



DRY TORTUGAS NATIONAL PARK

SUPERINTENDENT'S ANNUAL NARRATIVE REPORT

FISCAL YEAR 2004

Message from the Superintendent and Site Manager

We are pleased to present this Fiscal Year 2004 annual report for Dry Tortugas National Park. This unique and remote national treasure belongs to all Americans as an irreplaceable part of our national heritage. Located 70 miles west of Key West, Florida, these seven small islands, the massive historic Fort Jefferson, and 100 square miles of near pristine marine environment are like no other place. The park offers an increasingly rare chance for solitude and reflection, learning and recreation, and scientific research.

This past year will be well remembered for its extremely active hurricane season. The park took precautions for each major storm that threatened the general area. One storm in particular, Hurricane Charlie in August, came directly across the park on its eventually destructive path through southwest Florida. Damage to park facilities and resources totaled over \$600,000 and recovery efforts are still continuing. However, the park was re-opened for visitor services by early September.

These tropical storms are a factor of life in south Florida and certainly Fort Jefferson has seen its share of these unique forces of nature that have passed through over the years. Thankfully, the park saw no loss of life. We pause to remember, with great concern and respect, those who felt the 2004 storms' strength more directly and whose lives are still affected by continuing recovery efforts.

High level interest in and support for the long term preservation of Fort Jefferson allowed significant on the ground work to commence during the year. A prototype mock up project addressed sample masonry stabilization along one full bastion. The mock up is designed to set the standards for later work around the full extent of the Fort's outer walls. This multi-year, multi-million dollar effort is critical to keep the structural integrity of the Fort and its buildings intact.

As the wonders of Dry Tortugas National Park become more widely known, through visitation, media coverage, and word of mouth, we will continue to work with our partners and the general public to assure that this remote and silent sentinel is protected for the benefit of current and future generations.

Dan B. Kimball
Acting Superintendent
February 22, 2005

Willie Lopez
Site Supervisor

GENERAL DESCRIPTION

Dry Tortugas National Park is located almost 70 miles west of Key West, Florida. Its 100 square miles (64,657 acres) encompass a striking combination of historic resources and a pristine subtropical marine environment. In addition to the seven tiny waterless keys within its boundaries, the park contains the most pristine remaining segment of the only U.S. coral reef, including staghorn coral, patch reefs, sand flats, and seagrass beds. The diversity of fish may be unsurpassed on the U.S. Atlantic coast.

The area's unique natural values were first officially recognized by Executive Order in 1908 establishing the Dry Tortugas Keys Reservation to protect nesting seabirds. The area continues to protect nationally significant seabird nesting and migratory bird habitats.

In 1935, the area was designated as the Fort Jefferson National Monument and in 1992 as Dry Tortugas National Park. Since 1935, commercial fishing has been banned in park waters. More recently, spear fishing and lobstering have also been prohibited.

One of the world's most ecologically diverse areas, the Florida Keys region is home to at least 62 marine fish species currently protected by federal/state regulations. Of this number, 47 show critically small population sizes associated with life history/habitat limitations while 15 have undergone population declines usually associated with overexploitation.

There is evidence the Tortugas, due to its relatively great distance from ports and attendant low levels of fishing effort, has supported the broader Keys fishery with larval supply and export of adult biomass for over two decades. The park's waters support an observed greater number and individual size of lobsters than elsewhere in the Keys.

Shipwrecks on the surrounding reefs constitute one of the nation's principal underwater graveyards, dating back to the 1600's.

Towering over the land and seascape of this remote sanctuary is the massive 19th Century Fort Jefferson. The largest U.S. masonry fort, it was built as a bold expression of the new nation's power and determination to protect its interests. The strategic location of the Fort was crucial in defending access to the Gulf of Mexico and newly opened interior territories. Although the Fort never saw military action, it was the scene of important events in the nation's history. It is also a unique and outstanding example of military engineering and architecture.

