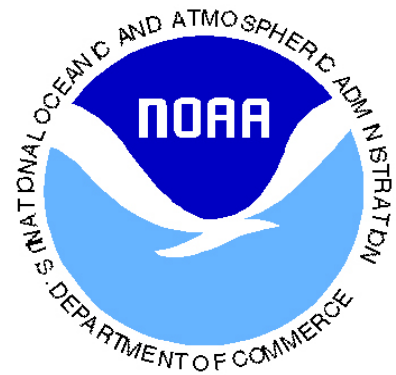


Florida Keys National Marine Sanctuary

Annual Report

July 1, 2003 – June 30, 2004



Introduction and Executive Summary

On January 28, 1997, the Governor and Cabinet, sitting as the Board of Trustees of the Internal Improvement Trust Fund, approved the Florida Keys National Marine Sanctuary (FKNMS) management plan for implementation in state waters and adopted a resolution containing conditions for that approval. The annual submission of a report of the activities and conditions of the Sanctuary to the Board is one of those requirements. This is the seventh of those annual reports covering the period of July 1, 2003 through June 30, 2004. The following items describe the condition of the resources and the most significant Sanctuary activities during this period.

Coral Reef Status: Coral reefs declined globally between 1996 and 1999 due to coral bleaching. Although mass bleaching has not occurred in the sanctuary since then, Indo-Pacific reefs in some areas experienced severe bleaching in 2000 and again in 2002. Recent media attention about this worldwide decline of corals has heightened awareness and concern for coral condition in the Sanctuary. Therefore, the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) funded a coral reef monitoring program that the Florida Marine Research Institute implemented in 1996. Data from this project show a 38% decline in coral cover in the Sanctuary, and a reduction in coral species diversity at most sites between 1996 and 1999. Since 1999, coral cover has not declined significantly. However, coral cover does not seem to be increasing either, which could indicate a lack of resilience in the coral reefs in the Sanctuary. More types of coral diseases are present at more of the monitoring sites infecting more coral species; however, there was a decline in two diseases, “white disease” and “other disease” between 2002 and 2003. The major contributors to coral reef decline in the Florida Keys are degraded water quality, physical impacts and over-fishing.

Seagrass Status: There has been no change in the overall abundance of seagrasses in the Sanctuary, but there was a reduction of seagrasses at 3 of 30 permanent monitoring stations during hurricanes in 1998 and 1999. Some of the nearshore monitoring sites showed an increase in macroalgae due to an increase in nutrient pollution.

U.S. Navy Dredging Project Status: In late 2003, the U.S. Navy and U.S. Army Corps of Engineers started construction to establish a Homeland Security battleship training group in Key West. The project includes dredging of the Key West Main Ship Channel and Harbor, and repair of the Truman Mole Pier. Prior to the pier repairs, approximately 3,500 corals were harvested from the construction site for transplantation to restoration sites. This project was approximately 20% complete in June 2004. In April 2004, the hopper dredge, *Eagle I*, caused impacts to coral resources at several locations outside of the permitted channel. Citations were issued for damages at four sites for violations of Sanctuary regulations. Additional citations and mitigation may be required following receipt of a pending report on the damages from an environmental consultant. A corrective action plan for the resource injuries is currently being established.

Florida Keys Eco-Discovery Center Dedication: In February 2004, local, state, and national representatives joined Jim Connaughton, Chairman of the President’s Council on Environmental Quality, Congresswoman Ileana Rod-Lehtinen, and ocean explorer Jean-Michel Cousteau in a ground-breaking ceremony for the Florida Keys Eco-Discovery Center in Key West. The Eco-Discovery Center will be a world-class visitor center as part of the three-building Dr. Nancy Foster Keys Environmental Complex slated to open in 2006. The Eco-Discovery Center is a

cooperative effort of the FKNMS, the National Park Service, the U.S. Fish and Wildlife Service and the South Florida Water Management District.

“No-Motor” Zones: In January 2004, Walt Stearns highlighted “no-motor” zones in the Florida Keys in *Saltwater Fly Fishing* Magazine with his article “*Silencing the Jet Ski Buzz: No Motor Zones Enforce Tranquility on Some Florida Keys Flats: Now Anglers and Sanctuary Managers Suggest More of Them.*” The article highlights a decrease in user conflicts between personal watercraft operators and flats fishermen in the FKNMS due to “no-motor” zones. As a result, he reports that the guides are recommending the establishment of additional “No-Motor” zones.

Geodetic Marker Installation at Molasses Reef: The first underwater geodetic marker was placed on Molasses Reef in the FKNMS in June 2004. The geodetic marker and the associated highly visible surface buoy were installed at the site of the *Wellwood* grounding, which is now a coral restoration project. The marker will allow researchers and scientists to accurately calibrate their navigation systems to facilitate monitoring of the restoration project, and to remind boaters of the fragile nature of the coral reef system.

Tortugas Mooring Plan Implementation: The Tortugas Ecological Reserve North mooring buoy field has been completed. Twelve surface mooring buoys are available for public use as well as 24 sub-surface buoys.

No Discharge Zone: The state waters of the sanctuary were designated as a “No Discharge” zone in June 2002. An education and outreach initiative was launched in the spring of 2003 to publicize this designation, and to seek public compliance with the new provision that prohibits the discharge of sewage effluent and other pollutants from any watercraft. The public has been generally receptive to the new regulation, which is now being enforced. Thirty-one pump-out stations, including four mobile pump-out boats, are now available in the Florida Keys, thus facilitating compliance with the new regulation and resulting in cleaner sanctuary waters.

Management Plan Status: The 1992 Congressional re-authorization of the National Marine Sanctuaries Act requires the review of sanctuary management plans every five years to monitor and evaluate the progress of the mission to protect the natural and cultural resources of national significance. The Board also mandated this review in a resolution on January 28, 1997. The five-year FKNMS management plan review process began in 2001 with public scoping meetings throughout the Florida Keys. The revised management plan includes new action plans for Administration, and Damage Assessment and Restoration. The revised draft management plan is scheduled for availability to the Board and NOAA headquarters in the fall of 2004.

Status of Action Plan Implementation

Channel / Reef Marking: Interagency coordination among FKNMS, Monroe County Division of Marine Resources (DMR), the U.S. Coast Guard (USCG), the U.S. Fish and Wildlife Service (USFWS) and FDEP resulted in a plan to install new channel markers and 3 new lateral aides at Niles Channel, and enhance the marking of a seagrass flat adjacent to Whale Harbor Channel.

Education and Outreach: Highlights in FY 03/04 include: a field trip for 40 teachers and students from underserved communities throughout the United States and the Territory of

American Samoa to provide a hands-on experiences for approximately 1,000 Kindergarten through high school students; the awarding of \$6,000 in grant funding for teachers in Monroe County to develop environmental education projects; providing funding for the production and distribution of thousands of high-quality printed and audio-visual materials to more than 430 businesses for dissemination to the public; and, working with the local dive and snorkel community on a new business-based program, *Bluestar*, which is a voluntary program that recognizes operators who demonstrate commitment to protecting the coral reef ecosystem. *Waterways*, an episodic television production, now has select episodes available for downloading and viewing from the FKNMS website <http://floridakeys.noaa.gov>.

