Florida Keys National Marine Sanctuary Revised Management Plan

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National Marine Sanctuary Program

This document is the revised management plan for the Florida Keys National Marine Sanctuary. It replaces the management plan that was implemented in 1996 and will serve as the primary management document for the Sanctuary during the next five years.

Comments or questions on this management plan should be directed to:

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Note to Reader
In an effort to make this document more user-friendly, we have included references to the Florida Keys National Marine Sanctuary Web site rather than including the entire text of many bulky attachments or appendices that are traditionally included in management plans. Readers who do not have access to the Internet may call the Sanctuary office at (305) 809-4700 to request copies of any documents that are on the Sanctuary's Web site. For readers with Internet access, the Sanctuary's Web site can be found at floridakeys.noaa.gov.

ABOUT THIS DOCUMENT

This document is a report on the results of NOAA's five-year review of the strategies and activities detailed in the 1996 *Final Management Plan and Environmental Impact Statement* for the Florida Keys National Marine Sanctuary. It serves two primary purposes: 1) to update readers on the outcomes of successfully implemented strategies - in short, accomplishments that were merely plans on paper in 1996; and, 2) to disseminate useful information about the Sanctuary and its management strategies, activities and products. The hope is that this information, which charts the next 5 years of Sanctuary management, will enhance the communication and cooperation so vital to protecting important national resources.

Sanctuary Characteristics
The Florida Keys National Marine Sanctuary extends approximately 220 nautical miles southwest from the southern tip of the Florida peninsula. The Sanctuary's marine ecosystem supports over 6,000 species of plants, fishes, and invertebrates, including the nation's only living coral reef that lies adjacent to the continent. The area includes one of the largest seagrass communities in this hemisphere. Attracted by this tropical diversity, tourists spend more than thirteen million visitor days in the Florida Keys each year. In addition, the region's natural and man-made resources provide recreation and livelihoods for approximately 80,000 residents.

The Sanctuary is 2,900 square nautical miles of coastal waters, including the 2001 addition of the Tortugas Ecological Reserve. The Sanctuary overlaps four national wildlife refuges, six state parks, three state aquatic preserves and has incorporated two of the earliest national marine sanctuaries to be designated, Key Largo and Looe Key National Marine Sanctuaries. Three national parks have separate jurisdictions, and share a boundary with the Sanctuary. The region also has some of the most significant maritime heritage and historical resources of any coastal community in the nation.

The Sanctuary faces specific threats, including direct human impacts such as vessel groundings, pollution, and overfishing. Threats to the Sanctuary also include indirect human impacts, which are harder to identify but are reflected in coral declines and increases in macroalgae and turbidity. More information about the Sanctuary can be found in this document and at the Sanctuary's Web site.

Management Plan Organization
Within this document, the tools that the Sanctuary uses to achieve its goals are presented in five management divisions: 1) Science; 2) Education, Outreach & Stewardship; 3) Enforcement & Resource Protection; 4) Resource Threat Reduction; and 5) Administration, Community Relations, & Policy Coordination. Each management division contains two or more *action plans*, which are implemented through supporting *strategies* and *activities*. The strategies described in the 1996 *Management Plan* generally retain their designations in this document. As in the 1996 plan, two or more action plans may share a strategy where their goals and aims converge. The 1996 plan can be accessed on the Sanctuary's Web site floridakeys.noaa.gov

Accomplishments and Highlights

The Sanctuary's programs and projects have made significant progress since the original management plan was implemented 1996. An overview of these accomplishments is provided in the Introduction. In addition, each action plan contains bulleted lists of accomplishments since the 1996 management plan was adopted.

