court of the United States. In such action, the validity and appropriateness of the final order imposing the civil penalty shall not be subject to review.

(6) Compromise or other action by secretary.--The Secretary may compromise, modify, or remit, with or without conditions, any civil penalty which is or may be imposed under this section.

(e) FORFEITURE.--

(1) In general.--Any vessel (including the vessel's equipment, stores, and cargo) and other item used, and any sanctuary resource taken or retained, in any manner, in connection with or as a result of any violation of this title or of any regulation or permit issued under this title shall be subject to forfeiture to the United States pursuant to a civil proceeding under this subsection. The proceeds from forfeiture actions under this subsection shall constitute a separate recovery in addition to any amounts recovered as civil penalties under this section or as civil damages under section 312 of this title. None of those proceeds shall be subject to set-off.

(2) Application of the customs laws.--The Secretary may exercise the authority of any United States official granted by any relevant customs law relating to the seizure, forfeiture, condemnation, disposition, remission, and mitigation of property in enforcing this chapter.

(3) Disposal of sanctuary resources.--Any sanctuary resource seized pursuant to this chapter may be disposed of pursuant to an order of the appropriate court or, if perishable, in a manner prescribed by regulations promulgated by the Secretary. Any proceeds from the sale of such sanctuary resource shall for all purposes represent the sanctuary resource so disposed of in any subsequent legal proceedings.

(4) Presumption.--For the purposes of this section there is a rebuttable presumption that all sanctuary resources found on board a vessel that is used or seized in connection with a violation of this chapter or of any regulation or permit issued under this chapter were taken or retained in violation of this title or of a regulation or permit issued under this chapter.

(f) PAYMENT OF STORAGE, CARE, AND OTHER COSTS.--

(1) Expenditures.--

(A) Notwithstanding any other law, amounts received by the United States as civil penalties, forfeitures of property, and costs imposed under paragraph (2) shall be retained by the Secretary in the manner provided for in section 107(f)(1) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980.

(B) Amounts received under this section for forfeitures and costs imposed under paragraph (2) shall be used to pay the reasonable and necessary costs incurred by the Secretary to provide temporary storage, care, maintenance, and disposal of any sanctuary resource or other property seized in connection with a violation of this title or any regulation or permit issued under this chapter.

(C) Amounts received under this section as civil penalties and any amounts remaining after the operation of subparagraph (B) shall be used, in order of priority, to--

(i) manage and improve the national marine sanctuary with respect to which the violation occurred that resulted in the penalty or forfeiture;

(ii) pay a reward to any person who furnishes information leading to an assessment of a civil penalty, or to a forfeiture of property, for a violation of this title or any regulation or permit issued under this chapter; and

(iii) manage and improve any other national marine sanctuary.

(2) Liability for Costs.--Any person assessed a civil penalty for a violation of this chapter or of any regulation or permit issued under this chapter, and any claimant in a forfeiture action brought for such a violation, shall be liable for the reasonable costs incurred by the Secretary in storage, care, and maintenance of any sanctuary resource or other property seized in connection with the violation.

(g) SUBPOENAS.--In the case of any hearing under this section which is determined on the record in accordance with the procedures provided for under section 554 of title 5, United States Code, the Secretary may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, electronic files, and documents, and may administer oaths.

(h) USE OF RESOURCES OF STATE AND OTHER FEDERAL AGENCIES.—The Secretary shall, whenever appropriate, use by agreement the personnel, services, and facilities of State and other Federal departments, agencies, and instrumentalities, on a reimbursable or nonreimbursable basis, to carry out the Secretary's responsibilities under this section.

(i) COAST GUARD AUTHORITY NOT LIMITED.--Nothing in this section shall be considered to limit the authority of the Coast Guard to enforce this or any other Federal law under section 89 of title 14, United States Code.

(j) INJUNCTIVE RELIEF.--If the Secretary determines that there is an imminent risk of destruction or loss of or injury to a sanctuary resource, or that there has been actual destruction or loss of, or injury to, a sanctuary resource which may give rise to liability under section 312, the Attorney General, upon request of the Secretary, shall seek to obtain such relief as may be necessary to abate such risk or actual destruc-

tion, loss, or injury, or to restore or replace the sanctuary resource, or both. The district courts of the United States shall have jurisdiction in such a case to order such relief as the public interest and the equities of the case may require.

(k) AREA OF APPLICATION AND ENFORCEABILITY.--The area of application and enforceability of this title includes the territorial sea of the United States, as described in Presidential Proclamation 5928 of December 27, 1988, which is subject to the sovereignty of the United States, and the United States exclusive economic zone, consistent with international law.

(l) NATIONWIDE SERVICE OF PROCESS.- In any action by the United States under this title, process may be served in any district where the defendant is found, resides, transacts business, or has appointed an agent for the service of process.

Sec. 308 [16 U.S.C. 1438]. REGULATIONS.

The Secretary may issue such regulations as may be necessary to carry out this chapter.

Sec. 309 [16 U.S.C. 1440]. RESEARCH, MONITORING, AND EDUCATION.

(a) IN GENERAL- The Secretary shall conduct, support, or coordinate research, monitoring, evaluation, and education programs consistent with subsections (b) and (c) and the purposes and policies of this chapter.

(b) RESEARCH AND MONITORING.-

(1) IN GENERAL.- The Secretary may--

(A) support, promote, and coordinate research on, and long-term monitoring of, sanctuary resources and natural processes that occur in national marine sanctuaries, including exploration, mapping, and environmental and socioeconomic assessment;

(B) develop and test methods to enhance degraded habitats or restore damaged, injured, or lost sanctuary resources; and

(C) support, promote, and coordinate research on, and the conservation, curation, and public display of, the cultural, archaeological, and historical resources of national marine sanctuaries.

(2) AVAILABILITY OF RESULTS.- The results of research and monitoring conducted, supported, or permitted by the Secretary under this subsection shall be made available to the public.

(c) EDUCATION-

(1) IN GENERAL.- The Secretary may support, promote, and coordinate efforts to enhance public awareness, understanding, and appreciation of national marine sanctuaries and the System. Efforts supported, promoted, or coordinated under this subsection must emphasize the conservation goals and sustainable public uses of national marine sanctuaries and the System.

(2) EDUCATIONAL ACTIVITIES.- Activities under this subsection may include education of the general public, teachers, students, national marine sanctuary users, and ocean and coastal resource managers.

(d) INTERPRETIVE FACILITIES.-

(1) IN GENERAL.- The Secretary may develop interpretive facilities near any national marine sanctuary.

(2) FACILITY REQUIREMENT.- Any facility developed under this subsection must emphasize the conservation goals and sustainable public uses of national marine sanctuaries by providing the public with information about the conservation, recreational, ecological, historical, cultural, archaeological, scientific, educational, or esthetic qualities of the national marine sanctuary.

(e) CONSULTATION AND COORDINATION.- In conducting, supporting, and coordinating research, monitoring, evaluation, and education programs under subsection (a) and developing interpretive facilities under subsection (d), the Secretary may consult or coordinate with Federal, interstate, or regional agencies, States or local governments.

Sec. 310 [16 U.S.C. 1441]. SPECIAL USE PERMITS

(a) ISSUANCE OF PERMITS.--The Secretary may issue special use permits which authorize the conduct of specific activities in a national marine sanctuary if the secretary determines such authorization is necessary--(1) to establish conditions of access to and use of any sanctuary resource; or

(2) to promote public use and understanding of a sanctuary resource.

(b) PUBLIC NOTICE REQUIRED.- The Secretary shall provide appropriate public notice before identifying any category of activity subject to a special use permit under subsection (a) of this section.

(c) PERMIT TERMS.--A permit issued under this section--

(1) shall authorize the conduct of an activity only if that activity is compatible with the purposes for which the sanctuary is designated and with protection of sanctuary resources;

(2) shall not authorize the conduct of any activity for a period of more than 5 years unless renewed by the Secretary;

(3) shall require that activities carried out under the permit be conducted in a manner that does not destroy, cause the loss of, or injure sanctuary resources; and

(4) shall require the permittee to purchase and maintain comprehensive general liability insurance, or post an equivalent bond, against claims arising out of activities conducted under the permit and to agree to hold the United States harmless against such claims.

(d) FEES.--

(1) Assessment and collection.--The Secretary may assess and collect fees for the conduct of any activity under a permit issued under this section.

(2) Amount.--The amount of a fee under this subsection shall be equal to the sum of--

(A) costs incurred, or expected to be incurred, by the Secretary in issuing the permit;

(B) costs incurred, or expected to be incurred, by the Secretary as a direct result of the conduct of the activity for which the permit is issued, including costs of monitoring the conduct of the activity; and

(C) an amount which represents the fair market value of the use of the sanctuary resource.

(3) Use of fees.--Amounts collected by the Secretary in the form of fees under this section may be used by the Secretary--

(A) for issuing and administering permits under this section; and

(B) for expenses of managing national marine sanctuaries.

(4) WAIVER OR REDUCTION OF FEES.- The Secretary may accept in-kind contributions in lieu of a fee under paragraph (2)(C), or waive or reduce any fee assessed under this subsection for any activity that does not derive a profit from the access to or use of sanctuary resources.

(e) VIOLATIONS.--Upon violation of a term or condition of a permit issued under this section, the Secretary may--

(1) suspend or revoke the permit without compensation to the permittee and without liability to the United States;

(2) assess a civil penalty in accordance with section 307 of this title; or

(3) both.

(f) REPORTS.--Each person issued a permit under this section shall submit an annual report to the Secretary not later than December 31 of each year which describes activities conducted under that permit and revenues derived from such activities during the year.

(g) FISHING.--Nothing in this section shall be considered to require a person to obtain a permit under this section for the conduct of any fishing activities in a national marine sanctuary.

Sec. 311 [16 U.S.C. 1442]. COOPERATIVE AGREEMENTS, DONATIONS, AND ACQUISITIONS

(a) AGREEMENTS AND GRANTS- The Secretary may enter into cooperative agreements, contracts, or other agreements with, or make grants to, States, local governments, regional agencies, interstate agencies, or other persons to carry out the purposes and policies of this chapter.

(b) AUTHORIZATION TO SOLICIT DONATIONS.--The Secretary may enter into such agreements with any nonprofit organization authorizing the organization to solicit private donations to carry out the purposes and policies of this chapter.

(c) DONATIONS.--The Secretary may accept donations of funds, property, and services for use in designating and administering national marine sanctuaries under this title. Donations accepted under this section shall be considered as a gift or bequest to or for the use of the United States

(d) ACQUISITIONS.--The Secretary may acquire by purchase, lease, or exchange, any land, facilities, or other property necessary and appropriate to carry out the purposes and policies of this chapter.

(e) USE OF RESOURCES OF OTHER GOVERNMENT AGENCIES.- The Secretary may, whenever appropriate, enter into an agreement with a State or other Federal agency to use the personnel, services, or facilities of such agency on a reimbursable or nonreimbursable basis, to assist in carrying out the purposes and policies of this chapter.

(f) AUTHORITY TO OBTAIN GRANTS.- Notwithstanding any other provision of law that prohibits a Federal agency from receiving assistance, the Secretary may apply for, accept, and use grants from other Federal agencies, States, local governments, regional agencies, interstate agencies, foundations, or other persons, to carry out the purposes and policies of this chapter.

Sec. 312 [16 U.S.C. 1443]. DESTRUCTION OR LOSS OF, OR INJURY TO, SANCTUARY RESOURCES

(a) LIABILITY FOR INTEREST.--

(1) Liability to United States.--Any person who destroys, causes the loss of, or injures any sanctuary resource is liable to the United States for an amount equal to the sum of--

(A) the amount of response costs and damages resulting from the destruction, loss, or injury; and

(B) interests on that amount calculated in the manner described under section 1005 of the Oil Pollution Act of 1990.

(2) Liability in rem.--Any vessel used to destroy, cause the loss of, or injure any sanctuary resource shall be liable in rem to the United States for response costs and damages resulting from such destruction, loss, or injury. The amount of that liability shall constitute a maritime lien on the vessel and may be recovered in an action in rem in the district court of the United States having jurisdiction over the vessel.

(3) Defenses.--A person is not liable under this subsection if that person establishes that--

(A) the destruction or loss of, or injury to, the sanctuary resource was caused solely by an act of God, an act of war, or an act or omission of a third party, and the person acted with due care;

(B) the destruction, loss, or injury was caused by an activity authorized by Federal or State law; or

(C) the destruction, loss, or injury was negligible.

(4) Limits to Liability.-- Nothing in sections 4281-4289 of the Revised Statutes of the United States or section 3 of the Act of February 13, 1893, shall limit the liability of any person under this chapter

(b) RESPONSE ACTIONS AND DAMAGE ASSESSMENT.-

(1) Response actions.--The Secretary may undertake or authorize all necessary actions to prevent or minimize the destruction or loss of, or injury to, sanctuary resources, or to minimize the imminent risk of such destruction, loss, or injury.

(2) Damage assessment.--The Secretary shall assess damages to sanctuary resources in accordance with section 302(6) of this title.

(c) CIVIL ACTIONS FOR RESPONSE COSTS AND DAMAGES.—

(1) The Attorney General, upon request of the Secretary, may commence a civil action against any person or vessel who may be liable under subsection (a) for response costs and damages. The Secretary, acting as trustee for sanctuary resources for the United States, shall submit a request for such an action to the Attorney General whenever a person may be liable for such costs or damages.

(2) An action under this subsection may be brought in the United States district court for any district in which-

(A) the defendant is located, resides, or is doing business, in the case of an action against a person;

(B) the vessel is located, in the case of an action against a vessel; or

(C) the destruction of, loss of, or injury to a sanctuary resource occurred.

(d) USE OF RECOVERED AMOUNTS.--Response costs and damages recovered by the Secretary under this section shall be retained by the Secretary in the manner provided for in section 107(f)(1) of the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9607(f)(1)), and used as follows:

(1) RESPONSE COSTS.- Amounts recovered by the United States for costs of response actions and damage assessments under this section shall be used, as the Secretary considers appropriate--

(A) to reimburse the Secretary or any other Federal or State agency that conducted those activities; and

(B) after reimbursement of such costs, to restore, replace, or acquire the equivalent of any sanctuary resource.

(2) OTHER AMOUNTS.-All other amounts recovered shall be used, in order of priority--

(A) to restore, replace, or acquire the equivalent of the sanctuary resources that were the subject of the action, including for costs of monitoring and the costs of curation and conservation of archaeological, historical, and cultural sanctuary resources;

(B) to restore degraded sanctuary resources of the national marine sanctuary that was the subject of the action, giving priority to sanctuary resources and habitats that are comparable to the sanctuary resources that were the subject of the action; and

(C) to restore degraded sanctuary resources of other national marine sanctuaries.

(3) Federal-State Coordination.--Amounts recovered under this section with respect to sanctuary resources lying within the jurisdiction of a State shall be used under paragraphs (2)(A) and (B) in accordance with the court decree or settlement agreement and an agreement entered into by the Secretary and the Governor of that State.

(e) STATUTE OF LIMITATIONS- An action for response costs or damages under subsection (c) shall be barred unless the complaint is filed within 3 years after the date on which the Secretary completes a damage assessment and restoration plan for the sanctuary resources to which the action relates.

SEC. 313 [16 U.S.C. 1444]. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary--

(1) to carry out this chapter--

(A) $32,000,000 for fiscal year 2001;

(B) $34,000,000 for fiscal year 2002;

(C) $36,000,000 for fiscal year 2003;

(D) $38,000,000 for fiscal year 2004;

(E) $40,000,000 for fiscal year 2005; and

(2) for construction projects at national marine sanctuaries, $6,000,000 for each of fiscal years 2001, 2002, 2003, 2004, and 2005.

Sec. 314 [16 U.S.C. 1445]. U.S.S. MONITOR ARTIFACTS AND MATERIALS

(a) CONGRESSIONAL POLICY. -- In recognition of the historical significance of the wreck of the United States ship Monitor to coastal North Carolina and to the area off the coast of North Carolina known as the Graveyard of the Atlantic, the Congress directs that a suitable display of artifacts and materials from the United States ship Monitor be maintained permanently at an appropriate site in coastal North Carolina.(b) DISCLAIMER. --This section shall not affect the following:

(1) Responsibilities of Secretary.--The responsibilities of the Secretary to provide for the protection, conservation, and display of artifacts and materials from the United States ship Monitor.

(2) Authority of Secretary.--The authority of the Secretary to designate the Mariner's Museum, located at Newport News, Virginia, as the principal museum for coordination of activities referred to in paragraph (1).

Sec. 315 [16 U.S.C. 1445A]. ADVISORY COUNCILS

(a) ESTABLISHMENT.--The Secretary may establish one or more Advisory Councils (in this section referred to as an 'Advisory Council') to advise and make recommendations to the Secretary regarding the designation and management of national marine sanctuaries. The Advisory Councils shall be exempt from the Federal Advisory Committee Act.

(b) MEMBERSHIP--Members of the Advisory Councils may be appointed from among--

(1) persons employed by Federal or State agencies with expertise in management of natural resources;

(2) members of relevant Regional Fishery Management Councils established under section 302 of the Magnuson-Stevens Act; and

(3) representatives of local user groups, conservation and other public interest organizations, scientific organizations, educational organizations, or others interested in the protection and multiple use management of sanctuary resources.

(c) LIMITS ON MEMBERSHIP.--For sanctuaries designated after November 4, 1992, the membership of Advisory Councils shall be limited to no more than 15 members.

(d) STAFFING AND ASSISTANCE.--The Secretary may make available to an Advisory Council any staff, information, administrative services, or assistance the Secretary determines are reasonably required to enable the Advisory Council to carry out its functions.

(e) PUBLIC PARTICIPATION AND PROCEDURAL MATTERS.--The following guidelines apply with respect to the conduct of business meetings of an Advisory Council:

(1) Each meeting shall be open to the public, and interested persons shall be permitted to present oral or written statements on items on the agenda.

(2) Emergency meetings may be held at the call of the chairman or presiding officer.

(3) Timely notice of each meeting, including the time, place, and agenda of the meeting, shall be published locally and in the Federal Register, except that in the case of a meeting of an Advisory Council established to provide assistance regarding any individual national marine sanctuary the notice is not required to be published in the Federal Register.

(4) Minutes of each meeting shall be kept and contain a summary of the attendees and matters discussed.

Sec. 316 [16 U.S.C. 1445b]. ENHANCING SUPPORT FOR NATIONAL MARINE SANCTUARIES

(a) AUTHORITY.- The Secretary may establish a program consisting of--

(1) the creation, adoption, and publication in the Federal Register by the Secretary of a symbol for the national marine sanctuary program, or for individual national marine sanctuaries or the System;

(2) the solicitation of persons to be designated as official sponsors of the national marine sanctuary program or of individual national marine sanctuaries;

(3) the designation of persons by the Secretary as official sponsors of the national marine sanctuary program or of individual sanctuaries;

(4) the authorization by the Secretary of the manufacture, reproduction, or other use of any symbol published under paragraph (1), including the sale of items bearing such a symbol, by official sponsors of the national marine sanctuary program or of individual national marine sanctuaries;

(5) the creation, marketing, and selling of products to promote the national marine sanctuary program, and entering into exclusive or nonexclusive agreements authorizing entities to create, market or sell on the Secretary's behalf;

(6) the solicitation and collection by the Secretary of monetary or in-kind contributions from official sponsors for the manufacture, reproduction or use of the symbols published under paragraph (1);

(7) the retention of any monetary or in-kind contributions collected under paragraphs (5) and (6) by the Secretary; and

(8) the expenditure and use of any monetary and in-kind contributions, without appropriation, by the Secretary to designate and manage national marine sanctuaries.