Enforcement: The Florida Fish and Wildlife Conservation Commission (FWC) Sanctuary Enforcement Team (SET) continues to excel in law enforcement efforts and proactive enforcement actions. The program and agency goals are being fulfilled through organizational changes, dedicated staff, improved communication, strong leadership and interpretive enforcement. Partnerships continue with other state and federal partners including DEP, NPS and NOAA Fisheries. The number of SET law enforcement personnel assigned to the FKNMS has remained at seventeen. The 82' sanctuary patrol cutter *Point Monroe* was sold and will be replaced within twelve months with a 38' catamaran-hull design vessel that is much faster and requires less crew to operate. Through the Cooperative Law Enforcement Exchange Training Program, FKNMS hosted law enforcement officers and rangers from Korea and China as well as Central and South American countries.

Groundings: In FY 03/04 there were 466 reported vessel groundings within the FKNMS, a majority of which occurred in the upper Keys. This was a reduction from the 647 groundings of FY 02/03.

Mooring Buoys: Over 750 mooring buoys, boundary buoys, and marker buoys are maintained in the FKNMS, with the majority in state waters. During FY 03/04 mooring buoys were available for public use approximately 97% of the time. The final 12 new mooring buoys for public use were installed in the Dry Tortugas Ecological Reserve. A program has been established to increase the mooring buoy load-handling capabilities and add larger buoys at 4 reefs designated for use by vessels greater than 65 feet in length due to the increased size of vessels using Sanctuary mooring buoys. Thirteen new buoys have been added at 8 reefs and three wreck sites. Sanctuary staff were hosted by the Columbian government to provide training for their staff and to install 30 mooring buoys in their coastal waters.

Regulation: In FY 03/04, a total of 87 (up from 70 in FY02/03) no-cost, no-paperwork permits were issued for non-consumptive use of the Tortugas North section of the DTER. Over 210 permits have been issued for bait fishing in FKNMS Sanctuary Preservation Areas (SPA). A pilot project to allow bait fishing by hair-hook (a highly selective gear type) in three Upper Region SPAs was initiated with considerable input from a community working group and the Sanctuary Advisory Council. Full implementation of this new permit type is expected in October 2004.

Sanctuary permits were issued for research, education, entrance by large ships into the ATBA, and other projects to allow environmentally compatible uses of Sanctuary resources as follows: two special use permits: one authorization for a restoration project; and, two permits to allow coral monitoring and emergency response related to the Navy Key West Harbor Dredging

Project. Consultation with federal and state agencies on dock and seawall projects, live rock aquaculture, and other resource issues continued.

Research, Monitoring, and Water Quality: There are two major monitoring programs in the FKNMS: comprehensive, long-term monitoring conducted through the Water Quality Protection Program (WQPP); and, the Marine Zone Monitoring Program. Long-term water quality monitoring within the FKNMS has provided some important information including elevated levels of dissolved inorganic nitrogen in the nearshore waters and high concentrations of chlorophyll *a*, a measure of algal blooms, on the Southwest Florida Shelf. Temporal trends in water quality showed that most measures were consistent from year to year, sometimes with seasonal patterns. The exceptions were significant increases in total phosphorus concentrations and decreases in dissolved oxygen and total organic carbon throughout the region.

The quantity of oral cover in the area designated as the FKNMS is 7.2%, which is unchanged from last year. Seagrass coverage is consistent with model predictions of nutrient-induced changes, although changes have not been observed in all regions of the Keys. The changes are not spatially consistent, suggesting that local factors are likely responsible. Results of the Marine Zone Monitoring Program indicate that some heavily exploited species have greater abundance and size in fully protected marine zones than those in other areas.

Submerged Cultural Resources: Accomplishments for FY 03/04 include issuance of two Survey/Inventory Permits, one Research/Recovery Permit, and three Survey/Inventory Permit Amendments. Presently there are eight active Survey/Inventory Permits and five active Research/Recovery Permits. The Programmatic Agreement between NOAA, the Advisory Council on Historic Preservation and the State of Florida for Historical Resource Management in the FKNMS was reviewed and renewed and no significant changes were made. A Curatorial Services Agreement between the FKNMS and the Mel Fisher Maritime Heritage Society was signed for the federally owned Coffin's Patch 1733 Archaeological Site Collection. The Submerged Resource Inventory (SRI) team, consisting of sanctuary volunteers, spent 366 hours in survey and inventory of submerged cultural resources within the sanctuary. In collaboration with the Historical Preservation Society, a four-and-one-half foot cannon was recovered from a site known as Bunn Cannon Patch near Carysfort Reef. The cannon is presently being conserved at the Mel Fisher Museum and plans are being made to house the cannon, along with an already fabricated gun carriage, at the Key Largo Chamber of Commerce facility.

Volunteer: FKNMS volunteers supported over a dozen projects including research, stewardship, restoration, and environmental education. Volunteers dedicated to resource protection in the Florida Keys contributed 6,270 hours during calendar year 2003, a value of \$107,781. FKNMS Sanctuary Advisory Council member Ken Nedimeyer received one of six nationwide NOAA Environmental Hero awards. The sanctuary formally assumed management of its own volunteer program.

Damage Assessment and Restoration: Over 466 vessel groundings were reported in FY 03/04, and 86 of those resulted in a seagrass or coral enforcement action requiring injury assessment.

FKNMS staff, contractors, and volunteers conducted restoration at three coral injury locations and two seagrass injury sites. In FY 03/04 one special project was completed expeditiously using Ecosystem Management and Restoration Trust Fund (EMRTF) monies under authority delegated last year by the Board of Trustees. This project restored approximately 15m² of orphaned corals and coral framework in the Newfound Harbor SPA.

Zoning: The marine zoning plan implemented in the sanctuary provides a common sense approach to protect sensitive resources while restricting commercial and recreational uses to the minimum extent necessary to protect the ecosystem. The results to date have shown that some heavily exploited, mobile species of fish have increased in population density and body size without any indication of adverse socio-economic impact.

Administration: The revised draft management plan is scheduled for availability to the Board and NOAA headquarters in the fall of 2004. The Florida Keys Eco-Discovery Center, a planned world-class visitor center in Key West was dedicated in February 2004. In FY 03/04, six SAC meetings were held in the Florida Keys covering a range of topics including water quality improvement, wild mammal viewing protocol, various research topics, the Navy dredging project, and fisheries. The SAC also participated in four working groups including the Large Vessel Working Group, Ballyhoo Working Group, Reauthorization of the National Marine Sanctuaries Act Working Group, and Biscayne National Park Fisheries Management Plan Working Group.

***Annual Status Report for the
Florida Keys National Marine Sanctuary
Review of Action Plans 2003-2004***

Channel / Reef Marking

Ongoing management of waterways in the FKNMS requires maintaining a strong interagency effort to provide safe access to all multi-use areas of the Sanctuary while maintaining a waterway marking strategy that provides natural resource protection. Ongoing coordination between FKNMS, Monroe County Division of Marine Resources (DMR), the United States Coast Guard (USCG), the United States Fish and Wildlife Service (USFWS), and DEP has provided continual improvement in the strategies and outcomes of this action plan.

In 1998, the DMR completed the Channel Marking Master Plan for the Florida Keys with the cooperation and contributions of partnering agencies. The plan was completed following seven years of growing concern of impacts to shallow-water resources from boating activities. In 2003/2004, the DMR installed 3 new lateral aids in shallow water seagrass habitats consistent with the plan's objectives of minimizing prop-damage from boating and improving navigation. An internal database is maintained of all newly installed, improved, and maintained markers, and a series of GIS maps is updated as necessary. Data from these records are used to identify needs for future marking and to update charts and public boating guides as necessary. At this time, the DMR considers the recommendations and objectives of the master plan to be complete, however the department and the FKNMS will continue to review navigational marking to ensure public safety and natural resource protection. (Strategy B.1 and B.4).