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Acronyms

ACHP	Advisory Council on Historic Preservation
AGRRA	Atlantic and Gulf Rapid Reef Assessment Program
ASA	Abandoned Shipwreck Act
ATBA	Areas to Be Avoided
AWT	Advanced Wastewater Treatment
CAD	Computer Automated Dispatch
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERP	Comprehensive Everglades Restoration Plan
CFR	Code of Federal Regulations
CRCP	Coral Reef Conservation Program
DARP	Damage Assessment and Restoration Program
DEP	Florida Department of Environmental Protection
DTNP	Dry Tortugas National Park
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
F.S.	Florida Statues
FAC	Florida Administrative Code
FDACS	Florida Department of Agriculture and Consumer Services
FDCA	Florida Department of Community Affairs
FDHR	Florida Division of Historical Resources
FDOT	Florida Department of Transportation
FKNMS	Florida Keys National Marine Sanctuary
FKNMSPA	Florida Keys National Marine Sanctuary Protection Act
FPS	Florida Park Service
FR	Federal Register
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Fish and Wildlife Research Institute
FY	Federal Fiscal Year
GIS	Geographic Information System
GMD	Growth Management Division (Monroe County)
GMFMC	Gulf of Mexico Fishery Management Council
GPS	Global Positioning System
HAZMAT	Hazardous Materials
ICS	Incident Command Structure
ICW	Intra-coastal Waterway
IMO	International Maritime Organization
MBTA	Migratory Bird Treaty Act
MEERA	Marine Ecosystem Event Response and Assessment
MHR	Maritime Heritage Resources
MMPA	Marine Mammal Protection Act
MMS	Minerals Management Service
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding

MRD	Marine Resources Division (Monroe County)
NCCOS	National Centers for Coastal Ocean Science
NEPA	National Environmental Policy Act
NGO	Non-governmental Organization
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NMS	National Marine Sanctuary
NMSA	National Marine Sanctuary Act
NMSF	National Marine Sanctuary Foundation
NMSP	National Marine Sanctuary Program
NOAA	National Oceanic and Atmospheric Administration
NOAA/OLE	NOAA Office of Law Enforcement
NOS	National Ocean Service
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRDA	Natural Resource Damage Assessment Claims
NURC	National Undersea Research Center
OFW	Outstanding Florida Waters
OSDS	On-Site Disposal System
OSTDS	On-Site Sewage Treatment and Disposal System
PREP	National Prepared for Response Exercise Program
PSSA	Particularly Sensitive Sea Area
RECON	Reef Ecosystem Condition Program
REEF	Reef Environmental Education Foundation
RNA	Research Natural Area
RSMAS	University of Miami/Rosenstiel School of Marine and Atmospheric Science
SAFMC	South Atlantic Fishery Management Council
SAP	Science Advisory Panel
SAV	Submerged Aquatic Vegetation
SCR	Submerged Cultural Resources
SEFSC	Southeast Fisheries Science Center
SFWMD	South Florida Water Management District
SHIELDS	Sanctuary Hazardous Incident Emergency Logistics Database System
SPA	Sanctuary Preservation Area
SWIM	Surface Water Improvement and Management Act
SWM	Stormwater Management
TAC	Technical Advisory Committee
TNC	The Nature Conservancy
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDOC	U.S. Department of Commerce
USDOI	U.S. Department of Interior
USDOS	U.S. Department of State
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WAMS	Waterway Assessment and Marking System

WMA	Wildlife Management Area
WQPP	Water Quality Protection Program
WQSC	Water Quality Steering Committee
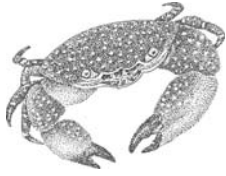
3.3 ENFORCEMENT & RESOURCE PROTECTION

This management division bundles all of the essential legal tools that are available to Sanctuary Managers to protect the natural and historical resources of the Florida Keys National Marine Sanctuary. These action plans include: the Regulatory Action Plan; the Enforcement Action Plan; Damage Assessment and Restoration Action Plan; and the Maritime Heritage Resources Action Plan. Each of these action plans serves a direct role in protecting and conserving Sanctuary resources, whether they are natural or historic resources.

Effective management requires a comprehensive set of regulations and an enforcement program to implement those regulations. The most successful marine protected areas are committed to enforcement of their regulations. The Sanctuary regulations and the interpretive approach to enforcing those regulations are described in this section.

Vessel groundings and damage to submerged Sanctuary resources are a major management issue in the Sanctuary. An average of over 500 vessel groundings occur every year in the Sanctuary and this destructive activity has resulted in the need for a separate action plan to describe the Sanctuary's approach to damage assessments and restoration.

Historical resources are also protected within the Sanctuary and the action plan that describes the Sanctuary's approach to protecting these resources is described in this management division. A rich and colorful history of exploration and discovery of submerged historical resources in the Florida Keys has necessitated the development of an action plan that integrates the State of Florida and NOAA's trustee responsibilities for these resources.