Dry Tortugas National Park supports important nesting habitat for three varieties of sea turtles, with some 682 crawls documented in past seasons. The park also contains the only U.S. nesting sites for sooty terns and frigate birds. In season, a continuous succession of songbirds and other migrants flies over or rests here. Visitors often also see masked and brown boobies, frigate birds, roseate terns, double crested cormorants, and brown pelicans, a species now de-listed as endangered.

Some of the surrounding waters of the Florida Keys National Marine Sanctuary permit both commercial and recreational fishing. The Sanctuary, however, has recently led the effort to establish a 185 square nautical mile ecological reserve that is off limits to all fishing activity.

The park has completed a parallel planning effort to address possible natural resource impacts and facility capacity issues resulting from dramatically increased visitation and related commercial transport and guiding services. Examples of issues include: a remote location not self sufficient

for solid waste removal, electricity and water needs; waste water disposal, and impacts of a variety of consumptive uses.

A new General Management Plan, approved in 2001, designates special management zones that could complement the Sanctuary's no take zone and contribute significantly to biodiversity conservation by creating the world's largest fisheries replenishment zone.

Fort Jefferson is the only available quarters for operations, protection and research personnel of the park to be stationed on site. Its current structural stability brings into question the long term viability of maintaining this vital base of operations. Of particular concern:

- Leaking of rain water through the terreplein (roof of the fort) into quarters fitted into casemates. This affects the fort's entire structural integrity, as well as viability of staff quarters.
- Protection of the seawall and moat. If the seawall is breached, the fort's foundation will be exposed to wave action and eventual decay.

The park is in discussion with the National Marine Sanctuary regarding cooperation in law enforcement and research between the two agencies. Fort Jefferson's importance as a base of operations will be enhanced. The fort would effectively serve for protection and research needs of an expanded sub tropical marine environment to include adjacent portions of the 2,800 square nautical mile Sanctuary.

The approved GMP includes a Research Natural Area covering approximately 46% of the park. No consumptive recreational, management, or scientific activities are to be permitted in this zone.

Development of implementing regulations is resuming following discussions with the State of Florida regarding jurisdictional issues associated with submerged lands within the park.

Facts at a Glance-2003 Dry Tortugas National Park

Significant Dates:

1513	Islands discovered by Spanish explorer Ponce de Leon
1825	Lighthouse built on Garden Key
1846	Construction of fort began; continued for nearly 30 years
1857	Construction of lighthouse on Loggerhead Key
1861	Established as a military prison in September
1865	Dr. Samuel Mudd imprisoned at the fort on July 24; pardoned in 1869
1867	Yellow fever breaks out in August with 270 cases; 38 deaths including post surgeon
1874	Army abandons fort following hurricane
1886	Established as quarantine station for smallpox and cholera
1898-1907	Naval installation; coaling docks built. Later demolished by 1904 hurricane.
1904	Tortugas Laboratory established by Carnegie Institution on Loggerhead Key, abandoned in 1942.
1908	Executive Order created Dry Tortugas Keys Reservation to protect sooty tern rookery.
1935	Franklin D. Roosevelt established Fort Jefferson National Monument by Presidential Proclamation on January 4.
1960	Administrative boundary adjusted.
1980	June 28; Public Law 96-287 established new boundaries.
1992	President George H.W. Bush signs legislation on November 16 establishing Dry Tortugas National Park, replacing Fort Jefferson

National Monument title and recognizing unique marine natural resource significance.