Hurricane Georges caused extensive damage to Marker 24 on the east side of the Looe Key Reef in 1998. The marker was replaced in 2000, but the old damaged marker was not removed. In 2003, the FKNMS with the help of the USCG will remove the storm-damaged marker which rests on the spur and groove formations in approximately 25 feet of water. The USCG utilized a team of NAVY divers to cut the damaged steel beams and burn rigging holes in preparation for removal. (Strategy B.4).

Education and Outreach

FKNMS educators met several times with local dive and snorkel businesses to develop Blue Star, a voluntary program that recognizes operators who demonstrate commitment to protecting the coral reef ecosystem. Many visitors to the Florida Keys are unaware of the sanctuary and the rules that affect activities. The goal of Blue Star is to ensure that visitors receive accurate information about the sanctuary and coral reef ecosystem, and that they are informed about how to protect the natural resources by using good diving and snorkeling practices. The sanctuary plans to launch Blue Star at the Diving Equipment & Marketing Association (DEMA) show in Houston in October 2004 with presentations and information for participants and media attending the show. The vision of the program is that visitors to the FKNMS will seek dive or snorkel operators with Blue Star designation. The sanctuary is working with local dive and snorkel businesses to determine the type of materials needed for the program. (*Strategy E.4*)

The FKNMS web site (<http://floridakeys.noaa.gov>) is continually updated with timely information, publications, press releases, regulations, information on research and monitoring

efforts within the sanctuary, and up-to-the-minute weather information. Through the website, members of the public are able to receive vast amounts of printed and graphic information, contact sanctuary staff with questions and information requests, and receive responses to their inquiries. The total number of “Unique Visitors” in calendar year 2003 was 118,666, or roughly 26% over the 94,208 recorded in FY 2002. North America supplied the majority of visitors to the web site, followed by Europe, Oceania (including Australia, New Zealand, and the South Pacific islands), Asia, South America, and Africa. Outside the United States, Canada, the United Kingdom, Australia, Mexico, and the Netherlands supply the highest number of visitors to the FKNMS web site. (*Strategy E.5*)

NOAA’s Office of Ocean Exploration and the Girl Scouts of the USA sponsored a Florida Keys field experience for six teenage Girl Scouts who learned about the sanctuary, natural and cultural resources of the Florida Keys, and ocean exploration. Each scout is required to share with other scouts in their hometown what they learned during their experience. FKNMS staff provided classroom presentations and hosted snorkeling fieldtrips. (*Strategy E.4*)

For the fourth year in a row, the Sanctuary partnered with the National Geographic Society and the NMSF to sponsor a field experience for 40 teachers and students from underserved communities in the United States and Territory of American Samoa. Each teacher chose one outstanding student to accompany her/him on the trip. For many of the students and teachers, this was a once-in-a-lifetime trip. They learned about the FKNMS, coral reefs, water quality, invertebrate zoology and the maritime heritage of the Florida Keys. (*Strategy E.4*)

The Seagrass Outreach Partnership (SOP) continued its education and awareness efforts to address boating impacts on seagrass in the Florida Keys and throughout the State of Florida. In addition to a media campaign during Seagrass Awareness Month in March the partners developed a display for at five local festivals and events. A new series of posters was also developed and distributed throughout the community and added to the Seagrass Toolbox CD. Proclamations of “Seagrass Awareness Month” were secured from Monroe County, Key Colony Beach, Islamorada - Village of Islands, and the State of Florida - Governor Jeb Bush. (*Strategy E.4*)

Team OCEAN volunteers donated their time to promote safe and enjoyable public use of the marine environment of the FKNMS and to advocate protection of its natural resources. Trained volunteer teams using sanctuary owned vessels were stationed at heavily visited reef sites during peak recreational boating seasons. They educated and informed the public about the FKNMS, encouraged proper use of sanctuary resources and practiced basic safety precautions. Many groundings occur because boaters are unfamiliar with the need to navigate around reefs instead of approaching mooring buoys by motoring directly across the reef. Team OCEAN volunteers directly prevent groundings by being present, watching for errant boaters, and waving them off when they attempt to cross the shallow reef crest. (*Strategy E.4*)

Team OCEAN staff distributes sanctuary materials, charts and brochures along with over 3,000 brochures with the FWC fishing regulations and serve as liaison between the FKNMS and the business community at over 430 locations in South Miami-Dade and Monroe Counties. (*Strategy E.4*)

Area	Volunteer Hours	Days on the Water	Contacts Made	New trained Volunteers
Upper Keys	375	55	940	12
Lower Keys	568	72	505	15
Total	943	127	1133	30

Enhancement of existing school programs continued to be a high priority. In FY 03/04 the FKNMS provided classroom and on-water environmental education through a two-day program called Coral Reef Classroom. Monroe County students in grades 7-9 learned about the interrelated coral reef ecosystem, how to use basic water sampling equipment, and why good water quality is essential to a healthy coral reef. Over four thousand middle school students have participated in the program since 1991. This year, 463 students and 18 teachers experienced the complete program, which was made possible by trained community volunteers and chaperones. (Strategy E.4)

Coral Reef Classroom – Interactive Education Experience												
Year	'91	'92	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04
Trips	12	8	16	21	16	18	15	15	14	15	15	18
Students	419	201	345	429	384	438	378	357	363	398	361	463
Volunteers			12	13	16	17	14	8	5	6	2	3
Teachers			11	14	11	21	15	14	22	16	12	15
Chaperones			11	24	31	32	16	22	37	34	32	48
Other Volunteers				6	8	4	5	13	13	12	11	8

Every year, the FKNMS works to enhance the resources of local teachers by providing them with grant opportunities and teacher workshops. In FY 03/04 the FKNMS awarded environmental educational grants totaling \$6,000 to Monroe County teachers for eight different projects focusing on coral reefs, geology, historical perspectives of the Florida Keys, environmental ethics, public service announcements, endangered species, and more. (Strategy E.4)

FKNMS sponsored a Community Lecture Series featuring lectures by FKNMS staff. The lectures were presented in all three geographic regions of the Keys. (Strategy E.4)

Billy D. Causey	Global Climate Change And Florida Keys Coral Reefs
J. Harold Hudson and Anne McCarthy	Big and Small We Mend Them All: Reef Restoration in the Florida Keys
David Score and Nancy Diersing	Diving Into History: Centuries of Shipwrecks

FKNMS and partners Save-A-Turtle, National Key Deer Refuge, The Turtle Hospital, Florida Sea Grant, The University of Florida Extension Service, and the South Florida Water Management District hosted teacher workshops for 40 teachers in the fall and spring. (Strategy E.4)

Teacher Workshop	Partners
FKNMS Seminar for Teachers (Fall)	Florida Sea Grant, The University of Florida Extension Service, South Florida Water

	Management District
FKNMS Seminar for Teachers (Spring)	Save-A-Turtle, National Key Deer Refuge, The Turtle Hospital

FKNMS sponsored the Current Issues station at the South Florida Regional High School Envirothon held in Everglades National Park. Thirty teams of students from Miami-Dade and Monroe Counties participated in the annual event. This year's subject was Natural Resource Management and the Urban Environment. *(Strategy E.4)*