3.3.4 Maritime Heritage Resources Action Plan

Introduction
The Maritime Heritage Resources Action Plan includes a close partnership of the state, NOAA and the Advisory Council on Historic Preservation that resulted in a 1998 programmatic agreement for historical resources management. After five years of implementation, all parties renewed this Agreement in 2004 for an additional five years (see Appendix F for more information and a link to the full text of the Agreement). Overall, the Maritime Heritage Resources Action Plan demonstrates excellent progress in balancing resource protection, investigation and interpretation. This is the result of uniform implementation and enforcement of the federal and state standards formalized in the Programmatic Agreement.

Maritime Heritage Resources (MHR) are defined as underwater items and sites that have historical, cultural, archaeological, or paleontological significance. This includes sites, structures, districts, and objects associated with or representative of earlier peoples, cultures, human activities and events. In this plan, the terms "historical resources," "cultural resources," and "maritime heritage resources" are used interchangeably and may include artificial reefs, shipwrecks that are part of both U.S. and world history, as well as the remains of prehistoric cultures.

Maritime heritage resources in the Sanctuary encompass a broad historical range. Because of the Keys' strategic location on early European shipping routes, the area's shipwrecks reflect the history of the entire period of discovery and colonization. This richness of historical resources brings a corresponding responsibility to protect and preserve resources of national and international interest. Accordingly, the resources are managed for public benefit and enjoyment, while the historical and cultural heritage is preserved for the future.

Long-term protection requires a precautionary approach to historical resource management, particularly when information or artifacts may be destroyed or lost through direct and indirect activities. The Federal Archaeological Program or equivalent standards of conservation, cataloguing, display, curation, and publication must be assured before permitting their disturbance. Such projects are expensive and labor-intensive, sometimes requiring specialists in the fields of archaeology, conservation, museum work, historic shipwreck research, and recovery. FKNMS will continue to explore all public and private partnerships for management and consider private-sector implementation, when appropriate.

FKNMS' policy is to protect sanctuary resources, including maritime heritage resources. The Sanctuary and its resources are managed to facilitate multiple uses that are compatible with resource protection. Compatible uses include research, education, recreation, fishing and other uses.

Maritime heritage resources are managed in close partnership among NOAA, the State of Florida, and the Advisory Council on Historic Preservation (ACHP). During development of the 1996 management plan, this was an area of considerable controversy and conflict. Since then, there has been much progress in achieving a balanced level of resource protection, investigation, and interpretation. Further, FKNMS works closely with cultural resource managers in Biscayne and

Everglades National Parks. An Interagency Agreement was established with Biscayne National Park in 2006 to facilitate enhanced collaboration.

Goals and Objectives
FKNMS has a trustee responsibility for current users and future generations. Because maritime heritage resources are non-renewable, decisions are made with a precautionary approach after careful and deliberate analyses of the potential consequences of long-term preservation. With this in mind, the goals of this Action Plan are to:
- Gather sufficient information about cultural resources to allow informed decisions.
- Interpret the history and culture of the area for the public.
- Allow private-sector participation, research, documentation, recovery, and curation, when appropriate.
- Develop community-based stewardship.
- Develop MHR Interagency Agreements with other federal agencies such as the NPS.

To achieve these goals, the following objectives have been identified:
- Continue to inventory the FKNMS maritime heritage resources.
- Create a database consistent with resource protection and business confidentiality.
- Interpret the resources for the public through on-site and land-based exhibits and materials such as brochures, web pages and videos.
- Develop public partnerships for research, interpretation, and management.
- Foster and enhance a stewardship ethic.

Implementation
FKNMS and the Florida Division of Historical Resources (FDHR) are primarily responsible for implementing the MHR Management Plan. NOAA and the state jointly manage FKNMS resources, while FDHR retains title to abandoned shipwrecks on state-owned submerged lands. If excavation is involved, permission may also be required from DEP/FDSL (Division of State Lands, Board of Trustees of the Internal Improvement Trust Fund) and the USACE (e.g., dredge and fill permit), depending on the location of a given site.

FDHR, through its Bureau of Archaeological Research, has developed a range of management tools that can be used as a guideline within the Sanctuary. FDHR's role, although sometimes regulatory, typically involves inventory, assessment, research, education, public interpretation, and grant assistance for historic preservation projects.

FKNMS' primary role is to protect the historic resources through permitting and enforcement, provide overall policy direction, and coordinate research by institutions and individuals. In this capacity, FKNMS will ensure that research is well-designed and consistent with Sanctuary policies. FKNMS will also work with the FDHR to inventory resources consistent with appropriate laws and guidelines.