Total park size: 64,701 acres (100 square miles; 23,863 hectometers)

Location: 70 nautical miles (110 kilometers) west of Key West, Florida in Monroe County
Accessible only by boat or seaplane

Facts:

- 91 acres (39 hectares) of dry land consisting of small sandy keys (islands)
- No fresh water on the islands
- Bush Key is the only significant sooty and noddy tern nesting ground in the contiguous United States; nesting April-September
- Nesting habitat for endangered sea turtles (hawksbill, green, leatherback, and Loggerhead)
- Brown pelicans nest on Bush Key; frigate birds on Long Key; and masked boobies on Hospital Key
- Peregrine falcons use Loggerhead Key during fall migration
- 442 species of fish documented
- Fewer than 50 species of land plants are native to the park
- Shipwrecks within the park date back to the 1600's; many are uncharted

Ft. Jefferson Statistics:

- Covers approximately 17 acres of Garden Key's 22 acres
- Outer wall perimeter over ½ mile long; 50 ft. high from foundation to crown; walls more than eight ft. thick
- 3 gun tiers (303 casemates) designed for 450 guns (141 received)
- Garrison space for 1,500
- Over 16 million bricks used; more than 2,000 brick arches
- Rainwater collection and storage system; 109 cisterns with a total capacity of 1,500,000 gallons built into the design
- Eleven historic structures on the NPS List of Classified Structures

Staffing:

- Oversight of daily operations, staffing and personnel provided by Site Supervisor
- Management and administrative support provided by Superintendent, Deputy Superintendent, and operational Divisions of Everglades/Dry Tortugas National Parks
- Captain and crew of NPS M/V "Fort Jefferson" that provides staff and supply transport to and from Dry Tortugas and Key West. Report to Superintendent.
- On-site professional operations staff (protection, interpretation, cultural resources, and maintenance) of approximately 12
- Short term research staff on assigned projects
- Specialized crews on short term assignments for structural stabilization, cultural resource documentation, and natural resources management activities

ANNUAL PARK VISITATION*

1992	34,258
1993	35,209
1994	23,266
1995	46,554
1996	46,567
1997	56,207
1998	69,465
1999	84,109
2000	95,261
2001	88,674
2002	86,351
2003	79,502
2004	67,049

*Visitation totals include both recreational and non-recreational visits and are totaled on a Calendar Year basis.

INVESTMENTS AND RESULTS

A challenge to Park management is to work within increasingly constrained Federal budgets to apply financial and human resources to greatest effect. The establishment of priorities, the forging of partnerships and cooperative ventures, and the reallocation of resources based on evidence of our successes or shortcomings in meeting the Park's goals are all necessary to assure that we're doing the right things to guarantee the integrity of Dry Tortugas National Park.

The Government Performance and Results Act provides a mechanism for accomplishing this critical need. Our efforts will be continually evaluated based on their demonstrated effectiveness in meeting Park goals. Where our efforts may fall short, there will be an evaluation to determine if increased efforts are necessary or if different actions might be more effective. The results should assure the wisest and best uses of available resources for the Park's benefit.

The park has adopted mission goals, long term (five year) goals, as well as annual goals that support and complement mission goals established for the National Park Service.

The following are park mission goals:

- All natural resources and associated values are protected, restored, and maintained in near pristine condition
- All submerged and land based cultural resources have been identified, documented, protected, and/or stabilized
- Available park facilities, infrastructure, and services are sufficient to support operational needs; appropriate recreational opportunities are safe and adequate for visitors and employees
- Visitors understand, appreciate, and are inspired by the park's historical and natural resources, and they support the protection of these resources
- Dry Tortugas National Park is a responsive and efficient organization, enhancing managerial capabilities through initiatives and support from other agencies, organizations, and individuals

WHAT FOLLOWS IS A LISTING OF EXAMPLES OF ACTIVITIES AND ACCOMPLISHMENTS THAT ADDRESSED THE PARK'S VISION ELEMENTS AND GOALS DURING FISCAL YEAR 2004

GENERAL

In April, a major thunderstorm struck the park and did significant damage to trees, some structures and utilities on Loggerhead Key. It is suspected there was a connected micro-burst or water spout responsible for the damage.

In December, 2004, the park's campground was re-opened following almost 1 ½ years closure. The closure was the result of significant heavy rains in the area in June, 2002, which destroyed the septic system and required a totally new design and installation. Public interest in the re-opening was significant, demonstrating the growing popularity of the park and the increasing demand for use of the small campground on Garden Key.