The Monroe County Middle School Envirothon and was held at Crane Point Hammock in Marathon and sponsored by FKNMS and the Monroe County Environmental Education Advisory Council (MCEEAC). Nine teams competed in this hands-on educational field event that tests students' knowledge about the Florida Keys environment. Emphasis is placed on teamwork and research initiative. *(Strategy E.4)*

Education staff presented lectures, hands-on activities, slide shows, and served as interpreters on field trips in support of environmental education opportunities for adults to learn more about the Keys' natural and cultural resources. *(Strategy E.4)*

Sanctuary staff represented FKNMS and DEP at festivals and trade shows to provide information about sanctuary resources. DEMA was held in Miami Beach and the Education Team took the lead in planning and staffing the sanctuary's information booth that, along with other NOAA agencies, recorded over 2,000 visitors. Other festivals and events in FY 03/04 were: Miami International Boat Show, Earth Day at Bahia Honda State Park and Cheeca Lodge, USCG Safe Boating Day in Key West, Upper Keys Nautical Flea Market, Marathon Seafood Festival, Key West Nautical Flea Market and Boat Show, and Oceans Day in Tallahassee. *(Strategy E.11)*

Staff attended professional development classes, training, and conferences to expand their knowledge and skill. They have also contributed to and made presentations at local and regional training and conferences. *(Strategy E.12)*

The Florida Keys Birding and Wildlife Festival was held in October 2003 in Marathon. The event featured an environmental fair at the Museum at Crane Point Hammock and a series of educational programs and field trips about the unique Florida Keys wildlife and environment. A Children's Day event at Curry Hammock State Park attracted 350 third-grade students who enjoyed hands-on activities about birds, migration, adaptation and habitat needs. MCEEAC provided activity leaders and grant money to fund bus transportation for classes. Festival membership includes US Fish & Wildlife Service, FKNMS, The Nature Conservancy, National Audubon, Florida Audubon, Florida Keys Raptor Migration Project/Hawk Watch International, and MCEEAC. *(Strategy E.11)*

Education and outreach products were updated and reproduced to provide information to the public about the sanctuary, its resources and the regulations. *(Strategy E.1)*

Quantity Printed	Name of Product
60,000	Monroe County Lobster Brochure
60,000	Teall's Upper Keys
60,000	Teall's Lower Keys
15,000	Keeping Your Bottom Off The Bottom
15,000	Yellow Buoy Card
5,000	<i>Sounding Lines</i> , a quarterly newsletter

Waterways, an episodic television program exploring the natural treasures of South Florida and the Florida Keys is produced through a cooperative effort between the FKNMS, Environmental Protection Agency, and Everglades National Park. Over 150 half-hour television episodes of have been produced, approximately 10 of those in 2003-2004. Filmed on location, each episode includes interviews with local environmental experts who explain the various projects currently underway to protect this unique ecosystem.

Waterways, airs twice weekly in paid spots in Monroe County on Comcast Channel Nineteen, weekly on WLRN's educational channel in northern Monroe, Dade, Broward, and south Palm Beach counties, and on fourteen government and educational access stations throughout the state. Five new public access stations have added the show since last year's report: Lee County, the University of Central Florida, City of West Palm Beach, the City of Coral Springs and Polk County. Due to the show's high quality and informative subject matter, Comcast often provides additional broadcasts of the show free of charge. Several *Waterways* episodes are also now available for viewing and download on the FKNMS website <http://floridakeys.noaa.gov>.

Enforcement

The Florida Fish and Wildlife Conservation Commission (FWC) Sanctuary Enforcement Team (SET) continues to excel in law enforcement efforts and proactive enforcement actions. The program and agency goals are being fulfilled through organizational improvements, dedicated sworn staff, streamlined communication, strong leadership and interpretive enforcement. Partnerships continue with other state and federal partners including DEP, NPS and NOAA Fisheries.

Per Strategy B.6 additional enforcement officers may be hired and this is recommended by the SET as a priority in upcoming years. The budget and the NOAA/FWC Memorandum of Agreement allow for future expansion of these positions and other needed SET non-sworn personnel. These additional needs were identified for the upcoming FY 04/05.

The number of SET law enforcement personnel assigned to FKNMS has remained constant at seventeen. This includes one new captain who came into command in April 2004, three law enforcement lieutenants, one newly created law enforcement investigator (vacant as of July 1, 2004), ten law enforcement officers (two are currently vacant – November 2004 FWC Academy graduates will fill these positions), one duty officer and one marine mechanic position that will be filled by a selective interview process after July 1, 2004. (Strategy B.6)

The 82' Sanctuary cutter *Point Monroe* was sold and will be replaced in approximately nine to twelve months with a 38' catamaran-hull design vessel that is much faster and takes less crew to operate. This vessel will be assigned strictly to the Dry Tortugas Ecological Reserve (DTER).

One lieutenant and two crew members will be assigned to the vessel, although per FWC General Orders, a lieutenant is not required to run this vessel size class thus making the vessel more readily available for response. Currently, a 30' *Manta* (a mono-hull vessel) has been converted for long-range patrol for the DTER. It is the vision of the SET management to have in place both the 30' long-range *Manta* and the 38' catamaran-hull working out of Key West, with separate crews for the DTER and Sanctuary Preservation Area (SPA) patrols. Presently, an Upper Region SET Squad and Lower Region SET Squad, each consisting of four officers and one supervisory lieutenant remain in place. (Strategy B.6)

Communications improvements have continued with all SET officers now having Nextel phones. Nextel radio and cellular capabilities have proven to be a valuable tool in responding to groundings and other calls for service within the FKNMS. The dialogue between scientists, biologists, engineers and enforcement officials has continued to provide coordination needed for vessel groundings and other major/critical issues such as the Key West Harbor Dredging Project. (Strategy B.6)

Per Strategy B.12 cross-deputization is ongoing in all avenues of law enforcement. Partnerships continue with other state and federal agencies including DEP, NPS and NOAA Fisheries. Discussion has been initiated with the National Park Service to develop an agreement for lodging arrangements for DTER enforcement officers on water patrol. In September 2003 sanctuary officers presented a class for DEP officers on fisheries identification and how to file cases through the federal system as civil violations for seagrass groundings and habitat destruction. It is the vision of the SET to continue cross-deputization of NPS and DEP officers so that they may enforce the FKNMS Act.

In June 2004, using coral reef grant funding, NOAA Fisheries transported a 41' vessel with side-scan sonar and video capabilities from Mississippi to work with the SET in locating illegal fish traps and/or structures on the seafloor and conduct mapping exercises in the Gulf of Mexico waters of the FKNMS. Fisheries acquired a huge amount of data and completed an array of functions and tasks with the assistance of a FKNMS officer. The United States Coast Guard (USCG) also continues to assist and routinely work with FKNMS officers and to independently enforce sanctuary rules and regulations. (Strategy B.12)

Through the Cooperative Law Enforcement Exchange Training Program, FKNMS hosted law enforcement officers and rangers from Korea and China as well as from nations located in Central and South America. The SET provided training and courses about seagrass and coral damage assessment, vessel groundings, fisheries identification, GPS Navigation, plotting, biology of coral reefs, boating safety, and vessel stops. This unique international exchange of law enforcement officers has continued to strengthen since its inception in 2002.