Geographic Focus
Although MHRs may be located anywhere in the Florida Keys National Marine Sanctuary, areas of known concentration and high probability occur especially in shallow water with proximity to shipping routes, on and near reefs, in the Straits of Florida, in other historically used channels, and

near historical sources of freshwater. Management will focus on selected shipwreck sites, with the particular characteristics of a site determining the types of management tools to be applied.

Personnel

While full implementation of the revised management plan would best be achieved with a fully developed archaeological staff, FKNMS believes it is important for an underwater archaeologist to be hired to implement the high priority activities under the plan.   Volunteers have proved to be very effective in assisting with cultural resource management. FKNMS will continue to seek out and use volunteers.

Equipment

FKNMS currently owns and operates a variety of vessels that may be used by archaeological staff to conduct fieldwork. The program also owns several underwater cameras that can be used for photo-documentation. A personal computer with ArcView GIS software is also available. Contracting or cooperating with other organizations for field support equipment may also be useful.

Contingency Planning for a Changing Budget

If funding is below the level needed for full implementation, cuts may need to be made in staffing and equipment purchases. Staffing the marine archaeologist position is, however, critical for effective implementation and will be given the highest funding priority possible under this plan. Contracting for archaeological services or equipment can be explored to conduct interim activities. Other staff members could potentially fill part-time positions within the MHR program after training in archaeological methods. A core staff technician could be shared with the biology or damage assessment staffs, as both positions include underwater mapping and documentation skills.

Commercial Salvage

One of the issues this Action Plan addresses is commercial salvage. The actions being implemented to address this issue are the result of a long public process, including scoping meetings, workshops, and consideration of numerous and diverse comments from the public and the Sanctuary Advisory Council.

Commercial salvage may be permitted under certain conditions, in consultation with the state, which owns abandoned shipwrecks in all state waters, including approximately 65 percent of the Sanctuary, and consistent with the Abandoned Shipwreck Act (ASA) in those areas.   However, commercial salvage of abandoned shipwrecks has been determined not to be a compatible use in areas where there is coral, seagrass or other significant natural resources. In areas relatively devoid of significant natural resources, commercial salvage may be permitted for those applicants that have met the criteria outlined in the Sanctuary regulations and the Programmatic Agreement. The recording and reporting of archaeological findings and recovery operations is required, as is the curation of representative samples of artifacts consistent with the Programmatic Agreement for MHR Management and the Federal Archaeological Program or equivalent standards. The federal program was developed by the National Park Service by Presidential Order, and includes a collection of historical and archaeological resource-protection laws to which federal managers are required to adhere. The National Historic Preservation Act (NHPA) requires federal agencies to develop programs to inventory and evaluate historic resources. NHPA Section 106 requires review of each recovery permit by the State Historic Preservation Office and the Advisory Council on Historic Preservation. Permits within the scope of, and adhering to, to all provisions of the Programmatic Agreement need not go through an additional NHPA 106 review process.

The Abandoned Shipwreck Act encourages states to manage shipwreck sites in ways that protect the historical information, as well as any natural resources and habitat areas, and that guarantee recreational access to shipwreck sites. The guidelines issued by NPS to implement the Act indicate a preference for prohibiting commercial salvage, which is followed in zoned areas and in areas where there is coral, seagrass or other significant natural resources. Commercial salvage is permitted only when applicants meet strict requirements, and only in areas relatively devoid of significant natural resources. There will be no commercial salvage and deaccession of MHRs of high historical significance. The FKNMS regulations and Programmatic Agreement provide for private-sector recovery conducted in an archaeologically and environmentally sound manner. Thus, management also preserves selected shipwrecks in the Sanctuary for research and recreation. Other shipwreck sites may contain artifacts more appropriate for recovery and preservation in museums with public access.

Finally, the plan provides for the deaccession and distribution of certain recovered resources to private parties. Private benefit is available through public display, as well as from the sale of gold, silver, jewels, and other redundant, and/or duplicative, objects of low historical significance after proper archaeological recording, analysis and reporting. The Programmatic Agreement provides further details on the criteria and process for decisions regarding recovery and preservation *in situ*.