The new NPS supply vessel, M/V Fort Jefferson was out of service for a two week period beginning in June. The vessel had to be returned to the builders in Louisiana for contract related adjustments and repairs following experiences gained in its first operational period following completion.

The year saw a continuation of site management and operations oversight to the Site Supervisor. This represented a return to the more traditional model of management, based on the geographic isolation of the site. Improvements in communication have facilitated coordination of major management and policy issues, and emergencies, with Everglades' management staff.

The threat of Hurricane Charley closed the park on August 12 and resulting damage required its continued closure until early September. Significant storm recovery funding was made available through emergency appropriations. Initial re-openings included historic Fort Jefferson and the campground on Garden Key, and Loggerhead Key. Certain sections of the Fort have remained temporarily closed pending additional repairs.

In order to re-open the park, dozens of downed trees and other plant debris had to be cut up, loaded, and hauled away. Sand pushed into the campground by the storm surge was also cleared away. The floating docks and some finger piers destroyed by the storm, had to be cut up, loaded and removed from the island by boat. Almost 40-cubic yards of debris were transported by boat to Key West for proper disposal. Utility systems, equipment and boats were checked and much of these were repaired. This type of work was made more challenging by the Park's remote location, almost 70 miles west of Key West, FL.

In this work, Park staff were joined by a National Park Service (NPS) Incident Management Team. Resources assisting the Park and Team included employees of the NPS, NOAA's Florida Keys National Marine Sanctuary, The Nature Conservancy, the Key West Fire Department, and the USDA Forest Service. Local and area businesses were contracted to supply food, water, transportation, supplies and materials. Additional resource assessments, repairs and mitigation work continued for several more weeks afterward.

Long time NPS employee, Motor Vessel Captain Grover C. (Cliff) Green passed away early Wednesday morning, August 11, 2004, in Miami. For more than 37 years, Cliff commanded the supply vessels supporting operations at Dry Tortugas National Park and Fort Jefferson. Many NPS employees and alumni, senior policy level officials, and key Congressional staff who visited Dry Tortugas over that time, knew Cliff and affectionately respected his hard work and dedication to the NPS.

Over those years, and in his previous U.S. Navy career, Cliff devoted his life's work to the sea and sailing. He was born March 6, 1929, in Webster County, W.Va. and served in the U.S. Navy from 1946-1966. He began his NPS career in November, 1967, and received numerous

performance awards and citations over the years. During that time, he Captained three successive vessels: the M/V Tortuga, the M/V Activa, and the M/V Fort Jefferson.

On Tuesday, August 3, 2004, Deputy Director Randy Jones visited Cliff in Miami and presented him with one of the Department's highest honors, the Meritorious Service Award, in recognition of his long and illustrious career.

A funeral and memorial service was held on Tuesday afternoon, August 17, 2004, in Key West. Honors were rendered by the United States Coast Guard. Dry Tortugas and Everglades Rangers served as pall bearers.

Over the year, significant growing numbers of illegal immigrants began to use the park as a landing point to seek refugee status on U.S. lands. The staff coordinated these occurrences with the U.S. Coast Guard and gave priority attention to the immediate human needs of the immigrants in each occurrence. Discussions have continued about the growing use of the park and its remote islands as destinations for immigration smugglers, and the implications for the park, its visitors and its management.

EMPLOYEE SAFETY

GOAL: By September 30, 2004, the employee lost time injury rate will decrease 50% from the park's 1996 level.

All employee injuries were recorded and reported to Park Managers at the weekly squad meetings.

All monthly park supervisors' safety meetings were recorded and reported.

Informal safety audits were completed in all districts with results discussed with park supervisors.

Safety Officer completed the NPS HAZCOM Train-the-Trainer course in Atlanta.

Safety Officer completed the NPS OSHA 500 Train-the-Trainer course in Tampa. Most maintenance staff in the park received the 10-hour construction safety course.