In FY 03/04 there were 466 (down from 647 in FY 02/03) reported vessel groundings within the FKNMS, the majority occurring the Upper Region of the Florida Keys. Of the 466 reported groundings, 86 resulted in natural resource injuries that required injury assessments by biologists, and 89 were turned over to the State Park and National Park law enforcement. The decrease in vessel groundings and activity in the FKNMS is most likely related to weather/wind restricting boating and diving activities as well as law enforcement water patrol for approximately 4 months. Within Monroe County, moderate to high winds and the resulting small craft advisories were persistent from February 2004 through early May 2004.

Sanctuary officers conducted over 11,000 hours of water patrol (and over 4,000 hours of overtime), 8,136 inspections of vessels coming into contact with 25,478 users aboard these vessels, and responded to 5,127 complaints from vessels including persons in need of assistance. Officers issued 722 boating safety warnings and 484 resource warnings. A total of 319 federal citations were issued for various violations, including 101 for seagrass damage, eight for coral damage, 96 for fishing within a Sanctuary Preservation Area (SPA) and 40 for illegal spearfishing. Sixty-three citations were issued for miscellaneous violations such as littering, sponging and discharging oil pollutants. One citation was issued for violation of the Area To Be Avoided (ATBA) while ten were issued within the Dry Tortugas Ecological Reserve (DTER).

Year	97	98	99	00	01	02	03
<i>Groundings</i>	507	549	581	660	605	647	466
<i>Coral Enforcement Actions</i>	16	21	21	22	6	24	8
<i>Sea Grass Enforcement Actions</i>	18	32	108	159	122	115	78
<i>Federal Citations for FKNMS Violations</i>	69	129	168	213	280	407	319
<i>Warnings</i>	625	401	298	2625	+2000	1284	1308
<i>Other State and Federal Violations</i>						495	395

FWC marked aircraft assisted the FKNMS greatly in locating illegal fishing vessels within the SPAs and DTER, logging over 130 hours of flying time used to locate, photograph, assess and take accurate coordinates of grounded vessels and persons in violation of the FKNMS Act. Marked aircraft have also supplemented and assisted the 30' *Manta* in the prevention, detection or apprehension of violators within the DTER. Another contributing factor for the decrease in violations is the NPS ability to recognize violations and act upon them. This cooperative agreement in law enforcement is a continuing success and an important aspect of preservation of the FKNMS.

Statistical information provided within this report was taken from three credible sources: 1) FWC CAD dispatch calculation of the number of arrests per officer, 2) ACTIVITYNET, a database maintained by FWC and 3) summary settlement information and federal citations.

Mooring Buoys

The Mooring Buoy Action Plan is an ongoing commitment that continues to expand and includes over 750 Sanctuary Preservation Area (SPA) boundary-buoys, mooring buoys, Wildlife Management Area (WMA) buoys and information or danger-warning spar buoys. These embedment-anchored buoys are mostly located in State of Florida waters and serve a multitude of functions, from preventing anchor damage to providing alternative diving and fishing sites away from popular reefs.

During FY 03/04 mooring buoys were available approximately 97% of the time, replacement occurring as necessary following wear due to excessive use or normal wear in a marine environment. It is estimated that over 1,000 inspection, maintenance, and installation SCUBA dives were made by staff to maintain this level of performance.

The final 12 new mooring buoys for public use were installed in the Dry Tortugas Ecological Reserve (DTER) bringing the total number of usable buoys to 36 (12 surface buoys and 24 subsurface buoys). The surface buoys in the DTER are rotated periodically among the 36 sites in the reserve. Thirteen new buoys were added to the mooring buoy program in the FKNMS across 8 reef locations and 3 wrecks (Spiegel Grove, Cayman Salvor, Joe's Tug). Three additional mooring pins were added at the *Wellwood* coral reef restoration site at Molasses Reef for the ceremonial placement of the first underwater geodetic marker, and to serve as back up for mooring anchors at this very popular dive location.

A program has been established to increase mooring buoy system load-handling capabilities and add larger buoys at 4 different reefs designated for use by vessels > 65 feet, due to the increased size of vessels using FKNMS mooring buoys. New larger buoys are being installed at the corners of the Looe Key Existing Management Area for better management of this zone by enhanced visibility.

The Columbian government and CORALINA (part of the Columbian National Environment System) hosted members of the FKNMS mooring buoy maintenance team to San Andres and Old Providence Islands, Columbia, to provide training for installation of a mooring buoy system. Over 30 buoys were installed in the two island archipelagos, part of a newly established marine protected area.

Regulatory

The Dry Tortugas Ecological Reserve has been fully implemented for over two years. Regulations for this area include prohibited entry (unless in continuous transit with fishing gear stowed) in Tortugas South and non-consumptive use only in Tortugas North. During FY 03/04, a total of 87 no-cost, paperless access permits (up from 70 in FY 02/03) were issued for entrance to Tortugas North.

Baitfish permits, which allow the harvest of specific baitfish species from the Sanctuary Preservation Areas (SPA) using a cast or lampara net, are issued in the FKNMS each calendar year and are renewed annually upon submission of a catch log. In calendar year 2004, 211 baitfish permits have been issued to date. At the request of a local fishermen's organization and with input from a community working group and the Sanctuary Advisory Council, a pilot project to allow bait fishing by hair-hook (a highly selective gear type) in three Upper Region SPAs was initiated. The required federal government approvals under the Paperwork Reduction Act for permit issuance were received in February and three permits of this type were issued to local captains in early April 2004. Full implementation of this new permit type is expected in October 2004 with permits being valid for the period October 15 to April 15.

General Sanctuary permits are issued to support several management goals including research, education, and facilitating multiple sanctuary uses. In FY 03/04, 67 permits and amendments were issued to support research and monitoring on sanctuary resources and qualities. These are

further described in the Research, Monitoring, and Water Quality section of this report. Five educational permits were issued, largely to assist FKNMS managers in “rescuing” corals that would otherwise be destroyed by the Navy Key West Harbor Dredging Project. Many institutions in receipt of corals and coral fragments from this area are working collaboratively with the sanctuary to return specimens to restoration sites in the future. Education permits also supported two university courses. Four permits and one amendment were issued for large research vessels to enter the ATBA that surrounds the Florida Keys and Dry Tortugas. One permit issued by the South Florida Water Management District (SFWMD) was authorized by the FKNMS for restoration of a seagrass bed near Duck Key. Two special use permits were also issued for eligible activities; one was a permit renewal to a commercial operator in Key Largo for the offshore dispersal of cremated human remains, and the other was to a movie production company for the filming of special effects in a major motion picture (Strategy B.11).

Following the formation of a Personal Watercraft Working Group in February 2000 out of growing concerns regarding the operation of personal watercraft in Sanctuary waters, FKNMS began a process to establish a permit structure and to assist homeowners in obtaining regulatory shoreline markers addressing the 100 yard Idle Speed/No Wake regulation. The process was further improved with the issuance of an Army Corps of Engineers Nationwide Permit that expedited the approval of the regulatory markers under the FKNMS regulation 922.163 (Strategies B.4 and B.17).

In FY 03/04, four individuals contacted the FKNMS to inquire about the process of obtaining regulatory shoreline markers addressing the 100-yard Idle Speed/No Wake regulation and seventeen buoys and two signs were approved for installation. Of the markers approved in FY 03/04 ten buoys and two signs have been installed, bringing the total to 59 shoreline marker buoys installed to date (Strategy B.4).