Accomplishments
There have been a number of accomplishments in the management of maritime heritage resources since implementation of the 1996 management plan, including:
- A Programmatic Agreement for Historical Resource Management in the Sanctuary among NOAA, ACHP, and the State of Florida was executed in June of 1998, establishing principles of joint management and guidelines for permits. The Programmatic Agreement was renewed for an additional five years in 2004.
- Establishment of a standardized permitting system with resulting issuance of 50 Archaeological Survey and Inventory and 25 Archaeological Research and Recovery Permits, amendments and / or renewals.
- Forty-four permit reports have been submitted and accepted as complete by NOAA and the state covering 23 different MHR investigations. Significant new information on the location, type, age and condition of historic resources has resulted.
- Permit information has been incorporated into a GIS database to facilitate management decision-making.
- The Sanctuary established a Shipwreck Trail for public access to and education about cultural resources in the Sanctuary; nine sites are included in this program.
- Sanctuary staff has educated the general public, diving community, and the marine archeology community through development of a series of presentations and materials on the Shipwreck Trail program.
- Establishment of a Maritime Heritage Resources Inventory Team staffed by volunteers to document and inventory shipwreck sites within its boundaries. This team has performed a vast amount of underwater and archival research, which has resulted in documenting hundreds of historical artifact sites in the five-volume set, *Underwater Resources of the Florida Keys National Marine Sanctuary Northeast Region*.
- To date, 174 Heritage assets have been professionally conserved, incorporated into a heritage asset database and display at the FKNMS Upper Region Office. Several of these artifacts were deemed to be threatened, triggering management recovery actions.

- A research plan was implemented to document and interpret a previously unknown wreck in 230 ft. of water that was brought to the Sanctuary's attention by the recreational diving community. Results indicate the, now identified, remains of the ship *Queen of Nassau* to be of historical significance commensurate with listing in the National Register of Historic Places.
- The USCG *Duane* artificial reef was listed in the National Register of Historic Places on May 16, 2002. Indiana University Underwater Science and Educational Resources Program prepared the nomination. Direction, coordination, funding and logistical support for this and other field school efforts were provided by FKNMS during the period.
- A joint underwater archaeological field investigation of a "mystery wreck" was conducted by members of FKNMS and the State of Florida, Bureau of Archaeological Research in June 2005.
- Several underwater archaeological field schools have been conducted through FKNMS support and permitting.

Strategies

There are five non-regulatory management strategies in this Maritime Heritage Resources Action Plan.
- MHR.1   MHR Permitting
- MHR.2   Establishing an MHR Inventory
- MHR.3   MHR Research and Education
- MHR.4   Ensuring Permit Compliance
- MHR.5   Ensuring Interagency Coordination

Each of these strategies is detailed below. Table 3.9 provides estimated costs for implementation of these strategies over the next five years.

Table 3.9 Estimated Costs of the Maritime Heritage Resources Action Plan

Maritime Heritage Resources Action Plan Strategies	Estimated Annual Cost (in thousands)*					Total Estimated 5 Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
MHR.1: MHR Permitting	100	100	100	100	100	*500*
MHR.2: Establishing an MHR Inventory	50	100	100	100	50	*400*
MHR.3: MHR Research and Education	50	100	100	100	100	*450*
MHR.4: Ensuring Permit Compliance through Enforcement	5	5	5	5	5	*25*
MHR.5: Ensuring Interagency Coordination	5	5	5	5	5	*25*
Total Estimated Annual Cost	*210*	*310*	*310*	*310*	*260*	*1400*
* Contributions from outside funding sources also anticipated.						

STRATEGY MHR.1   MHR PERMITTING

Strategy summary
A permit system facilitates access and multiple uses compatible with resource protection. Non-intrusive access is not prohibited and does not require a permit. Resource disturbance without a permit is prohibited. Such permits are based on the regulations for all permits, as well as factors and criteria in the regulations for MHR permits, which are detailed in the Programmatic Agreement. Criteria considered in the review include a site's: historical/cultural value and significance, recreational value, and environmental impact of the activity. Additionally, the professional qualifications of the applicants, proposed methods of research, recovery, conservation, and public benefit are considered. No permits will be issued for excavation in areas where coral, seagrass, or other significant natural habitats exist.

FKNMS requires permits for activities prohibited by Sanctuary regulations. Such permits may be granted only in accordance with existing laws and policies. FKNMS encourages uses that do not adversely affect resources (including archaeological information) or interfere with other Sanctuary uses.

A Survey and Inventory permit is not required for remote-sensing activities, but a Survey and Inventory report is required before considering the issuance of a Research and Recovery permit. Those who conduct remote sensing without a permit are encouraged to report results to the Sanctuary.