SPCC plans for both Everglades and Dry Tortugas National Parks completed and distributed..

Completed NPS Environmental Audit Program Training and remained an active member of the SE Regional Environmental Audit Team.

The Safety Officer provided newly hired YCC employees' safety training.

Safety Management Information System reports are 100% updated and the Safety Officer insures all supervisors promptly report/review employee injuries.

Each employee was provided a wallet card, detailing what he or she (supervisor/ employee) should do in case of injury, on one side and the guiding principles of the park's safety policy on the reverse side.

		Lost Time Incident Rate (LTIR)					
	GOAL	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04
EVER LTIR	4.25	4.02	4.66	6.36	5.41	8.03	5.641
DRTO LTIR	5.00	0.00	0.00	20.15	30.99	30.42	44.0

*Figures include both Dry Tortugas and Everglades National Parks

FACILITY DESIGN, OPERATIONS AND MAINTENANCE

The Division of Facility Design, Operations and Maintenance is responsible for the condition of the built environment of the park. These include:

- Historic Fort Jefferson, covering 17 acres and built of an estimated 16 million bricks
- Historic lighthouse on Loggerhead Key
- Visitor Center in Fort Jefferson
- Employee housing units
- Self-guiding tour with 19 wayside exhibits
- 11 site campground and picnic area
- Dockhouse and dock
- Swim beach and snorkeling areas

In addition, the Division provides grounds and equipment maintenance and architectural and engineering design services for new projects and rehabilitation work. A significant role is also to provide liaison with cooperators and contractors in developing specifications and providing technical review progress and completed work products.

Selected examples of the Division's significant accomplishments during FY 2004 include the following:

Construction and Rehabilitation

Replaced water and wastewater systems

Rehabilitated Engineers Officers Quarters sewer

Completed restoration of the Fort Jefferson shot furnace,

Housing renovations at DRTO/EVER,

Hurricane Charlie repair projects at Dry Tortugas,

Completed contract documents for Dry Tortugas finger piers, modular housing, and Fort Jefferson stabilization mock-up study

Completing installation of composting toilets at campground

Completed rehabilitation of Key West housing units

Organizational Improvements and Planning

Completed FY2004 FMSS implementation milestones.

Completed narrow-band frequency /equipment conversion plan for EVER and DRTO

Completed an organizational restructuring to better align supervision and program responsibilities for DRTO/EVER and district maintenance staff.

Continued to work toward the completion of the draft Historic Structures Report-Amendment for Fort Jefferson.

Received staff training to begin development of the Environmental Management System for EVER/DRTO

VISITOR AND RESOURCE PROTECTION

The Division is responsible for the protection of the park's visitors and resources. These responsibilities are accomplished through education and information, law enforcement, emergency medical response, and emergency search and rescue operations.

The Division also supports field level resource management projects, including control and removal of invasive exotic species. Activities also include cooperation with other law enforcement and emergency response jurisdictions, liaison with licensed commercial services providers, and support of the park's role in special events and visits.

Commissioned park rangers have been called on successive occasions for temporary duty at other locations important for homeland security reasons following 9/11.

Staffing during the year consisted of 4 commissioned Park Rangers

A summary of accomplishments for FY 2004 follows.

- There were 10 search and rescue incidents with 1 fatality
- A total of 260 case incident numbers were issued for the year.
- There were 27 emergency services incidents
- There were a total of 6 citations issued for Part II offenses and 36 citations for other violations, including wildlife offenses.

ADMINISTRATION

Budget and Fiscal Branch*

Budget and Fiscal branch staff supported Everglades and Dry Tortugas National Parks and the South Florida Ecosystem Restoration Task Force, Critical Ecosystem Studies Initiative (CESI) and Comprehensive Ecosystem Restoration Program (CERP) with budget tracking, reporting and travel (temporary and relocation). FY 2004 closeout was completed.