Monetary and in-kind contributions raised through the sale, marketing, or use of symbols and products related to an individual national marine sanctuary shall be used to support that sanctuary.

(b) CONTRACT AUTHORITY.-- The Secretary may contract with any person for the creation of symbols or the solicitation of official sponsors under subsection (a) of this section.

(c) RESTRICTIONS.-- The Secretary may restrict the use of the symbols published under subsection (a), and the designation of official sponsors of the national marine sanctuary program or of individual national marine sanctuaries to ensure compatibility with the goals of the national marine sanctuary program.

(d) PROPERTY OF UNITED STATES.-- Any symbol which is adopted by the Secretary and published in the Federal Register under subsection (a) is deemed to be the property of the United States.

(e) PROHIBITED ACTIVITIES.-- It is unlawful for any person--

(1) designated as an official sponsor to influence or seek to influence any decision by the Secretary or any other Federal official related to the designation or management of a national marine sanctuary, except to the extent that a person who is not so designated may do so;

(2) to represent himself or herself to be an official sponsor absent a designation by the Secretary;

(3) to manufacture, reproduce, or otherwise use any symbol adopted by the Secretary under subsection (a)(1), including to sell any item bearing such a symbol, unless authorized by the Secretary under subsection (a)(4) or subsection (f); or

(4) to violate any regulation promulgated by the Secretary under this section.

(f) COLLABORATIONS- The Secretary may authorize the use of a symbol adopted by the Secretary under subsection (a)(1) by any person engaged in a collaborative effort with the Secretary to carry out the purposes and policies of this title and to benefit a national marine sanctuary or the System.

(g) AUTHORIZATION FOR NON-PROFIT PARTNER ORGANIZATION TO SOLICIT SPONSORS.-

(1) IN GENERAL.- The Secretary may enter into an agreement with a non- profit partner organization authorizing it to assist in the administration of the sponsorship program established under this section. Under an agreement entered into under this paragraph, the Secretary may authorize the non-profit partner organization to solicit persons to be official sponsors of the national marine sanctuary system or of individual national marine sanctuaries, upon such terms as the Secretary deems reasonable and will contribute to the successful administration of the sanctuary system. The Secretary may also authorize the non-profit partner organization to collect the statutory contribution from the sponsor, and, subject to paragraph (2), transfer the contribution to the Secretary.

(2) REIMBURSEMENT FOR ADMINISTRATIVE COSTS.- Under the agreement entered into under paragraph (1), the Secretary may authorize the non-profit partner organization to retain not more than 5 percent of the amount of monetary contributions it receives from official sponsors under the agreement to offset the administrative costs of the organization in soliciting sponsors.

(3) PARTNER ORGANIZATION DEFINED.- In this subsection, the term 'partner organization' means an organization that--

(A) draws its membership from individuals, private organizations, corporation, academic institutions, or State and local governments; and

(B) is established to promote the understanding of, education relating to, and the conservation of the resources of a particular sanctuary or 2 or more related sanctuaries.

SEC. 318 [16 U.S.C. 1445c]. DR. NANCY FOSTER SCHOLARSHIP PROGRAM.

(a) ESTABLISHMENT.- The Secretary shall establish and administer through the National Ocean Service the Dr. Nancy Foster Scholarship Program. Under the program, the Secretary shall award graduate education scholarships in oceanography, marine biology or maritime archaeology, to be known as Dr. Nancy Foster Scholarships.

(b) PURPOSES- The purposes of the Dr. Nancy Foster Scholarship Program are--

(1) to recognize outstanding scholarship in oceanography, marine biology, or maritime archaeology, particularly by women and members of minority groups; and

(2) to encourage independent graduate level research in oceanography, marine biology, or maritime archaeology.

(c) AWARD.- Each Dr. Nancy Foster Scholarship--

(1) shall be used to support graduate studies in oceanography, marine biology, or maritime archaeology at a graduate level institution of higher education; and

(2) shall be awarded in accordance with guidelines issued by the Secretary.

(d) DISTRIBUTION OF FUNDS.- The amount of each Dr. Nancy Foster Scholarship shall be provided directly to a recipient selected by the Secretary upon receipt of certification that the recipient will adhere to a specific and detailed plan of study and research approved by a graduate level institution of higher education.

(e) FUNDING- Of the amount available each fiscal year to carry out this title, the Secretary shall award 1 percent as Dr. Nancy Foster Scholarships.

(f) SCHOLARSHIP REPAYMENT REQUIREMENT- The Secretary shall require an individual receiving a scholarship under this section to repay the full amount of the scholarship to the Secretary if the Secretary determines that the individual, in obtaining or using the scholarship, engaged in fraudulent conduct or failed to comply with any term or condition of the scholarship.

(g) MARITIME ARCHAEOLOGY DEFINED- In this section the term `maritime archaeology' includes the curation, preservation, and display of maritime artifacts

Last Section not included: § 1445c-1.

Appendix B: Monitor National Marine Sanctuary Final Regulations

The following excerpt is taken from the Federal Register Notice of the Final Regulations for the Monitor National Marine Sanctuary, as published Monday, May 19, 1975 (40 Fed. Reg. 21706). These regulations include activities specifically prohibited in the Sanctuary:

On January 30, 1975, the Secretary of Commerce designated as a marine sanctuary an area of the Atlantic Ocean around and above the submerged wreckage of the Civil War ironclad *Monitor* pursuant to the authority of Section 302(a) of the Marine Protection, Research and Sanctuaries Act of 1972 (86 Stat. 1052, 1061, hereafter the Act). The sanctuary area (hereafter the Sanctuary) is about 16.10 miles south-southeast of Cape Hatteras (North Carolina) Light.

Section 302(f) of the Act directs the Secretary to issue necessary and reasonable regulations to control any activity permitted within a designated marine sanctuary. This section also provides that no permit, license, or other authorization issued pursuant to any other authority shall be valid unless the Secretary shall certify that the permitted activity is consistent with the purposes of Title III of the Act ("Marine Sanctuaries"); and that it can be carried out within the regulations promulgated under section 302(f).

The authority of the Secretary to administer the provisions of the Act has been delegated to the Administrator, National Oceanic and Atmospheric Administration, U.S. Department of Commerce (hereafter the Administrator, 39 Fed. Reg. 10255, March 19, 1974).

Final Regulations (15 C.F.R. 922.60-922.62)

§ 922.60 Boundary.

The Monitor National Marine Sanctuary (Sanctuary) consists of a vertical water column in the Atlantic Ocean one mile in diameter extending from the surface to the seabed, the center of which is at 35° 00' 23" north latitude and 75° 24' 32" west longitude.

§ 922.61 Prohibited or Otherwise Regulated Activities.

Except, as may be permitted by the Director, the following activities are prohibited and thus are unlawful for any person to conduct or cause to be conducted within the Sanctuary:

(a) Anchoring in any manner, stopping, remaining, or drifting without power at any time;

(b) Any type of subsurface salvage or recovery operation;

(c) Diving of any type, whether by an individual or by a submersible;

(d) Lowering below the surface of the water any grappling, suction, conveyor, dredging or wrecking device;

(e) Detonating below the surface of the water any explosive or explosive mechanism;

(f) Drilling or coring the seabed;

(g) Lowering, laying, positioning or raising any type of seabed cable or cable-laying device;

(h) Trawling; or

(i) Discharging waste material into the water in violation of any Federal statute or regulation.

§ 922.62 Permit Procedure and Criteria.

(a) Any person or entity may conduct in the Sanctuary any activity listed in § 922.61 if such activity is either: (1) For the purpose of research related to the *Monitor*, or (2) Pertains to salvage or recovery operations in connection with an air or marine casualty and such person or entity is in possession of a valid permit issued by the Director authorizing the conduct of such activity; except that, no permit is required for the conduct of any activity immediately and urgently necessary for the protection of life, property or the environment.

(b) Any person or entity who wishes to conduct in the Sanctuary an activity for which a permit is authorized by this section (hereafter a permitted activity) may apply in writing to the Director for a permit to conduct such activity citing this section as the basis for the application. Such application should be made to: Director, Office of Ocean and Coastal Resource Management; ATTN: Manager, Monitor National Marine Sanctuary, Building 1519, NOAA, Fort Eustis, VA 23604-5544.

(c) In considering whether to grant a permit for the conduct of a permitted activity for the purpose of research related to the *Monitor*, the Secretary shall evaluate such matters as: (1) The general professional and financial responsibility of the applicant; (2) The appropriateness of the research method(s) envisioned to the purpose(s) of the research; (3) The extent to which the conduct of any permitted activity may diminish the value of the *Monitor* as a source of historic, cultural, aesthetic and/or maritime information; (4) The end value of the research envisioned; and (5) Such other matters as the Director deems appropriate. (d) In considering whether to grant a permit for the conduct of a permitted activity in the Sanctuary in relation to an air or marine casualty, the Director shall consider such matters as: (1) The fitness of the applicant to do the work envisioned; (2) The necessity of conducting such activity; (3) The appropriateness of any activity envisioned to the purpose of the entry into the Sanctuary; (4) The extent to which the conduct of any such activity may diminish the value of the *Monitor* as a source of historic, cultural, aesthetic and/or maritime information; and (5) Such other matters as the Director deems appropriate. (e) In considering any application submitted pursuant to this section, the Director shall seek and consider the views of the Advisory Council on Historic Preservation. (f) The Director may observe any activity permitted by this section; and/or may require the submission of one or more reports of the status or progress of such activity.

National Marine Sanctuary Program Regulations, Regulations of General Applicability (15 C.F. R. 922.40-922.50)

§ 922.45 Penalties.

(a) Each violation of the NMSA or FKNMSPA, any regulation in this part, or any permit issued pursuant thereto, is subject to a civil penalty of not more than $100,000. Each day of a continuing violation constitutes a separate violation.

(b) Regulations setting forth the procedures governing administrative proceedings for assessment of civil penalties, permit sanctions, and denials for enforcement reasons, issuance and use of written warnings, and release or forfeiture of seized property appear at 15 CFR part 904.

Appendix C: The Mariners' Museum: Programmatic Agreement

PROGRAMMATIC AGREEMENT

AMONG

THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

AND

THE MARINERS' MUSEUM

AND

THE VIRGINIA STATE HISTORIC PRESERVATION OFFICER

AND

THE ADVISORY COUNCIL ON HISTORIC PRESERVATION

FOR

PROTECTION AND MANAGEMENT

OF THE MONITOR COLLECTION

NOS Agreement Code: MOA-2004-023/114

WHEREAS, the National Oceanic and Atmospheric Administration (NOAA) of the Department of Commerce is charged with the protection and management of the Civil War ironclad vessel U.S.S. *Monitor*, which sank in waters of the United States off the coast of North Carolina on December 31, 1862, nine months after its epic battle with the CSS *Virginia*, and

WHEREAS, the *Monitor* has been designated a National Historic Landmark by the Secretary of the Interior in 1974, and under the authority of the Marine Protection, Research and Sanctuaries Act of 1972 (16 U.S.C. 1431 et seq.) the remains of the *Monitor* were designated the first National Marine Sanctuary by the Secretary of Commerce in 1975, and

WHEREAS, NOAA has determined that it is in the public interest to remove selected artifacts from the *Monitor* from the sea floor and conserve, study, preserve, and interpret them, and this collection of artifacts meets the definition of "historic property" in Section 301(5) of the National Historic Preservation Act of 1966, as amended (NHPA, 16 U.S.C. 470w), and

WHEREAS, NOAA has determined that some of these management and preservation activities (the "Federal undertaking") will have an effect upon the *Monitor*, and has consulted with The Mariners' Museum (hereafter "TMM"), the Virginia State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) pursuant to the regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f), and

WHEREAS, NOAA has consulted with The Mariners' Museum, the Virginia State Historic Preservation Officer, the City of Newport News, and the Advisory Council on Historic Preservation in accordance with the ACHP's regulations (36 CFR Part 800), implementing Section 106 of the NHPA to develop this Programmatic Agreement ("Agreement"), and

WHEREAS, this Agreement sets forth the steps NOAA will take to meet its responsibilities for historic properties in the *Monitor* Collection (hereinafter *Monitor* Collection) and the Monitor National Marine Sanctuary (MNMS) which are set forth in: a) the National Marine Sanctuaries Act (NMSA) (16 U.S.C. 1431 et seq.) b) Sections 106 and 110 of the NHPA (16 U.S.C. 470f & 470h-2), on historic properties, and manage them in the public interest; and c) 36 CFR Part 79 ("Curation of Federally-Owned and Administered Archaeological Collections"), and

WHEREAS, in 1987, NOAA selected The Mariners' Museum in Newport News, Virginia as the official principal museum for the conservation, interpretation, management, and exhibition of this Monitor Collection, and this selection was based upon criteria developed and recommended by the Council of

American Maritime Museums, published in the request for proposals to protect and manage the *Monitor* Collection at 51 Federal Register 31,708 (September 4, 1986);

NOW, THEREFORE, NOAA, TMM, the Virginia SHPO, and the ACHP agree that research, management, and preservation activities for the *Monitor* Collection shall be implemented in accordance with the following stipulations to satisfy NOAA's responsibilities under the NHPA and the NMSA.

STIPULATIONS

NOAA shall ensure that the following measures are carried out.

I. PURPOSE AND SCOPE

A. This Agreement incorporates by reference the Curatorial Services Agreement between NOAA and TMM for management of the *Monitor* Collection (attached to this Agreement as Appendix A) and the underlying regulations implementing the Archaeological Resources Protection Act (ARPA) (16 U.S.C. 450rr et seq.) (36 CFR Part 79).

B. This Programmatic Agreement sets forth how NOAA will comply with sections 106 and 110 of the NHPA. For purposes of compliance with the NHPA, ARPA, and the NMSA, it supersedes all previous Agreements, including the Memorandum of Agreement signed July 17, 1987, the Cooperative Agreement signed October 4, 1989, and the Memorandum of Agreement signed January 11, 2000, which were not Programmatic Agreements under the NHPA.

II. PARTIES

A. The authority to protect and manage sanctuary resources under the NMSA has been delegated by the Secretary of the Department of Commerce to the Administrator of NOAA. Within NOAA, this authority has been delegated through the National Ocean Service (NOS) to the Director of the National Marine Sanctuary Program (NMSP). Thus, the Director is authorized to protect and manage the Nation's system of National Marine Sanctuaries, including the Monitor NMS and its resources.

B. The Mariners' Museum, an internationally-recognized private, nonprofit institution, has been the principal museum for the protection and management of the Monitor Collection since 1987. The authority for the Secretary to designate TMM as the principal museum for the *Monitor* Collection has been codified at 16 U.S.C. 1445 (c)(2).

III. REFERENCES AND AUTHORITY

A. The Monitor NMS was designated by the Secretary of Commerce on January 30, 1975, pursuant to Title III of the Marine Protection, Research and Sanctuary Act of 1972 (16 U.S.C. 1431, et seq.) as amended, now also known as the National Marine Sanctuaries Act. The NMSA (16 U.S.C. 1442 (a)) authorizes the Secretary of Commerce to enter into cooperative agreements, contracts, or other agreements with, or make grants to, States, local governments, regional agencies, interstate agencies, or other persons to carry out the purposes and policies of this title.

B. Regulations implementing the NMSA for the National Marine Sanctuary Program at 15 C.F.R. §922 apply at all sanctuaries and incorporate the laws and policies of the Federal Archaeological Program §922.2(e). As artifacts and other information recovered from the Monitor NMS are a federally-owned *Monitor* Collection, they are subject to the standards, requirements and guidelines of the Federal Archaeological Program, including, but not limited to the: (1) National Historic Preservation Act (NHPA), (16 U.S.C. 470 et seq.) and (2) Archaeological Resources Protection Act (ARPA) (16 U.S.C. 470aa et seq.), and implementing regulations and guidelines, including requirements for the Curation of Federally-Owned and Administered Archaeological Collections (36 C.F.R. Part 79) as referenced in TMM's conservation plan.

C. The site-specific regulations for the Monitor NMS are at 15 C.F.R. §924. The NMSA has been amended to specifically address artifacts recovered from the Monitor NMS. Under 16 U.S.C. 1445, the Secretary's authority to designate TMM as the principal museum for the *Monitor* Collection is recognized; however, it also provides that a suitable display of artifacts and materials from the Monitor be maintained permanently at an appropriate site in coastal North Carolina.

D. The federal agency's trustee status means that, under 36 C.F.R. Part 79, it is responsible for the long-term management and preservation of the federally-owned artifacts within the *Monitor* Collection. The final determination as to whether TMM is in compliance with the requirements of Part 79 shall be made by NOAA. Any disputes that arise regarding TMM's compliance with Part 79 or any other federal requirements shall be resolved through this Agreement's dispute resolution process, outlined at Section XI below.

E. Other laws and policies may also apply, including those that apply to United States Government property, sunken warships and other "state craft" (as defined by the President's Statement, U.S. Policy for the Protection of Sunken Warships, January 19, 2001), and the treatment of the human remains and artifacts associated with the U.S. military personnel. However, the provisions of the Agreement remain controlling for purposes of compliance with the NHPA, the NMSA and implementing regulations.

IV. RESOURCE PROTECTION

A. *In Situ* Preservation in Monitor National Marine Sanctuary

1. NOAA will continue to protect and manage the Monitor National Marine Sanctuary subject to the current management plans set forth in Monitor National Marine Sanctuary Management Plan (1992) and Charting a New Course for the Monitor (1998), regulations, and the terms of this Agreement.

2. NOAA will cooperate with TMM on the education, research, and possible recovery of additional historic sanctuary resources that are still at the sanctuary site.

B. The Treatment of Human Remains and Associated Artifacts

1. Any human remains discovered within the Sanctuary or its recourses will be treated with the utmost respect and in accordance with the President's Statement, U.S. Policy for the Protection of Sunken Warships, January 19, 2001.

2. NOAA's recovery of the human biological remains shall be conducted in accordance with the Operating Procedures developed by the U.S. Army Central Identification laboratory, Hawaii (USACILHI) (April 15, 2002).

3. Human biological remains shall not be on public display or exhibition. NOAA, in consultation with the Director of the Naval Historical Center, will determine the appropriate treatment for any human biological remains, associated artifacts, and other associated information. The final disposition of human biological remains and associated artifacts must be consistent with applicable U.S. Department of Defense laws and policies.

4. There shall be no public display or exhibition of artifacts associated with human biological remains without the prior written approval of NOAA. NOAA may consult with the Director of the Naval Historical Center, as necessary or appropriate.

C. Transportation and Stabilization

1. NOAA is responsible for the transportation and delivery to TMM all Monitor NMS resources, including material remains and associated records, as they are generated or acquired, to be added to the Monitor Collection, as agreed upon in advance between NOAA and TMM.

2. Subject to NOAA oversight as provided in the Curatorial Services Agreement (CSA), TMM is responsible for stabilizing the turret, engine, and other sanctuary resources provided by NOAA.

3. TMM is responsible for handling and care upon delivery. All physical care of the *Monitor* Collection must be conducted by qualified museum professionals, as set forth in 36 C.F.R. 79.9(4).