In 2003, the FKNMS worked with the Village of Islamorada to assist in the process of marking the entire shoreline of the Village with 100 yard Idle Speed/No Wake regulatory markers delineating both residential and non-improved shorelines. Under current FKNMS Idle Speed / No Wake regulation, only residential shorelines are regulated. The Village of Islamorada enacted a new ORDINANCE NO. 03-10 to include non-improved shorelines as well as residential shorelines.

U.S. Navy Dredging Project: In late 2003 the U.S. Navy and U.S. Army Corps of Engineers commenced efforts to facilitate the installation of a Homeland Security battleship training group in Key West. The two tiered project consisting of 1) dredging of the Key West Main Ship Channel and Harbor and 2) construction repairs to Truman Mole Pier has created a significant challenge for FKNMS and DEP staff due to the sensitive nature of the coral reef and seagrass resources, and the significance of such a large-scale project. The project is approximately 20% complete as of June 2004 and a corrective action plan for resource injuries is being finalized.

In late 2003, construction repairs to Truman Mole Pier commenced. As a byproduct of the repairs to the pier, over 3,500 corals and coral fragments were rescued from projected construction impact areas. Over 450 (> 6 inches in diameter) of these corals were transplanted to reef restoration sites, grounding sites, Fort Zachary Taylor State Park and patch reefs off the FKNMS Lower Region. Another 250 corals (approx.) are presently slated for transplantation.

The remaining corals and fragments (< 6 inches in diameter) have been donated to coral nursery partners, aquariums or scientific research facilities.

The dredging of the ship channel into Key West Harbor commenced in early spring 2004. Despite the year-and-a-half partnering effort in preparation for dredging, the hopper dredge *Eagle I* strayed outside the channel during the early stages of dredging operations in April 2004 and caused impacts to coral resources at several locations along the channel's edge. Four of these injury areas have been cited by FKNMS regulatory actions; injury assessments and mitigation plans are pending.

Throughout the ongoing project, agency staff from FKNMS, Florida Department of Environmental Protection (DEP), NOAA Fisheries and EPA reviewed multiple plans and provided resource protective measures including vessel captain and crew environmental awareness training, mitigation and monitoring plans to detect resource impacts, turbidity monitoring protocols with higher protective standards (15 NTUs), and quality assurance/quality control contingency programs.

Research, Monitoring and Water Quality

There are two major monitoring programs in the FKNMS: comprehensive, long-term monitoring conducted through the Water Quality Protection Program (WQPP) and the Marine Zone Monitoring Program. The WQPP has been funded by various sources including the EPA, NOAA, FDEP, Florida Department of Community Affairs (FDCA), SFWMD, Monroe County/Tourism Development Council, and Sanctuary Friends of the Florida Keys. The WQPP began in 1994 and consists of status-and-trends monitoring of three components: water quality, coral reefs and hard-bottom communities, and seagrasses. Sanctuary-wide status-and-trends monitoring is designed to detect large-scale ecosystem changes associated with local sources of pollution, as well as Everglades restoration and other regional-scale phenomena (Strategies W.20, W.33, W.5).

Long-term water quality monitoring from March 1995 – September 2003 has generated an extensive set of data from 33 quarterly sampling events at 154 stations within the FKNMS including the Dry Tortugas National Park. This project has produced several important results. First, elevated levels of dissolved inorganic nitrogen, an important nutrient, have been documented in the nearshore zone of the Keys. This pattern was not seen in the Tortugas, leaving land-use as a primary focus of attention. Second, the highest concentrations of chlorophyll *a*, a measure of algal blooms, were measured on the Southwest Florida Shelf, with a strong declining gradient toward the Marquesas and Tortugas. This was due to higher concentrations of total phosphorus on the Shelf as a result of the southerly flow of water along the western coast of Florida. Third, temporal trends in water quality showed that most measures were consistent from year to year, sometimes with seasonal patterns. The exceptions were significant increases in total phosphorus concentrations and decreases in dissolved oxygen and total organic carbon throughout the region. It is important to keep in mind that trends may change, or even reverse, with additional data collection (Strategy W.20 and W29).

The Coral Reef Evaluation and Monitoring Project data for 2003 shows the percent of stony corals in the Florida Keys at 7.2%. This is not significantly different from the last sampling year (7.4%). Sanctuary-wide, from 1996-2003, for a total of 105 stations, the number of stony coral

species declined at 76 (72%) stations, increased at 125 (14%) stations, and remained unchanged at 14 (13%) stations. A decline in the number of stony coral species was recorded in all habitat types surveyed.

In 1996, coral disease was observed at only five stations Sanctuary-wide. By 2002, coral disease was observed at 102 stations. Incidences of stony coral disease were reported for 95 stations in 2003. Specifically in 2003, white disease occurred at 72 stations, “other disease” was recorded at 89 stations, and Black Band Disease was recorded at seven stations. There were declines in two categories of disease between 2002 and 2003. (Strategy W.33).

Data from the seagrass monitoring project indicate changes in seagrass communities that are consistent with model predictions of nutrient-induced changes of these systems. At several nearshore sites in the Florida Keys, there has been an increase in the relative abundance of macroalgae over the period 1995 - 2003 that is consistent with an increase in nutrient availability as shown in the nearshore water quality data mentioned above. In addition to these sites where relative abundance of primary producers has changed, there have been long-term shifts in the ratio of nitrogen to phosphorus in seagrass leaves that are consistent with increases in nutrient availability. These changes have not been observed in all regions of the Keys, suggesting that local-scale factors likely are responsible. There have been no spatially consistent patterns of change in the relative abundance of seagrass species throughout the FKNMS, though there have been large changes at some locations between 1996 and 2003. The seagrass bed that carpets 80% of the FKNMS is part of the largest documented contiguous seagrass bed on earth (Strategy W.33).

Results of the Marine Zone Monitoring Program indicate that some heavy exploited species exhibited differences in abundance and size between fully protected marine zones (FPMZs) and reference sites. In 1997, there was little difference between the number of spiny lobsters in FPMZs and reference sites, but after six years of protection there were almost twice as many lobsters inside FPMZs as outside. Legal-sized lobsters were very abundant on the fore reef at the Western Sambo Ecological Reserve and Eastern Sambo Research-Only Area. Since 1999, abundance of legal-sized lobsters has always been greater in those FPMZs than in their respective reference areas. In general, mean lobster size was below the legal limit in FPMZs and reference areas in 1997. Since then, mean lobster size in FPMZs has been larger than legal size and comparatively larger than in reference areas. It appears that a residential population of spiny lobsters is becoming established within the Western Sambo Ecological Reserve. The expansion of lobster size range in this ecological reserve suggests that some of the lobsters remain there for an extended period. Habitat for all life stages of spiny lobsters is protected within the reserve. Once adults establish residence, the ecological reserve is sufficiently large to protect a portion of the population as it travels to foraging grounds and between winter dens and spring spawning habitat. Since no-take protection was initiated in 1997, significant density increases were observed for several exploited reef fish species in FPMZs compared to fished reference areas. Among exploited species, mean densities were higher in FPMZs for Gray Snapper, Black Grouper, and Yellowtail Snapper. In contrast, concordance was observed in changes in density between FPMZs and reference areas for Stoplight Parrotfish and Striped Parrotfish, two species not directly exploited (Strategy Z.2 and Z.3).