Accomplishments

Budget and Fiscal

Processed all utility bill, including electric, telephones and cellular phones, ensuring accurate charges, on-time payment, and investigation/correction of irregularities or misuse of government provided services

Used Federal Financial System (FFS) to input and tract accounting data, including obligations, expenditures, transfers, bill for collection and deposits.

Processed 743 travel vouchers
Processed 12 change of stations
Processed 40 Bills for Collection
Processed 4,044 Utility Bills
Processed 86 deposits
Processed 1335 Third Party Drafts

*Includes both DRTO and EVER actions.

Human Resources Office**

Introduction:

--The Human Resources Office at Everglades National Park provides services to employees duty stationed at Everglades and Dry Tortugas National Parks and the South Florida Ecosystem Restoration Task Force on all matters relating to recruitment/staffing for vacant positions, classification, processing personnel actions and employee records maintenance, employee benefits and employee/labor relations.

Accomplishments:

Recruitment and Placement:

--2 vacancy announcements were issued through Delegated Examining Unit (DEU) authority.
--2 merit promotion vacancy announcements were issued.

Hires:

Permanent – 7 (2 or 29% were female/minority)

Temporary – 0
Seasonal – 0

Total – 7 (2 or 29% were female/minority)

Classification:

--2 position descriptions were classified

VISITOR SERVICES AND INTERPRETATION

These responsibilities include designing, writing, producing, and/or presenting information materials and programs on the park and its resources to a variety of visitors, special community outreach groups, school children, local and national media, and participants in various special events.

Personal services programs involved the operation of the park's visitor center, with contacts of over 22,949 persons during the year. Informal personal interpretive programs were attended by almost 5,000 visitors, while nearly 4000 participated in 87 formal programs. 120 participants were engaged in Junior Ranger program activities.

The park co-funded, along with support from the Florida National Parks and Monuments Association, publications (37,500 copies distributed) and 1 audio-visual/electronic media product providing information to visitors. The latter category reached an estimated 15,000 visitors.

A total of 98 volunteers assisted the park in 2004, providing more than 6,200 hours of work divided among interpretation programs, maintenance, campground and natural resource management projects.

GPRA goal IIa1, relating to visitor satisfaction, was to achieve a rate of 91% in 2004; results based on the visitor survey were 97%. GPRA goal IIb1, relating to visitor understanding and appreciation, was to achieve a rate of 93% in 2004; the results based on the survey were 85% achieved.

FLORIDA NATIONAL PARKS AND MONUMENTS ASSOCIATION

The Association is a National Park Service Cooperating Association working in cooperation with the four south Florida National Park service areas to assist visitors and increase public understanding of the natural and historical values of the parks. Established at Everglades in 1951 as the Everglades Natural History Association, its scope of work expanded in 1985 to include Biscayne National Park, Dry Tortugas National Park and Big Cypress National Preserve. At park visitor centers, the Association sells high quality publications and educational materials to the public. Net proceeds from sales are returned to the parks to support scientific, educational, historical and visitor service programs of the National Park Service. The Association is a private, non-profit organization incorporated in the State of Florida.

During 2004, the charter name of the Association was returned and the "Everglades Association" now serves to advance and assist the scientific and educational purposes of the south Florida parks.

During FY 2004, the Association provided \$124,886 to the support of the parks divided between information assistance at sales areas and funds donated to support park educational projects. In

the latter category, \$ 53,000 was made available as donations to support educational efforts of the four south Florida parks during the year.

The Association funded a variety of publications and "site bulletins" and supported the translation of park brochures in to several languages. The Association paid for the first of a new series of Florida Bay newsletter as outreach on the Bay and its research and resource management issues. The Association provided staff training and supported housing costs for staff and volunteers. The Association also continued its long history of supporting teacher workshops, parent and teacher information materials, props and library items for park curriculum-based environmental education programs.