4. TMM will handle, store, clean, conserve, and exhibit in a manner that:

(i) is appropriate to the nature of the material remains and associated records; (ii) protects the *Monitor* Collection from breakage and possible deterioration from adverse temperature and relative humidity, visible light, ultraviolet radiation, dust, soot, gases, mold, fungus, insects, rodents and general neglect; and (iii) preserves data that may be studied in future laboratory analysis. 36 C.F.R. 79.9(5). In accordance with 36 C.F.R. 79.8(i), the NPS Museum Handbook, Part I, provides specific procedures and restrictions for physical care that meet or exceed the required standards. See http://www.cr.nps.gov/museum/publications/MHI/mushbkI.html

D. Long-term Conservation and Curation of *Monitor* Collection at The Mariners' Museum

1. NOAA is responsible for the protection and management of the federally-owned *Monitor* Collection. In 1987, NOAA selected TMM as the most appropriate repository to provide long-term curatorial services, including the stabilization, conservation, storage, and exhibition of the *Monitor* Collection. As such, TMM will continue to be the principal museum responsible for providing for the long-term protection and management of the *Monitor* Collection with NOAA as long as the services and facility continue to meet the standards and requirements of 36 C.F.R. Section 79.9

2. The protection and management of the *Monitor* Collection shall be conducted in a manner that is consistent with the Curatorial Services Agreement with TMM. The CSA implements the requirements of 36 C.F.R. Part 79. If TMM fails to protect and manage the *Monitor* Collection in accordance with the CSA, NOAA may select another facility within the mid-Atlantic region to fulfill NOAA's responsibilities for the long-term protection and management of the *Monitor* Collection.

V. RESEARCH & MONITORING

A. NOAA will continue to conduct long-range research and monitoring projects at the Monitor NMS, in accordance with the current Monitor NMS Management Plan and under this Agreement. Except in accordance with 16 U.S.C. 1445, NOAA will provide TMM with material remains and associated records. NOAA will consult with TMM regarding these programs, as mutually agreed upon or as specified in the annual task and budget summaries of the financial assistance awards (hereinafter annual task and budget summaries).

B. Consistent with the CSA, TMM agrees to provide access to the *Monitor* Collection to NOAA and others whose research has been determined by NOAA to be in the public interest. 36 C.F.R. Part

79, 79.10, 79.8(j), (k). NOAA shall consult with TMM in the development and approval of research proposals. See http://www.cr.nps.gov/museum/publications/MHIII/mushbkIII.html

C. NOAA shall provide final reports resulting from its research under this Agreement to TMM, the Virginia and North Carolina SHPOs, the Naval Historical Center, the ACHP, the National Park Service - National Technical Information Service, and other parties, as appropriate.

D. Pursuant to 36 C.F.R. 79.8(1) TMM shall provide NOAA with copies of publications resulting from its research of the *Monitor* Collection.

VI. EDUCATION/OUTREACH

A. NOAA also conducts long-range research and educational programs related to the Monitor NMS, in accordance with the Monitor NMS Management Plan. TMM agrees to assist NOAA with these programs, as mutually agreed upon or as specified in the annual task and budget summaries of the financial assistance awards (annual task and budget summaries).

B. NOAA and TMM will credit each other in cooperative projects, publications, media releases, announcements, and other activities as appropriate.

VII. FUNDING

A. To date, the U.S. Government, through NOAA and the Navy, has provided approximately $30 million in human and financial resources toward research and recovery efforts for the *Monitor*.

B. NOAA's responsibilities and support for the *Monitor* Collection and TMM under this Agreement are subject to annual appropriations, Federal law, and NOAA's approval. NOAA shall provide annual task and budget summaries to support services and special projects as mutually agreed upon.

C. Per the May 20, 2002 cooperative agreement between NOAA and TMM, NOAA anticipates that the *Monitor* Center will be developed at TMM. In the May 2002 cooperative agreement, NOAA provided that a $5.039 million Federal appropriation would be provided toward the cost of the *Monitor* Center. A second appropriation of $5 million was awarded in the FY03. TMM is responsible for raising the rest of the funds needed for the Center through individual, corporate, government, and foundation sources.

D. TMM will maintain the NOAA fund, accept donations to the fund, provide audits as appropriate, and make the funds available to the Monitor NMS, as requested by NOAA or as specified by the donor.

E. TMM may use the *Monitor* Collection to raise funds only for the implementation of this

Agreement and the CSA. TMM shall use proceeds of such fund-raising only for purposes of preservation, conservation, and maintenance of the *Monitor* Collection, for educational and interpretational activities regarding the *Monitor* Collection, and for construction of *Monitor*-related facilities in support of the Curatorial Services Agreement between the parties and this Programmatic Agreement.

VIII. USE OF MONITOR COLLECTION FOR FUND RAISING

A. Artifacts recovered from the Monitor NMS remain the property of the U.S. Government (with NOAA as trustee). They shall not be traded, sold, bought, or bartered as commercial goods by TMM or others.

B. TMM may use the *Monitor* Collection to raise funds through regular museum admission fees at TMM, and through reasonable loan/exhibition fees arising from the loan of artifacts in the Collection to other qualified museums. However, researchers, educators and the general public should not be subject to extraordinary or special fees for access or admission. No loan agreements shall be entered into without the prior written approval of NOAA.

C. TMM may also use the *Monitor* Collection to raise money from photographs, drawings, and other depictions of the *Monitor* Collection that it has developed or to which it has intellectual property rights. However, any such records associated with the *Monitor* Collection that are developed using federal funds must be available to the public, whether at a reasonable cost or free of charge. Nothing in this Agreement restricts NOAA from making its records associated with the *Monitor* Collection available to the public at a reasonable cost or free of charge.

D. NOAA maintains the right to have access to create and provide photos, drawings, and other depictions of the *Monitor* Collection for public use. NOAA will cooperate with TMM to ensure that the use of such public domain materials does not infringe on TMM's intellectual property rights or unduly interfere with its fund-raising activities.

E. TMM shall submit to NOAA an annual report on the result of fund-raising efforts involving the *Monitor* Collection or its artifacts or Associated Records over the course of the previous year. This annual report shall contain a disclosure of all restricted funds raised for or used in association with the *Monitor* Collection, and how such funds were allocated generally.

IX. *MONITOR* SANCTUARY ADVISORY COUNCIL

A. A *Monitor* Sanctuary Advisory Council (SAC) will be established to provide advice to NOAA regarding the protection and management of the Monitor NMS and the *Monitor* Collection, including implementation of the sanctuary management plan, the Curatorial Services Agreement, and this programmatic Agreement.

B. Membership on the SAC shall be established consistent with 16 U.S.C. 1445(a) and shall include a representative of TMM.

X. SUNSET CLAUSE, AMENDMENT, OR TERMINATION

A. This Agreement shall become effective upon execution by all the Parties and shall remain in effect for a period of five (5) years, whereupon it will be reviewed and reaffirmed, revised, as necessary, or terminated.

B. At any time prior to the end of the 2007 calendar year, any of the signatories may request the other signatories to consider the continuation, amendment, or termination of this Agreement. Such continuation, amendment, or termination will take effect upon unanimous written agreement of all signatories to this Agreement. If the Agreement is terminated, NOAA shall either consult in accordance with 36 CFR Part 800.6 to develop and execute a new Agreement or request the comments of the ACHP pursuant to 36 CFR Part 800.7.

C. The sunset or termination of this Agreement means that NHPA 106 compliance may no longer be addressed programmatically by its provisions. NHPA 106 requirements for federal undertakings would then need to be addressed on a case-by-case basis.

D. The sunset or termination of this Programmatic Agreement under NHPA 106 does not terminate the CSA. The CSA has its own provisions controlling its duration.

XI. DISPUTE RESOLUTION

A. If any signatory to this Agreement objects to any procedural action proposed, attempted, or carried out under this Agreement, including research, recovery, stabilization, conservation, curation, fund raising, or education/outreach, NOAA and the objecting signatory shall together attempt to resolve any disagreement. If NOAA determines that the disagreement cannot be resolved, NOAA shall request the further comments of the ACHP in accordance with 36 CFR Part 800.7(b). Any Council comment provided in response will be taken into account by NOAA in reaching a final decision regarding this issue. NOAA's responsibility to carry out all other actions under this Agreement that are not the subjects of the dispute will remain unchanged.

B. If any signatory to this Agreement objects to any substantive action proposed, attempted, or carried out under this Agreement, including research, recovery, stabilization, conservation, curation, fund raising, or education/outreach, NOAA and the objecting signatory shall together attempt to resolve any disagreement. If NOAA determines that the disagreement cannot be resolved, NOAA

shall request the comments of the Monitor SAC. If within 30 days of receiving the Monitor SAC's comments the Parties do not resolve the dispute, NOAA will take all received comments into account in making a final decision regarding the dispute. NOAA's responsibility to carry out all other actions under this Agreement that are not the subjects of the dispute will remain unchanged.

Execution and implementation of this Agreement evidences that the National Oceanic and Atmospheric Administration has satisfied its Sections 106 and 110 responsibilities for research, management, and preservation activities carried out on the Monitor National Historic Landmark and the *Monitor* Collection.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

By:_____Date:__12/22/03_____,2003

Daniel J. Basta

Director, National Marine Sanctuary Program

THE MARINERS' MUSEUM

By:_____Date:____12/23/03_____,2003

John B. Hightower

President & Chief Executive Officer

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By:_____Date:_____1/29/04_____,2003

John M. Fowler

Executive Director

VIRGINIA STATE HISTORIC PRESERVATION OFFICER

By:_____Date:_____12/30/03_____,2003

Kathleen S. Kilpatrick

State Historic Preservation Officer

APPENDIX A (OF PROGRAMMATIC AGREEMENT):

CURATORIAL SERVICES AGREEMENT FOR THE FEDERALLY OWNED MONITOR COLLECTION PURSUANT TO NATIONAL MARINE SANCTUARIES ACT (NMSA), 16 U.S.C. § 1440 RESEARCH, MONITORING, AND EDUCATION

Apppendix D: Amendment to The Mariners' Museum: Programmatic Agreement

AMENDMENT TO

PROGRAMMATIC AGREEMENT

AMONG

THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,

THE MARINER'S MUSEUM,

THE VIRGINIA STATE HISTORIC PRESERVATION OFFICER,

AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION

FOR THE PROTECTION AND MANAGEMENT

OF THE *MONITOR* COLLECTION

WHEREAS, on January 29, 2004, a Programmatic Agreement (Agreement) was executed among the above-named parties for the protection and management of artifacts recovered from the U.S.S. Monitor, a National Historic Landmark, and

WHEREAS, Stipulations X.A. and X.B. of Sunset Clause section of this Agreement called for the Agreement to remain in effect until January 2009, and that it could be amended prior the end of the 2007 calendar year, and

WHEREAS, the signatories are unanimous that this Agreement should be continued, and these two Stipulations be amended to reflect this;

NOW, THEREFORE, the signatories agree to the following language to substitute for the Stipulations cited above.

1) Current language of Stipulation X.A.:

> "This Agreement shall become effective upon execution by all parties and shall remain in effect for a period of 5 years, whereupon it will be reviewed and reaffirmed, revised, as necessary, or terminated."

2) Amended language of Stipulation X.A.

"This Agreement shall become effective upon execution by all parties and shall remain in effect for a period of 10 years, whereupon it will be reviewed and reaffirmed, revised, as necessary, or terminated."

3) Current language of Stipulation X.B.:

"At any time prior to the end of the 2007 calendar year, any of the signatories may request the other signatories to consider the continuation, amendment or termination of this Agreement. Such continuation, amendment or termination will take effect upon unanimous written agreement of all the signatories to this Agreement. If the Agreement is terminated, NOAA shall either consult in accordance with 36 CFR Part 800.6 to develop and execute a new Agreement or request the comments of the ACHP pursuant to 36 CFR Part 800.7"

4) Amended language of Stipulation X.B.:

"At any time prior to the end of the 2013 calendar year, any of the signatories may request the other signatories to consider the continuation, amendment or termination of this Agreement. Such continuation, amendment or termination will take effect upon unanimous written agreement of all the signatories to this Agreement. If the Agreement is terminated, NOAA shall either consult in accordance with 36 CFR Part 800.6 to develop and execute a new Agreement or request the comments of the ACHP pursuant to 36 CFR Part 800.7"

Execution of the Programmatic Agreement and this Amendment to it by NOAA, the Mariner's Museum, the Virginia State Historic Preservation Officer, and the Advisory Council on Historic Preservation (ACHP), and subsequent implementation of their terms by NOAA, evidences that NOAA has afforded the ACHP an opportunity to comment on the undertaking and its effects on historic properties and that NOAA has taken into account its effects on historic properties.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

By: _____ Date: _____

Director, National Marine Sanctuary Program

MARINER'S MUSEUM

By: _____ Date: _____

Executive Vice President and Chief Operating Officer

VIRGINIA STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: _____

State Historic Preservation Officer

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: _____ Date: _____

John M. Fowler, Executive Director

Appendix E: The Mariners' Museum: Curatorial Services Agreement

NOAA 12/07 Revisions to

Revised Draft Curatorial Services Agreement

NOAA-MNMS/The Mariners' Museum

WORKING DRAFT

CURATORIAL SERVICES AGREEMENT FOR THE

FEDERALLY OWNED U S.S. *MONITOR* COLLECTION

PURSUANT TO NATIONAL MARINE SANCTUARIES ACT (NMSA),

16 U.S.C. § 1444 RESEARCH, MONITORING, AND EDUCATION

BETWEEN THE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,

MONITOR NATIONAL MARINE SANCTUARY

AND

THE MARINERS' MUSEUM

CURATORIAL SERVICES AGREEMENT

BETWEEN THE

National Oceanic and Atmospheric Administration,

Department of Commerce

AND

The Mariners' Museum

THIS CURATORIAL SERVICES AGREEMENT (the "Agreement") is entered into effective _____, 2003 by and between the Secretary of Commerce, acting by and through the National Oceanic and Atmospheric Administration's National Marine Sanctuary Program, (hereinafter called the "Depositor"), and The Mariners' Museum, located in the State of Virginia (hereinafter called the "Repository"). This Curatorial Services Agreement supersedes all previous agreements between the Parties, including the Memorandum of Agreement signed July 17, 1987, the Cooperative Agreement signed October 4, 1989, and the Memorandum of Agreement signed January 11, 2000. This Curatorial Services Agreement shall be implemented in coordination with the Memorandum of Programmatic Agreement between the parties, dated the date hereof. To the extent that provisions of this Curatorial Services Agreement contradict or are otherwise in conflict with the provisions of any other agreement between the parties hereto or of any attachment to this Agreement, the provisions of this Curatorial Services Agreement shall govern.

The Parties do witnesseth that,

Whereas, the Depositor has the responsibility under Federal law to preserve for future use certain collections of archaeological artifacts, specimens and other material remains (as defined in 36 CFR §79.4(a)(1)) and Associated Records (as defined in 36 CFR §79.4(a)(2)) relating to the ironclad USS *Monitor*. The Depositor is desirous of obtaining from the Repository conservation and curatorial services (as defined in 36 CFR §79.4(b)) for the collection of *Monitor* archaeological artifacts, including specimens and material remains and the Associated Records (herein, collectively, the "*Monitor* Collection") listed in Attachment A, which is attached hereto and made a part hereof. Attachment A constitutes the full and complete inventory of the *Monitor* Collection, except insofar as the Associated Records listed in Attachment A are not all named and described with specificity as of the date of execution of this Agreement. The parties agree that Attachment A shall be updated to more precisely specify the Associated Records upon the completion of the process contemplated by the parties under this Agreement at Section II, Paragraph c, to be specified at Attachment E, which will outline a plan for coming to meet the Federal requirements for processing and archiving of the Associated Records. The Depositor also has the responsibility under Federal law to preserve any future archaeological artifacts, specimens, material remains and

Associated Records that may result from future *Monitor* expeditions or other means, and the parties intend that these will become additions to the *Monitor* Collection, subject to future agreement between the Parties. Any such additions, if any, to the *Monitor* Collection would be noted in addenda to Attachment A, and the Depositor will be desirous of obtaining conservation and curatorial services for such additions; and

Whereas, the Repository understands the historical significance of the *Monitor* artifacts and the need to preserve them for the public good, and being desirous of supporting the needs of the Depositor, the Repository has assumed the responsibility to receive, house, conserve and maintain the *Monitor* Collection, including (to the extent mutually agreed by both Parties) future artifacts from the *Monitor* site, and recognizes the benefits that will accrue to the public and scientific interests by housing, conserving and maintaining the *Monitor* Collection for study, exhibition and other educational purposes; and

Whereas, the Depositor recognizes that in order for the Repository to establish and maintain the facilities necessary for the Repository to perform the conservation and curatorial services contemplated in this Agreement, the Repository has to date raised, and will of necessity be required in the future to raise, significant funds from numerous individual, corporate, government and foundation sources; and

Whereas, the Parties hereto recognize the Federal Government's continued ownership and control over the *Monitor* Collection and any other U.S. Government-owned personal property (i.e., computers, furniture, etc.), if any, listed in Attachment B attached hereto and made a part hereof, provided to the Repository, and the Federal Government's responsibility to ensure that the *Monitor* Collection is suitably managed and preserved for the public good; and

Whereas, the Parties hereto recognize the mutual benefits to be derived by having the *Monitor* Collection suitably housed and maintained by the Repository;

NOW THEREFORE, the Parties do mutually agree as follows:

I. Authorities and References

Authorities and References for this Agreement are as follows: Title III of the Marine Protection, Research and Sanctuaries Act of 1972, as amended at 16 U.S.C. 1431 et. seq., as amended, now also known as the National Marine Sanctuaries Act (NMSA), which authorizes the Secretary of Commerce to designate National Marine Sanctuaries, recognizing that certain areas in the marine environment possess, among other things, conservation, historical, educational, cultural, archaeological or esthetic qualities that give them special significance. The Monitor National Marine Sanctuary (MNMS) was so designated by the Secretary of Commerce on January 30, 1975. The NMSA (16 U.S.C. §1442(a)) authorizes the Secretary of Commerce to enter into cooperative agreements, financial agreements, grants, contracts, or other agreements with States, local governments, regional agencies, or other persons to carry out the purposes and policies of the NMSA. Regulations further describe and govern activities taking place in National Marine Sanctuaries Program

at 15 C.F.R. § 922. Regulations implementing the NMSA for the National Marine Sanctuary Program (NMSP) at 15 C.F.R. § 922 apply at all sanctuaries and incorporate the laws and policies of the Federal Archaeological Program. There are also site-specific regulations for the MNMS at 15 C.F.R. §924. The special policies for the treatment of historical resources within the NMSA are found at 15 C.F.R. § 922.2 (e), and authorize the NMSP to obtain guidance from the Department of the Interior's Standards and Guidelines for Archaeology. 36 C.F.R. Part 79 establishes the Department of the Interior's guidelines for the curation of federally owned and administered archaeological collections.

As artifacts and other information recovered from the MNMS are a federally-owned collection, they are also subject to the requirements and guidelines of the Federal Archaeological Program, including, but not limited to: (1) National Historic Preservation Act (NHPA), (16 U.S.C.§ 470 et seq.): (2) Archaeological Resources Protection Act (ARPA), (16 U.S.C. § 470aa et seq.): and, (3) implementing regulations and guidelines, including requirements for the Curation of Federally Owned and Administered Archaeological Collections, (36 C.F.R. Part 79). NOAA published a request for proposals (RFP) from museums interested in acting as the principal museum for the management of the Monitor Collection at 51 Federal Register 31,708 (September 4, 1986), based upon criteria developed and recommended by the Council of American Maritime Museums. In response to that RFP, NOAA selected The Mariners' Museum to serve as principal museum for the Monitor Collection.