A factor considered in evaluating a research and recovery permit is whether the applicant has demonstrated professional and scientific abilities in the survey and inventory phase. An archaeological research and recovery permit is required to remove historical resources. The historic resources that are not deaccessioned must be maintained in a museum or similar institution where public access for research, education and viewing enjoyment is provided.

A deaccession and transfer permit is required to privatize the public resources recovered under a research and recovery permit. The deaccession and transfer permit is subject to the requirements for Special-Use permits. Removal of historic resources requires a substantial justification of public interest, consistent with the purposes and policies of the Sanctuary described in the NMSA, the FKNMSPA, Programmatic Agreement, the Abandoned Shipwreck Act guidelines and the Federal Archaeological Program.

The NMSP, Florida Division of Historic Resources (FDHR) and legal staff have worked together to develop a framework for MHR management of submerged lands within the Sanctuary consistent with the NMSA, the Abandoned Shipwreck Act guidelines, and state law. This framework is formalized in the Programmatic Agreement among NOAA, the Advisory Council on Historic Preservation, and the State of Florida.

The regulations, MHR Programmatic Agreement and permit guidelines have been completed. Subsequent guidelines and other activities discussed below are under consideration. This activity will have a high level of action and be on-going.

Activities (3)

(1) Create An MHR Field Unit. A field unit would be established to conduct field research and coordinate permitted research activities. FKNMS recognizes the need to develop field expertise relating to archaeological investigations in the Sanctuary and will seek the funding to hire an underwater archaeologist and provide necessary support staff and equipment.

> <u>Status</u>: This activity will have a high level of action in the first year after adoption of this revised plan. Depending on funding, it may require longer to complete. Contracting archaeological services in the field will be considered as an interim measure in addition to the continued use of volunteers to carry out field activities.
> <u>Implementation</u>: FKNMS will be the lead agency; FDHR will assist.

(2) Monitor MHR Site Degradation. Conduct long-term monitoring of selected sites based on significance and recreational value to determine if environmental conditions and human use affect site integrity to provide information for permit decision-making.

> <u>Status</u>: Implemented and on-going.
> <u>Implementation</u>: FKNMS will be the lead agency; FDHR will assist.

(3) Evaluate Excavation and Mitigation Techniques. Evaluate emergent technologies that lead to less disturbance and more efficient recovery. These technologies include but are not limited to turbidity screens, sediment removal equipment, and seagrass restoration or relocation protocols.

> <u>Status</u>: Implemented and on-going.
> <u>Implementation</u>: FKNMS will be the lead agency. FDHR will assist.

STRATEGY MHR.2   ESTABLISHING AN MHR INVENTORY

Strategy Summary
The purpose of this strategy is to create a bibliography and computerized database in a standard format and, where appropriate, make it publicly accessible over the Internet. It also seeks to identify and survey site locations and characteristics including name, age, integrity, historical and cultural significance, sensitivity, and recreational value. The database will interface with the NOAA NMSP's ARCH II Archaeological Site database. The inventory is a long-term management goal and will be a continuous project for the Sanctuary.

FKNMS, FDHR, several nonprofit organizations, and the private sector have completed some survey and inventory activities. Together, they have compiled and organized data on the location, identity, and significance of certain historical shipwrecks. The Cultural and Historic Resources section of the Description of the Affected Environment chapter (Volume II of 1996 Final Management Plan) contains additional information on many of the known significant cultural resources within the Sanctuary. The *Maritime Heritage Inventory* volumes are available from the Sanctuary. Currently, staff is working to develop prioritized plans for known sites that cover management, research, interpretation, and access strategies.

Activities (7)

(1) Create An MHR Field Unit. A field unit would be established to conduct field research and coordinate permitted research activities. FKNMS recognizes the need to develop field expertise relating to archaeological investigations in the Sanctuary and will seek the funding to hire an underwater archaeologist and provide necessary support staff and equipment.

> *Status:* This activity will have a high level of action in the first year after adoption of this revised plan. Depending on funding, it may require longer to complete. Contracting archaeological services in the field will be considered as an interim measure in addition to the continued use of volunteers to carry out field activities.
> *Implementation:* FKNMS will be the lead agency; FDHR will assist.