Special equipment purchases allowed staff to enhance the quality of their interpretive materials. Support was also provided for community outreach meetings. Living history items and research books were provided to the various park and districts. And the Association sponsored activities to support the December meeting in Miami of the Secretary's National Park System Advisory Board.

Resources Management

Fort Jefferson's marine environment and time have resulted in a rapid deterioration of fort walls and features. The fort is located in the Florida Keys where regular exposure to salt, destructive weather, and water are a constant threat to the masonry construction of the structure. Continued structural failure will occur and public safety issues will remain if preservation work is not completed.

What has not been specifically noted is the accelerating nature of this loss and the related impacts on features other than the embrasures themselves. Once the outer protective brick surface has fallen, the softer wall fill material becomes exposed to the harsh elements with resultant weathering. In time, the weathering will threaten the structural integrity of the casemates and, eventually, the fort's long term existence. The terreplein, or roof of the fort, leaks. Work is needed to alternately refill areas originally covered with sand or remove sand to make roof repairs and then refill. In addition, continual battering of the seawall by wave action threatens to breach the wall and makes repairs an ongoing need. If the seawall is breached, it will expose the fort's foundations to wave action and eventual failure.

For FY01, the park received line item construction funds \$1,940,000 and \$500,000 to complete the removal and replacement of the lower embrasures. The park received a base increase of \$250,000 in 1996 to provide ongoing funding for brick and mortar stabilization activities. A line item construction request for \$11,662,000 has been established under PMIS Number: DRTO 70125 to complete stabilization of the scarp and parade walls. An additional request of \$19,000,000 was established in 2005 for the waterproofing of the terreplein and repair of the counterscarp. A full and comprehensive NEPA and Section 106 compliance process, including updates of the Historic Structures Report, has been completed to guide additional work. This is the basis for assuring historically and environmentally appropriate stabilization efforts towards the restoration of scarp walls and gun embrasures and to assure structural integrity of the moat. An Exhibit Specialist position responsible for ongoing stabilization activities at the fort has been added to the park staff to guide this and other cultural resources conservation efforts.

Loggerhead Key vegetation monitoring transects were sampled in February 2004. Transect results illustrate the continued recovery of native vegetation communities following the removal of Australian pine and other exotic plants from the island. As of 2004, much of the vegetation on Loggerhead Key remains in early stages of succession, with an abundance of vines and prickly pear cactus. The bay cedar community that once dominated much of the island was confined to a number of relatively small areas around the periphery.

Following the 2004 hurricane season, hurricane impacts to the vegetation of the Dry Tortugas were evaluated. The most severe impacts to vegetation occurred on the western end of Bush Key, where many shrubs of bay cedar and sea lavender were killed. Mangroves on Bush and Long Keys were damaged, but damage was sufficiently minor that these areas of mangroves will recover. The area of black mangroves used by frigatebirds as a nesting area on Long Key were topped and significantly thinned, but frigatebirds continue to nest there. Damage to vegetation on Loggerhead Key was minor, perhaps due to the relatively high elevation of the island and its orientation. On Loggerhead, inundation by salt water killed small areas of bay cedar and sea lavender and reduced the coverage of vines, including railroad vine, moonflower and beach bean. Resampling of the Loggerhead vegetation transects in 2005 will quantify post-hurricane vegetation changes.

FINANCIAL SUMMARY

(ONPS) allocations:	\$1,246,500	FTE: 13.64
VIP	2,300	
Cyclic	87,800	

TOTAL	\$1,336,600	
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Other Directed Use Funds

Replacement Equip	\$136,700
Repair/Rehab	120,000
Donations	7,236
Constr. Title VIII	1,567,650
Constr. Title VIII Supv	4,111
Constr. Radios	100,772
Constr. Storm Damage	124,900
Constr. Storm	88,500
NR Damage	4,500

Total	\$2,154,369
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Fee Collection –

Campground Fees	\$7,819
Daily Admission	227,580
NPS Passport Prgm	470
Golden Age	80

Total Collections	\$235,949
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