II. Repository's Duties

Subject to and in accordance with the terms and conditions of this Agreement, the Repository shall:

a. Provide for the professional care and management, in accordance with the regulation 36 C.F.R. Part 79, of the *Monitor* Collection from the U.S.S. *Monitor* site. The archaeological artifacts, specimens and material remains in the *Monitor* Collection were recovered in connection with periodic *Monitor* expeditions in the Monitor National Marine Sanctuary, located in waters approximately 16 miles off Cape Hatteras, North Carolina. The Associated Records have been assembled in connection with such *Monitor* expeditions, and through associated historical research, through donated records associated with the U.S.S. *Monitor*'s history, and through private expeditions to the *Monitor*. Subject to the mutual written consent of both Parties to this Agreement, the *Monitor* Collection may grow following any future *Monitor* expeditions, or may otherwise change due to the requirements of applicable law, including 16 U.S.C. § 1445 (pursuant to which Congress directed that a suitable display of *Monitor* artifacts be maintained at a site in coastal North Carolina, subject to the responsibilities of the Depositor to provide for the conservation of such artifacts). With the mutual written consent of the Depositor and the Repository, Attachment A to this Agreement (inventory list) shall be updated as needed to accurately reflect the *Monitor* Collection's contents.

b. Perform all work necessary to protect the archaeological artifacts, specimens and material remains in the *Monitor* Collection in accordance with the regulation 36 C.F.R. Part 79 for the cura-

tion of federally-owned and administered archaeological collections and the terms and conditions stipulated in Attachment C to this Agreement. Evidence of adherence to 36 C.F.R. Part 79 with respect to the *Monitor* Collection's archaeological artifacts, specimens and material remains shall be submitted in the form of the Conservation Plan to the Depositor within 3 months of the effective date of this Agreement for approval by the Depositor in accordance with the procedures listed under Section IV of this Agreement. Approval by the Depositor of the Conservation Plan shall constitute the Depositor's acknowledgement that the Repository is currently conserving and curating the *Monitor* Collection's archaeological artifacts, specimens and material remains in a manner that meets the Federal standards established under 36 C.F.R. Part 79 with regards to conservation and curatorial services for the *Monitor* Collection. Unless Federal standards change, the Repository shall be deemed to be meeting the requirements listed at 36 C.F.R. Part 79 as long as conservation and curation of the *Monitor* Collection is undertaken in accordance with such approved Conservation Plan. Should Federal standards change, or the Depositor request a higher standard of care, the Depositor agrees to work with the Repository to develop a schedule and to help the Repository find means for meeting the new standards. No amendment or revision of the Conservation Plan shall be valid except if adopted with the written consent of the Depositor and the Repository. Upon approval of the Conservation Plan, said plan shall be incorporated into this Agreement at Attachment D, and shall become a part hereof.

c. Following a joint assessment of the Repository's current archival capabilities, establish, together with the Depositor, within ninety (90) days of signing this Agreement, a schedule for improving those capabilities as may be required to allow the Depositor to meet Federal archival requirements, with respect to the Associated Records in the *Monitor* Collection. This schedule for improving the Repository's archival capabilities for the purposes of allowing the Depositor to come to meet the applicable Federal requirements shall, upon the agreement of the parties, be incorporated into this Agreement at Attachment E, and shall become a part hereof. Upon adoption of and in accordance with the Archival Plan to be developed and adopted by the parties pursuant to Section IV, Paragraph b below, the Repository shall provide and maintain a repository facility having requisite equipment, space, and adequate safeguards for the physical security and controlled environment for the Associated Records of the *Monitor* Collection, and shall provide for the proper storage, handling, and public accessibility of the Associated Records, all in accordance with and subject to 36 C.F.R. Part 79, and all applicable and controlling regulations and standards of the National Archives and Records Administration ("NARA") all of which shall be reflected in the Archival Plan. Unless those standards change, the Repository shall thereafter meet the requirements through continuing implementation of the Archival Plan. Should Federal standards change, or the Depositor request a higher standard of care, the Depositor agrees to work with the Repository to develop a schedule and to help the Repository find means for coming to meet the new standards. No amendment or revision of the Archival Plan shall be valid except if adopted with the written consent of the Depositor and the Repository.

d. Pursuant to the requirements of 36 C.F.R. Part 79, as evidenced by the approved Conservation Plan and Archival Plan, and in accordance with the terms of this Agreement, do the following:

1. Assign as the Curator, the Collections Manager, and the Conservator having responsibility for the work under this Agreement, a person or persons who are qualified museum professionals and whose expertise is appropriate to the nature and content of the *Monitor* Collection.

2. Continue all stabilization, conservation and other curatorial services for the duration of the term of this Agreement. (The term of this Agreement and the conditions for early termination are set forth in Section VIII of this Agreement).

3. Provide and maintain, in accordance with the Conservation Plan and the Archival Plan, a repository facility having requisite equipment, space and adequate safeguards for the physical security and controlled environment for the *Monitor* Collection of artifacts, specimens, material remains, Associated Records, and any other U.S. Government-owned personal property, if any, in the possession of the Repository. This includes maintaining and up-to-date Emergency Management Plan to ensure that mechanisms have been developed with which the Repository can adequately protect the *Monitor* Collection in the event of any contingencies. The Depositor reserves the right to act following an emergency to protect the *Monitor* Collection from further risks associated with the emergency.

4. As the parties agree is currently the case, maintain at all times during the term of this Agreement, insurance policies and coverage in adequate and sufficient amounts, in conformity with customary museum practice, to cover the costs of repair or replacement of objects in the *Monitor* Collection that are lost, deteriorated, damaged, or destroyed during transit or while in the Repository's possession. Depositor acknowledges and agrees that the Repository's insurance program to cover insurable risk, including risks to the *Monitor* Collection, is adequate and sufficient as of the date hereof. The Repository agrees that it shall make reasonable increases in its insurance coverages over the course of the term of this Agreement. If so requested by Depositor, the Repository shall seek quotations from insurance brokers and agents for, and shall report to Depositor on the availability of, alternative insurance coverages or forms of security instrument to provide coverage against any and all risks of physical loss or damage to objects in the *Monitor* Collection from any external causes while in transit or on display during the course of this Agreement. The Depositor must be notified in writing at least 30 days prior to any cancellation, decrease or other meaningful change in the Repository's insurance policies and coverages, at which time the Depositor shall be given the opportunity to object to said change. The beneficiary of any settlement award compensating for damage to or loss of any part of the Monitor Collection shall be the *Monitor* Collection itself. Toward that end, the Repository shall use loss settlement proceeds from insurance on the *Monitor* Collection only for implementation of this Agreement and the Programmatic Agreement between the parties. Dollar values of objects in the Monitor Collection, if established, shall be established for insurance purposes only. NOAA reserves the right to request a review of the insurance coverage maintained by the Repository. The Depositor, as owner of the *Monitor* Collection, agrees that in the event of any loss, deterioration, damage, or

destruction of any item in the *Monitor* Collection, it shall look solely to insurance, and solely for the benefit of the *Monitor* Collection, and shall have no rights of recovery or indemnification from the Repository, to cover any such loss, unless such loss is caused by the negligence or willful misconduct of an employee or contractor of the Repository.

5. Hold the Depositor harmless for any property damage or personal injury suffered or incurred by a third party and that is caused as a result of the Repository's storage, transport, or display of *Monitor* archaeological artifacts or Associated Records of the *Monitor* Collection, or from any other Government owned personal property in the possession of the Repository.

6. Not in any way adversely alter or deface any of the *Monitor* Collection except as may be absolutely necessary in the course of stabilization, conservation, scientific study, analysis and research. Permission from the Depositor is required in advance and in writing for any alterations or defacements contemplated by the Repository.

7. Provide the MNMS with annual progress reports on conservation, copies of proposed changes and additions to the Conservation Plan or the Archival Plan, and copies of any reports or documents generated by the Repository or any third party concerning the conservation or analysis of the *Monitor* Collection.

8. Annually inspect the facilities, the *Monitor* Collection and any other U.S. Government-owned personal property, if any. Every year, inventory the *Monitor* Collection and any other U.S. Government-owned personal property, if any. The Repository shall undertake these yearly inspections and inventories jointly with the Depositor's representative. Perform only those conservation treatments as are absolutely necessary to ensure the physical stability, integrity and long-term preservation of the *Monitor* Collection, and report the results of inventories, inspections and treatments to the Depositor.

9. Within one (1) day of discovery, report to the Depositor all instances of and circumstances surrounding loss of, deterioration and damage to, or destruction of the *Monitor* Collection and any other U.S. Government-owned personal property, and those actions taken to stabilize the *Monitor* Collection and to correct any deficiencies in the physical plant or operating procedures that may have contributed to the loss, deterioration, damage or destruction. The Depositor must approve in advance and in writing any actions that will involve the alteration, repair and restoration of any item of the *Monitor* Collection and any other U.S. Government-owned personal property.

10. Review and approve or deny, with the concurrence of the Depositor, requests by outside parties for access to or short-term loan of the *Monitor* Collection (or any part thereof) for scientific, educational or religious uses in accordance with the regulations set forth in 36 C.F.R. part 79 for the curation of federally-owned and administered archaeological collections and the terms and condi-

tions stipulated in Attachment C of this Agreement. The Repository shall use the facilities report form and model short-term loan agreement provided in Attachment C (or as amended as circumstances require upon mutual agreement of the Parties) for all loans between the Repository and any third party after the Depositor has approved the loans. In addition, the Repository shall refer requests for consumptive uses of the *Monitor* Collection (or any part thereof) to the Depositor for approval or denial.

11. Not mortgage, pledge, assign, repatriate, transfer, exchange, give, sublet, discard or part with possession of any of this Collection or any other U.S. Government-owned personal property in any manner to any third party either directly or indirectly without the prior written permission of the Depositor. In addition, not take any action whereby any of the *Monitor* Collection or any other U.S. Government-owned personal property shall or may be encumbered, seized, taken in execution, sold attached, lost, stolen, destroyed or damaged.

III. Depositor's Duties

The Depositor shall:

a. To the extent agreed upon in advance between the Depositor and the Repository, deliver or cause to be delivered to the Repository additions to the Monitor Collection as additional artifacts are retrieved by future *Monitor* expeditions. All such agreed additions to the *Monitor* Collection shall be described in addenda to Attachment A to this Agreement. This shall continue until *Monitor* expeditions no longer occur, or until this Agreement is sooner terminated or revoked in accordance with the terms set forth herein.

b. Assign as the Depositor's Representative having full authority with regard to this Agreement, a person who meets pertinent professional archaeological, archival, and/or curatorial qualifications. Depositor shall also ensure that it has representatives meeting professional qualifications in other areas pertinent to this Agreement for purposes of providing input on its ongoing implementation.

c. Every year, or as determined by the Depositor, have the Depositor's Representative inspect and inventory the *Monitor* Collection and any other U.S. Government-owned personal property and inspect the Repository facility, jointly with the Repository's designated representative. The Depositor's Representative shall have access to the *Monitor* Collection upon request and with reasonable notice for other purposes at any time.

d. Review and approve or deny in writing requests for short-term loans of the *Monitor* Collection to third parties and requests for consumptive use of the Monitor Collection, or any part thereof.

IV. Conservation Plan, Archival Plan and Advisory Committee

a. The Repository shall submit to the Depository its detailed conservation plan setting forth the plans, facilities and capabilities of the Repository for conservation of the archaeological artifacts, specimens and material remains in the *Monitor* Collection (the "Conservation Plan"). Upon reviewing the proposed Conservation Plan, including any changes or additions to the Conservation Plan, or other documentation establishing that the Repository is meeting the requirements of 36 C.F.R. Part 79, the Depositor or its designee shall, within thirty (30) days after receipt of the Conservation Plan, either (i) certify that the Conservation Plan meets the requirements of that law or (ii) request in writing and with a reasonable level of detail that the plan be revised. Upon its certification by Depositor, the Conservation Plan shall be become Attachment D to this Agreement and shall be deemed incorporated as a part hereof.

b. The Depositor and the Repository have together commenced, in consultation with NARA, to analyze and assess the *Monitor* Collection's Associated Records and the NARA regulations and standards applicable to the Associated Records (and any applicable obligations that may be set forth in a Memorandum of Understanding contemplated to be entered into between the Depositor and NARA). This analysis and assessment shall form the basis of the schedule for improving the Repository's archival capabilities, if necessary, to allow the Repository to meet the Federal archival requirements, as contemplated at Section II Paragraph c. Thereafter, the Depositor and the Repository shall diligently and in good faith cooperate to develop as promptly as reasonably possible, an Archival Plan that shall (i) establish the methods, procedures, and standards (including all applicable regulations and standards of NARA) pursuant to which the Repository shall perform the duties foreseen under Paragraph c of Section II of this Agreement, and (ii) set forth the plans, facilities and capabilities of the Repository for processing and archiving the Associated Records. The Archival Plan shall include a pro forma budget of costs and expenses, including capital costs, and shall identify potential funding sources and other potential resources including in-kind services where applicable, necessary for the performance of the activities foreseen under the Archival Plan and the fulfillment of the obligations of the Repository upon final adoption and approval of the Archival Plan. It is acknowledged and agreed by the Repository that nothing in the foregoing sentence shall be construed as creating any fiscal or funding obligation on the part of the Depositor or any other agency of the U.S. Government. The Repository shall submit its Archival Plan to the Depositor for review and approval. Upon reviewing the proposed Archival Plan, including any documentation establishing that the Repository meets the requirements of 36 C.F.R. Part 79 and the applicable NARA regulations and standards, the Depositor or its designee shall, within thirty (30) days after receipt of the Archival Plan, either (i) certify that the Archival Plan meets such requirements, regulations and standards or (ii) request in writing and with a reasonable level of detail that the plan be revised. Upon its certification by Depositor, the Archival Plan shall be become Attachment F to this Agreement and shall be deemed incorporated as a part hereof.

c. To assist the Repository generally in its efforts to preserve and protect the *Monitor* Collection, including the creation and review of the Archival Plan, the Conservation Plan and the evaluation of the conservation and curatorial services performed by the Repository hereunder, the Parties agree that the Repository shall establish an Advisory Committee of recognized experts in the fields of conservation and curation of maritime archaeological artifacts and archival record keeping (the "Museum Advisory Committee").

d. The Repository may consult with the Museum Advisory Committee regarding any disputes it has with the Depositor as to whether the Conservation Plan or the Archival Plan submitted by the Repository meets the requirements of 36 C.F.R. Part 79, or other applicable Federal requirements. In the event of a dispute, either party may request that the dispute then be resolved under the dispute resolution mechanisms set forth in the Memorandum of Programmatic Agreement between the parties, dated the date hereof.

V. Removal of *Monitor* Collection from Premises

Removal of all or any portion of the *Monitor* Collection from the premises of the Repository for scientific, educational, public awareness, or religious purposes may be allowed by the Repository only in accordance with 36 C.F.R. Part 79 for the curation of federally-owned and administered archaeological collections, and the conditions stipulated in Attachment C for handling packaging and transporting the Monitor Collection. Prior to removing any item from the *Monitor* Collection, the Repository shall receive approval in writing from the Depositor for such removal. The Repository, in accordance with customary museum practice may specify additional conditions for handling, packaging and transporting the *Monitor* Collection to prevent breakage, deterioration and contamination. The Repository shall have no liability or responsibility for deterioration or loss of any item of the *Monitor* Collection that has been removed from the premises of the Repository and is in the possession of another party, provided such removal was undertaken fully in accordance with the requirements of this Section V, including ensuring that the Depositor has agreed to the removal of item(s), and that the Borrowing institution will provide wall-to-wall insurance for those items in the *Monitor* Collection on loan to it.

VI. Exhibiting the Monitor Collection and Fund Raising

The *Monitor* Collection or portions thereof may be exhibited, photographed or otherwise reproduced and studied in accordance with the terms and conditions stipulated in Attachment C to this Agreement. The Repository shall determine exhibition design, interpretation, method and technique, as well as the content, layout, display, label copy and other interpretive strategies. In undertaking the foregoing, the Repository shall fully consult with the Depositor throughout the process. Depositor reserves the right of final approval on label copy and other interpretive strategies with respect to the accuracy, crediting, or representation of the Depositor. In the event that the Depositor wishes to exercise its option

to refuse final approval of an exhibit, it shall do so in writing and within 30 days of Repository's submission of a final exhibit plan. Depositor shall explain the basis for its refusal to approve the plan, and shall give the Repository the opportunity to remedy the inaccuracy. In the event that the Depositor fails to respond to any final exhibit plan within 30 days, Depositor's approval shall be presumed. The Repository may use the *Monitor* Collection to raise funds through regular museum admission fees at the facilities of the Repository, and through reasonable loan/exhibition fees arising from the loan of artifacts in the Monitor Collection to other qualified museums. However, researchers, educators and the general public should not be subject to extraordinary or special fees for access or admission. All other uses of the *Monitor* Collection by the Repository shall be in compliance with the terms of the Programmatic Agreement between the parties, dated the date hereof. All exhibitions, reproductions and studies shall credit the Depositor, and read as follows; "Courtesy of the Monitor National Marine Sanctuary, National Oceanic and Atmospheric Administration, U.S. Department of Commerce," Or some shortened version thereof, upon the approval of both parties. The Repository agrees to provide the Depositor with two copies of any resulting publications or video productions.

VII. Record-Keeping

The Repository shall maintain complete and accurate records of the *Monitor* Collection and any other U.S. Government-owned personal property, if any, including information on the study, use, loan and location of any part of the *Monitor* Collection that has been removed from the premises of the Repository. The Repository shall determine record keeping methods and procedures, which shall at all times be in accordance with customary museum practice.

VIII. Duration of Agreement

Upon execution by both Parties, this Curatorial Services Agreement shall be in full force and effect, and shall remain in effect for an initial term of thirty (30) years. At the conclusion of the initial term, the parties shall review this Agreement and determine whether it shall be renewed, and for what term. Nothing in this Section VIII shall be deemed to limit the right of the Depositor to terminate this Agreement at any time in accordance with the provision of Section IX of this Agreement, or any other provision of Federal law.

IX. Termination of Agreement

The Depositor reserves the right to terminate this Agreement if (A) the Repository has been shown upon inspection, and after consultation by the Depositor with the Repository, to be in breach of and out of compliance with 36 C.F.R. Part 79, as evidenced by the Repository's material breach and failure to perform conservation and curatorial services in accordance with the Conservation Plan and the Archival Plan, and (B) the Repository remains in such breach and non-compliance after (i) the Depositor has given written notice to the Repository detailing the breach and non-compliance, (ii) the Depositor and the Repository have engaged in cooperative efforts to remedy such breach and non-compliance, and (iii) the Depositor has given the Repository reasonable time and opportunity to come into compliance. Notwithstanding the foregoing, the

Depositor shall have the right to terminate this Agreement with immediate effect if the Depositor deems that as a direct result of the Repository's breach of and non-compliance with its obligations under this Agreement, the *Monitor* Collection, or a significant part thereof, is in imminent danger of irreparable deterioration or loss. Upon expiration or termination of this Agreement, including any early termination in accordance with this Section IX, the Repository shall, at the Depositor's cost and expense, return the *Monitor* Collection and any other U.S. Government-owned personal property, if any, to a destination directed by the Depositor and in such manner to preclude breakage, loss, deterioration and contamination during handling, packaging and shipping, and in accordance with other conditions specified in writing by the Depositor.