(2) Use MHR Information Developed in Permits, Authorizations or Certifications. Part of the permit process generally includes assessment of the natural and cultural resources in the area. The plan also provides for public and private surveys and inventories of the resources. FKNMS does not release information protected by law.

> *Status:* On-going.
> *Implementation:* FKNMS will be the lead agency in consultation with the FDHR.

(3) Survey and Collect Anecdotal Information. Community knowledge will be cultivated through surveys of fishermen, recreational divers, recreational dive facilities, salvors and others with local knowledge. A program of professional and amateur public participation will be developed. This information, when verified, will be incorporated into the resource inventory for periodic updating to the master inventory.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS will be the lead agency with assistance from FDHR.

(4) Use Volunteer Assistance in Cultural Resources Inventory. The Sanctuary's volunteer coordinator, using volunteers, will continue to assist staff in collecting information, locating unrecorded sites, recording and documenting sites, assessing site significance, and developing sites for improved public access, interpretation, and protection.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS; FDHR will assist.

(5) Conduct Public Participation Projects Inventory. Research and educational institutions (using students and volunteers) will conduct maritime heritage resources inventory projects, involving the public in the inventory phase of the investigations.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS will be the lead agency responsible for implementing this activity; FDHR will assist.

(6) Develop a Site Database. A central database of shipwreck information will be maintained by the FKNMS, in cooperation with the Florida Site File at the FDHR. Projects will be designed that are appropriate for grant funding by NOAA, FDHR, Florida Coastal Management Program, and other sources. The data collected for non-sensitive sites may also be incorporated with other geological, biological, and census data into a GIS in order to analyze relationships among the resources and facilitate management.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS will be the lead agency; FDHR will assist. The database will interface with the NOAA NMSP's ARCH II Archaeological Site database.

(7) Create a Public Awareness Program. Develop educational tools such as brochures, posters, videos, and an Internet site to inform the public about volunteer opportunities and training. Distribute protocols for the public when a MHR is located within the Sanctuary in coordination with the Education and Outreach Action strategies.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS will be the lead agency; FDHR will assist.

STRATEGY MHR.3   MHR RESEARCH AND EDUCATION

Strategy Summary
NOAA and the State of Florida have been addressing research and education considerations throughout the initial management plan period. Contractors have performed a significant amount of research through the development of the Shipwreck Trail. The Sanctuary has supported marine archaeological field schools, made presentations at professional meetings, and held public workshops on the program. This strategy includes seven activities.

Activities (7)

(1) Train Volunteers. A volunteer training program for general public involvement in research, documentation, and management will be continued. Emphasis is to be placed on increasing effectiveness through curriculum development and enhancement.

> *Status:* Implemented and on-going. The FKNMS volunteer coordinator is responsible for implementing cooperation with a staff or contract archaeologist and the Shipwreck Trail's education coordinator.
> *Implementation:* FKNMS. The FDHR will assist.

(2) Manage Public Participation Projects. A series of projects to involve the public in the long-term management of maritime heritage resources and promote stewardship through public involvement will be continued. Currently, the Maritime Heritage Resources Inventory volunteer program is most active in the Upper Region and will require greater emphasis in the Lower and Middle Keys.

> *Status:* On-going.
> *Implementation:* FKNMS is the lead agency; FDHR will assist.

(3) Coordinate with University Field Schools. FKNMS will facilitate archaeological research by providing scientific, logistical, and other support, including materials available on the Internet.

> *Status:* On-going.
> *Implementation:* FKNMS and the FDHR will be the lead agencies; DEP will assist.

(4) Expand The Shipwreck Trail. The Shipwreck Trail, developed to provide an on-water and on-land interpretive exhibit for the public, will be evaluated to improve effectiveness. The Shipwreck Trail education coordinator will work with the dive community, schools and the public to expand the activities. The appropriateness of adding new trail sites with historical or recreational significance will be examined. The possibility of monitoring existing sites using volunteers to gain information about impacts will also be evaluated. The Sanctuary Education Action plan has incorporated maritime heritage resource education activities.

> *Status:* On-going.
> *Implementation:* FKNMS will lead the education staff. FKNMS and the FDHR will assist lead determinations about monitoring protocols and expansion proposals.

(5) Develop an Interpretive Exhibit. An interpretive exhibit of the archaeological sites and their historic context will be developed in conjunction with the development of the Dr. Nancy Foster Florida Keys Environmental Complex in Key West to provide the public with information about maritime heritage resources in the Sanctuary. This exhibit may take various forms including a permanent display, a temporary or rotating display and/or display designed to travel. Long-term plans will include provisions for increasing public access to information.