The Sanctuary staff hosted several tours and fact-finding missions for visitors from around the world, presented papers and posters at scientific workshops, and represented the FKNMS on committees and scientific working groups (Strategies W.29, W.33).

The Sanctuary issued 60 permits and 7 permit amendments to support research in the Florida Keys from July 2003 through June 2004. Permit holders were largely university researchers, but also included government agencies, students, and private industry. Newly permitted projects and ongoing research focus on areas ranging from coral reef studies (disease and bleaching, community structure, reproductive success, and others), coral propagation and reef restoration, fisheries and invertebrate studies, marine mammal studies, seagrass monitoring, marine protected area design and effects of no-take management, nutrient dynamics, oceanography, and many others (Strategy B.11).

In 2004, a request for proposals was published for the Special Studies research program in the Sanctuary to: 1) identify and document cause and affect linkages between specific pollutants, water quality problems, and ecological impacts; 2) improve understanding of Sanctuary ecosystems and develop predictive capabilities based on that understanding; and 3) develop monitoring and research tools to detect pollutants, provide early warning of widespread problems, and identify cause and effect relationships. 2004 priority topics were: 1) recruitment and survival of marine species; 2) decline in coral abundance, coverage, and species diversity; 3) distribution and abundance of pathogenic bacteria, viruses, and other pathogens; and 4) effects of management actions on abundance and distribution of marine organisms.

Research projects were selected for funding beginning in October 2004 and include tracking of lobster movements in the Dry Tortugas Ecological Reserve, the impacts of mosquito spray pesticides on conch larval growth and development, and a pilot-scale project to look for endocrine disrupting compounds and other pharmaceuticals in nearshore waters. Funding for monitoring projects will be from EPA and NOAA. Funding for research will be from EPA (\$50K), SFWMS (\$100K), and NOAA (\$50K). (Strategies F.6, W.20, and W.33).

The City of Key West and Monroe County continue to make important progress on clean water issues. The city is actively implementing replacement of leaking main and secondary sewer lines, and working toward stormwater improvements as part of a plan approved by the Water Quality Protection Program Steering Committee. Monroe County is slated to receive \$4 M in appropriated funds from the State of Florida for wastewater improvements throughout the county. Additional funds have been authorized, but not yet appropriated from the federal government as well (Strategy W.4).

The second year of the No Discharge Zone in State waters was a success. The No Discharge Zone was implemented in June 2002 in all state waters of the FKNMS at the request of Governor Bush. The purpose of the no discharge zone is to help protect and preserve water quality and the unique marine resources of the FKNMS from discharges from vessels. An education and outreach initiative was launched in spring of 2003, and the majority of the public at-large has been receptive of the new regulation. The initiative held one public workshop and another is presently scheduled. About 31 pump out stations are now available for use located throughout the Florida Keys, including four mobile pump-out boats and plans for a fifth. The county is also working with marinas and affiliated businesses in applying for Clean Vessel Act grants for more pump out services and sewage management. Enforcement of the no discharge zone is a

combined effort of State, federal, and local law enforcement officers. Monroe County and the City of Key West have also installed mooring buoys in some harborages that will help in the implementation of the pump-out requirements (Strategy B.7).

Submerged Cultural Resources (SCR)

A Programmatic Agreement between NOAA, the Advisory Council on Historic Preservation, and the State of Florida for Historical Resource Management in the FKNMS, hereafter referred to as the Programmatic Agreement (PA), was executed on June 29, 1998. Section V.2. of the agreement provides for periodic reporting to the Advisory Council on Historic Preservation (ACHP). As the agreement was implemented over the five-year term, significant strides were made in the comprehensive management of SCRs within the Sanctuary. This report summarizes the key activities performed under the agreement and provides a general overview of newly discovered historic sites, as well as other issues related to historical resource management in the sanctuary.

In keeping with the NMSA and FKNMSA mandate to facilitate multiple compatible uses of sanctuary resources, the PA has been renewed after a five-year execution period. This agreement provides for survey, inventory, research and recovery of submerged cultural resources within the FKNMS. Staff time includes review of permit requests, cataloging and dissemination of permit activity reports, development and maintenance of a permitting database to track SCR permit sites and activities, and evaluation of excavation techniques in relation to impacts on natural resources. No significant changes were made to the PA during the review and renewal period.

In January 2004 the renewal of the Curatorial Services Agreement Between DOC, NOAA, NOS, NMSP, through the FKNMS and the Mel Fisher Maritime Heritage Society was signed for the federally owned COFFINS PATCH 1733 archaeological site collection. The agreement provides for the professional care, management and repository facilities and proper display or storage of the collection. The collection is currently on display at the Mel Fisher Maritime Museum in Key West. The museum was accredited by the American Association of Museums in January 2004, and attracts almost 200,000 visitors annually, making it the most attended history museum in the Southeast.

In FY 03/04 FKNMS issued two Survey and Inventory (S/I) Permits, three S/I permit amendments, and one Research and Recovery (R/R) Permit. There are currently eight active S/I Permits and five active R/R Permits.

In August 2003 a research plan supported by the FKNMS Upper Region was implemented to document the wreck of the 19th century side-wheel steamer *Menemon Sanford*. Under Sanctuary Permit FKNMS-2003-019 the Maritime Archaeological Research Initiative (MARI) was issued a Survey and Inventory Permit to map and document the *Menemon Sanford* shipwreck, located in the vicinity of Carysfort Reef. Wood samples were recovered for the purpose of anatomical identification that will provide valuable data regarding original construction of the vessel. A site plan will be generated, supplemented by photo and video documentation. The survey goals are to identify and assess the historical and cultural significance of the site as a possible nominee for the National Register of Historical Places.

In July 2003, the Maritime Archaeological and Historical Society (MAHS), in cooperation with the FKNMS, conducted an underwater archaeology field school at a shipwreck site located at Grecian Shoals and believed to be the lost American Bark *Excelsior*. The primary objective of the field school was to train volunteer SCUBA divers in submerged site mapping and documentation techniques. Students were taught how to use the trilateration survey method to create a scale drawing of the site and locate its principle features. The completed site drawing, archives and field research documents have been provided to the FKNMS.

A four-and-one-half foot cannon, one of 13 cannons from a site known as the Bunn Cannon Patch at South Carysfort Reef off North Key Largo, was recovered in October 2003 under the FKNMS Manager’s Permit. The cannon may yield valuable clues about the ship that once carried it. The site has been extensively documented since 1993 and FKNMS consulted extensively with the State of Florida Division of Historical Resources and NMSP archeologists about recovery operations. The National Undersea Research Center assisted in the recovery with its research vessel *Sabina*. The Mel Fisher Maritime Heritage Museum is conserving the cannon, and the sanctuary is working with the Key Largo Chamber of Commerce to arrange for a permanent display.

Volunteer

People are an integral part of the Florida Keys ecosystem. Ultimately, protecting the FKNMS requires that local residents take responsibility and participate in its protection. Recognizing this, the State of Florida, NOAA and The Nature Conservancy (TNC) seize opportunities to work in partnership with individuals and communities in environmental problem solving. This strategy encourages a growing conservation ethic in the Florida Keys and results in solutions that benefit humans as well as the greater ecosystem.

TNC has been FKNMS’s partner in volunteerism since 1992. Under their expert guidance, a Keys-wide volunteer program was developed that has provided over 170,000 volunteer hours (a \$2.8 million dollar value) over the past twelve years. The sanctuary formally assumed management of its own volunteer program in spring 2004, and continued insurance coverage for volunteers (Workmans Comp) through NOAA.