X. Fiscal Obligations

This Agreement is not a fiscal or funds obligation document. Any activities involving reimbursement or transfer of funds between the parties to this Agreement will be handled in accordance with applicable laws, regulations, and procedures. Such activities will be documented in a separate legal instrument.

XI. Contacts

The Parties to this Agreement shall be contacted as follows:

a. National Oceanic and Atmospheric Administration

Daniel J. Basta, Director, National Marine Sanctuary Program

1305 East-West Highway, SSMC 4, Room 11523

Silver Spring, MD 20910

Phone: (301) 713-3125 Fax: (301) 713-0404

b. Monitor National Marine Sanctuary

John D. Broadwater, Ph.D., Manager

NOAA's Monitor National Marine Sanctuary

100 Museum Drive

Newport News, VA 23 606

Phone: 757-599-3122 Fax:

c. The Mariners' Museum:

John B. Hightower, President and CEO,

The Mariners' Museum

100 Museum Drive

Newport News, VA 23606

Phone: 757-596-2222 Fax 757-591-7311

XII. Dispute Resolution

Any disputes between the Parties shall be resolved under the dispute resolution mechanisms outlined in the Memorandum of Programmatic Agreement between the Parties, dated the date hereof.

XIII. Title to the *Monitor* Collection

Title to the *Monitor* Collection being cared for and maintained under this Agreement lies with the Federal Government.

IN WITNESS WHEREOF, the Parties hereto have executed and delivered this Agreement to be effective as of the date first above written.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

By:_____

Date:_____, 2003

Daniel J. Basta

Director, National Marine Sanctuary Program

THE MARINERS' MUSEUM

By:_____

Date:_____, 2003

John B. Hightower

President and CEO, The Mariners' Museum

Attachment A: Inventory of the *Monitor* Collection, to be updated annually

Attachment B: Inventory of U.S. Government-owned Personal Property

Attachment C: Terms and Conditions Required by the Depositor

Attachment D: Conservation Plan

Attachment E: Schedule for Archival Improvements

Attachment F: Archival Plan

Appendix F: Permit Guidelines: Archaeological Research

For Information regarding applying for a permit within the boundaries of the Monitor National Marine Sanctuary, please contact the sanctuary staff at:

NOAA Monitor National Marine Sanctuaries

100 Museum Dr.

Newport News, VA 23606

(757) 599-3122

Or visit: http://sanctuaries.noaa.gov/management/permits/pdfs/nms_permit_instructions.pdf

Appendix G: Rating Scheme for System-Wide Monitoring Questions

The purpose of this appendix is to clarify the 17 questions and possible responses used to report the condition of sanctuary resources in "Condition Reports" for all national marine sanctuaries. Individual staff and partners utilized this guidance, as well as their own informed and detailed understanding of the site to make judgments about the status and trends of sanctuary resources.

The questions derive from the National Marine Sanctuary Program mission, and a system-wide monitoring framework (National Marine Sanctuary Program, 2004) developed to ensure the timely flow of data and information to those responsible for managing and protecting resources in the ocean and coastal zone, and to those that use, depend on, and study the ecosystems encompassed by the sanctuaries. They are being used to guide staff and partners at each of the 14 sites in the sanctuary system in the development of this first periodic sanctuary condition report. The questions are meant to set the limits of judgments so that responses can be confined to certain reporting categories that will later be compared among all sites, and combined. Evaluations of status and trends may be based on interpretation of quantitative and, when necessary, non-quantitative assessments and observations of scientists, managers and users.

Following a brief discussion about each question, statements are presented that were used to judge the status and assign a corresponding color code. These statements are customized for each question. In addition, the following options are available for all questions: " N/A" - the question does not apply; and "Undet." - resource status is undetermined.

Symbols used to indicate trends are the same for all questions: "▲" – conditions appear to be improving; "**–**" – conditions do not appear to be changing; "▼ " – conditions appear to be declining; and "**?**" – the trend is undetermined.

Question 1 (Water/Stressors): Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality and how are they changing?

This is meant to capture shifts in condition arising from certain changing physical processes and anthropogenic inputs. Factors resulting in regionally accelerated rates of change in water temperature, salinity, dissolved oxygen, or water clarity, could all be judged to reduce water quality. Localized changes in circulation or sedimentation resulting, for example, from coastal construction or dredge spoil disposal, can affect light penetration, salinity regimes, oxygen levels, productivity, waste transport, and other factors that influence habitat and living resource quality. Human inputs, generally in the form of contaminants from point or non-point sources, including fertilizers, pesticides, hydrocarbons, heavy metals, and sewage, are common causes of environmental degradation, often in combination rather than alone. Certain biotoxins, such as domoic acid, may be of particular interest to specific sanctuaries. When present in the water column, any of these contaminants can affect marine life by direct contact or ingestion, or through bioaccumulation via the food chain.

[Note: Over time, accumulation in sediments can sequester and concentrate contaminants. Their effects may manifest only when the sediments are resuspended during storm or other energetic events. In such cases, reports of status should be made under Question 7 – Habitat contaminants.]

Question 2 (Water/Eutrophic Condition): What is the eutrophic condition of sanctuary waters and how is it changing?

Nutrient enrichment often leads to planktonic and/or benthic algae blooms. Some affect benthic communities directly through space competition. Overgrowth and other competitive interactions (e.g., accumulation of algal-sediment mats) often lead to shifts in dominance in the benthic assemblage. Disease incidence and frequency can also be affected by algae competition and the resulting chemistry along competitive boundaries. Blooms can also affect water column conditions, including light penetration and plankton availability, which can alter pelagic food webs. Harmful algal blooms often affect resources, as biotoxins are released into the water and air, and oxygen can be depleted.

Question 3 (Water/Human Health): Do sanctuary waters pose risks to human health and how are they changing?

Human health concerns are generally aroused by evidence of contamination (usually bacterial or chemical) in bathing waters or fish intended for consumption. They also emerge when harmful algal blooms are reported or when cases of respiratory distress or other disorders attributable to harmful algal blooms increase dramatically. Any of these conditions should be considered in the course of judging the risk to humans posed by waters in a marine sanctuary.

Some sites may have access to specific information on beach and shellfish conditions. In particular, beaches may be closed when criteria for safe water body contact are exceeded, or shellfish harvesting may be prohibited when contaminant loads or infection rates exceed certain levels. These conditions can be evaluated in the context of the descriptions below.

Question 4 (Water/Human Activities): What are the levels of human activities that may influence water quality and how are they changing?

Among the human activities in or near sanctuaries that affect water quality are those involving direct discharges (transiting vessels, visiting vessels, onshore and offshore industrial facilities, public wastewater facilities), those that contribute contaminants to stream, river, and water control discharges (agriculture, runoff from impermeable surfaces through storm drains, conversion of land use), and those releasing airborne chemicals that subsequently deposit via particulates at sea (vessels, land-based traffic, power plants, manufacturing facilities, refineries). In addition, dredging and trawling can cause resuspension of contaminants in sediments.

Question 5 (Habitat/Abundance/Distribution): What are the abundance and distribution of major habitat types and how are they changing?

Habitat loss is of paramount concern when it comes to protecting marine and terrestrial ecosystems. Of greatest concern to sanctuaries are changes caused, either directly or indirectly, by human activities. The loss of shoreline is recognized as a problem indirectly caused by human activities. Habitats with submerged aquatic vegetation are often altered by changes in water conditions in estuaries, bays, and nearshore waters. Intertidal zones can be affected for long periods by spills or by chronic pollutant exposure. Beaches and haul-out areas can be littered with dangerous marine debris, as can the water column or benthic habitats. Sandy subtidal areas and hardbottoms are frequently disturbed or destroyed by trawling. Even rocky areas several hundred meters deep are increasingly affected by certain types of trawls, bottom longlines, and fish traps. Groundings, anchors, and divers damage submerged reefs. Cables and pipelines disturb corridors across numerous habitat types and can be destructive if they become mobile. Shellfish dredging removes, alters, and fragments habitats.

The result of these activities is the gradual reduction of the extent and quality of marine habitats. Losses can often be quantified through visual surveys and to some extent using high-resolution mapping. This question asks about the quality of habitats compared to those that would be expected without human impacts. The status depends on comparison to a baseline that existed in the past - one toward which restoration efforts might aim.

Question 6 (Habitat/Structure): What is the condition of biologically-structured habitats and how is it changing?

Many organisms depend on the integrity of their habitats and that integrity is largely determined by the condition of particular living organisms. Coral reefs may be the best known examples of such biologically-structured habitats. Not only is the substrate itself biogenic, but the diverse assemblages residing within and on the reefs depend on and interact with each other in tightly linked food webs. They also depend on each other for the recycling of wastes, hygiene, and the maintenance of water quality, among other requirements.

Kelp beds may not be biogenic habitats to the extent of coral reefs, but kelp provides essential habitat for assemblages that would not reside or function together without it. There are other communities of organisms that are also similarly co-dependent, such as hard-bottom communities, which may be structured by bivalves, octocorals, coralline algae, or other groups that generate essential habitat for other species. Intertidal assemblages structured by mussels, barnacles, and algae are another example, seagrass beds another. This question is intended to address these types of places, where organisms form structures (habitats) on which other organisms depend.

Question 7 (Habitat/Contaminants): What are the contaminant concentrations in sanctuary habitats and how are they changing?

This question addresses the need to understand the risk posed by contaminants within benthic formations, such as soft sediments, hard bottoms, or biogenic organisms. In the first two cases, the contaminants can become available when released via disturbance. They can also pass upwards through the food chain after being ingested by bottom dwelling prey species. The contaminants of concern generally include pesticides, hydrocarbons, and heavy metals, but the specific concerns of individual sanctuaries may differ substantially.

Question 8 (Habitat/Human Activities): What are the levels of human activities that may influence habitat quality and how are they changing?

Human activities that degrade habitat quality do so by affecting structural (geological), biological, oceanographic, acoustic, or chemical characteristics. Structural impacts include removal or mechanical alteration, including various fishing techniques (trawls, traps, dredges, longlines, and even hook-and-line in some habitats), dredging channels and harbors and dumping spoil, vessel groundings, anchoring, laying pipelines and cables, installing offshore structures, discharging drill cuttings, dragging tow cables, and placing artificial reefs. Removal or alteration of critical biological components of habitats can occur along with several of the above activities, most notably trawling, groundings, and cable drags. Marine debris, particularly in large quantities (e.g., lost gill nets and other types of fishing gear), can affect both biological and structural habitat components. Changes in water circulation often occur when channels are dredged, fill is added, coastal areas are reinforced, or other construction takes place. These activities affect habitat by changing food delivery, waste removal, water quality (e.g., salinity, clarity and sedimentation), recruitment patterns, and a host of other factors. Acoustic impacts can occur to water column habitats and organisms from acute and chronic sources of anthropogenic noise (e.g., shipping, boating, construction). Chemical alterations most commonly occur following spills and can have both acute and chronic impacts.

Question 9 (Living Resources/Biodiversity): What is the status of biodiversity and how is it changing?

This is intended to elicit thought and assessment of the condition of living resources based on expected biodiversity levels and the interactions between species. Intact ecosystems require that all parts not only exist, but that they function together, resulting in natural symbioses, competition, and predator-prey relationships. Community integrity, resistance and resilience all depend on these relationships. Abundance, relative abundance, trophic structure, richness, H' diversity, evenness, and other measures are often used to assess these attributes.

Question 10 (Living Resources/Extracted Species): What is the status of environmentally sustainable fishing and how is it changing?

Commercial and recreational harvesting are highly selective activities, for which fishers and collectors target a limited number of species, and often remove high proportions of populations. In addition to removing significant amounts of biomass from the ecosystem, reducing its availability to other consumers, these activities tend to disrupt specific and often critical food web links. When too much extraction occurs (i.e. ecologically unsustainable harvesting), trophic cascades ensue, resulting in changes in the abundance of non-targeted species as well. It also reduces the ability of the targeted species to replenish populations at a rate that supports continued ecosystem integrity.

It is essential to understand whether removals are occurring at ecologically sustainable levels. Knowing extraction levels and determining the impacts of removal are both ways that help gain this understanding. Measures for target species of abundance, catch amounts or rates (e.g., catch per unit effort), trophic structure, and changes in non-target species abundance are all generally used to assess these conditions.

Other issues related to this question include whether fishers are using gear that is compatible with the habitats being fished and whether that gear minimizes by-catch and incidental take of marine mammals. For example, bottom-tending gear often destroys or alters both benthic structure and non-targeted animal and plant communities. "Ghost fishing" occurs when lost traps continue to capture organisms. Lost or active nets, as well as lines used to mark and tend traps and other fishing gear, can entangle marine mammals. Any of these could be considered indications of environmentally unsustainable fishing techniques.

Question 11 (Living Resources/Invasive Species): What is the status of non-indigenous species and how is it changing?

Non-indigenous species are generally considered problematic, and candidates for rapid response, if found, soon after invasion. For those that become established, their impacts can sometimes be assessed by quantifying changes in the affected native species. This question allows sanctuaries to report on the threat posed by non-indigenous species. In some cases, the presence of a species alone constitutes a significant threat (certain invasive algae). In other cases, impacts have been measured, and may or may not significantly affect ecosystem integrity.

Question 12 (Living Resources/Key Species): What is the status of key species and how is it changing?

Certain species can be defined as "key" within a marine sanctuary. Some might be keystone species, that is, species on which the persistence of a large number of other species in the ecosystem depends - the pillar of community stability. Their functional contribution to ecosystem function is disproportionate to their numerical abundance or biomass and their impact is therefore important at the community or ecosystem level. Their removal initiates changes in ecosystem structure and sometimes the disappearance of or dramatic increase in the abundance of dependent species. Keystone species may include certain habitat modifiers, predators, herbivores, and those involved in critical symbiotic relationships (e.g. cleaning or co-habitating species).

Other key species may include those that are indicators of ecosystem condition or change (e.g., particularly sensitive species), those targeted for special protection efforts, or charismatic species that are identified with certain areas or ecosystems. These may or may not meet the definition of keystone, but do require assessments of status and trends.

Question 13 (Living Resources/Health of Key Species): What is the condition or health of key species and how is it changing?

For those species considered essential to ecosystem integrity, measures of their condition can be important to determining the likelihood that they will persist and continue to provide vital ecosystem functions. Measures of condition may include growth rates, fecundity, recruitment, age-specific survival, tissue contaminant levels, pathologies (disease incidence tumors, deformities), the presence and abundance of critical symbionts, or parasite loads. Similar measures of condition may also be appropriate for other key species (indicator, protected, or charismatic species). In contrast to the question about keystone species (#12 above), the impact of changes in the abundance or condition of key species is more likely to be observed at the population or individual level, and less likely to result in ecosystem or community effects.

Question 14 (Living Resources/Human Activities): What are the levels of human activities that may influence living resource quality and how are they changing?

Human activities that degrade living resource quality do so by causing a loss or reduction of one or more species, by disrupting critical life stages, by impairing various physiological processes, or by promoting the introduction of non-indigenous species or pathogens. (Note: Activities that impact habitat and water quality may also affect living resources. These activities are dealt with in Questions 4 and 8, and many are repeated here as they also have direct effect on living resources).

Fishing and collecting are the primary means of removing resources. Bottom trawling, seine-fishing, and the collection of ornamental species for the aquarium trade are all common examples, some being more selective than others. Chronic mortality can be caused by marine debris derived from commercial or recreational vessel traffic, lost fishing gear, and excess visitation, resulting in the gradual loss of some species.

Critical life stages can be affected in various ways. Mortality to adult stages is often caused by trawling and other fishing techniques, cable drags, dumping spoil or drill cuttings, vessel groundings, or persistent anchoring. Contamination of areas by acute or chronic spills, discharges by vessels, or municipal and industrial facilities can make them unsuitable for recruitment; the same activities can make nursery habitats unsuitable. Although coastal armoring and construction can increase the availability of surfaces suitable for the recruitment and growth of hard bottom species, the activity may disrupt recruitment patterns for other species (e.g., intertidal soft bottom animals) and habitat may be lost.

Spills, discharges, and contaminants released from sediments (e.g., by dredging and dumping) can all cause physiological impairment and tissue contamination. Such activities can affect all life stages by reducing fecundity, increasing larval, juvenile, and adult mortality, reducing disease resistance, and increasing susceptibility to predation. Bioaccumulation allows some contaminants to move upward through the food chain, disproportionately affecting certain species.

Activities that promote introductions include bilge discharges and ballast water exchange, commercial shipping and vessel transportation. Releases of aquarium fish can also lead to species introductions.

Question 15 (Maritime Archaeological Resources/Integrity): What is the integrity of known maritime archaeological resources and how is it changing?

The condition of archaeological resources in a marine sanctuary significantly affects their value for science and education, as well as the resource's eligibility for listing in the National Register of Historic Places. Assessments of archaeological sites include evaluation of the apparent levels of site integrity, which are based on levels of previous human disturbance and the level of natural deterioration. The historical, scientific and educational values of sites are also evaluated, and are substantially determined and affected by site condition.

Question 16 (Maritime Archaeological Resources/Threat to Environment): Do known maritime archaeological resources pose an environmental hazard and is this threat changing?

The sinking of a ship potentially introduces hazardous materials into the marine environment. This danger is true for historic shipwrecks as well. The issue is complicated by the fact that shipwrecks older than 50 years may be considered historical resources and must, by federal mandate, be protected. Many

historic shipwrecks, particularly early to mid-20th century, still have the potential to retain oil and fuel in tanks and bunkers. As shipwrecks age and deteriorate, the potential for release of these materials into the environment increases.

Question 17 (Maritime Archaeological Resources/Human Activities): What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?

Some human maritime activities threaten the physical integrity of submerged archaeological resources. Archaeological site integrity is compromised when elements are moved, removed, or otherwise damaged. Threats come from looting by divers, inadvertent damage by scuba diving visitors, improperly conducted archaeology that does not fully document site disturbance, anchoring, groundings, and commercial and recreational fishing activities, among others.

Appendix H: Agency Letters

During the course of the management plan review process, which began in 2008, NOAA received the following letters from federal, state and local agencies (pages 208-226). Letters from academic and other education institutions were also submitted. These government and institutional letters are included in there entirety within this appendix. All other comments received from the public at large can be viewed electronically at the Federal eRulemaking Portal http://www.regulations.gov with Docket Number NOAA-NOS-2012-0076.

Coastal Studies Institute
UNIVERSITY OF NORTH CAROLINA

July 14, 2009

Mr. David Alberg, Sanctuary Superintendent
Monitor National Marine Sanctuary
100 Museum Drive
Newport News, VA 23606
757-591-7326
David.Alberg@noaa.gov

Dear Mr. Alberg,

I am writing on behalf of marine science research programs within the University of North Carolina (UNC) to express support of the *Monitor* National Marine Sanctuary (NMS) management plan review that is currently taking place through a community-based process. We understand that NOAA may be considering expansion of the *Monitor* NMS as part of the management plan review process. Our program leaders fully support consideration of expansion and welcome the opportunity to participate in the management plan process to consider expansion.