> *Status:* On-going.
> *Implementation:* The FDHR and FKNMS will be the lead agencies.

(6) Develop a Scientific Research Study Program. The FKNMS Maritime Heritage Program will encourage and coordinate scientific studies by recognized research groups and institutions. A plan outlining the MHR research priorities will be developed and incorporated into the overall scientific research study program.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS will be the lead agency; DEP, FDHR, and a state Historic Preservation Officer will assist. Opportunities to collaborate with the National Park Service will be explored.

STRATEGY MHR.4   ENSURING PERMIT COMPLIANCE THROUGH ENFORCEMENT

Strategy Summary
The purpose of this strategy is to ensure compliance with statutes, regulations, and permit requirements through intensive on-site patrols by authorized law enforcement officers. Currently, NOAA, the state, and other agencies are cross-deputized with Sanctuary law enforcement authority.

Sanctuary and other pertinent regulations and laws are enforced jointly with an emphasis on public education as a tool for compliance. Officers will receive training to facilitate interpretive enforcement.

Activity

(1) Develop an MHR educational program for law-enforcement personnel. This program will be part of a standardized training program for cross-deputized enforcement agencies and is included in the cross-deputization strategy of the Enforcement Action Plan.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS, FWC, and FDHR.

STRATEGY MHR.5   *ENSURING INTERAGENCY COORDINATION*

Strategy Summary
The purpose of this strategy is to facilitate comprehensive coordination among federal, state, and local agencies involved in the management of maritime heritage resources to explore collaborative projects and sharing of information. Currently, NOAA and the FDHR collaborate under the Programmatic Agreement. The terms of the Programmatic Agreement and the final Management Plan specify the responsibilities and roles of various parties to ensure the timely and effective coordination of activities.

Activities (6)

(1) Develop a Flow Chart. The flow chart will include all agencies that participate in managing maritime heritage resources, indicating roles, responsibilities and time lines. It will also describe procedures for assessment and notification for shipwrecks of possible sovereign interest, and notify permit holders of changes in procedures and policies.

> *Status:* New activity; 18 months to complete.
> *Implementation:* FKNMS will be the lead agency; FDHR will assist.

(2) Develop Cooperative Projects and Programs. NOAA will seek to develop cooperative projects, share information, and combine resources with other agencies involved in historical research as well as with the NMSP Maritime Heritage Program (MHP) as coordinated from the Maritime Archaeological Center in Newport News, VA. NPS, which conducts similar programs in other parks, has significant expertise and experience in this area and shares significant common borders with the Sanctuary. Enhanced interagency coordination can directly benefit the development of the Sanctuary's management and resources and MHR Research and Study Program.

> *Status:* On-going.
> *Implementation:* FKNMS will be the lead agency with assistance from DEP and FDHR.

(3) Use Volunteer Assistance in Cultural Resources Inventory. The Sanctuary's volunteer coordinator, using volunteers, will continue to assist staff in collecting information, locating

unrecorded sites, recording and documenting sites, assessing site significance, and developing sites for improved public access, interpretation, and protection.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS volunteer coordinator; FDHR will assist.

(4) Conduct Public Participation Projects Inventory. Research and educational institutions (using students and volunteers) will conduct maritime heritage resources inventory projects, involving the public in the inventory phase of the investigations.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS will be the lead agency responsible for implementing this activity; FDHR will assist.

(5) Develop a Site Database. A central database of shipwreck information will be maintained by the Sanctuary, in cooperation with the Florida Site File at the FDHR. Projects will be designed that are appropriate for grant funding by FDHR, Florida Coastal Management Program, and other sources. The data collected for non-sensitive sites may also be incorporated with other geological, biological, and census data into a geographic information system in order to analyze relationships among the resources and facilitate management.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS will be the lead agency; DEP and FDHR will assist. The database will interface with the NOAA NMSP's ARCH II Archaeological Site database.

(6) Create a Public Awareness Program. Develop educational tools such as brochures, posters, videos, and an Internet site to inform the public about volunteer opportunities and training. Distribute protocols for public when an MHR is located within the Sanctuary in coordination with the Education and Outreach Action strategies.

> *Status:* Implemented and on-going.
> *Implementation:* FKNMS will be the lead agency; FDHR will assist.