Volunteer activities supporting the FKNMS management plan include: Coral Reef Classroom and Team OCEAN (Strategy E.4), Submerged Cultural Resources Inventory (Strategy R.1), Adopt-A-Reef, and a FKNMS partnership with The Ocean Conservancy. Volunteers contribute greatly to protection of sanctuary resources through reef cleanups, assisting with slide libraries and providing support for office and marine services staff. Volunteers dedicated to resource protection in the Keys contributed 6,270 hours during calendar year 2003, a value of \$107,781.

Organization	Project	Volunteer Hours
Florida Fish and Wildlife Conservation Commission (FWCC)	Queen Conch Restoration Program	668.5
The Nature Conservancy	Florida Keys Watch	127
The Nature Conservancy	Green Sweep	359.5
The Nature Conservancy	Diadema Restoration Project	567.5

The Nature Conservancy	Special Projects	165.5
FKNMS	Adopt-A-Reef	240
FKNMS	Coral Reef Classroom	190.5
FKNMS	Submerged Resources Inventory	1104
FKNMS	Team O.C.E.A.N.	942.5
FKNMS	Special Projects	386
FKNMS	Reef Medics	361
FKNMS	Sanctuary Advisory Council members attendance at regular SAC meetings	912
FKNMS	Sanctuary Advisory Council members attendance at Working Group meetings	346
TOTAL		6270

The FKNMS Sanctuary Advisory Council members participated in six regular meetings and served on the following Working Groups: Large Vessel, Ballyhoo, Reauthorization of the National Marine Sanctuaries Act, and the Biscayne National Park Fisheries Management Plan. SAC member Ken Nedimyer received one of six nation-wide NOAA Environmental Hero awards.

Damage Assessment and Restoration

Of 466 groundings in FKNMS in FY 03/04, 86 of those resulted in a seagrass or coral enforcement action requiring some form of injury assessment. FKNMS staff, contractors, and volunteers conducted restoration at three coral injury locations and two seagrass injury sites. In FY 03/04 one special project was completed expeditiously using Ecosystem Management and Restoration Trust Fund (EMRTF) monies under authority delegated last year by the Board of Trustees. This project restored approximately 15m² of orphaned corals and coral framework in the Newfound Harbor SPA.

There were two instances of illegal dumping in state waters within the sanctuary that also required injury assessment. One of the illegal dumping cases required immediate removal of debris, which was funded by NOAA Damage Assessment and Restoration Revolving Fund monies.

FY 03/04 was highlighted by sanctuary-wide coral rescue efforts. In cooperation with the U.S. Navy and U.S. Coast Guard, staff from the damage assessment and restoration program worked to remove over 3,500 coral colonies and fragments from the Truman Mole Pier. Several hundred of the coral colonies were transplanted to restoration sites in Looe Key SPA and Western Sambos Ecological Reserve. Another coral rescue effort at Looe Key saved approximately 50 coral colonies from the beams of an old reef marker that was being scuttled. Sanctuary wide restoration efforts also included the stabilization of orphaned coral injuries at six sites in the Upper Region using federal grant money and assistance from sanctuary volunteers.

The first underwater geodetic marker was placed on Molasses Reef in the FKNMS in June 2004. The geodetic marker and the associated highly visible surface buoy, were installed at the site of

the *Wellwood* coral restoration project. The marker will allow for researchers and scientists to accurately calibrate their navigation systems for monitoring of the restoration project, and remind boaters of the fragile nature of the coral reef system.

Zoning

The marine zoning plan implemented in the sanctuary provides a common sense approach to protect sensitive resources, while restricting commercial and recreational uses only to the minimum extent necessary to protect the ecosystem. The results to date have shown that some heavily exploited, mobile species have increased in population density and body size without any indication of adverse socio-economic impact.

As discussed previously in the mooring buoy section, the FKNMS maintains, installs, and assists in establishing markers and buoys for the existing Wildlife Management Areas (WMA), Sanctuary Preservation Areas (SPA), Special-Use Areas (Research Only) and Ecological Reserves. In FY 03/04 the team maintained 120 WMA boundary buoys and 123 SPA/ER/Special-use boundary buoys. It was discovered that the one of the boundary buoys delineating the Newfound Harbor Sanctuary Preservation Area (SPA) did not match the coordinates in the Federal Register for that location, and was protecting only 73% of the SPA. The buoy was moved to correct this oversight, which enhanced the protection of coral, seagrass, and hardbottom habitat. No new zones were established in FY 03/04. (Strategies Z.2, Z.3, Z.4 and Z.5)

In January 2004, contributing writer Walt Stearns highlighted no-motor zones in the Florida Keys in *Saltwater Fly Fishing* Magazine with his article “*Silencing the Jet Ski Buzz: No Motor Zones Enforce Tranquility on Some Florida Keys Flats: Now Anglers and Sanctuary Managers Suggest More of Them.*” The article highlights a decrease in user conflicts between personal watercraft users and flats fisherman on many flats in the FKNMS due to no-motor zones, and that guides are amenable to the idea of more in the Florida Keys.

Administration

The 1992 Congressional re-authorization of the National Marine Sanctuaries Act requires sanctuaries to review their management plans every five years to monitor and evaluate the progress of the mission to protect the natural and cultural resources of national significance. The Board also mandated this review in a resolution on January 28, 1997. The management plan review process began in 2001 with public scoping meetings held throughout the Florida Keys. The revised management plan includes new actions plans for Administration, and Damage Assessment and Restoration. The revised draft management plan is scheduled for availability to the Board and NOAA headquarters in the fall of 2004.

In February 2004, local, state, and national representatives joined by President Bush’s environmental advisor Jim Connaughton, Congresswoman Ileana Rod-Lehtinen, and ocean explorer Jean-Michel Cousteau participated in a dedication of the Florida Keys Eco-Discovery Center in Key West. The Eco-Discovery Center will be a world-class visitor center facility, part of the three-building Dr. Nancy Foster Keys Environmental Complex slated to open in 2006. The Eco-Discovery Center is a cooperative effort of the FKNMS, the National Park Service, the U.S. Fish and Wildlife Service and the South Florida Water Management District.

The FKNMS Sanctuary Advisory Council (SAC) was established to provide advice to Sanctuary managers regarding management of the Florida Keys National Marine Sanctuary. The SAC consists of appointed members and include representatives of commercial and recreational user groups (i.e. commercial and recreational fishermen, the dive industry, and the boating industry), conservation and other public interest organizations, scientific and educational organizations, and members of the public interested in the protection and multiple use management of Sanctuary resources. In FY 03/04, 6 SAC meeting were held in the Florida Keys covering a range topics including water quality improvements, wild mammal viewing protocols, various research topics, the Navy dredging project, and fisheries issues. The SAC also participated in four working groups: Large Vessel Working Group, Ballyhoo Working Group, Reauthorization of the National Marine Sanctuaries Act Working Group, and Biscayne National Park Fisheries Management Plan Working Group. The SAC also hosted FWC commissioners and the National Marine Protected Areas Technical Advisory Committee to Sanctuary Friends of the Florida Keys-sponsored mixers, and attended a Volunteer Recognition reception hosted by The Nature Conservancy and attended by James L. Connaughton, Chairman of the President's Council on Environmental Quality.