We recognize the unique cultural seascape of numerous historical shipwrecks scattered widely over the region off the North Carolina coast known at the "Graveyard of the Atlantic", and highlight the confluence of major ocean currents off North Carolina's capes that support highly productive and diverse marine ecosystems on the continental shelf and beyond. These cultural and natural resources underpin an exceptional level of economic and recreational activity for the mid-Atlantic region of the U.S. Unique physical features, natural resources and economic opportunities within continental shelf off NC include:

- The convergence of two major ocean currents, the Gulf Stream and Labrador Current, with local water masses generated over the coast's extensive continental shelf creates a physically dynamic ocean environment and unique ecosystems.
- Exceptional biological productivity that extends from above water (more seabirds than any geographic unit in N. Atlantic), throughout the water column (global diversity hotspot for large predators), to the seafloor (10-100 times more organic matter in Upper Hatteras slope sediments than shelf/slope areas 50 miles north and south of Cape Hatteras).
- Abundant floating *Sargassum* seaweed concentrated by current eddies provide critical habitat and feeding sites for endangered sea turtles, pelagic fish, and endemic species that live only in *Sargassum*.
- The Carolina Trough that holds an estimated 30 years of U.S. consumption of fossil fuel and is the site of the *Manteo Exploration Unit*.

217 Budleigh Street, PO Box 699 • Manteo, NC 27954 • Phone: 252-475-3663 • Fax: 252-475-3545 • http://csi.northcarolina.edu/

- The meteorologically dynamic environment of the North Carolina coast, in part responsible for many of the regions important shipwrecks, now offers great opportunities for establishing commercial-scale production of wind-generated electricity, but within environmentally sensitive areas.
- Strong and complementary sets of marine science programs within UNC and Duke University; significant state and federal marine science monitoring and research facilities; and a growing inventory of undersea technology assets.

As you are aware, global climate change will greatly modify atmospheric and oceanic temperature, patterns of winds, precipitation and drought, with the pH of our oceans negatively affected by elevated levels of atmospheric CO_2. The unique meteorology and ecosystems off the North Carolina coast will likely be among the first to be substantially impacted by global climate change. Although global climate change presents a major challenge on many fronts, we are encouraged by the expertise and solutions that the coastal and marine science programs within the University have to offer in terms of:

- Developing and delivering education programs that will increase understanding of the unique ecosystems and cultural heritage of North Carolina's coastal environments,
- Providing expertise and resources for research, monitoring, and outreach activities,
- Fueling job creation by working with communities to find opportunities for economic diversification through eco-tourism, sustainability and innovation businesses, and the application of advanced technologies, and
- Facilitating effective ocean area planning and management strategies.

We recognize that new challenges and opportunities emerge with time, *and these challenges underscore the need for a unified, comprehensive review and revision of the Monitor National Marine Sanctuary plan.* Therefore, directors of marine science research programs in UNC (Dr. Dan Baden, UNC-W; Dr. Maurice Crawford, Elizabeth City State University; Dr. David Eggleston, NCSU; Drs. Rick Luettich and Brent McKee, UNC-CH; Dr. John Rummel, ECU; Dr. Mike Voiland, NC Sea Grant; and Dr. Nancy White, UNC-Coastal Studies Institute) have consulted with a great many faculty and staff involved in marine science and education along the North Carolina coast. As such, we are confident in the breadth of expertise that can be offered to the *Monitor* NMS as the sanctuary management plan is revised with a bold, forward-looking perspective that will benefit the many stakeholders of coastal and marine resources along the North Carolina coast.

Thank you for considering our input and support.

Sincerely,

Michael Kelly

Michael Kelly, Chair
UNC Coastal Studies Institute
Board of Directors

North Carolina
MARINE SCIENCE & EDUCATION
PARTNERSHIP

3615 Arendell Street, Morehead City, NC 28557
252 222 6120 ~ edc@carteret.edu

1 December 2009

Mr. David Alberg, Sanctuary Superintendent
Monitor National Marine Sanctuary
100 Museum Drive
Newport News, VA 23606

757-591-7326
David.Alberg@noaa.gov

RE: Support for the *Monitor* National Marine Sanctuary Management Plan

Dear Mr. Alberg,

I am writing on behalf of the *Marine Science and Education Partnership* (MSEP), which represents marine-based economic interests, as well as marine science and education institutions located in eastern North Carolina, to express our support of the *Monitor* National Marine Sanctuary (NMS) management plan review that is currently taking place through a community-based process. We understand that the management plan will study regulations, boundaries, resource protection, research, and education programs that guide sanctuary operations. As a part of the management plan review, NOAA may be considering expansion of the *Monitor* NMS. We fully support consideration of expansion and welcome the opportunity to participate in the management plan review process to consider expansion. Based on the experience of other National Marine Sanctuaries in the U.S. that have expanded in area, such as the *Thunder Bay* NMS (http://thunderbay.noaa.gov/), expansion of the *Monitor* NMS could facilitate:

- The development and delivery of education programs that will increase understanding of the unique ecosystems and cultural heritage of North Carolina's coastal environments,
- Support of expertise and resources for research, monitoring, and outreach activities,
- Creation of jobs by working with communities to find opportunities for economic diversification through eco-tourism, sustainability and innovation businesses, and the application of advanced technologies, and
- Effective ocean area planning and management strategies.

The following individuals represent their respective centers or institutions in the MSEP, and have consulted with their staff and faculty regarding this letter of support:

Dr. Dan Baden, UNC-W;

Mr. Jay Barnes, NC Aquarium at Pine Knoll Shores;

Ms. Allison Besch, NC Maritime Museum;

Mr. John Chaffee, President, North Carolina's Eastern Region

Ms. Tricia Murphey, NC Division of Marine Fisheries;

Dr. David Eggleston, NCSU/CMAST;

Ms. Rebecca Ellen, Director National Estuarine Research Reserve System;

Ms. Patti Fowler, NC Shellfish Sanitation Section;

Mr. Randall Johnson, NC Biotechnology Center/Eastern Region;

Dr. Rick Luettich, UNC-CH/IMS;

Dr. Dan Novey, Superintendent, Carteret County Board of Education

Mr. Lockwood Phillips, Carteret News Times;

Mr. Greg Rudolph, Carteret County Shore Protection Office;

Dr. John Rummel, ECU; Institute for Coastal Science and Policy

Dr. Cindy VanDover, Duke University Marine Laboratory;

Dr. Nancy White, UNC-Coastal Studies Institute;

Dr. Kerry Youngblood, President Carteret Community College;

Mr. Dave Inscoe, Carteret Economic Development.

We are excited about the many benefits that a revised *Monitor* NMS sanctuary management plan could bring to stakeholders of coastal and marine resources along the North Carolina coast, and look forward to working with you towards a new vision that integrates conservation of cultural and natural resources with economic development. Thank you for considering our input and support.

Sincerely,

Dave Inscoe, Executive Director
Carteret Economic Development Council
Facilitator, NC MSEP

Duke Marine Laboratory
East Carolina University
NC State Center for Marine Sciences
UNC-Chapel Hill Institute of Marine Sciences

NOAA's National Ocean Service Center for Coastal Fisheries & Habitat Research
Carteret Community College
Carteret County Public School System
Carteret Economic Development

NC Aquarium at Pine Knoll Shores
NC's Eastern Region
NC Maritime Museum
NC National Estuarine Research Reserve

NC Division of Coastal Management
NC Division of Marine Fisheries
UNC-W
NC Sea Grant

Carteret County Shore Protection Office
NC Shellfish Sanitation
UNC-Coastal Studies Institute
Carteret News-Times

The University of North Carolina
GENERAL ADMINISTRATION
POST OFFICE BOX 2688, CHAPEL HILL, NC 27515-2688
STEVEN LEATH, Ph.D., *Vice President for Research*
Telephone: (919) 962-4619 • Fax: (919) 843-4942 • E-mail: sleath@northcarolina.edu

July 1, 2009

Mr. David Alberg, Sanctuary Superintendent
Monitor National Marine Sanctuary
100 Museum Drive
Newport News, VA 23606
757-591-7326
David.Alberg@noaa.gov

Dear Mr. Alberg,

I am writing on behalf of marine science research programs within the University of North Carolina (UNC) to express support of the *Monitor* National Marine Sanctuary (NMS) management plan review that is currently taking place through a community-based process. We understand that NOAA may be considering expansion of the *Monitor* NMS as part of the management plan review process. Our program leaders fully support consideration of expansion and welcome the opportunity to participate in the management plan review process to consider expansion.

We recognize the unique cultural seascape of numerous historical shipwrecks scattered widely over the region off the North Carolina coast known as the "Graveyard of the Atlantic", and highlight the confluence of major ocean currents off North Carolina's capes that support highly productive and diverse marine ecosystems on the continental shelf and beyond. These cultural and natural resources underpin an exceptional level of economic and recreational activity for the mid-Atlantic region of the U.S. Unique physical features, natural resources and economic opportunities within continental shelf off NC include:

- The convergence of two major ocean currents, the Gulf Stream and Labrador Current, with local water masses generated over the coast's extensive continental shelf creates a physically dynamic ocean environment and unique ecosystems.
- Exceptional biological productivity that extends from above water (more seabirds than any geographic unit in N. Atlantic), throughout the water column (global diversity hotspot for large predators), to the seafloor (10-100 times more organic matter in Upper Hatteras slope sediments than shelf/slope areas 50 miles north and south of Cape Hatteras).
- Abundant floating *Sargassum* seaweed concentrated by current eddies provide critical habitat and feeding sites for endangered sea turtles, pelagic fish, and endemic species that live only in *Sargassum*.
- The Carolina Trough that holds an estimated 30 years of U.S. consumption of fossil fuel and is the site of the *Manteo Exploration Unit*.
- The meteorologically dynamic environment of the North Carolina coast, in part responsible for many of the regions historically important shipwrecks, now offers great

opportunities for establishing commercial-scale production of wind-generated electricity, but within environmentally sensitive areas.

- Strong and complementary sets of marine science programs within UNC and Duke University; significant state and federal marine science monitoring and research facilities; and a growing inventory of undersea technology assets.

As you are aware, global climate change will greatly modify atmospheric and oceanic temperature, patterns of winds, precipitation and drought, with the pH of our oceans negatively affected by elevated levels of atmospheric CO_2. The unique meteorology and ecosystems off the North Carolina coast will likely be among the first to be substantially impacted by global climate change. Although global climate change presents a major challenge on many fronts, we are encouraged by the expertise and solutions that the coastal and marine science programs within the University have to offer in terms of:

- Developing and delivering education programs that will increase understanding of the unique ecosystems and cultural heritage of North Carolina's coastal environments,
- Providing expertise and resources for research, monitoring, and outreach activities,
- Fueling job creation by working with communities to find opportunities for economic diversification through eco-tourism, sustainability and innovation businesses, and the application of advanced technologies, and
- Facilitating effective ocean area planning and management strategies.

We recognize that new challenges and opportunities emerge with time, *and these challenges underscore the need for a unified, comprehensive review and revision of the Monitor National Marine Sanctuary plan.* Therefore, directors of marine science research programs in UNC (Dr. Dan Baden, UNC-W; Dr. Maurice Crawford, Elizabeth City State University; Dr. David Eggleston, NCSU; Drs. Rick Luettich and Brent McKee, UNC-CH; Dr. John Rummel, ECU; Dr. Mike Voiland, NC Sea Grant; and Dr. Nancy White, UNC-Coastal Studies Institute) have consulted with a great many faculty and staff involved in marine science and education along the North Carolina coast. As such, we are confident in the breadth of expertise that can be offered to the *Monitor* NMS as the sanctuary management plan is revised with a bold, forward-looking perspective that will benefit the many stakeholders of coastal and marine resources along the North Carolina coast.

Thank you for considering our input and support.

Sincerely,

Steven Leath

Coastal Studies Institute
UNIVERSITY OF NORTH CAROLINA

June 12, 2012

Mr. David Alberg, Sanctuary Superintendent
Monitor National Marine Sanctuary
100 Museum Drive
Newport News, VA 23606
757-591-7326
David.Alberg@noaa.gov

Dear Mr. Alberg:

After reviewing the revised draft at http://monitor.noaa.gov/management/dmp2012.pdf, I wish to reiterate the University of North Carolina Coastal Studies Institute's interest in continuing to work with the Monitor National Marine Sanctuary to investigate programmatic synergies based on our mutual research and education goals. We are proud to have the MNMS staff of here and feel that both programs have and will continue to benefit greatly from the collaboration.

Broadly, there is significant potential in future and enhanced coordination of efforts between the two organizations' goals and objectives with regards to our dive and boat programs, research efforts, as well as public education projects and programming—we look forward to working with MNMS on the particulars. One area of importance is an effort that would further our mutual abilities to support economic development through maritime heritage tourism programming.

We want to underscore our support for MNMS' consideration of the expansion of the sanctuary and to beginning an open public process committed to thorough public input. The presence of your staff in North Carolina will greatly improve your abilities to serve the public's interests and applaud your forethought in establishing them here.

Best regards,

Nancy M. White MLA, PhD
Director, UNC Coastal Studies Institute

COUNTY OF DARE

COMMENTS

THE MONITOR NATIONAL MARINE SANCTUARY (MNMS)

DRAFT REVISED MANAGEMENT PLAN

SUMMARY

Dare County on the Outer Banks of North Carolina deeply respects and appreciates the historical heritage of the Monitor National Marine Sanctuary. Uniquely positioned on the Outer Banks of North Carolina, Dare County includes Hatteras Island and is home to the Graveyard of the Atlantic Museum. Our rich maritime tradition includes generations of heroic lifesaving and rescue operations assisting ships in distress off the Dare County coast. These waters, revered by sailors worldwide, have come to be known as the Graveyard of the Atlantic in recognition of its large number of documented shipwrecks.

The people of Dare County, through their elected officials, have enthusiastically supported many components of the MNMS mission including Resource Protection, Education and Outreach, and efforts to provide dignified care for recovered USS Monitor Sailors.

Although Dare County supports MNMS in protecting artifacts, educating the public, and preserving recovered remains, it cannot for the reasons stated in these comments, support any expansion of the MNMS. Neither does it support the creation of other Marine Sanctuaries off Dare County's shoreline. The Dare County Board of Commissioners strongly objects to any expansion and to any effort that would further limit or restrict recreational or commercial fishing activities.

Dare County believes MNMS concerns about long-term site preservation can best be addressed by enforcing current regulations. As MNMS admits in its Draft Revised Management Plan, *"Some fishing activities may negatively affect and threaten the fragile archaeological resources of MNMS, but most pose no threat."* (emphasis added)

In the comments that follow, the Dare County Board of Commissioners offers its perspective on each of the eight (8) priority issues identified in the Draft Revised Management Plan –

1) Resource Protection
2) Education and Outreach
3) Archaeology
4) Research and Monitoring
5) Identification of Human Remains Recovered from the USS Monitor
6) Conservation of Monitor Artifacts
7) Sanctuary Expansion
8) Site Administration and Operations

Additionally, in the conclusion of these comments, Dare County formally requests to be included as a primary stakeholder in the discussion and development of these important issues.

1 – RESOURCE PROTECTION

MNMS expresses an ongoing concern for the potential impacts on the sanctuary by SCUBA divers. However, as stated in the Draft Revised Management Plan, "*Although the removal of artifacts and site alteration by visiting divers is a concern there is no direct evidence of either activity.*" (emphasis added)

By working closely with the local dive industry, we believe MNMS concerns can best be addressed with enhanced public education that will assure a positive dive experience and long-term preservation of the site.

As stated previously in the summary, Dare County agrees with MNMS that most fishing activities pose no threat to the sanctuary. For this reason, we cannot support any effort to further restrict recreational or commercial fishing. Although

Although enforcing regulations is challenging at the sanctuary due to its distance from the shore, the existing rules are adequate. Any and all violators should be penalized as already provided in the current law, rather than expand the number of regulations. This is in the better public interest rather than further infringement on responsible recreational and commercial fishing activities.

2 – EDUCATION AND OUTREACH

Dare County endorses MNMS efforts to raise public awareness about the sanctuary. We believe the cornerstone of these activities should center on the Graveyard of the Atlantic Museum. We believe this respected Hatteras Island museum should be given a more prominent role in the display of artifacts, resource preservation, and expansion of educational programs.

3 - ARCHAEOLOGY

As MNMS continues to study and document the condition of the shipwreck, Dare County supports efforts to stabilize the site with in-situ preservation. Any future recovery of artifacts should include local display in Dare County at the Graveyard of the Atlantic Museum and other local venues.

4 – RESEARCH AND MONITORING

MNMS recognizes that science plays a vital role in making informed resource management decisions. Dare County supports a science-based approach, provided that the science is 1) peer-reviewed, 2) transparent, 3) open to the public process. By incorporating these keystone principles, the role of science in managing the sanctuary will be enhanced and viewed by the public as having integrity.

5 – USS MONITOR SAILORS

The Dare County Board of Commissioners has the utmost respect for the service of all U.S. military personnel. For this reason, we support MNMS in the recovery and identification of all U.S. Sailors whose lives were lost on December 31, 1862 off the coast of Hatteras Island.

6 – CONSERVATION

As artifacts and material are removed from the Monitor, Dare County supports the preservation and conservation of these national treasures. Additionally, we ask that properly conserved and archived artifacts be displayed at the Graveyard of the Atlantic Museum and other venues throughout Dare County.

7 – SANCTUARY EXPANSION

Over the centuries, the area off the Dare County coast, known as the Graveyard of the Atlantic, has claimed thousands of ships. Although Dare County has been supportive of the MNMS, the Dare County Board of Commissioners strongly objects to any expansion of the sanctuary or the creation of additional Marine Sanctuaries.

The current Superintendent, David Alberg, has stated publically that he does not want expansion that excludes public access. We take him at his word and believe his statement to be genuine and sincere. However, Dare County has witnessed first-hand, how promises made by other federal superintendents have been set aside by those who follow after they have retired or are reassigned.

If, in spite of our objection, NOAA considers sanctuary expansion, ironclad verbiage is needed to make sure that promises made today guarantee public access tomorrow for responsible SCUBA divers, and for recreational and commercial fishing.

Without precise expansion language in the Draft Revised Management Plan, the entire ocean waters off the Dare County seashore could become a gigantic Marine Sanctuary in the future. This would result in highly restricted access that would devastate recreational and commercial fishing and seriously harm the economic stability of all of Dare County.

8 – OPERATIONS AND ADMINISTRATION

Dare County applauds moving one MNMS staff person to Manteo. We encourage the expansion of other staff to Dare County in an effort to better localize education and outreach efforts and promote the unique maritime history of the Outer Banks.

CONCLUSION

The Dare County Board of Commissioners supports the use of peer-reviewed science to protect resources, preserve archaeology and pursue ongoing research, monitoring, and conservation. We encourage MNMS in its education and outreach efforts and call upon NOAA to expand its utilization of the Graveyard of the Atlantic Museum. We respect and salute MNMS endeavors to respectfully recover and identify the remains of U.S. Sailors.

We strongly object to any expansion of the MNMS or the creation of other Marine Sanctuaries off the Dare County coast. We call upon NOAA to use existing enforcement resources rather than expanding the regulations that now govern public access and fishing related activities.

Ironclad language is needed in the Draft Revised Management Plan to assure the public and its elected officials that our entire shoreline will not become a Marine Sanctuary.

NOAA has stated that they will *"work with local and state officials, the general public, the fishing and dive communities and other stakeholders to study the possibility and impactions of an expanded sanctuary."* Accordingly, we call upon the MNMS to involve the Dare County Board of Commissioners in any and all studies, advisory councils, and meetings for the purpose of studying the expansion of the Monitor National Marine Sanctuary.

Respectfully submitted,

Warren C. Judge, Chairman
Dare County Board of Commissioners

June 20, 2012

Mr. David Alberg, Sanctuary Superintendent
Monitor National Marine Sanctuary

RE: Monitor National Marine Sanctuary Draft Revised Management Plan

Dear Mr. Alberg,

I am writing, on behalf of the Board of Directors of the Friends of the Graveyard of The Atlantic Museum, in full support of the Monitor National Marine Sanctuary Draft Revised Management Plan and specifically the Expansion Action Plan for the Monitor National Marine Sanctuary.

The Graveyard of the Atlantic harbors one of the largest, most significant concentrations of shipwrecks in the world. This resource is of incalculable value to the understanding of our nation's maritime history. It is a much larger story than just the *USS Monitor*, and it is imperative that federal, state, local and private entities entrusted with the stewardship of this resource continue to cooperate in good faith to see that this legacy is preserved for future generations.

The overwhelming success to date of the Sanctuary is indisputable. The dialogue that the Expansion Action Plan is generating facilitates expanded levels of success in tourism, economic livelihoods, and education going forward.

First, in regard to tourism, the Museum has seen its attendance escalate to almost 100,000 visitors annually. Our collective opportunities are still in infancy, and there are more to come. The Sanctuary has helped established the Museum as a major cultural icon and anchor for the Outer Banks.

Secondly, the communities within the Cape Hatteras National Seashore will conceivably be unable to rely solely on our beaches for economic preservation in the future. We must develop other avenues to ensure that future generations can continue to thrive here. Continued thoughtful, detailed discussion of the Expansion Action Plan will ignite an economic engine that can carry this region mightily into the future.

Third, university, school, and visitor attendance of nearly 100,000 people a year at the Museum has sparked an impassioned appreciation for our nation's rich maritime history and heritage, thanks in great measure to the work of the Monitor Sanctuary. It is beyond question that the Sanctuary program can do even more to further the understanding of our national maritime heritage in the coming years.

It is not an overstatement that implementation of the Monitor Draft Revised Management Plan, including the Expansion Action Plan, will be indispensable to the continued success of the Museum, the Sanctuary, and our heritage.

We stand ready to assist you in any way possible.

Sincerely,

Daniel C. Couch

Danny Couch, Chair
Board of Directors
Friends of the Graveyard of the Atlantic Museum

United States Department of the Interior
NATIONAL PARK SERVICE
OUTER BANKS GROUP
Fort Raleigh National Historic Site Wright Brothers National Memorial
Cape Hatteras National Seashore
1401 National Park Drive
Manteo, North Carolina 27954

D18 (CAHA-RM)

Mr. David Alberg, Sanctuary Superintendent
Monitor National Marine Sanctuary
100 Museum Drive
Newport News, VA 23606

Dear Mr. Alberg:

The National Park Service, Cape Hatteras National Seashore (CAHA) has reviewed the Monitor National Marine Sanctuary Revised Draft Management Plan for the Monitor National Marine Sanctuary. The Plan identifies significant cultural and natural resources subject to protection for future generations and addresses issues facing the sanctuary over the next five years. The Plan includes proposals to:

- enhance education and outreach;
- continue restoration and conservation of USS Monitor artifacts;
- consider possible expansion of the sanctuary's boundaries; and
- work with the state of North Carolina to strengthen coastal economies through maritime history and Civil War tourism.

CAHA has no specific comments on the subject document, but remains interested in collaboration of such matters of mutual concern. Thank you for providing us the opportunity to review the document. If you have questions or associated issues, please contact Mr. Doug Stover at 252-473-2111, extension 153.

Sincerely,

Michael B. Murray

Michael B. Murray
Superintendent

TAKE PRIDE IN AMERICA

Coastal Studies Institute
UNIVERSITY OF NORTH CAROLINA

June 21, 2012

Mr. David Alberg, Sanctuary Superintendent
Monitor National Marine Sanctuary
100 Museum Drive
Newport News, VA 23606

Dear Mr. Alberg,

The UNC Coastal Studies Institute has enjoyed a successful partnership with NOAA's Monitor National Marine Sanctuary since 2008. Shared research and education goals have contributed to our success and I am excited for potential collaborations in the future. A review of the MNMS' revised draft management plan further highlights our common programmatic objectives, particularly in the areas of maritime heritage research and education programming. Of particular note in the draft plan, is Monitor National Marine Sanctuaries' proposed expansion. The process, as proposed, would include methodologies that explore the implications and rationalization for proposed expansion. This process, driven through significant and meaningful open public input, will allow for a plan that best serves the public's interests, while preserving our nation's maritime heritage.

Sincerely,

John McCord
Education Programs Coordinator
UNC Coastal Studies Institute

UNC Coastal Studies Institute
217 Budleigh St., PO Box 699, Manteo, NC 27954 - Ph: 252.475.3663 - Fax: 252.475.3545,
http://csi.northcarolina.edu

The COMMONWEALTH OF MASSACHUSETTS
BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
251 Causeway Street, Suite 800, Boston, MA 02114-2136
Tel. (617) 626-1200 Fax (617) 626-1240 Web Site: www.mass.gov/czm/buar/index.htm

June 22, 2012

David W. Alberg, Superintendent
Monitor National Marine Sanctuary
100 Museum Drive
Newport News, VA 23606

RE: NOAA's Monitor National Marine Sanctuary Draft Management Plan

Dear Superintendent Alberg,

The Massachusetts Board of Underwater Archaeological Resources (BUAR) recently learned that NOAA was seeking input on its draft management plan for the Monitor National Marine Sanctuary. As you will recall, BUAR is the Commonwealth of Massachusetts state agency that is charged with the identification, protection preservation and interpretation of the submerged cultural heritage. A component of our stewardship mandate includes the designation of heritage recreation sites (known as Exempt Sites) for sustainable public use. There are currently 40 such sites off Massachusetts designated by BUAR. These sites are included as member sites in the National System of Marine Protected Areas, just as the USS Monitor site. On behalf of BUAR, I am taking this opportunity to offer the following comments on the Draft Revised Management Plan (dated April 2012) for MNMS.

While the plan appears lengthy, it identifies a number of key issues and seeks to thoroughly address them. The plan clearly explains the long-term needs for (1) caring for the archaeological/memorial site of the Monitor, (2) conservation/curation of recovered remains, and (3) partnerships and broad public engagement to foster this stewardship. For example, the creation of a North Carolina coastal office is an important step toward providing opportunities to fully engage the public. In addition, this site-specific plan has wider applicability. BUAR compliments NOAA on creating a thorough, detailed and readable management plan.

With respect to expansion of the Sanctuary's boundaries and overall mission, BUAR supports this concept for greater stewardship by MNMS. Whether it is the broad "Graveyard of the Atlantic" or more narrowly defined "World War II Battlefield", MNMS is well-positioned to accomplish this important task. Expansion is not an end in itself; it is a tool to accomplish a goal(s). There are multiple overlapping values placed on this area of ocean. The designation process requires early engagement of all users. While expansion plans should accommodate the widest range of contemporary appropriate uses, it must recognize that cultural heritage and recreational uses tend to be ignored and yet would reap the greatest public benefit from expansion. The Expansion Action Plan is the blueprint for moving forward in this direction.

The Board appreciates the opportunity to provide these comments as part of the review process. Should you have any questions regarding this letter, please do not hesitate to contact me at the address below, by email at victor.mastone@state.ma.us, or by telephone at (617) 626-1141.

Best regards,

Victor T. Mastone
Director and Chief Archaeologist

Printed on Recycled Paper

COMMONWEALTH of VIRGINIA

Douglas W. Domenech
Secretary of Natural Resources

Department of Historic Resources
2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

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June 22, 2012

Mr. David W. Alberg, Superintendent
Monitor National Marine Sanctuary
National Oceanic and Atmospheric Administration
100 Museum Drive
Newport News, VA 23606

Re: Monitor National Marine Sanctuary - Draft Revised Management Plan

Dear Mr. Alberg:

We would like to thank the National Oceanic and Atmospheric Administration for the opportunity to participate in the development of the Monitor National Marine Sanctuary Management Plan. The hard work and tireless hours of both the sanctuary staff and the Sanctuary Advisory Council to develop this comprehensive plan and the active public participation in the process is testament to our collective commitment to the *Monitor* and should serve as a model for the continued stewardship of our shared national heritage. The renewed focus on *in situ* preservation and regional education will ensure the future study and appreciation of the *Monitor* by generations to come.

We would also like to take this opportunity to thank NOAA for its participation in the Friends of Virginia Underwater Archaeology. As our Department continues to compile and decode decades of Virginia underwater research, strengthen the Commonwealth's commitment to the stewardship of submerged resources, and address the potential impacts from rising sea levels and offshore development, we see numerous additional opportunities to partner with NOAA. I look forward to discussing these initiatives with you further. Until such time, please do not hesitate to contact me at Kathleen.Kilpatrick@dhr.virginia.gov.

Sincerely,

Kathleen S. Kilpatrick, Director
State Historic Preservation Officer

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North Carolina Department of Cultural Resources
Office of Archives and History

Beverly Eaves Perdue, Governor | Linda A. Carlisle, Secretary | Jeffrey J. Crow, Deputy Secretary

June 22, 2012

David Alberg
Superintendent
Monitor National Marine Sanctuary
100 Museum Drive
Newport News, VA 23606

Re: *Monitor*'s Revised Draft Management Plan

Dear Dave:

The North Carolina Department of Cultural Resources received a copy of your sanctuary's draft management plan for review. Because staff members Richard Lawrence, Mark Wilde-Ramsing, ar Steve Claggett have served as the Department's representatives on the *Monitor* Sanctuary Advisor Council, our agency has been deeply involved with the development of this plan. We have no comments except to endorse the goals, objectives, and strategies outlined for each facet of the *Mor* Sanctuary program. The plan is comprehensive and well-developed.

We look forward to participating in the proposed evaluation of North Carolina's rich maritime hist both through membership on the advisory council and in direct discussions with your agency. Our Department concurs with your agency's recognition of the collective significance of the many ship addition to the USS *Monitor*, lost off North Carolina shores in what is known as the Graveyard of Atlantic. We support efforts to identify, protect, and recognize these sites in the best interest of the general public just as Governor James E. Holshouser envisioned in the 1970s.

We also want to recognize NOAA's *Monitor* National Marine Sanctuary and the National Sanctua Foundation for their support of the Graveyard of the Atlantic Museum and the *Queen Anne's Reve* shipwreck project. This assistance has provided vital resources to further our Department's goals i terms of promoting the rich maritime heritage of our state. We look forward to continuing our clos working relationship.

Sincerely,

Jeffrey J. Crow, Ph.D.
Deputy Secretary

MAILING ADDRESS: 4610 Mail Service Center | Telephone: (919) 807-7290 Fax: (919) 733-8807 | LOCATIO 109 East Jo

Appendix I: Responses to Public Comments

Comment Period and Public Notice

The Monitor National Marine Sanctuary (MNMS) Draft Management Plan and Environmental Assessment (DMP) was released for a sixty-day public review and comment period encompassing April 12 to June 11, 2012. Five public meetings in two states were held in April and May 2012, at the following locations: Raleigh, N.C.; Wilmington, N.C.; Beaufort, N.C.; Nags Head, N.C.; and Newport News, Va. Total attendance at these meetings was 81 people.

A NOAA press release announcing the public comment period was distributed to national, regional, and local media on April 17, 2012. On the same date a mass email was sent to the Monitor National Marine Sanctuary Advisory Council (SAC) and others requesting wide dissemination of the press release among interested constituents. Two days prior to each public hearing, the press release was also sent to local media in each area. In addition, the Office of National Marine Sanctuaries (ONMS) sent out an announcement prior to each meeting on Twitter, and each meeting was announced on the sanctuary's Facebook page. The commenting period was posted both on the sanctuary and ONMS websites, as well as on their respective Facebook pages.

The DMP was posted on the sanctuary website during the entire public comment period where it could be downloaded and viewed or printed. Interested individuals could also request printed copies of the draft plan by contacting the sanctuary office by phone, fax, email, letter, or personal visit. More than 200 printed copies of the draft plan were sent to the SAC to share with their constituents, academic institutions, sanctuary education partners, and government offices in the region. More than 100 DVDs of the DMP were also distributed.

Comments Received

The sanctuary received over 135 comments on the DMP. Obvious duplicates (an identical comment sent multiple times by the same individual) were tallied singularly in this count. Comments were received as letters, emails, and as testimony at the public meetings. They were also received through the Federal eRulemaking Portal: http://www.regulations.gov . Comments came from individuals with many and varied backgrounds and interests: environmental, recreational and commercial fishing, recreational diving, academic, scientific, government policy, and resource management. All comments received were posted on the sanctuary website and on the Federal eRulemaking Portal for public query and review.

The management of MNMS elicits broad local and regional interest based on the large number of comments on the draft plan submitted from the Mid-Atlantic states and coastal towns of North Carolina and Virginia. However, knowledge, appreciation, and concern for the Monitor are also national and international in scope, thus validating the sanctuary being designated by Congress as one of the nation's most notable national treasures.

Management Plan Review Process

1. Why is the Monitor National Marine Sanctuary (MNMS or sanctuary) Draft Management Plan (DMP) being reviewed now? What is the process for this review?

NOAA is required by the National Marine Sanctuaries Act (NMSA) to review sanctuary management plans to evaluate substantive progress toward implementing the management plan and goals; evaluate the effectiveness of site specific management techniques and strategies; determine necessary revisions to the management plan and regulations; prioritize management objectives; and otherwise meet the requirements of the NMSA. Since the sanctuary's 1975 designation, the 1992 management plan, and the 1996 comprehensive archaeological recovery plan, significant innovations in science, technology, and marine resource management techniques have been made, and new strategies and activities to better manage, protect, and educate the public about the *Monitor* have been developed. In addition to updating the previous management efforts, this plan provides a vehicle for NOAA to integrate new tools and practices into future site management.

Review of this new management plan included two rounds of public meetings held in December 2008 and April/May 2012 (transcripts of these public meetings and all written comments received were posted for review on MNMS website http://monitor.noaa.gov); and input was received from members of the SAC; scientists; maritime archaeologists; local, state, and federal agencies; academic institutions; non-governmental organizations; local business representatives; and many other stakeholders. Recommendations and action plans included in the plan are based on the best available information and science.

Active and informed public participation was a key component in the development of the new plan and remains critical to the successful future management of the site. MNMS, ONMS, and NOAA recognize the public as a key management partner and strongly value its input in helping shape and manage sanctuary uses and resources. MNMS constantly strives to build community awareness of key issues and actively engages user and interest groups, agencies, and the public in an open dialogue about how best to shape the future direction and management of the sanctuary. Members of the public have had and will continue to have numerous opportunities to participate in the management of MNMS.

Monitoring

2. Has any consideration been given to alternative monitoring options, such as putting corrosion current monitoring devices on various locations of the Monitor ***wreck that could transfer data to the on-site buoy? This would help attain some data of how corrosion is proceeding, the effects of passing storms, and the relationship between current and temperature changes with respect to the corrosion rate, as well include sensors that could monitor site visitation.***

Resource monitoring is one of the primary action plans set forth in the document. As such, MNMS has established strategies and activities to address these concerns. Under Strategy RM-1, the goal of MNMS is to: establish and maintain a monitoring and research program to recognize, document and track changes in the structural integrity of USS *Monitor* including the remaining hull structure and associated artifacts. Toward that end, MNMS will explore multiple options, which will likely include those mentioned by the commenter, and consult with appropriate professionals to implement this action plan item.

Mooring Buoys

3. Will mooring buoys be established as a means to avoid anchor dragging across the wreck of the **Monitor*?***

Under MNMS Regulations, found in Appendix B, anchoring in any manner, stopping, remaining, or drifting without power at any time is prohibited, unless conducted pursuant to a permit (15C.F.F § 922.61(a). NOAA considers that the prohibition against anchoring is sufficient to reduce the risk of damage to the wreck of the *Monitor* at this time. As such, there is no plan to establish a surface mooring system within the sanctuary. However, there is currently a subsurface mooring system in place within the sanctuary, designed to allow permit holders to safely access the site without the need for bottom anchoring or tying into the wreck itself, which assures that the wreck site is protected.

Education and Outreach

4. Why is education and outreach such an important component of the management of MNMS?

The overall goals of the education and outreach efforts at MNMS are to promote awareness and protection of the sanctuary's natural and cultural resources, and to enhance local, regional and national knowledge of the surrounding ocean's significance in understanding our climate and the delicate ecosystems. Encouraging public involvement in resource protection, increasing knowledge about maritime history, and expanding ocean and climate literacy are legislative mandates of the National Marine Sanctuaries Act. Education and outreach at the sanctuary includes both formal and informal programs for learners of all ages of visitors and constituents, including user groups impacting sanctuary resources. Education and outreach at the sanctuary also includes promotion of the sanctuary, and its partners, The Mariners'

Museum and the Graveyard of the Atlantic Museum. While education and outreach efforts are concentrated in and around Virginia and North Carolina, they extend to the rest of the nation as well.

5. Will the Education Action Plan include efforts in awareness of not only Maritime Heritage, but also the biological/natural resources of the sanctuary?

Yes. As part of NOAA, MNMS has access to an extended network of scientific expertise and resources. The content derived from this network, which includes topics such as biological and natural resources of the marine environment, is the foundation for sanctuary education and outreach initiatives. For example, the implementation of NOAA's ocean literacy mandate – an increased awareness of oceans and one's connectedness to oceans – is also one of the core components of MNMS's Education Action Plan. As technology advances, scientists learn more about global weather, biodiversity, human impacts to natural systems, and climate change. To ensure access to new information, NOAA mandated that climate and ocean literacy principles be incorporated into educational opportunities to better inform all ages of the issues our Earth and its oceans are facing.

6. Are there internship or fellowship programs available for students of varied backgrounds?

Yes. There are numerous internship opportunities, both formal and informal, for high school, undergraduate, and graduate students. University students can apply for formal options through NOAA's Ernest F. Hollings Scholarships Program, the Dr. Nancy Foster Scholarship Program, and the NOAA Graduate Science Program. MNMS also works with other universities to customize formal internships to better meet the needs of the students and MNMS. There are also a number of informal internship and fellowship programs available in many disciplines for students of varied ages and backgrounds. People interested in internships or fellowships are encouraged to contact the MNMS office for further information.

7. Will the Monitor NMS use web-based learning, videos, mobile APPs, and other tools to achieve its education and outreach goals?

Yes. Currently, MNMS uses many educational tools including web-based remote learning, mobile phone APPs, social networking, wikis, and blogs to promote its education and outreach efforts. Under the new management plan, these efforts will be enhanced, together with increased community involvement, to further the sanctuary's educational and outreach goals.

***Monitor* Sailors**

8. What are the plans for the remains of the two Monitor ***sailors found in the wreck?***

Identification and final disposition of the Monitor sailors' remains is of paramount importance to MNMS and is one of the primary action plans outlined in the final management plan. The main objectives are to

pursue positive identification of the known human remains and any additional human remains encountered within the sanctuary; make recommendations to the U.S. Navy concerning final disposition of human remains and associated personal effects; follow established parameters for the care, conservation, portrayal and display of human remains prior to final disposition; and enhance public education and awareness of personal stories and social history associated with human remains encountered within the sanctuary.

9. How much Federal funding has been used for facial reconstruction of the sailor remains and the genealogy research cost?

MNMS continually strives to meet goals and objectives in the most economical manner possible. Strategic partnerships are often the most efficient method of completing complex and otherwise costly goals. Toward that end, MNMS coordinated with a number of partners in the federal, academic, and private sectors to complete the facial reconstructions and genealogical work on the Monitor sailors' remains. The reconstruction modeling was done at no cost to the taxpayer or MNMS by Louisiana State University's FACES Laboratory. Ultimately, the delicate finished product was shipped to MNMS in specially designed containers provided at no cost to the taxpayer by United Parcel Service (UPS). Genetic and forensic research was conducted in accordance with Department of Defense (DOD) procedures for unidentified U.S. military human remains by Joint POW/MIA Account Command (JPAC) which is a Federally funded facility. Genealogy research conducted by an independent genealogist was funded by the National Marine Sanctuary Foundation.

Management Plan Action Plans

10. Is there a funding prioritization of the* Monitor *Action Plans? How are the actual costs of the Action Plans established?

The action plans are detailed plans for addressing an issue or concern in MNMS over the next five years. They are a collection of strategies and activities sharing common management objectives that provide a structure and process for implementation of the plans. All of MNMS action plans are important for the protection and management of sanctuary resources. However, the actual timing and effort for action plan activities are based on several factors including funding, staff availability, partnering opportunities, season, ship time, reaction to a specific event, among other factors. The strategies and activities within each action plan also take into account Sanctuary Advisory Council recommendations, budget constraints, feasibility and prerequisites for implementation.

As annual budget appropriations change from year to year and as new management challenges arise, it is important for the management plan to remain flexible. In any given year, limited budgets and unforeseen challenges may make it difficult to simultaneously address all of the issues that the site faces, as well as fund all strategies within each action plan. As a result, priorities may need to be reassessed each year.

Sanctuary staff developed budgets for each action plan by evaluating the resources necessary for each plan's complete implementation. Staff estimated the programmatic cost required to address each strategy, including the number of field operation days (if required), as well as materials, supplies, and travel time needed. Some action plan strategies will be contracted to other parties, in which case the total cost of the contract was included in the budget estimate. The estimated annual costs for each action plan are presented in this document. General MNMS funding is derived primarily from yearly federal appropriations. In addition, relationships with other sources including local and state agencies and nonprofit organizations and foundations provide collaborative opportunities for grant support for research, conservation, outreach, and educational programs.

Monitor Artifacts/Funding

11. What are the plans for the remaining artifacts at the site of the* Monitor*? Are there any plans for future excavations?

Under the revised management plan, there are two action plans that relate to this frequently asked question. The *Monitor* artifact conservation action plan outlines the objectives of treating artifacts, which have already been recovered. Some of the larger components may have as many as 10-15 years of conservation work before they are complete. One of the main goals towards this end is to prioritize expenditures to ensure adequate and sustainable funding levels for artifact conservation, curation and exhibition. The archaeological research action plan addresses any remaining maritime heritage or cultural resources that are still on the seabed. Given the challenges and responsibilities of maintaining and conserving the materials already recovered, the archaeological research proposed for the duration of this management plan focuses predominantly on in situ site monitoring and characterization. As such, there are currently no plans for further excavations on site. However, future recovery of artifacts is not ruled out. NOAA will continue to study and document the on-going condition of the shipwreck and to assure that the many thousands of hours of film and video records, along with tens of thousands of archival records are properly documented and preserved. Any future recovery of artifacts from the site would be considered only after a strong scientific justification had been made. Additionally, no recovery shall be made until such time as a detailed archaeological research design is proposed or initiated by NOAA or other research entity.

Possible Expansion of the Monitor National Marine Sanctuary

12. Does the Monitor Management Plan call for the expansion of the Monitor NMS?

No. The MP does not call for expansion, but rather for a formal evaluation of whether or not to develop an expansion proposal at a future time. The Sanctuary Advisory Council voted unanimously in January 2009 to establish a working group to examine the issue of sanctuary expansion. This working group also

unanimously recommended that MNMS begin exploring the potential for expansion. This recommendation is included in its entirety on page 104. As such, under the Sanctuary Expansion Action Plan Strategy SE-1, MNMS plans to evaluate and consider the benefits, needs, and potential impacts of a future boundary expansion. As stated under Activity 1.3, MNMS would then initiate the preparation of a Draft Environmental Impact Statement (DEIS) and Draft Management Plan (DMP), for a proposed expanded area, to analyze the impacts of alternatives for sanctuary expansion, with one alternative being to take no further action on expansion.

13. What steps are being taken to consider the possible expansion of the Monitor NMS with regards to defining public benefits, boundaries, management and regulation, impacts on recreational and/or commercial take with regards to both biological and archaeological resources, as well as mineral and petroleum resources beneath the expanded area's seabed? Will there be regulatory changes and/or changes to permitting, access, and retrieval of maritime archaeological resources?

No consideration of expansion, nor the possible impacts of expansion to stakeholders, businesses, or coastal residents, will progress without significant and extensive public participation and input. Under the Sanctuary Expansion Action Plan, the process for evaluating impacts is detailed under Activities 1.2 – 1.5. To consider the possibility of expansion under Activity 1.2, MNMS will hold public scoping meetings, as well as meet with relevant state and local agencies to provide opportunities for input from potentially affected stakeholder groups. Then, under Activity 1.3, a DEIS and proposed rulemaking will be developed; this process will detail and evaluate effects on cultural, biological, and mineral resources. Next, under Activity 1.4, MNMS will hold a series of public information sessions to gather input for a DEIS and a DMP. Finally, under Activity 1.5, based on input gathered from public input, MNMS will complete a Final Environmental Impact Statement (FEIS) final management plan, and final rulemaking. This would only occur if site expansion is determined to be the preferred option.

Further, NOAA will consult with and work closely with the Bureau of Ocean Energy Management (BOEM), the U.S. Navy, the State of North Carolina, local interests, and others to ensure full and detailed analyses of the probable impacts of any future oil and gas leasing or wind farm development on the area's biological and archaeological resources, and the residents of Dare County. Any regulatory changes to permitting, access, boundaries, and resource use will be evaluated through the public NEPA process.

14. Will colonial history, Golden Age piracy, and the Queen Anne's Revenge be a consideration in determining what types of activities would be included in a sanctuary expansion plan.

While there is no formal plan for an expanded area, MNMS recognizes that in recent years there has been growing public interest in our nation's collective maritime heritage. The body of heritage resources off North Carolina may represent an ideal location to celebrate, study, and preserve an area of nationally significant historic sites. As such, under Activity 1.1 of the Sanctuary Expansion Action Plan, MNMS will

catalog the known historic resources located in the waters adjacent to the MNMS through a cultural resources assessment. This evaluation process will include a wide range of historic resources including, but not limited to colonial history and piracy. Additionally, regardless of whether or not expansion occurs, MNMS and the Maritime Heritage Program (MHP) recognize the richness of North Carolina's maritime heritage resources and will continue to support and study these resources in recognition of their value as a driver for state heritage tourism.

15. Will the agency, in accordance with the Sanctuary Advisory Council recommendations, modify the Sanctuary Expansion Action Plan to include a provision that any future sanctuary boundary expansion will assure continued and uninterrupted public access to shipwreck sites in Virginia and North Carolina waters?

On page 104 of this management plan, the MNMS SAC recommendation to the MNMS superintendent states that an evaluation of expansion should "be accomplished in a way that assures continued public access and takes into consideration the potential effects of an expanded area on all users including divers, fishermen (charter, recreational, and commercial), boaters, and the local communities near the sanctuary." Toward that end, MNMS has developed activities under Strategy SE-1 of the Sanctuary Expansion Action Plan to ensure that stakeholder input is gathered for the development of an expansion-related DEIS and DMP. If expansion is considered, NOAA will ensure that the dive community, fishing community, and all relevant stakeholders are fully involved in the public scoping and review process, and that continued, unimpeded access to wreck sites will be one of the priority criteria considered for achieving the primary objective of resource protection.

16. If the Monitor NMS is expanded, will there be the same type of restrictions in regards to drilling, anchoring and fishing which exist now at the Monitor wreck site?

Not necessarily. Under the Sanctuary Expansion Action Plan, Activities 1.2 – 1.6, MNMS defines the public process through which any potential proposal for an expanded area would be developed. During these processes, all aspects of a potential expanded area will be evaluated, which would include issues, such as boundary delineation, permitting, and regulation. As such, the policies adopted through such a process may vary distinctly from the current regulations within existing sanctuary boundaries.

Site of the Monitor National Marine Sanctuary Office

17. Why is the Monitor NMS headquarters' office located in Virginia and not in North Carolina?

The sanctuary's headquarters is located at The Mariners' Museum (TMM) in Newport News, Va. On September 4, 1986, NOAA published guidelines in the Federal Register for submitting proposals for consideration as principal museum for the Monitor Collection of Artifacts and Papers (now known as the *Monitor* Collection). After a thorough evaluation of all proposals, and after determining that no appropriate facility existed in North Carolina in 1986 to properly conserve the *Monitor* Collection, NOAA

designated TMM, as the Principal Museum for the *Monitor* Collection. A Memorandum of Agreement between NOAA and the museum was signed on July 13, 1987. Today, the relationship between NOAA and TMM is governed by two separate agreements: a four-part Programmatic Agreement between NOAA, TMM, The Virginia State Historic Preservation Officer and The Advisory Council on Historic Preservation, as well as a Curatorial Services Agreement with TMM. These agreements set out the responsibilities of NOAA and TMM related to MNMS. A programmatic cooperative agreement was signed between NOAA and TMM in October 1989. This agreement remains in effect until December 31, 2013, and contains an option for renewal.

In 2005, the sanctuary office moved into a new facility on the grounds of The Mariners' Museum in Newport News, Va. The sanctuary facility in Newport News was built partially to support the conservation and interpretive efforts of TMM. It is located within a few hours' drive of Washington, D.C. and coastal North Carolina. It also supports the larger NOAA presence in the Hampton Roads area including the Center for Operational Oceanographic Products and Services (CO-OPS), the Atlantic Marine Center, NOAA Fisheries, National Weather Service, and others. Staff has easy and convenient access to our partners at TMM and can oversee activities related to the *Monitor* Collection.

Since the site has been established, MNMS has made a commitment to building relationships and maintaining partnerships with the State of North Carolina and Virginia. Additionally, MNMS currently has an office available for use during field season within the Graveyard of the Atlantic Maritime Museum in Cape Hatteras, N.C. MNMS also has an office and one full-time staff member at UNC Coastal Studies Institute in Manteo, N.C. This office and its staffing allocation were created to meet the need of developing an increased presence in North Carolina. MNMS will require more permanent and substantial support facilities, in addition to office space, to conduct field operations, education and outreach efforts, public engagement, and other critical sanctuary functions requisite for developing enhanced services to the state of North Carolina. To that end, MNMS will identify suitable expanded office and support facilities in North Carolina.

Permitting and Diving/Access

18. What is the process for dive permitting on the* Monitor*? Can MNMS staff work to inform the public how they can access the site? The current perception is that the permitting process is onerous, costly, and prohibitive. Would a more streamlined process result in more applications for diving access?

The process for acquiring a permit to dive the *Monitor* is outlined in the management plan on page 54 and can also be found at: http://sanctuaries.noaa.gov/management/permits/pdfs/nms_permit_instructions.pdf . Under the Resource Protection Action Plan of this document, MNMS has developed strategies to address the concerns over ease of access and misconceptions regarding acquiring a permit for accessing the site. Strategy RP-1 dictates that MNMS will refine the existing permitting system to enable increased recreational access to the *Monitor*, while Strategy RP-2 (Activity 2.1) will necessitate that MNMS

develop a public information outreach program clarifying and interpreting existing sanctuary regulations and future costs.

19. What is the difference between the special use permit and the scientific research permit for diver access to the Monitor NMS?

As outlined on page 55 of the management plan, there are two types of permits generally available for non-NOAA access. Special use permits and ONMS general permits are both forms of authorization used by the ONMS Director, whose authority is delegated to the sanctuary superintendents, to allow otherwise prohibited activities to occur. The authority for special use permits is granted through the National Marine Sanctuaries Act and is intended to facilitate access and use of sanctuaries in a manner that does not injure sanctuary resources. ONMS general permits are a regulatory form of authorization whose procedures and requirements are codified in sanctuary regulations. At MNMS, ONMS general permits can be issued for research or management purposes. Research permits are the most common type issued and are intended for individuals or organizations conducting activities that further the research goals and objectives of the sanctuary. Special use permits could potentially be used for the purpose of conveying recreational divers to the site.

20. Does the dive permit system incorporate a requirement for a NOAA dive operator on wreck dive trips?

No, it is not a requirement. MNMS reserves the option of placing an observer on board when granting a permit depending on the particular activities planned in a given permit and on a case-by-case basis. Additionally, a NOAA observer or educator can be placed on board at the request of the permit holder to enhance visitor experience or act as an advisor for researchers. MNMS recognizes the financial burden on a permit holder to provide ship space for an observer and in most cases this is not imposed unless the particulars of a permitted activity necessitate doing so.

21. Limiting diving to research activities not only creates a barrier between scientists and the public, but is also detrimental to outreach goals. Are there any programs to provide volunteer divers the opportunity to become trained and valuable at diving wrecks in ways productive to NOAA's goals?

Yes, under Strategy AR-5 of the Archaeological Research Action Plan, MNMS plans to develop volunteer programs for divers to participate in NOAA diving operations. MNMS is currently working with non-governmental organizations (NGOs) and academic partners to increase recreational and citizen science participation in and around the sanctuary. Furthermore, one of the primary objectives under the Education and Outreach Action Plan is to target user groups and underrepresented audiences for participation in sanctuary programs.

Enforcement

22. While many laws are in place to protect MNMS resources, the means of enforcement are conspicuously lacking. What are the prospects of strengthening the enforcement of MNMS?

The sanctuary's distance from shore makes enforcing regulations a significant challenge. NOAA depends heavily on education and public awareness and voluntary compliance with the regulations. In the event of an incident, NOAA's Office of Law Enforcement (OLE) and the U.S. Coast Guard (USCG) enforce sanctuary regulations. One enforcement tool NOAA uses is "interpretive enforcement," also known as Community Oriented Policy Programs (COPP), which seeks to enhance compliance primarily through public awareness and education. The goal of interpretive enforcement is to gain the greatest level of compliance through public understanding and support of sanctuary goals. Interpretive enforcement emphasizes informing the public through education and outreach about responsible behavior before resources are adversely impacted. NOAA also works to create public awareness about state and federal laws that protect shipwrecks and archaeological sites. Additionally, MNMS Advisory Council has a USCG representative to advise the Council on enforcement related issues. Should a violation of MNMS regulations be documented, NOAA can pursue two types of action: either a civil penalty and/or a natural or cultural resource damage assessment.

Within the Action Plans two specific strategies will be pursued:

Strategy RP-4: Promoting safe and responsible visitor access by providing appropriate materials and facilities; and

Strategy RP-5: Using outreach and education to enhance diver understanding of the site's significance.

Fishing in the Monitor National Marine Sanctuary

23. Is surface trawling or drop line fishing allowed, or is there no fishing at all? Can a boat drift without power?

Fishing, including drop line fishing, is allowed in the sanctuary so long as fishing gear does not come in contact with nor adversely impacts the *Monitor* wreck site. However, MNMS regulations specifically prohibit trawling within the boundaries of the Monitor National Marine Sanctuary (15 C.F.R. § 922.61(h)). The primary intent of this trawling restriction is to protect the *Monitor* shipwreck and surrounding wreck site as a historic maritime heritage resource rather than to manage or regulate fishing within the sanctuary. The *Monitor* Sanctuary is a popular location for sport/charter fishing and the sanctuary encourages fishermen to visit and fish within the boundaries of the sanctuary.

Sanctuary regulations prohibit a vessel from drifting without power (15 C.F.R. § 922.61(a)). The regulations require that the engine be running, but they do not require the vessel to be in gear. To better define this issue, Activity 2.1 of the Resource Protection Action Plan targets the development of a public information outreach program that clarifies and interprets existing sanctuary regulations including the prohibition of "drifting without power."

Biological Communities, Research and Monitoring

24. Why isn't the protection of biological communities and biodiversity in the sanctuary a primary component of the Draft Management Plan?

Despite the obvious focus on the maritime archaeological resources of MNMS, the characterization and protection of the natural environment of MNMS, including its habitats, biodiversity, and individual species are of primary importance in the overall management of the site. One way to bring greater awareness of this importance is through an emphasis on maritime heritage and the stories told by the *Monitor* and other shipwrecks that act as artificial reefs. By attracting the public's interest through maritime heritage, MNMS can then engage, educate, and inform people of the important issues concerning our ocean and coasts today.

In 2008, the *Monitor Condition Report* was published. This report gave a summary of the conditions of resources within the sanctuary. It also provided the management responses to the pressures that threaten the integrity of the surrounding marine environment. It concluded that limited human activity due to the *Monitor*'s remote location and restrictions have resulted in:

- The *Monitor* attracting biological assemblages as an artificial reef;
- Pristine or near-pristine habitats; and
- No evidence of contaminants negatively affecting living resources or water quality.

MNMS regulations prohibit activities that could in any way alter the sanctuary's existing habitats or disturb or damage its natural resources. Activities, such as anchoring, discharging waste material into the water, seabed drilling, seabed cable-laying, detonation of explosive material, dredging, and trawling are prohibited within the sanctuary's boundaries (15 C.F.R. § 922.61). You may view the *2008* Monitor *Condition Report* in its entirety at http://sanctuaries.noaa.gov/science/condition/monitor/

Regulatory Changes

25. Why aren't regulatory changes being proposed to implement the DMP Action Plans?

The management plan serves as a non-regulatory policy framework for addressing the issues facing MNMS over the next five years. It lays the foundation for the future management of MNMS, and details

specific actions to be taken in resource protection, education and outreach, archaeological research, resource monitoring, artifact conservation, *Monitor* sailors, and possible expansion of the site. It also recommends efforts that should be taken now, and some that should be considered in the near future. At this time, NOAA is not proposing any new regulations or changes to the MNMS terms of designation.

However, some regulatory initiatives that derive from the strategies presented in the draft management plan ultimately could be considered for action prior to the next management plan review. MNMS will consider adding or modifying regulations if it believes that the protection and management of the sanctuary will be enhanced by doing so. Any regulatory changes must be reviewed through a formal process that includes public input and environmental review and possible amendment to the sanctuary terms of designation if warranted.

Environmental Assessment

26. Why did NOAA prepare an Environmental Assessment and not an Environmental Impact Statement?

All sanctuary management plans must comply with the National Environmental Policy Act of 1969 (NEPA (42 U.S.C. § 4321 et seq.)). For the current management plan revision, NOAA considered the options of preparing an entirely new management plan, or minimally revising the 1992 management plan and the 1996 comprehensive archaeological recovery plan. NOAA determined that new issues affecting sanctuary management and the development of new strategies and activities to better manage, protect, and educate the public about the *Monitor* necessitated a revised management plan that would be non-regulatory, but that established a policy framework for future management actions. The Environmental Assessment (EA), which was performed as part of the management plan review, concluded that the development of a new plan, the "preferred alternative," would not result in significant effects on the quality of the human environment. Thus, a Finding of No Significant Impact (FONSI) was developed, and no Environmental Impact Statement was necessary.